

# What Do We Know About the Influence of Believers' Religiosity on Happiness and Gratitude? – A Perspective for Clinical Practice

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**Introduction:** The recognition of religion's significance in mental health has led to several scientific advances in diagnosis or treatment. In contrast, Vietnam is a multi-religious Southeast Asian country with a large number of believers, but there is almost no research addressing the impact of religiosity among Vietnamese believers on mental health concerns such as depression, happiness, and gratitude.

**Participants and Methods:** Our cross-sectional study was focused on Vietnamese believers (N = 374), surveyed directly at different religious facilities in Vietnam. The present study was evaluated utilizing the partial least squares-structural equation modeling (PLS-SEM) methodology.

**Results:** The primary findings of the study indicate that (i) age was found to positively moderate the association between intrinsic religiosity and gratitude ( $\beta = 0.191$ , 95% CI [0.116, 0.277],  $p < 0.001$ ); (ii) Intrinsic religiosity has a positive influence on depression-happiness scale ( $\beta = 0.276$ , 95% CI [0.168, 0.373],  $p < 0.001$ ) and gratitude ( $\beta = 0.337$ , 95% CI [0.205, 0.466],  $p < 0.001$ ); Moreover, (iii) gratitude has a positive influence on depression-happiness scale ( $\beta = 0.381$ , 95% CI [0.280, 0.491],  $p < 0.001$ ); Finally, (iv) the study revealed that gratitude mediates the relationship between intrinsic religiosity and depression-happiness scale ( $\beta = 0.128$ , 95% CI [0.071, 0.197],  $p < 0.001$ ).

**Discussion:** The findings of this study suggest that gratitude could potentially play a significant role in comprehending the association between religiosity and the levels of depression and happiness experienced by religious individuals in Vietnam.

**Keywords:** religiosity, intrinsic religiosity, depression, happiness, gratitude, Vietnam

## Introduction

Recognizing religion's significance in mental health has led to several scientific advances in diagnosis or treatment. Bonelli and Koenig<sup>1</sup> reported that over the past two decades, the majority of studies had indicated a correlation between religious activity and higher levels of mental health with respect to depression, substance abuse and suicide. Religion is associated with higher levels of happiness;<sup>2</sup> lower levels of depression and improvement of depression over time,<sup>3</sup> and higher levels of gratitude.<sup>4</sup> Organizational religious activity (ORA) is religious behavior like attending religious services in churches and pagodas. Non-Organizational religious activity (NORA) refers to religious activities undertaken privately, such as prayer, meditation, and Bible study. Intrinsic Religiosity (IR), which has been described as the degree of personal religious commitment or motivation, is an essential aspect of religiosity. This involves not simply an agreement with religious dogma but also confidence in and dependence on a supernatural authority.<sup>5</sup>

## Age, Personal Income with Religiosity and Gratitude

As individuals approach the later stages of their life course, it is predicted that they will exhibit an increased inclination towards religiosity for a variety of reasons. These reasons encompass a shift away from worldly concerns, dealing with loss and health issues, ensuring intergenerational continuity, coping with the loss of a partner, facing economic decline.<sup>6</sup> Conversely, later generations – younger generations – are posited to exhibit what has been termed “Fuzzy Fidelity” towards religion, with religion progressively playing a lesser role in their lives. They are described as neither regular churchgoers nor explicitly non-religious.<sup>7</sup> Specifically, “Generation Z” has been noted for its lesser engagement in religious practices and an increasing detachment from traditional religious institutions.<sup>8</sup> Furthermore, detailed analyses by Silverstein and Bengtson<sup>6</sup> in their study indicate that older age may positively influence religiosity; and the positive effects of religiosity on gratitude will be specifically discussed in the following sections, suggesting that age might play a moderating role in the relationship between religiosity and gratitude. Based on these discussions, Hypotheses 1 and 8 are proposed for this study.

Hypothesis 1: Age positively influences intrinsic religiosity.

Hypothesis 8: Age would positively moderate the relationship between intrinsic religiosity and gratitude.

Grounded in the hypothesis that economic well-being may inversely impact religious fervor, this research draws upon existing literature to frame its investigation. Specifically, it seeks to confirm the findings by Herzer, Strulik<sup>9</sup> and Brandt, Henry,<sup>10</sup> which suggest that personal income levels can significantly affect an individual’s religiosity. Particularly, the study by Brandt and Henry<sup>10</sup> on data from 216,249 participants (including people from Vietnam,  $n = 2495$ ) shows that lower socioeconomic status (conceptualized and measured using two dimensions: (a) participant self-reported income and (b) participant education) leads to higher religiosity. The rationale behind this relationship posits that financial security may diminish the psychological need for religious reliance, while economic adversity could enhance spiritual engagement as a coping mechanism. According to the World Bank classification, Vietnam remains a lower middle-income country.<sup>11</sup> In this context, the question arises whether there will be a similar outcome to that found by Brandt and Henry<sup>10</sup>? Based on these discussions, Hypothesis 2 is proposed for this study.

Hypothesis 2: Personal income negatively influences intrinsic religiosity.

## Religiosity and Depression – Happiness

Wada et al<sup>12</sup> found that screening-based depression was present in 17.2% of community-dwelling Vietnamese seniors. Recent research by Tran et al<sup>13</sup> indicates that 14.6% of the Vietnamese population was depressed during the COVID-19 epidemic. Depression is the fourth leading cause of disease burden globally and is projected to be the second leading cause in 2030.<sup>14</sup> Depression is a state of severe sadness or despair that lasts longer than days. It interferes with daily tasks and might result in physical symptoms such as discomfort, weight loss or increase, sleep problems, or a lack of vitality. People who suffer from depression frequently experience difficulty concentrating, feelings of worthlessness or overwhelming guilt, thoughts of death, and suicidal ideation.<sup>15</sup> Intrinsic religiosity is useful in preventing depression. Intrinsic religiosity has been shown to reduce the risk of developing depressive symptoms and disorders. Furthermore, it is linked to faster recovery from depressive episodes and being less likely to develop depression over time.<sup>16</sup>

It is commonly reported that Asian countries have lower levels of happiness than nations on other continents. One study indicated that university students from nations in the Caribbean, South America, and sub-Saharan Africa had higher happiness scores than those from countries in Asia.<sup>17</sup> Another report reveals that Vietnam’s happiness score over the previous three years has been fairly low, ranking 77th out of 150 countries.<sup>18</sup> The notion of happiness frequently stresses its subjectivity. Numerous happiness scholars utilize the phrase “subjective well-being”. Subjective well-being refers to an individual’s evaluations of his or her life and includes both cognitive evaluations of contentment and affective evaluations of moods and feelings.<sup>19</sup> In the same way, there are many views that happiness is more than just not yet having depressive symptoms (low levels of negative affect). Happiness is also the presence of positive thoughts, feelings, and physical sensations (positive affect).<sup>20,21</sup> There is general agreement in the literature on happiness that intrinsic

religiosity has a significant influence on and is a good predictor for individual happiness. In general, previous studies have shown a link between intrinsic religiosity and happiness.<sup>17,22</sup> A recent meta-analysis by Garssen et al,<sup>23</sup> which examined forty-eight longitudinal studies, indicates that spirituality and religion (including intrinsic religiosity) typically have positive, though modest, effects on mental health (including happiness and well-being). Based on these discussions, Hypothesis 3 is proposed for this study.

Hypothesis 3: Intrinsic religiosity positively influences depression-happiness scale.

## Religiosity and Gratitude

In recent decades, gratitude has become a significant topic that has received more psychological investigation. Gratitude significantly impacts the psychological functioning of humans and serves as a compass for clinical treatments and therapy. Recent research by Nguyen and Le<sup>24</sup> shows that increasing gratitude could help improve psychological well-being and reduce COVID-19 stress and fears on individuals' mental health. In general, gratitude is concretized as a virtue or distinctive strength associated with the gratitude that occurs from receiving a gift, whether the present is a physical benefit from a person or a serene, happy moment suggested by natural beauty.<sup>25</sup> Particularly in religions, gratitude is regarded as a moral impact and a highly valued human characteristic.<sup>26</sup> Many earlier theories and studies have underlined the intimate relationship between gratitude and religiosity. People who visited the church, prayed, and read the Bible more frequently were positively connected with appreciation and tended to have stronger feelings of gratitude than those who participated in these religious activities less frequently.<sup>27</sup> Based on these discussions, Hypotheses 4 and 5 are proposed for this study.

Hypothesis 4: Intrinsic religiosity positively influences gratitude.

Hypothesis 5: Organizational religious activity positively influences gratitude.

## Gratitude and Depression-Happiness

Witvliet et al described<sup>28</sup> gratitude's significant influence on happiness. Similarly, Chen et al<sup>29</sup> observed a positive link between gratitude and happiness in a study involving 608 Taiwanese college students. Furthermore, gratitude's protective effect against depression was highlighted by Wood et al<sup>30</sup> in a longitudinal study showing its association with lower stress and depression levels. Additionally, Sirois and Wood<sup>31</sup> found that gratitude correlates with decreased depression levels, even among individuals with chronic conditions. Recent studies have sought to explain how gratitude affects happiness and depression. For instance, Watkins et al<sup>32</sup> explore how gratitude enhances happiness through Fredrickson's theory of positive emotions and the amplification theory, suggesting gratitude improves relationships and magnifies life's positives, thereby boosting happiness. Lambert et al<sup>33</sup> and Liang et al<sup>34</sup> further detail gratitude's role in reducing depressive symptoms by fostering positive reframing and inducing joy, or diminishing rumination for a peaceful mindset. These varied findings lead to the proposal of Hypothesis 6 and 7 for this study.

Hypothesis 6: Gratitude positively influences depression-happiness scale.

Hypothesis 7: Gratitude would mediate the relationship between intrinsic religiosity and depression-happiness scale.

## Vietnam

All of this demonstrates the significance of fostering research that seeks to fathom the impacts of religiosity on mental health conditions such as depression, happiness, and gratitude. Particularly given that Vietnam is a multireligious nation, it's essential to recognize this diversity. According to a report from the Gallup Institute<sup>35</sup>, 30% of Vietnamese people say religion is an important part of their daily lives. More than 13 million people in this country practice one of the major religions, with Catholicism having more than 5.8 million adherents, Buddhism having more than 4.5 million, Buddhism Hoa Hao and Protestant having nearly one million each, and Caodaism having more than 500,000.<sup>36</sup> In Vietnam, a study conducted by Tran et al<sup>37</sup> showed that elderly religious adherents are less happy than their non-religious counterparts.

However, it seems that measuring religiosity by the frequency of worship variable as in the above study is not enough to comprehensively reflect the psychological properties of religiosity, but more specifically, the concept of intrinsic religiosity mentioned in this Introduction section. Hence, with the limited comprehension of the authors, it seems that in Vietnam, how religiosity affects mental health issues like depression, happiness, or gratitude has not yet been proven. This research lacuna may stem from the difficulties in accessing religious organizations.<sup>38</sup>

## Research Framework

Prior research has primarily concentrated on investigating the association between religiosity, gratitude, and depression-happiness.<sup>39–41</sup> However, there is a dearth of studies that have explored the relationship among these three constructs with an intermediate research model. Simultaneously, there are no studies in Vietnam pertaining to the examination of religiosity, particularly intrinsic religiosity, and its correlation with gratitude, depression, or happiness. The primary objectives of this study are as follows: (1) to investigate the influence of certain demographic variables on intrinsic religiosity and gratitude, (2) to examine the influence of religiosity on gratitude and depression-happiness, (3) to explore the association between gratitude and depression-happiness, and (4) to determine whether gratitude acts as a mediator between intrinsic religiosity and depression-happiness among Vietnamese individuals who practice their faith. Drawing upon the extensive literature review conducted on the aforementioned factors, the present study posits a set of hypotheses and research models, as illustrated in [Figure 1](#).

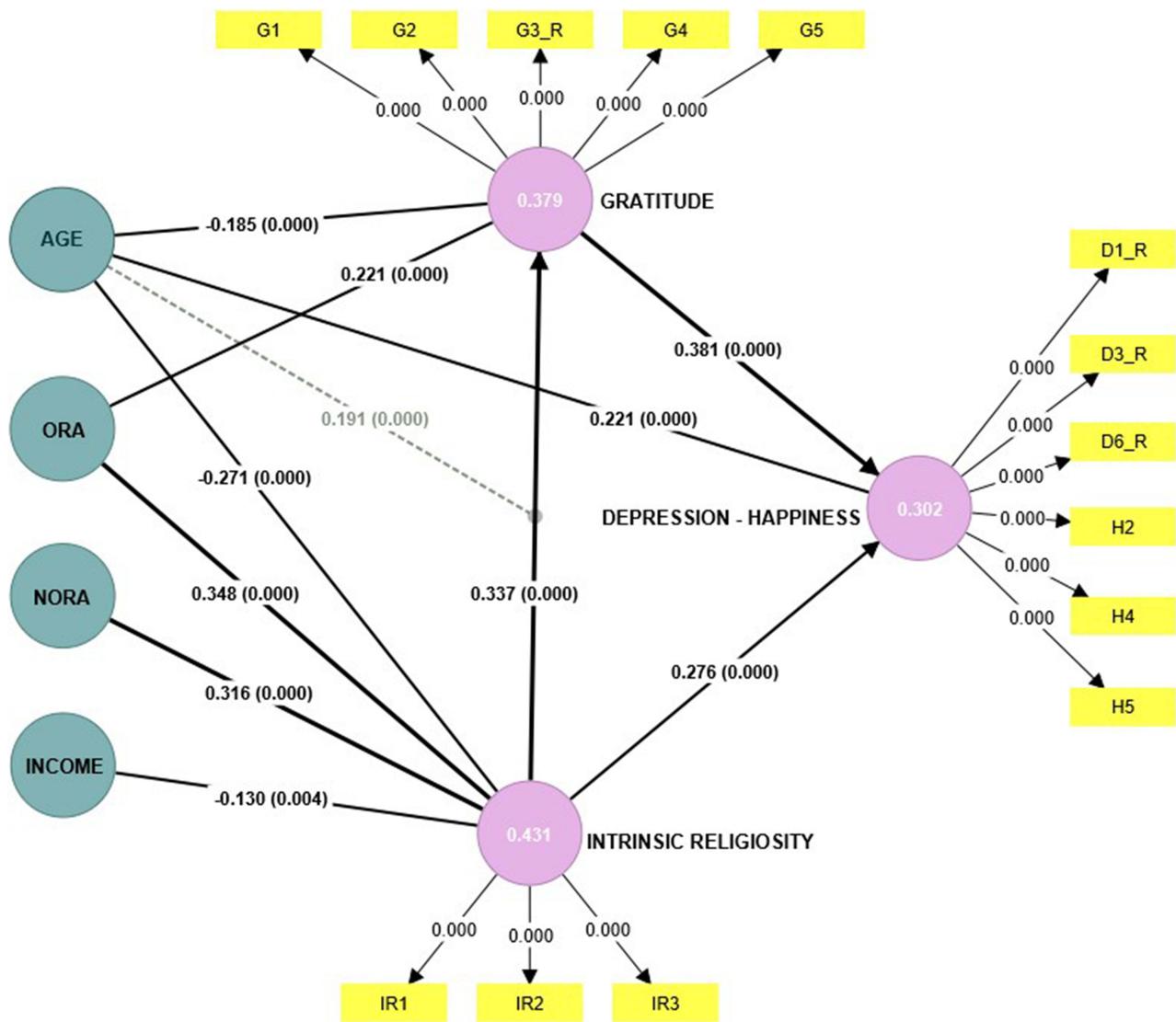
## Materials and Methods

### Data Collection

We collected data directly from several religious institutions in Ho Chi Minh City as well as from some in the province of Kien Giang in Vietnam. Informed consent was provided, and anonymity confidentiality terms were explained before participants conducted the survey. For the questionnaires, the participants were informed of the research aims and asked to provide socio-demographic information, including gender, age, religion, personal income. Participation was entirely voluntary, with no remuneration, and participants could withdraw at any time. The survey took approximately 10–15 minutes to complete. When participants needed any clarification at any point in the survey, we would address them on the spot so that they may perform the survey as efficiently and accurately as possible. We faced challenges in gaining permission for direct surveys at religious institutions, leading to a prolonged data collection period from April 2022 to January 2023.

The study sample size was determined based on the suggestion that using 100 to 200 samples is a good starting point for studies related to path estimation analysis, especially for structural equation model.<sup>42</sup> Therefore, our study distributed a total of 457 questionnaires. Participants were willingly recruited from several different religious institutions, including Buddhist pagodas, Cao Dai temples, Catholic and Protestant churches. The participant's sample frames were collected from one metropolis and one province in Vietnam. The data was subsequently subjected to screening and cleaning procedures in accordance with Osborne<sup>43</sup> guidelines in order to mitigate the effects of common method bias. This involves the identification and removal of outliers and suspicious response patterns that do not meet the established criteria. The identification of suspicious response patterns is contingent upon whether the provided answers can be classified into the following categories: alignment marks, order markings, and discrepancies when compared to the reverse item. A total of 374 valid samples were obtained. [Table 1](#) presents the demographic characteristics of the participants.

[Table 1](#) presents the demographic characteristics of the 374 Vietnamese believers participating in the study, providing information on gender, age, religion, and personal income. In this sample, females make up 55.6% of the participants, while males account for 44.4%. In terms of age, the largest group is those aged 20–29 years old, comprising 53.2% of the sample, while the smallest group is those aged 50–59 years old, at 4.0%. Regarding religion, 17.4% of the participants are Buddhists, 34.0% are Protestants, 31.3% are Catholics, 9.1% adhere to Caodaism, and 8.3% follow other religions. In terms of personal income, 45.2% of the participants have an income of less than 3 million VND, 16.6% have an income between 3–7.5 million VND, 23.5% have an income between 7.5–15 million VND, and 14.7% have an income of more than 15 million VND.



**Figure 1** Partial least squares structural equation modeling (PLS-SEM) results.  
**Note:** Figure 1 presents results of path coefficients (bold arrows), R<sup>2</sup> (purple circle), and outer loading's significant (light arrows).  
**Abbreviations:** NORA, Non-Organizational Religious Activity; ORA, Organizational Religious Activity.

The translation process of the questionnaire involved the use of conceptual methods. Initially, a native Vietnamese speaker, who is also fluent in English, translated the English version into Vietnamese. However, it is important to note that a literal translation may not always fully capture the intended health concepts to be measured. Therefore, the authors carefully examined each question to ensure that the translations accurately captured the intended concepts.<sup>44</sup>

### Ethical Aspects

The study received approval from the Ethics Committee of the Department of Science and Technology at Ho Chi Minh City University of Education, under the Vietnamese Ministry of Education and Training, with the approval code CS.2022.19.08ĐH. Additionally, this research adhered to the ethical guidelines of the Declaration of Helsinki and followed the American Psychological Association’s principles regarding human participant research, ensuring compliance with established ethical standards focused on participant well-being, rights, and privacy.<sup>45,46</sup>

**Table 1** Demographic Characteristics

	Total (n = 374)	SDHS		QG-6		IR	
	Frequency	Mean±SD	p	Mean±SD	p	Mean±SD	p
<b>Gender<sup>a</sup></b>			>0.05		>0.05		>0.05
Female	208 (55.6)	2.75 ± 0.62		4.93 ± 1.09		3.22 ± 0.78	
Male	166 (44.4)	2.78 ± 0.58		4.89 ± 1.16		3.22 ± 0.93	
<b>Age</b>			–		–		–
< 20	35 (9.4)	2.71 ± 0.60		4.97 ± 1.27		3.42 ± 0.81	
20–29	199 (53.2)	2.70 ± 0.58		5.17 ± 0.89		3.32 ± 0.82	
30–39	51 (13.6)	2.91 ± 0.70		4.93 ± 1.18		3.27 ± 0.77	
40–49	22 (5.9)	2.98 ± 0.68		4.85 ± 1.02		3.33 ± 0.66	
50–59	15 (4.0)	2.69 ± 0.63		3.68 ± 1.39		2.44 ± 1.34	
≥ 60	52 (13.9)	2.83 ± 0.53		4.24 ± 1.24		2.84 ± 0.75	
<b>Religion<sup>b</sup></b>			<0.001		<0.001		<0.001
Buddhism	65 (17.4)	2.85 ± 0.63		4.97 ± 1.22		3.28 ± 0.92	
Protestantism	127 (34.0)	2.84 ± 0.57		5.26 ± 0.76		3.49 ± 0.65	
Catholicism	117 (31.3)	2.69 ± 0.56		4.69 ± 1.27		3.26 ± 0.73	
Caodaiism	34 (9.1)	2.92 ± 0.71		4.76 ± 0.93		3.11 ± 0.57	
Other	31 (8.3)	3.01 ± 0.98		4.33 ± 1.32		1.96 ± 0.96	
<b>Personal income<sup>b</sup></b>			>0.05		<0.001		<0.001
< 3 mil. VND	169 (45.2)	2.77 ± 0.62		5.12 ± 1.01		3.31 ± 0.84	
3–7.5 mil. VND	62 (16.6)	2.73 ± 0.52		4.97 ± 0.92		3.44 ± 0.70	
7.5–15 mil. VND	88 (23.5)	2.81 ± 0.69		4.77 ± 1.20		3.19 ± 0.79	
> 15 mil. VND	55 (14.7)	2.73 ± 0.53		4.43 ± 1.34		2.75 ± 0.97	

**Notes:** <sup>a</sup>Independent Sample t-Test; <sup>b</sup>One-way ANOVA.

**Abbreviations:** SDHS, Short Depression Happiness Scale; GQ-6, Gratitude Questionnaire-Six-Item Form; IR, Intrinsic Religiosity.

## Measurement of Variables

### The Duke University Religious Index

The Duke University Religious Index (DUREL) is a brief measure of religiosity developed by Koenig and Büssing<sup>5</sup> for use in cross-sectional and longitudinal observational studies. The scale assesses the three major dimensions of religiosity: One item asks about non-organizational religious activity (ORA). One item asks about non-organizational religious activity (NORA). Three items ask about intrinsic religiosity (IR), rating on a Likert scale from Definitely not true (0), Tends not to be true (1), Unsure (2), Tends to be true (3) to Definitely true of me (4). The DUREL measures each of these dimensions by a separate subscale, and correlations with other outcomes recommended should be analyzed by subscale in separate models.<sup>5</sup> In the original paper, the DUREL overall scale had high test-retest reliability, high internal consistency reliability with Cronbach’s  $\alpha$  ranging from 0.78 to 0.91, high convergent validity with other measures of religiosity, and the factor structure of the DUREL has now been demonstrated and confirmed in separate samples by other independent investigative teams.<sup>5</sup>

## The Short Depression Happiness Scale

The Short Depression-Happiness Scale (SDHS) is a 6-item statistically bipolar self-report scale developed by Joseph et al<sup>21</sup> from the original Depression-Happiness Scale.<sup>20</sup> The SDHS is designed to measure depression and happiness. Three items ask about positive thoughts, feelings, and bodily experiences, and three ask about negative thoughts, feelings, and bodily experiences. Respondents are asked to think about how they have felt in the past seven days and to rate the frequency of each item on a 4-point scale: never (0), rarely (1), sometimes (2), and often (3). This study uses an additional level of always (4). Items concerning negative thoughts, feelings, and bodily experiences are reversed-score. SDHS reported high internal consistency reliability with Cronbach's  $\alpha$  ranging from 0.77 to 0.92. The SDHS was demonstrated to have good test-retest reliability over a 2-week period. It was also demonstrated to have good convergent validity with the full DHS, as well as with other established measures of depression and happiness, and good discriminant validity with established measures of free-floating anxiety, somatic anxiety, and hysteria.<sup>21</sup>

## Gratitude Questionnaire 6

The Gratitude Questionnaire-Six-Item Form (GQ-6) was developed by McCullough et al.<sup>47</sup> It is a six-item self-report questionnaire designed to assess individual differences in the proneness to experience gratitude (or grateful disposition) in daily life. The scale involved seven self-reported items (eg, If I had to list everything that I felt grateful for, it would be a very long list) rating on a Likert scale from strongly disagree (0), disagree (1), slightly disagree (2), neutral (3), slightly agree (4), agree (5) to strongly agree (6). Item number three and item number six are reversed-score. In the original paper, the GQ-6 is reported to have excellent psychometric properties, including a robust one-factor structure and high internal consistency. Moreover, it correlates theoretically expected ways with various affective, prosocial, and spiritual constructs.<sup>47</sup>

## Data Analysis

The data, after collection, was encoded, cleaned, and rid of error variables using Excel software. The partial least squares structural equation modeling analysis (PLS-SEM), a variance-based structural equation modeling<sup>48</sup> in the latest release of SmartPLS 4<sup>49</sup> was used to analyze the data obtained in this study. Because of reflective measurement models, multiple independent-dependent relationships, moderation and mediation hypothesized relationships, and non-normal data, PLS-SEM is selected to analyze the data in this study.<sup>50</sup> The systematic procedure for applying the PLS-SEM approach involves the assessment of the measurement model and the structural model based on the guidelines of Hair et al.<sup>50</sup> For the purpose of evaluating the measurement model, reflective indicator reliability (outer loading), construct reliability (Cronbach's alpha [CA], composite reliability [CR]), convergent validity (average variance extracted), and discriminant validity heterotrait-monotrait (HTMT criterion) were examined. Evaluating the structural model, collinearity statistics variance inflation factor (VIF), coefficient determination ( $R^2$ ), effect size ( $f^2$ ), predictive power ( $Q^2_{\text{predict}}$ ), significance and relevance of path coefficients. The hypotheses of the current study were validated using the PLS-SEM performed on 5000 bootstrap samples, which was also utilized to examine the mediation hypothesis and analyze the effects of the independent variables on the dependent variables.

## Results

### Model Specification

The final PLS model is depicted in [Figure 1](#), and it comprises three distinct latent constructs: GRATITUDE (consisting of items from the Gratitude Questionnaire-Six-Item Scale), INTRINSIC RELIGIOSITY, ORA [Organizational Religious Activity], NORA [Non-Organizational Religious Activity] (consisting of items from the Duke University Religious Index), and DEPRESSION - HAPPINESS (consisting of items from the Short Depression-Happiness Scale). Additionally, continuous variables like AGE and INCOME, which have been substantiated by prior research, have been incorporated into the model.

## Measurement Model

The measurement model was evaluated to determine the measurement adequacy (Table 2). One measurement item of GQ-6, “G6R” was excluded from the analysis due to very low outer loading ( $G6R_{outer\ loading} = 0.119$ ), previous studies indicated that item G6R had very low correlations with other items, and is generally advised to omit for better reliability.<sup>29,51,52</sup> After the deletion, the rest of the outer loadings ranged from 0.515 to 0.894 and were all significant ( $p < 0.001$ ). The items with a loading lower than 0.70 were kept because the reliabilities of these constructs were acceptable.<sup>53</sup> The Cronbach’s  $\alpha$  of the three constructs ranged between 0.728 and 0.861, showing a satisfactory internal consistency. The average variance explained (AVE) of all constructs was above 0.50, we also accepted the AVE above 0.40 because if AVE is less than 0.50, but composite reliability is higher than 0.60, the convergent validity of the construct is still adequate.<sup>54</sup> The heterotrait-monotrait ratios (HTMT) (Table 3) were all below 0.85, thus, the discriminant validity of the model was established as well.<sup>55</sup>

## Structural Model

The Variance Inflation Factors (VIFs) within the model ranged from 1.103 to 1.947, indicating that multicollinearity was not a significant concern.<sup>50</sup> The path coefficients, illustrating the relationships between variables, were presented in Figure 1.

The hypothesized path between age and intrinsic religiosity was found to be insignificant. Instead, age negatively predicted intrinsic religiosity ( $\beta = -0.271$ , 95% CI  $[-0.357, -0.195]$ ,  $p < 0.001$ ). Additionally, personal income was also found to have a negative impact on intrinsic religiosity ( $\beta = -0.130$ , 95% CI  $[-0.222, -0.040]$ ,  $p < 0.01$ ). On the other hand, intrinsic religiosity was found to have a positive effect on depression-happiness ( $\beta = 0.276$ , 95% CI  $[0.168, 0.373]$ ,  $p < 0.001$ ) and was also associated with increased levels of gratitude ( $\beta = 0.337$ , 95% CI  $[0.205, 0.466]$ ,  $p < 0.001$ ). Furthermore, organizational religious activity positively influenced gratitude ( $\beta = 0.221$ , 95% CI  $[0.098, 0.339]$ ,  $p < 0.001$ ), and gratitude, in turn, had a positive impact on depression-happiness ( $\beta = 0.381$ , 95% CI  $[0.280, 0.491]$ ,  $p < 0.001$ ).

**Table 2** Mean, Standard Deviation, Construct Correlations, Reliability, and Validity

	M	SD	AVE	Cronbach’s $\alpha$	CR (rho_c)
SDHS	2.76	0.61	0.428	0.735	0.815
GQ-6	4.91	1.12	0.661	0.861	0.904
IR	3.22	0.85	0.645	0.728	0.843

**Abbreviations:** SDHS, Short Depression Happiness Scale; GQ-6, Gratitude Questionnaire-Six-Item Form; IR, Intrinsic Religiosity; M, Mean; SD, Standard Deviation; AVE, Average Variance Extracted; CR, Composite Reliability.

**Table 3** Heterotrait-Monotrait Ratios (HTMT)

	SDHS	GQ-6	IR	NORA	ORA
SDHS					
GQ-6	0.525 [0.434, 0.605]				
IR	0.508 [0.397, 0.596]	0.637 [0.515, 0.738]			
NORA	0.311 [0.196, 0.410]	0.292 [0.171, 0.395]	0.551 [0.446, 0.628]		
ORA	0.333 [0.218, 0.441]	0.407 [0.290, 0.504]	0.615 [0.519, 0.697]	0.684 [0.612, 0.747]	

**Abbreviations:** SDHS, Short Depression Happiness Scale; GQ-6, Gratitude Questionnaire-Six-Item Form; IR, Intrinsic Religiosity; NORA, Non-Organizational Religious Activity; ORA, Organizational Religious Activity.

Among the significant paths, the effect size was highest for the path from gratitude to depression-happiness ( $f^2 = 0.143$ ,  $p = 0.001$ ), indicating a medium-level effect. On the other hand, the effect size was lowest for the path from age moderating intrinsic religiosity to gratitude ( $f^2 = 0.061$ ,  $p = 0.034$ ), indicating a small-level impact.<sup>56,57</sup>

In terms of the variance predicted in the endogenous constructs, the  $R^2$  ranged from 30.2% to 43.1%. The adjusted  $R^2$  ranged from 29.6% to 42.5%, indicating a weak to moderate level of predictive accuracy.<sup>58,59</sup> The model constructs also demonstrated high predictive power, as indicated by the  $Q^2_{\text{predict}}$  values being above zero. Additionally, most indicators in the PLS-SEM analysis had lower RMSE values compared to the naïve LM benchmark, further supporting the model's strong predictive capability.<sup>60</sup>

The direct and indirect effects can be found in Table 4.

## Mediation and Moderation Analysis

Hypothesis 7 was confirmed as the study revealed a significant indirect effect of intrinsic religiosity on depression-happiness, mediated by gratitude ( $\beta = 0.128$ , 95% CI [0.071, 0.197],  $p < 0.001$ ). Additionally, hypothesis 8 was supported, indicating that age positively moderated the association between intrinsic religiosity and gratitude ( $\beta = 0.191$ , 95% CI [0.116, 0.277],  $p < 0.001$ ).

## Discussion

The study's main aim was to examine the direct and indirect effects of expectations for intrinsic religiosity on happiness, depression, and gratitude inside the same model. In a multireligious nation such as Vietnam, this significantly contributes to understanding key factors affecting mental health. Numerous implications, as well as theoretical and clinical advancements, are worthy of consideration.

**Table 4** Path Coefficients

	$\beta$	95% CI Lower	95% CI Upper	$p$
<i>Direct effects</i>				
AGE → SDHS	0.221	0.126	0.315	<0.001
AGE → GQ-6	-0.185	-0.280	-0.102	<0.001
AGE → IR	-0.271	-0.357	-0.195	<0.001
INCOME → IR	-0.130	-0.222	-0.040	<0.001
IR → SDHS	0.276	0.168	0.373	<0.001
IR → GQ-6	0.337	0.205	0.466	<0.001
GQ-6 → SDHS	0.381	0.280	0.491	<0.001
ORA → GQ-6	0.221	0.098	0.339	<0.001
ORA → IR	0.348	0.246	0.451	<0.001
NORA → IR	0.316	0.202	0.418	<0.001
AGE x IR → GQ-6	0.191	0.116	0.277	<0.001
<i>Indirect effects</i>				
IR → GQ-6 → SDHS	0.128	0.071	0.197	<0.001
ORA → IR → GQ-6	0.117	0.065	0.181	<0.001
NORA → IR → GQ-6	0.106	0.059	0.165	<0.001

**Abbreviations:** SDHS, Short Depression Happiness Scale; GQ-6, Gratitude Questionnaire-Six-Item Form; IR, Intrinsic Religiosity; NORA, Non-Organizational Religious Activity; ORA, Organizational Religious Activity.

## Intrinsic Religiosity is connected to Age

The Results of this study reveal that there is a negative impact between age and intrinsic religiosity. This negative impact means that at a lower age group, the intrinsic religiosity of the individual will be higher. This finding goes against our hypothesis (hypothesis 1). Specifically, it goes against the prevailing perception and studies that young people's beliefs are diminishing before the trend of secularization, which describes the phenomenon that later-born generations appear less religious.<sup>7,8</sup> Theories and prior research indicate that religious convictions increase with age.<sup>6</sup> There are isolated cases, such as the recent report by Pew Research Center,<sup>61</sup> indicating that Georgia and Ghana are the only countries where young adults are more religious than their elders.

Theoretical models of religious coping suggest that adversity caused by unexpected and adverse events prompts people to use religion more intensively.<sup>62</sup> The effects of the unexpected and adverse events can increase existential concerns for young people, such as fear of death and loneliness, and increase preoccupation with religion, which in turn leads to the practice of religious acts such as praying, and meditating more.<sup>63</sup> More active participation in such religious activities can also help strengthen young people's intrinsic religious beliefs - this is also demonstrated in this study's model through the positive impact by Organizational Religious Activity and Non-Organizational Religious Activity on Intrinsic Religiosity (Figure 1).

Religions in Vietnam are found to have a particular focus on faith development for young people<sup>64-66</sup> Research conducted by Tien<sup>67</sup> indicated that Vietnamese Catholic youth maintain high levels of religious practices due to the diocese's strict organization and religious education program. Protestantism also shows similar trends.<sup>68</sup> Additionally, Buddhist retreats in Vietnam have recently attracted many young participants, with some events drawing hundreds or even thousands of attendees.<sup>69,70</sup>

## Personal Income Decline Increases Intrinsic Religiosity

The finding also indicates the negative effect of personal income on intrinsic religiosity (hypothesis 2). A longitudinal study by Herzer and Strulik<sup>9</sup> shows that higher income leads to declining religiosity. According to a study by Brandt and Henry,<sup>10</sup> people with lower incomes tend to be more religious than those with higher incomes. The authors suggest this may be because religious beliefs can serve as a form of psychological protection. When facing economic challenges, individuals may turn to religion as a way to defend themselves against the threat to their sense of social connectedness.<sup>10</sup>

## Higher Levels of Intrinsic Religiosity Lead to Higher Levels of Happiness Based on the SDHS

This study found that intrinsic religiosity has a positive effect on happiness (hypothesis 3). Those with a higher level of intrinsic religiosity will experience greater happiness. Following the SDHS statistical bipolar property, this also implies that these individuals will have lower levels of depression. This result is consistent with the literature on religiosity and a series of recent studies worldwide showing intrinsic religiosity to positively affect happiness and negatively affect depression. A recent study by Vitorino et al<sup>22</sup> found that intrinsic religiosity is connected to higher happiness in students. With depression, a 2019 study investigating associations between depressive symptoms and religiosity in young adults conducted by Gwin et al<sup>71</sup> showed intrinsic religiosity is higher associated with lower risks of depressive symptoms. Another recent study by Pengpid and Peltzer<sup>72</sup> based on data from more than 70,000 Indians aged 45 years and older also showed that high intrinsic religiosity was inversely associated with depressive symptoms.

Perceived control is said to have a strong and consistent positive relationship with happiness or depression, and it can be affected by religion and spirituality. Religion and spirituality can affect perceived control by providing an interpretive framework through which individuals understand their day-to-day experiences,<sup>73</sup> when an individual is confronted with a stressful event. Those who believe they are losing control are more likely to feel more distress. At this point, religiosity will provide highly religious individuals with beliefs of control through the lens of their faith<sup>74</sup>. In a study with cancer patients,<sup>75</sup> as a result, it helps individuals avoid feeling hopeless and discouraged when they were feeling a loss of control.

To comprehensively understand the effects of religiosity on happiness, it is essential to consider the social and cultural context in which individuals are located. This context relates to a true social network, which refers to the religious practices that enable individuals to receive social support from their religious community when needed.<sup>76</sup> These

religious communities maintained the same organizing patterns and leadership styles and lived in solidarity with each other.<sup>77,78</sup> This is relevant to understanding the relationship between religion and happiness, as religious individuals tend to be happier in religious societies. At the same time, atheists may find more happiness in societies where religion is not a significant factor.<sup>39</sup>

## A High Level of Intrinsic Religiosity Would Promote Individuals' Gratitude

The model results also indicate a positive relationship between intrinsic religiosity and gratitude, implying that a high level of intrinsic religiosity would increase individuals' gratitude (hypothesis 4). This finding is consistent with the majority of theories and prior research indicating that intrinsic religiosity positively affects gratitude.<sup>47,79</sup> In this study's model, in addition to the direct influence of intrinsic religiosity on gratitude, the roles of organized religious activities and age are equally significant. Like intrinsic religiosity, organized religious activities have a positive effect on gratitude. Finally, the results from the model also show that age would positively moderate the relationship between intrinsic religiosity and gratitude.

Sandage et al<sup>80</sup> discovered a positive correlation between gratitude and intrinsic religiosity. Similarly, Tulbure<sup>81</sup> discovered that individuals with intrinsic religiosity exhibit a more favorable disposition toward gratitude. Kraus et al<sup>79</sup> found in a study conducted the same year that all dimensions of religiosity, including intrinsic religiosity, are significant and positively correlated with gratitude. In addition, the results of their study indicate that a substantial portion of the relationship between religious affiliation and gratitude appears to be the result of participation in organized religious activities;<sup>79</sup> in fact, older adults who attended worship services more frequently were more likely to develop a sense of gratitude over time.<sup>82</sup> Figure 1 demonstrates that, as predicted by the model used in this investigation, Organizational Religious Activity positively influences Gratitude (hypothesis 5). Moreover, the model in this study demonstrates that age positively moderates the relationship between intrinsic religiosity and gratitude (hypothesis 8). Therefore, the effect of intrinsic religiosity on gratitude will be greater in the elder age group. This result is consistent with previous research indicating that as older adults age, their gratitude increases, possibly because they are more likely to attribute gratitude to a religiosity target or reflect their gratitude through the lens of religious gratitude.<sup>83</sup>

In fact, gratitude and giving thanks or forgiveness can be found in many religious traditions; they are considered central to much of religion's wisdom, and many religious texts and prayers lessons contain about gratitude, as it is a commonly promoted emotion among adherents.<sup>84</sup> Besides, religiosity can promote gratitude by providing opportunities to experience gratitude<sup>85</sup>

## Higher Levels of Gratitude Lead to Higher Levels of Happiness (Based on the SDHS)

The findings of this study indicate a positive correlation between gratitude and happiness (hypothesis 6). Consequently, those with a higher level of gratitude will experience greater happiness. In accordance with the SDHS statistical bipolar property, this also suggests that these people will have lesser levels of depression. This result is consistent with theory and the majority of previous research demonstrating that individuals with greater gratitude are happier<sup>32</sup> and have lower levels of depression.<sup>28,29</sup>

Watkins et al<sup>32</sup> have put forth the amplification theory of gratitude, positing that the act of psychologically magnifying the positive aspects of one's life can lead to an augmentation of happiness. In addition, individuals with a heightened disposition towards gratitude tend to engage in a favorable reinterpretation of negative experiences, thereby eliciting feelings of gratitude. Over time, the cultivation of feelings of gratitude may potentially mitigate or prevent the onset of depressive symptoms.<sup>33</sup> Furthermore, a recent study conducted by Liang et al<sup>34</sup> has demonstrated that gratitude has the potential to alleviate symptoms of depression by promoting a state of peace of mind and diminishing ruminative thinking.

## Gratitude Would Mediate the Relationship Between Intrinsic Religiosity and Happiness (Based on the SDHS)

Finally, from these above theoretical arguments and evidence, it was concluded that intrinsic religiosity, gratitude, and happiness were positively correlated with each other. These also strongly support our results in the model in accordance with the final hypothesis (hypothesis 7) that gratitude played a mediating role in the pathway from

intrinsic religiosity to depression-happiness. This mediating effect means that a higher level of intrinsic religiosity will lead to greater gratitude, thereby enhancing happiness and mitigating depression. A recent study by Lantz et al<sup>86</sup> showed a similar result; two distinct cohorts were examined, comprising university students and adults raised by their grandparents. The study revealed that gratitude, played a mediating role in the inverse association between religiosity and depression and the positive association between religiosity and well-being.<sup>86</sup>

## Implications

The findings of this study have significant Implications for clinical treatment within the Vietnamese setting. This study is the first to our knowledge to examine the effects of religiosity on gratitude, happiness, and depression among believers in Vietnam. The results highlight the significance of considering religiosity as a valuable asset that can foster gratitude, enhance happiness, and mitigate depression among religious individuals in Vietnam. Additionally, the findings suggest that researchers, clinicians, psychotherapists, and counselors may derive potential advantages from prioritizing the examination of the influence of religiosity and gratitude in clients undergoing depression. Firstly, religious individuals may find it beneficial to incorporate their faith into therapy sessions. Post and Wade<sup>87</sup> cited a study that found clients thought therapists who integrated religion were suitable and valuable. Familiar verses or parables can help connect the client's issue to these texts' teachings.<sup>87</sup> Secondly, in Vietnam, religious resources, especially those within religious communities, may improve treatment outcomes. Collaborations between clergy and psychotherapists may improve client care.<sup>88</sup> As stated in the Discussion section, the religious communities in Vietnam tend to reside in close proximity to one another and share a strong sense of interconnectedness.<sup>77</sup>

Ultimately, the findings also show that gratitude can directly improve happiness and depression and indirectly explain how religiosity does so. Even if a client is not religious or chooses not to discuss religion, emphasizing gratitude in the therapeutic process and evaluation may be beneficial.

## Limitations and Future Directions

Firstly, it is important to note that the study was based on a cross-sectional research design, which means that while it can explain the relationship between the variables under investigation, it cannot conclusively establish a causal relationship between them. Future studies may employ a longitudinal research design in order to gain a deeper understanding of this relationship. Secondly, the study relied on a selected convenience sample, which limits the generalizability of the findings to believers in Vietnam. Finally, future studies must clarify the nature and direction of these relationships.

## Institutional Review Board Statement

The Ethics Committee of the Department of Science and Technology at Ho Chi Minh City University of Education, which operates under the Vietnamese Ministry of Education and Training, granted approval for the study in Decision No. 450/QĐ-ĐHSP, with the code CS.2022.19.08ĐH. The study complies with the guidelines and standards set forth by the Declaration of Helsinki and the American Psychological Association.

## Acknowledgments

Van-Son Huynh and Tri-Bao Nguyen contributed equally to this work and share first authorship.

## Disclosure

The authors report no conflicts of interest in this work.

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