

Article

Religious Participation: Does It Matter for Sustainable Culture and Entertainment Consumption?

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Abstract: Previous research has studied the correlations between income, education, and sustainable culture and entertainment consumption. The correlation between religion as an informal institution and culture and entertainment consumption is often neglected. Based on this background, this paper attempts to explore the correlation between religious participation (as a proxy for religion) and three kinds of sustainable culture and entertainment consumption. Using the data from the Chinese General Social Survey in 2017 to perform empirical analysis, it is found that religious participation is negatively correlated with the sustainable culture and entertainment consumption. Two-stage least squares and propensity score matching method were employed, verifying the robustness of this result. Additionally, the full sample was divided into sub-samples to discuss the heterogeneous correlation between religious participation and sustainable culture and entertainment consumption. The results suggest that in the low income group and the low marketization degree group, religious participation is most relevant to the sustainable culture and entertainment consumption. This paper contributes to enriching current research.

Keywords: religious participation; sustainable culture and entertainment consumption; two-stage least squares; propensity score matching



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1. Introduction

Culture and entertainment consumption refers to a kind of consumption in which people enjoy culture and entertainment goods and obtain spiritual pleasure. It is manifested in the enjoyment of radio and television programs, movies, music, opera, dance, books, newspapers, and other literary and artistic works, and the use of games and entertainment equipment to obtain sensory or spiritual pleasure. In the early stage of research in this field, scholars often used the term “spiritual and cultural consumption”. In fact, consumption can be divided into material and spiritual consumption, and the latter is a form of consumption by which consumer can meet their own spiritual and cultural entertainment needs.

As we know, the rise and development of culture and entertainment consumption is the inevitable result of economic prosperity and social progress. China, as the biggest developing country in the world, has experienced tremendous development in every aspect since the reform and opening. Of course, the culture and entertainment industry has also experienced good development. Based on data reported by China's National Bureau of Statistics, per capita culture and entertainment consumption increased from 1358 yuan to 2847 yuan, with an average annual growth of 8.57%, from 2007 to 2017. Meanwhile, religious participation as a popular social activity also experienced rapid development. Based on data from the Annual of Religious Studies in China, the proportion of religious participation in the country increased by 140%, with an average annual growth rate of 15%, from 2001 to 2016.

More and more scholars have attempted to explore the relationship between religious participation and sustainable consumption. Minton et al. [1] conducted a survey utilizing

a representative online panel. They investigated how religious values inform attitudes toward and behaviors associated with sustainable consumption. They found that religiosity can greatly influence sustainable consumption in practice. In addition, Minton et al. [2] also examined whether religious participation is a driver of sustainable consumption. They examined this proposition using data from the culturally and religiously diverse country of Singapore, collected door-to-door from a representative sample ($n = 1503$) utilizing numerous quality control techniques. They showed that religious participation affects sustainable consumption via path analysis and logical follow-up tests. Orellano et al. [3] performed a systematic review of the influence of religion on sustainable consumption at the individual level, and concluded that different research has different findings about such influence. Specifically, some scholars have found that religion has a negative effect on sustainable consumption [4–12], and surprisingly, other scholars have found that the effect of religion on sustainable consumption is not significant [13–15].

This paper attempts to explore the correlation between religious participation and sustainable culture and entertainment consumption (as a branch of consumption) to supplement and enrich the existing literature. Especially considering the reality of excessive culture and entertainment consumption in current society, it is of great practical significance to study its influence when the formal system cannot restrain it.

In order to make a correlation between religious participation and sustainable culture and entertainment consumption explicitly at the individual level, first, we use ordinary least squares and a logit model to explore how they correlated. The findings indicate that they are negatively correlated. Second, we examine the endogenous problem, i.e., that culture and entertainment consumption, as a consumption decision, may be endogenous to the socioeconomic characteristics of individuals. At the same time, there are many unobservable factors that affect individuals' religious participation, and these factors may also be correlated with culture and entertainment consumption. Therefore, endogenous problems may interfere with the conclusions of this study; to this end, we employed two-stage least squares and propensity score matching to perform further analysis, the results of which support the findings in the first step. That is to say, the findings in the first step are accurate and reliable. Third, considering the heterogeneity of income and marketization degree, the full sample was divided into three sub-samples based on income level and marketization degree. Furthermore, findings suggest that religious participation is most relevant to sustainable culture and entertainment consumption in the groups with low income levels and marketization degrees when compared with the groups with middle and high income levels and marketization degrees. In other words, these new findings make up for the deficiency of previous studies regarding this proposition.

To summarize, this paper attempts to formulate a more precise and comprehensive view of the links that can help us understand how religious participation is correlated with sustainable culture and entertainment consumption with more recent data from the Chinese General Social Survey in 2017. As far as we know, there has never been an investigation on this topic. We believe that this paper can open up a new way to achieve a theoretical base for future study on the relationship between religious participation and culture and entertainment consumption.

The remainder of this paper is designed as follows: Section 2 presents a brief literature review. Section 3 provides variables and model specification. Section 4 presents the findings and discussion. Section 5 presents conclusions, limitations, and future study directions.

2. Literature Review

In this section we analyze previous research on this paper's proposition. At present, many scholars are attempting to investigate the relationship between religion and sustainable consumption. However, they have not reached a consensus on the conclusion of this proposition due to different samples and data.

As is well known, religious participation as an informal institution is an important factor influencing consumption. Klineberg et al. [13] used biennial surveys in Texas incorporating eight demographic variables to study the influence of religion on sustainable consumption. They found that religion has no significant effect on sustainable consumption. Subsequently, Bove et al. [14] studied the same proposition, and their findings were consistent with those of Klineberg et al. [13]. Yang and Huang [15] used ordinary least squares to study the effect of religion on sustainable consumption, and their findings agreed with previous findings [13,14]. Rice [16] used Egypt as an example to study the effect of religion on sustainable consumption, and found that it had a positive effect. Razzaq et al. [10] used a mall intercept survey sampling technique in a large metropolitan area of Pakistan to investigate the effect of religion on sustainable consumption. They also support the view that religion has a positive effect on sustainable consumption. Ghazali et al. [17] used partial least squares and data from a sample of 504 Muslims in Indonesia and Malaysia. They also found a positive effect. Additionally, these results are supported by findings from other studies [18–22], although they used different samples and methods.

On the contrary, Clements et al. [4] used nationally representative data from the 2010 General Social Survey to explore the effect of religion on sustainable consumption in the USA. They found that the effect was negative. Similarly, in Chile, Diaz et al. [6] also found a negative effect. Leary et al. [7] conducted a survey of 1101 adults to discuss the effect of religion on sustainable consumption, and their findings also provide evidence showing that the effect is negative. Chowdhury [23] conducted an online survey with 500 participants in the USA to identify the relationship between religion and sustainable consumption, and also found that it is negative. Ukenna et al. [8] carried out a self-administered questionnaire to collect data from 3495 academic staff members at nine universities in southern Nigeria. Using the structural equation model to perform empirical analysis, they also found that religion is a factor that affects sustainable consumption. Scholars have also investigated the heterogeneous effects of religion on sustainable consumption with regard to individuals' economic behaviors based on different market levels [24–28] and different education and income levels [29–34].

Based on the existing literature above, there are few discussions on whether religious participation is correlated with sustainable culture and entertainment consumption or not, and there is a lack of studies on this correlation. It is known that culture and entertainment consumption is regarded as an important type of consumption. Other than religious participation, there are many factors that affect this type of consumption (these factors are used as control variables in this paper). Kraaykamp et al. [35] found that income level is an important factor that constrains the sustainable development of culture and entertainment consumption. Dewenter and Westermann [36] found that the price of culture and entertainment products is also a significant factor that affects sustainable development. In fact, culture and entertainment consumption is a higher level of spiritual and intellectual consumption, which is related to personal aesthetic and spiritual taste and belongs to the advanced stage of consumption. Only when basic material needs are met to a greater extent will there be any urgency culture and entertainment consumption needs. Therefore, culture and entertainment consumption has a certain uniqueness.

Diniz and Machado [37] found that there is a positive correlation between income level and culture and entertainment consumption. However, increased income will only increase the demand for art; it will have no significant impact on the demand for long-running cultural products and services such as drama and museums. Bihagen and Katz-Gerro [38] studied the role of gender in shaping Swedish culture and entertainment consumption patterns and found that gender differences are significant. Women are more active than men in the area of advanced culture, while men have higher average scores in the extremely low consumption index. Becker and Chiswick [39] and Kraaykamp and Nieuwbeerta [40] found that people with a higher education level are more active in culture and entertainment consumption than people with a lower education level. Gans [41] provided two reasons to explain this phenomenon. One is that culture, especially highbrow culture, is often complex,

innovative, or experimental. Only people with specific cultural competency can appreciate, enjoy, and understand it. Thus, consumers with a higher education level will participate in elegant cultural activities relatively frequently. The other reason is that there are significant differences in the degree of emphasis on culture and art education among schools at different educational levels. People with a better educational background will invest more in culture for their schools and have more cultural resources. Social class and status are also important factors that restrict sustainable culture and entertainment consumption. Nagel and Ganzeboom [42], Bihagen and Katz-Gerro [38], and van Hek and Kraaykamp [43] found that the education level of parents, family socialization, type of occupation, social mobility, and other factors will affect sustainable culture and entertainment consumption. Kraaykamp et al. [40] pointed out that all of these factors are related to social class and status. Moreover, Situmean et al. [44] found that consumers' personal expectations and addictive psychological characteristics also have an impact on culture and entertainment consumption.

Based on the above research, this paper attempts to comprehensively study how religious participation is correlated with sustainable culture and entertainment consumption with recent data from the Chinese General Social Survey in 2017. The aim is to comprehensively answer the following questions. Question 1: Is religious participation correlated with sustainable culture and entertainment consumption? Question 2: is there a heterogeneous correlation between religious participation and sustainable culture and entertainment consumption at different income levels? Question 3: Is there a heterogeneous correlation between religious participation and culture and entertainment consumption among different kinds of marketization degree groups? Consequently, this paper makes three general contributions. First, to answer question 1, it is found that religious participation is negatively correlated with sustainable culture and entertainment consumption using ordinary least squares, two-stage least squares, and propensity score matching to perform empirical analyses. Second, to answer question 2, it is found that in the low income group, religious participation is most relevant to sustainable culture and entertainment consumption, while in the high income group, religious participation is least relevant to the sustainable culture and entertainment consumption. Third, to answer question 3, it is found that in the low marketization degree group, religious participation is most relevant to sustainable culture and entertainment consumption; conversely, in the high marketization degree group, religious participation is least relevant.

On account of the above analysis, three hypotheses are presented as follows:

Hypothesis 1 (H1). *Religious participation is negatively correlated with sustainable culture and entertainment consumption.*

Hypothesis 2 (H2). *In the low income group, religious participation is most relevant to sustainable culture and entertainment consumption.*

Hypothesis 3 (H3). *In the low marketization degree group, religious participation is most relevant to sustainable culture and entertainment consumption.*

3. Variable and Model

3.1. Sample Description

The Chinese General Social Survey (CGSS) is the first comprehensive and continuous large-scale social survey project in China. This database is used by many researchers. The 2017 survey covers 31 provinces, includes 12,582 samples, and contains 783 variables. Because some respondents refused to answer, or answered "I do not know" or "not applicable", all 12,582 samples could not be used in this paper. After deleting these answers, we obtain 7957 valid samples. The proportion of samples used in this paper to the full sample is up to 63.24%. Generally speaking, the number of samples used in this paper is valid and reliable.

3.2. Variable Description

Dependent variable: To have a better reflection of sustainable culture and entertainment consumption, three dependent variables were set up; culture and entertainment consumption, proportion of culture and entertainment consumption to gross consumption, and a dummy variable (if culture and entertainment consumption is greater than 0, the value is 1; otherwise, the value is 0).

Independent variable: In this paper, we use religious participation as a proxy for religion. In the Chinese General Social Survey in 2017, there was the question: How often do you participate in religious activities? There were nine possible answers: (1) I have never participated in religious activities; (2) I have participated in religious activities less than once a year; (3) I have participated in religious activities about once or twice a year; (4) I have participated in religious activities several times a year; (5) I have participated in religious activities about once a month; (6) I have participated in religious activities two or three times a month; (7) I have participated in religious activities almost every week; (8) I have participated in religious activities every week; (9) I have participated in religious activities several times a week. In this paper, religious participation is set as a dummy variable. If one participates in religious activities, the value will be taken as 1; otherwise, the value is 0. Among 7957 valid samples, 1107 respondents participated in religious activities, and 6850 respondents never participated in religious activities. The proportion of respondents who have participated in religious activities to those who never participated was up to 13.9%. This result is basically consistent with the real situation of religious participation in China.

Control variables: Eleven control variables were set; healthy status, age, income, gender, education, economic status, ethnic group, household registration, and three area dummy variables (eastern, central, and western areas).

To understand these variables more intuitively, descriptions are presented in Table 1.

Table 1. Variable descriptions.

Variable	Form	Definition	Source
Consumption 1	c1	Amount of culture and entertainment consumption + 1 in log	CGSS2017
Consumption 2	c2	Proportion of culture and entertainment consumption to gross consumption	CGSS2017
Consumption 3	c3	Dummy variable (if culture and entertainment consumption is greater than 0, value is 1; otherwise, value will is 0)	CGSS2017
Religious participation	rp	Dummy variable (if one participates in religious activities, value is 1; otherwise, the value is 0)	CGSS2017
Health status	hs	Very unhealthy = 1; Unhealthy = 2; Average = 3; Healthy = 4; Very healthy = 5	CGSS2017
Age	ag	Age in log	CGSS2017
Income	in	Gross income + 1 in log	CGSS2017
Gender	ge	Dummy variable (if one is male, value is 1; otherwise, value is 0)	CGSS2017
Education	ed	Dummy variable (if one has a master's degree or above, value is 1; otherwise, value is 0)	CGSS2017
Economic status	ec	Lower = 1; Low = 2; Average = 3; High = 4; Higher = 5	CGSS2017

Table 1. *Cont.*

Variable	Form	Definition	Source
Ethnic group	eg	Dummy variable (minority group = 1; Han group = 0)	CGSS2017
Household registration	hr	Dummy variable (rural = 1; non-rural = 0)	CGSS2017
Eastern area	ea	Dummy variable (eastern = 1; otherwise 0)	CGSS2017
Central area	ca	Dummy variable (central = 1; otherwise 0)	CGSS2017
Western area	wa	Dummy variable (western = 1; otherwise 0)	CGSS2017

Note: CGSS2017 denotes the Chinese General Social Survey in 2017.

3.3. Model Specification

To explore the correlation between religious participation and sustainable culture and entertainment consumption, three basic regression models were established.

For the amount of culture and entertainment consumption as index 1, the model gives:

$$c1 = a_0 + a_1rp + a_2hs + a_3ag + a_4in + a_5ge + a_6ed + a_7ec + a_8eg + a_9hr + a_{10}ea + a_{11}ca + a_{12}wa + \mu_1 \quad (1)$$

where a_0 denotes the constant; a_1, a_2, \dots, a_{12} denote coefficients to be estimated; and μ_1 denotes white noise.

For the proportion of culture and entertainment consumption to gross consumption as index 2, the model gives:

$$c2 = b_0 + b_1rp + b_2hs + b_3ag + b_4in + b_5ge + b_6ed + b_7ec + b_8eg + b_9hr + b_{10}ea + b_{11}ca + b_{12}wa + \mu_2 \quad (2)$$

where b_0 denotes the constant; b_1, b_2, \dots, b_{12} denote coefficients to be estimated; and μ_2 denotes white noise.

For the dummy variable (if culture and entertainment consumption is greater than 0, the value will be taken as 1; otherwise, the value is 0) as index 3, the model gives:

$$c3 = c_0 + c_1rp + c_2hs + c_3ag + c_4in + c_5ge + c_6ed + c_7ec + c_8eg + c_9hr + c_{10}ea + c_{11}ca + c_{12}wa + \mu_3 \quad (3)$$

where c_0 denotes the constant; c_1, c_2, \dots, c_{12} denote coefficients to be estimated; and μ_3 denotes white noise.

Among these three models, more attention was paid to three coefficients, $a_1, b_1,$ and c_1 . In this paper, we hypothesize that these three coefficients are negative. In order to ensure their accuracy and reliability (for instance, the endogeneity problem will lead to bias in these three coefficients), two-stage least squares and propensity score matching were employed to further analyze this proposition. The purpose was to investigate the robustness of the three coefficients. In addition, considering the heterogeneity of groups based on income level and marketization degree, the full sample was divided into three sub-samples in terms of income levels and marketization degree groups to reexamine these three coefficients.

4. Findings and Discussion

4.1. Basic Statistical Analysis

The basic statistical analysis of the mean, maximum, minimum and standard deviation of the variables is presented in Table 2.

Table 2. Results of basic statistical analysis of these variables.

Var Sta	c1	c2	c3	rp	hs	ag	in	ge	ed	ec	eg	hr	ea	ca	wa
Mean	0.576	0.033	0.856	0.139	3.494	1.620	3.568	0.470	0.015	2.547	0.928	0.509	0.469	0.212	0.227
Max	7.000	0.092	1.000	1.000	5.000	1.933	6.996	1.000	1.000	5.000	1.000	1.000	1.000	1.000	1.000
Min	0.000	0.000	0.000	0.000	1.000	1.362	0.000	0.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000
Std	1.352	0.047	0.363	0.346	1.098	0.144	1.777	0.499	0.120	0.762	0.258	0.499	0.426	0.409	0.419

Sta, statistics; Var, variable; Max, maximum value; Min, minimum value; Std, standard deviation.

Table 2 indicates that consumption 1 has a mean of 0.576 with a standard deviation of 1.352. Consumption 2 has a mean of 0.033 with a standard deviation of 0.047. Consumption 3 has a mean of 0.856 with a standard deviation of 0.363. This indicates a trend of most people consuming culture and entertainment in this sample. Religious participation has a mean of 0.139 with a standard deviation of 0.346. This means that, on average, 13.9% people in this sample are willing to participate in religious activities. Health status has a mean of 3.494 with a standard deviation of 1.098. Age has a mean of 1.620 with a standard deviation of 0.144. Income has a mean of 3.568 with a standard deviation of 1.777. Gender has a mean of 0.470 with a standard deviation of 0.499. Education has a mean of 0.015 with a standard deviation of 0.120. Economic status has a mean of 2.547 with a standard deviation of 0.762. Ethic group has a mean of 0.928 with a standard deviation of 0.258. Household registration has a mean of 0.509 with a standard deviation of 0.499. Eastern area has a mean of 0.469 with a standard deviation of 0.426. Central area has a mean of 0.212 with a standard deviation of 0.409. Western area has a mean of 0.227 with a standard deviation of 0.419.

To preliminarily judge the correlation between religious participation and sustainable culture and entertainment consumption, a difference test between groups was conducted. The results are presented in Table 3.

Table 3. Results of difference test between groups.

Variable	Group 1	Mean	Group 2	Mean	Difference
c1	6851	5.823	1106	5.499	−0.324 ***
c2	6851	0.048	1106	0.027	−0.021 ***
c3	6851	0.892	1106	0.843	−0.049 ***

Note: Group 1 is people who do not participate in religious activities; group 2 is people who participate in religious activities; difference indicates group 2 minus group 1; *** 1% significant level.

Based on the results of Table 3, it can be found that the mean in group 1 is greater than that in group 2 for the three culture and entertainment consumption indices. In addition, the differences are statistically significant. In other words, a person who does not participate in religious activities will consume more culture and entertainment than a person who does participate religious in activities. Therefore, it can be preliminarily be concluded that the correlation between religious participation and sustainable culture and entertainment consumption is negative.

4.2. Regression Analyses

This subsection emphasizes the correlation between religious participation and sustainable culture and entertainment consumption under three models. The empirical results are presented in Table 4.

Table 4. Results of correlation between religious participation and sustainable culture and entertainment consumption.

Variable	Model (1)	Model (2)	Model (3)	Model (1)	Model (2)	Model (3)
Model	c1	c2	c3	c1	c2	c3
rp	−0.079 ** (−1.999)	−0.014 *** (−8.886)	−0.103 *** (−3.307)	−0.076 ** (−1.986)	−0.011 *** (−9.425)	−0.097 *** (−3.871)
hs	0.046 *** (3.344)	0.016 *** (3.188)	0.153 *** (4.757)	0.042 *** (3.006)	0.013 *** (2.607)	0.014 *** (4.418)
ag	−1.226 *** (−11.912)	−0.045 *** (−2.132)	−2.203 *** (−10.124)	−1.244 *** (−12.046)	−0.035 (−1.449)	−2.285 *** (−10.426)

Table 4. Cont.

Variable	Model (1)	Model (2)	Model (3)	Model (1)	Model (2)	Model (3)
Model	c1	c2	c3	c1	c2	c3
in	0.060 *** (7.409)	0.032 (1.124)	0.107 *** (5.633)	0.059 *** (7.097)	0.031 (0.507)	0.098 *** (5.198)
ge	0.331 (1.187)	0.013 (0.324)	0.107 * (1.783)	0.030 (1.091)	0.012 (0.529)	0.101 * (1.669)
ed	0.209 * (1.818)	0.012 (0.298)	0.205 (1.084)	0.196 * (1.706)	0.010 (0.548)	0.169 (0.889)
ec	0.091 *** (4.799)	0.011 * (1.752)	0.221 *** (5.272)	0.087 *** (4.634)	0.013 ** (1.997)	0.212 *** (5.064)
eg	0.165 *** (0.002)	0.017 (0.632)	0.431 *** (3.207)	0.134 ** (2.453)	0.015 (0.260)	0.321 ** (0.019)
hr	0.366 *** (12.767)	0.060 *** (5.911)	0.861 *** (13.375)	0.339 *** (11.336)	0.041 *** (3.817)	0.788 *** (11.868)
ea				0.082 (1.510)	0.005 (2.341 ***)	0.363 *** (2.936)
ca				0.043 (0.797)	0.004 *** (2.446)	0.139 (1.151)
wa				0.032 (0.632)	0.002 *** (2.371)	0.047 (0.446)
c	2.112 *** (10.004)	0.018 ** (0.013)	0.520 (1.153)	2.201 *** (10.174)	0.024 *** (3.064)	0.891 * (1.921)
R ² /M _c -R ²	0.063	0.013	0.071	0.064	0.018	0.074
F/LR	68.841 ***	7.054 ***	567.478 ***	52.504 ***	8.713 ***	590.868 ***
observation	7957	7957	7957	7957	7957	7957

Note: F-statistics shown in parentheses; * 10% significant level; ** 5% significant level; *** 1% significant level. Model 3 is estimated by using logit model (marginal effect of religious participation is 0.013 and 0.012).

Table 4 presents the results of the correlation between religious participation and sustainable culture and entertainment consumption under three models. For model 1 with culture and entertainment consumption in log as the dependent variable, the result suggests that religious participation is negatively correlated with culture and entertainment consumption. When the area dummy variables are added into model 1, the result also suggests a negative correlation, but the coefficient of religious participation becomes a little smaller. Additionally, these results support hypothesis 1 (H1). For model 2, with the ratio of culture and entertainment consumption to gross consumption as the dependent variable, the result suggests that religious participation is negatively correlated with the culture and entertainment consumption. When the area dummy variables are added into model 2, the result also suggests a negative correlation, but the coefficient of religious participation becomes a little smaller. Furthermore, these results support hypothesis 1 (H1). For model 3, with the dependent variable as a dummy variable (if culture and entertainment consumption is greater than 0, the value is 1; otherwise, the value is 0), the result suggests that religious participation is negatively correlated with culture and entertainment consumption. Additionally, when the area dummy variables are added into model 3, the result also suggests a negative correlation, but the coefficient of religious participation becomes a little smaller. Moreover, these results also support hypothesis 1 (H1).

These results are also consistent with the findings of scholars [45–47] who claim that religion is negatively correlated with consumption. Regarding the results of models 1, 2, and 3, Chen et al. [27] provide two possible explanations. One is that participating in religious activities can help people form good habits of frugality. Therefore, participating in religious activities can reduce consumption in culture and entertainment. Another possible explanation is that there is a substitution effect between religious products and culture and entertainment products. Stated differently, a person who participates in religious activities will consume more religious products. To some degree, religious consumption crowds out culture and entertainment consumption. In conclusion, the results in Table 4 match the

real situation in our society. What is more, these results are consistent with the findings of Hirschle [48] and Filippini and Srinivasan [49].

As for the control variables, the results indicate that the health status is positively correlated with culture and entertainment consumption; i.e., high health status means more consumption. This result is consistent with Barbui et al. [50]. Age is negatively correlated with culture and entertainment consumption; i.e., older people will consume more. This result is consistent with Fermont et al. [51]. Income is positively correlated with culture and entertainment consumption; i.e., higher income means more consumption. This result is consistent with Campbell and Mankiw [52] and Alpizar et al. [53]. Education is positively correlated with culture and entertainment consumption; i.e., higher education means more consumption. This result is consistent with Lazear [54]. Economic status is positively correlated with culture and entertainment consumption; i.e., higher economic status means more consumption. This result is consistent with Hurd [55]. Ethnic group is positively correlated with culture and entertainment consumption; i.e., people who belong to the Han group will consume more than others. This result is consistent with Xu et al. [56]. Household registration is positively correlated with culture and entertainment consumption; i.e., people in urban areas will consume more than others. This result is consistent with Xiaopeng et al. [57] and Jalan and Ravallion [58]. Regarding the correlation of dummy variables with culture and entertainment consumption, we also find that there is a heterogeneous correlation among the three area dummy variables. Specifically, people who live in the eastern area will consume the most, and people who live in the western area will consume the least. This result is consistent with Knibbe et al. [59].

4.3. Robustness Test

It is apparent that there are a lot of unobservable factors that could affect religious participation and culture and entertainment consumption simultaneously. In this kind of situation, endogenous problems will occur. Therefore, our empirical results may be biased. To keep our estimation more accurate, the instrumental variable method, and propensity score matching methods were employed to verify that the results in Table 4 are unbiased. First, the instrumental variable method was employed. Following the treatment of Wang and Lin [60], cross-provincial religious institutes was treated as an instrumental variable to solve the endogeneity problem. Krause and Wulff [61] found that if there are more religious institutes, they will provide more opportunities for people to participate in religious activities. As a result, it can be concluded that the religious institute is an important factor in pushing people to participate in religious activities. With regard to cross-provincial religious institutes, it is endogenous for individual culture and entertainment consumption. The results of the robustness test using instrumental variable method are presented in Table 5.

Table 5. Results of robustness test (instrumental variable method).

Variable Model	Model (4) rp	Model (1) c1	Model (2) c2	Model (3) c3
rp		−0.058 *** (−5.126)	−0.0174 *** (−7.612)	−0.165 *** (−2.977)
ri	0.147 *** (3.336)			
cv	included	included	included	included
c	0.026 * (1.592)	0.132 *** (4.213)	2.267 *** (9.245)	0.779 * (1.668)
F/LR		89.015 ***	42.752 ***	721.829 ***

Table 5. *Cont.*

Variable Model	Model (4) rp	Model (1) c1	Model (2) c2	Model (3) c3
Wald-F		410.225 ***	410.225 ***	
observation	7957	7957	7957	7957

Note: ri, religious institute (data source is China Data Center of the University of Michigan); cv, control variable; * 10% significant level; *** 1% significant level.

Based on the results in Table 5, it can be found that the coefficient of religious institute is positive and significant at the 1% level. This means that if there are more religious institutes, that might encourage people to participate in religious activities. This finding is consistent with Greenfield and Marks [62]. The magnitude of religious institutes is 0.147, which means that it is strictly related to religious participation. The result of the Wald F-statistic suggests that the instrumental variable is valid. Meanwhile, from models 1 to 3, the results indicate that the coefficient of religious participation is negative and significant at the 1% significance level. Only the magnitude of the coefficient of religious participation changes a little. In other words, the estimated results in Table 4 are accurate and reliable.

Next, we turn to propensity score matching analysis. Rosenbaum and Rubin [63] developed propensity score matching to deal with the problem of sample selection bias. Their idea was to find a religious nonparticipating group (control group) that was similar to a participating group (treatment group). This can help us to reduce the possibility of sample selection bias. Therefore, we can be more accurate in capturing the causal relationship between religious participation and culture and entertainment consumption. As with the previous content, religious participation is treated as a dependent variable. Characteristic variables for matching include health status, gender, age, education background, economic status, marriage status (married = 1, otherwise 0), area variables, political orientation (Communist Party member = 1, otherwise 0) and use of media including newspapers, magazines, broadcast, television, internet, and mobile phone (five ranks: never = 1; a few times = 2; sometimes = 3; often = 4; very often = 5). These characteristic variables for matching are used to perform the probit regression. Then, the propensity score is calculated. Among the techniques of kernel matching, radius matching and nearest neighbor matching, this paper uses the latter. We matched the treatment group and control group one by one. It was found that there was no significant difference between the two groups for characteristic variables after matching. We also found that the absolute values of standard deviations are less than 5%, and the value of LR is equal to 4.667 with a p-value of 0.812. As a result, it can be concluded that these matched characteristic variables have a weak effect on religious participation; that is, the match in this paper is successful. The results of the average treatment effect are presented in Table 6.

Table 6. Results of robustness test (propensity score matching method).

Variable	Sample	Treated	Control	Difference
c1	Average treatment effect for treated group	6.315	6.723	−0.408 *** (−3.245)
c2	Average treatment effect for treated group	0.049	0.067	−0.018 *** (−8.132)
c3	Average treatment effect for treated group	0.562	0.778	−0.216 *** (−4.319)

Note: Statistical values shown in parentheses; *** 1% significant level.

Table 6 shows the results of the average treatment effect for the treated group. We found that the average treatment effect for the amount of culture and entertainment consumption +1 in log is −0.408 and is significant at the 1% level. The average treatment effect for the proportion of culture and entertainment consumption to gross consumption is −0.018 and is significant at the 1% level. The average treatment effect for the dummy

variable (if culture and entertainment consumption is greater than 0, the value is 1; otherwise, the value is 0) is -0.216 and is significant at the 1% level. Based on these three results, it can be concluded that in the nonparticipation sample, people will consume more culture and entertainment. On the contrary, in the religious participation sample, people will consume less in culture and entertainment.

4.4. Heterogeneous Effect

Considering the heterogeneity in groups based on income level and marketization degree, the full sample was divided into three sub-samples to confirm the heterogeneous correlation between religious participation and sustainable culture and entertainment consumption. The purpose of this was to find more evidence to support the results reported in Table 4. The first step was to explore the heterogeneous correlation between religious participation and sustainable culture and entertainment consumption in terms of different income levels (the full sample was divided into three sub-samples; low, middle, and high income groups). The second step was to investigate the heterogeneous correlation between religious participation and sustainable culture and entertainment consumption in terms of marketization degree (the full sample was divided into three sub-samples: low, middle, and high marketization degree groups). The two steps will be analyzed one by one.

4.4.1. Income Level

Bettendorf and Dijkgraaf [32] and Lipford and Tollison [64] found that different income levels determine people's willingness to participate in religious activities. Engelland [65] found that religious participation is correlated with consumption. Based on the standard of the Chinese General Social Survey in 2017, the full sample was divided into three groups to explore the heterogeneous correlation between religious participation and sustainable culture and entertainment consumption: low income group (0, 10,000), middle income group (10,000, 100,000), and high income group (100,000, 1,000,000). The results are presented in Table 7.

Table 7. Heterogeneous correlation between religious participation and sustainable culture and entertainment consumption (income levels).

Variable Group	Low Income			Middle Income			High Income		
	c1	c2	c3	c1	c2	c3	c1	c2	c3
TP	-0.156^{***} (-4.729)	-0.047^{***} (-9.618)	-0.128^{***} (-2.834)	-0.084^{***} (-3.992)	-0.019^{***} (-8.773)	-0.103^{***} (-2.724)	-0.055^{**} (-2.116)	-0.007^{***} (-9.617)	-0.062^* (-1.714)
CV	included	included	included	included	included	included	included	included	included
c	2.443^* (1.782)	0.124^{***} (2.913)	1.651^{***} (2.849)	1.945^{**} (2.106)	0.194^{***} (3.115)	0.146^{***} (2.975)	2.054 (1.443)	0.132^* (1.778)	0.169 (1.114)
F-statistic	36.597^{***}	9.532^{***}	725.962^{***}	32.583^{***}	14.912^{***}	621.432^{***}	33.912^{***}	11.816^{***}	532.164^{***}
R ²	0.066	0.039	0.053	0.082	0.047	0.031	0.078	0.043	0.055
observation	2387	2387	2387	3979	3979	3979	1591	1591	1591

Note: Statistical values shown in parentheses. * 10% significant level; ** 5% significant level; *** 1% significant level.

Table 7 reports the results of the heterogeneous correlation between religious participation and sustainable culture and entertainment consumption in terms of income level. For the low income group, a 1% increase in religious participation results in a 0.156% decrease in the amount of culture and entertainment consumption +1 in log, a 0.047% decrease in the proportion of culture and entertainment consumption to gross consumption, and a 0.128% decrease in the dummy variable (if culture and entertainment consumption is greater than 0, the value is 1; otherwise, the value is 0). For the middle income group, a 1% increase in religious participation leads to a 0.084% decrease in the amount of culture and entertainment consumption +1 in log, a 0.019% decrease in the proportion of culture and entertainment consumption to gross consumption, and a 0.103% decrease in the dummy variable. For

the high income group, a 1% increase in religious participation causes a 0.055% decrease in the amount of culture and entertainment consumption + 1 in log, a 0.007% decrease in the proportion of culture and entertainment consumption to gross consumption, and a 0.062% decrease in the dummy variable. Taking these three groups into consideration, the highest correlation is found between religious participation and culture and entertainment consumption in the low income group, and the lowest correlation is found in the high income group. A possible explanation is that people in the low income group may not have extra income to pay for culture and entertainment, but they may participate in religious activities more to pray for good fortune. The results in Table 7 support hypothesis 2 (H2).

4.4.2. Marketization Degree

McAlexander et al. [66] believed that the marketization degree affects the relationship between religious participation and consumption. Following this idea and based on “Marketization Index of China’s Provinces: NERI Report 2017”, we divided the full sample into three sub-samples to investigate the heterogeneous correlation between religious participation and sustainable culture and entertainment consumption. The low marketization degree group belongs to [0, 0.3], the middle marketization degree group belongs to (0.3, 0.7], and the high marketization degree group belongs to (0.7, 1]. The results are presented in Table 8.

Table 8. Heterogeneous correlation between religious participation and sustainable culture and entertainment consumption (marketization degree).

Variable Group	Low Marketization Degree			Middle Marketization Degree			High Marketization Degree		
	c1	c2	c3	c1	c2	c3	c1	c2	c3
rp	−0.109 *** (−4.392)	0.032 *** (−8.269)	0.115 *** (−4.612)	−0.081 *** (−3.736)	−0.017 *** (−7.964)	−0.102 *** (−3.965)	−0.042 * (−1.865)	−0.008 (−1.487)	−0.066 * (−1.792)
cv	included	included	included	included	included	included	included	included	included
c	2.644 ** (2.145)	0.078 *** (6.313)	1.817 ** (3.946)	2.067 *** (3.781)	0.042 *** (4.358)	1.116 *** (3.742)	2.015 *** (3.109)	0.035 *** (4.502)	0.118 *** (4.212)
F-statistic	62.767 ***	11.905 ***	651.473 ***	59.191 ***	9.103 ***	623.731 ***	49.714 ***	8.894 ***	526.314 ***
R ²	0.056	0.032	0.067	0.078	0.039	0.076	0.048	0.063	0.062
observation	2785	2785	2785	3183	3183	3183	1989	1989	1989

Note: Statistical values shown in parentheses. * 10% significant level; ** 5% significant level; *** 1% significant level.

Table 8 reports the results of the heterogeneous correlation between religious participation and sustainable culture and entertainment consumption in terms of marketization degree. For the low marketization degree group, a 1% increase in religious participation results in a 0.109% decrease in the amount of culture and entertainment consumption + 1 in log, a 0.032% decrease in the proportion of culture and entertainment consumption to gross consumption, and a 0.115% decrease in the dummy variable (if culture and entertainment consumption is greater than 0, the value is 1; otherwise, the value is 0). For the middle marketization degree group, a 1% increase in religious participation leads to a 0.081% decrease in the amount of culture and entertainment consumption +1 in log, a 0.017% decrease in the proportion of culture and entertainment consumption to gross consumption, and a 0.102% decrease in the dummy variable. For the high marketization degree group, a 1% increase in religious participation causes a 0.042% decrease in the amount of culture and entertainment consumption +1 in log, a 0.008% decrease in the proportion of culture and entertainment consumption to gross consumption, and a 0.066% decrease in the dummy variable. Using these three groups to perform comparative analysis, it can be concluded that there is the highest correlation between religious participation and culture and entertainment consumption in the low marketization degree group, and the lowest correlation in the high marketization degree group. A possible explanation is that in the low marketization degree group, culture and entertainment consumption is not so

important when compared with other consumption. Therefore, participating in religious activities is more relevant to marginal culture and entertainment consumption. The results in Table 8 support hypothesis 3 (H3).

5. Conclusions

With the continuous improvement of income and the diversification of entertainment, people have begun to pay attention to the entertainment in their lives. Using various methods, previous research studies have studied the effects of factors such as income and social status on culture and entertainment consumption. However, the effect of religion, which can be regarded as an informal institution, on such consumption is often neglected. In this paper, religion is measured by religious participation and three kinds of culture and entertainment consumption are set up for measurement. Based on this, this paper explores the correlation between religious participation and sustainable culture and entertainment consumption. Using data from the Chinese General Social Survey in 2017 to perform empirical analysis, the result indicates that religious participation is negatively correlated with sustainable culture and entertainment consumption. To verify the robustness of this result, two-stage least squares and propensity score matching were employed to perform empirical analysis again, and the conclusion that religious participation is negatively correlated with sustainable culture and entertainment consumption still holds. Additionally, we discussed the heterogeneous correlation between religious participation and sustainable culture and entertainment consumption in groups based on different income levels and marketization degrees. The result suggests that religious participation is most relevant to sustainable culture and entertainment consumption in the low income group compared with the middle and high income groups. The result also suggests that religious participation in the low marketization degree group is also most relevant to sustainable culture and entertainment consumption when compared with the low and high marketization degree groups.

To sum up, the contribution of this paper is threefold. The first contribution, following the example of Filippini and Srinivasan [49] (who separated meat consumption from total consumption and discussed the relationship between religious participation and meat consumption separately), is that this paper separates culture and entertainment consumption from total consumption and studies the relationship between religious participation and cultural consumption separately. Our results suggest that religious participation is negatively correlated with sustainable culture and entertainment consumption. Considering the actual situation in China, this paper discusses the heterogeneous relationship between religious participation and culture and entertainment consumption based on income level and marketization degree, which contributes to the existing literature.

The second contribution is that religious participation in the low income group is most relevant to sustainable culture and entertainment consumption. On the contrary, religious participation in the high income group is least relevant to sustainable culture and entertainment consumption. The third contribution is that religious participation in the low marketization degree group is most relevant to sustainable culture and entertainment consumption. Conversely, religious participation in the high marketization degree group is least relevant to sustainable culture and entertainment consumption. Based on the evidence provided in this paper, it can be found that participation in religion, which is regarded as an informal institution, has a significant effect on culture and entertainment consumption. On this point, this paper makes a new contribution to the determinants of sustainable culture and entertainment consumption.

In addition, the findings of this paper have a certain guiding significance for China's real society. For example, with the rapid growth of the economy, individual incomes have increased rapidly. Individuals not only pursue a material life, they have also begun to pursue more culture and entertainment in their lives. At present, excessive culture and entertainment consumption has become a stumbling block for the sustainable development of Chinese society. In fact, this paper provides a channel to solve these problems. To

control excessive culture and entertainment consumption, people can alleviate this kind of consumption by participating in religious activities. Furthermore, low income and low marketization degree groups can live a happy life by reasonably adjusting their participation in religious activities and culture and entertainment consumption.

There are also some limitations in this paper. We treat all religious participation as a whole concept, but in reality, different provinces have different religious tendencies. Therefore, participating in religious activities may correlate differently with sustainable culture and entertainment consumption. This leaves room for further research in the near future. Scholars who are interested in this topic can divide religious participation in order to study the effects of the different kinds, such as Buddhist, Dao, and Christian, on culture and entertainment consumption. Additionally, analogous to this paper, interested scholars could explore the relationship between religious participation and other forms of consumption, such as human consumption.

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