International Journal of Asian Social Science, 2014, 4(3): 366-378

International Journal of Asian Social Science
ISSN(e): 2224-4441/ISSN(p): 2226-5139

journal homepage: http://www.aessweb.com/journals/5007

RELATING RELIGIOSITY TO QUALITY OF LIFE IN OLDER PEOPLE IN DIFFERENTIATION FROM SPIRITUALITY: SOME INSIGHT FROM 2011 TAIWAN SOCIAL CHANGE SURVEY

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ABSTRACT

This study examined the role of spirituality in relation to the impact of religiosity on older people's quality of life in the Taiwanese context. Responses from two hundred fifty-eight participants over the age of 65 in a nationwide survey conducted in 2011 provided the data for this study. Both religiosity and spirituality constructs were represented by behavioral indicators: frequency of religious attendance and spiritual experiences encountered. The quality of life construct was measured in three aspects: growth needs, general life satisfaction, and physical activeness. The results supported the assertion that religiosity positively predicts older people's quality of life and spirituality moderates such a relationship. The implications were discussed in light of recent research findings on religious homophily/exclusivity and civic participation.

Keywords: Religiosity, Spirituality, Quality of life, Mental health for older people.

1. INTRODUCTION

Over the past three decades, Taiwan has been gradually evolving into a fully developed society. Care for older people appears to have received increasing attention as the country embraces an ever increasing percentage of older people in its population fabric. Despite the increasing attention on the well-being of older people, much of the effort in this regard has been limited to various aspects of physical health. In contrast, mental health as reported in the international research community seems to have attracted only limited attention from local researchers. Indeed the inclusion of religiosity/spirituality in the assessment of mental health in the Taiwanese context is especially relevant. It is believed that a large number of older people in Taiwan grew up having some sort of connection to religious activities, if not necessarily religious affiliations (Academia, 2011). As people age, a sense of mortality tends to increase, and the tendency to depend on religious organizations to fulfill their physical, emotional, and social needs also increases. In order to deal with the heightened sense of mortality in the face of the inevitable problems associated with

ISSN(e): 2224-4441/ISSN(p): 2226-5139

aging, it is only natural that older people turn to religious and spiritual dimensions as their coping strategies.

In current health-related literature, the roles of religiosity and spirituality in relation to mental health are often investigated in joint context (Seeman *et al.*, 2003; Salsman *et al.*, 2005; Ironson *et al.*, 2006). Despite an interest in the effects of religiosity/spirituality in both the clinical and non-clinical literature, studies do not always agree on its positive role (Pargament, 2002), neither do all researchers agree on the same role of religiosity and spirituality (Salsman *et al.*, 2005). In particular, religiosity has been found to be associated with some negative psychological traits like authoritarianism, suggestibility, dependence, dogmatism and rigidity (Gartner, 1996) and other types of undesirable phenomenon such as neurosis (Dein *et al.*, 2010), delusions (Gearing *et al.*, 2011), child abuse and neglect, intergroup conflict, violence and false perceptions of control (Paloutzian and Kirkpatrick, 1995). However, by and large, studies published in health related disciplines generally show positive association between religiosity/spirituality and health. Among the important findings for those who are actively involved in religious/spiritual activities are lower rates in mortality, coronary disease, emphysema, cirrhosis, suicide, and high blood pressure (Hilton *et al.*, 2002; Seeman *et al.*, 2003), better positive health habits (MuCullough and Willoughby, 2009), fewer depressive symptoms and better cognitive function (Koenig et al., 2004), reduced level of pain in cancer patients (Holt *et al.*, 2009), and slower disease progression in people with HIV (Ironson *et al.*, 2006).

Some researchers suggested that certain physiological mechanisms may play a role in the efficacy of religiosity/spirituality on an individual's general well-being (Benson, 1996; Ai *et al.*, 1998). The human endocrine system responds to stress with the secretion of hormonal messengers such as catecholamines, serotonin, and cortisol. Religious and spiritual practices often involve some sort of "relaxation response" which serves as an integrated physiological reaction in opposition to the "stress response". Delmonte (1985) reported that the relaxation response produces a reduction in the activities of the sympathetic branch of the autonomous nervous system, which results in the lowering of blood pressure, heart rate, oxygenation, and changes in brain wave activity and wave function. This type of relaxation response is usually elicited by focusing on a repetitive word or phrase, image, or repetitive action such as breathing. It is reasonable to speculate that religious/spiritual practices provide physical, emotional, and cognitive cues for integrating the experience of the mind and body. Consequently, people with religious or spiritual resources may circumvent certain health risks by calling on this relaxation response in their times of stress.

Traditionally religiosity is conceptualized as the degree one adheres to an organized system of beliefs, practices and rituals intended for facilitating closeness to the sacred or a higher power whereas spirituality is conceptualized by being concerned with life's most animating and vital principles and focusing on the non-material features of life (Hill and Pargament, 2008). Although spirituality is a relatively new concept compared to religiosity, the early concept of spirituality came from people's search for meaning in life, spiritual comfort, and inner peace through their religious faiths, which may be conveniently identified as "*theistic spirituality*". This line of research works identified four core concepts, which are supposedly found in intrinsically religious people across all religions (Hall and Edwards, 2002; Miller and Thoresen, 2003; Hill and Pargament, 2008). They are: perceived closeness to God, motivating forces, religious support, and

religious struggle. Another group of researchers chose to approach the concept of spirituality through a non-theistic perspective independently of religion (MacDonald, 2000; Koenig *et al.*, 2004; Salsman *et al.*, 2005; Parsian and Dunning, 2009), of which four dimensions are differentiated from the concept of religiosity. They are: cognitive orientation toward spirituality, an experiential/phenomenological dimension, existential well-being and paranormal beliefs.

Because the current measures of religiosity and spirituality are often confounded with each other (Koenig, 2008), there is a need for differentiating these two constructs in relation to their roles in mental health. In fact, by differentiating these two constructs, spirituality was found to be the underlying predictor of religiosity and positively related to psychological well-being (Dy-Liacco *et al.*, 2009). This phenomenon suggests that the effect of religiosity on older people's mental health may be moderated by the level of their spirituality. Moreover, because different religion types may contain different elements affecting health differently, there is a need to look into the efficacy of religiosity separately for different religion types. Consequently, the purpose of this study is to examine the role of religiosity in mental health of older people in the Taiwanese context, by taking into account the differentiated effect of spirituality. Although there is no single best measurement of mental health for older people, there has been a consensus that older people who enjoy good mental health will translate into increased quality of life variables relating to general health condition, physical, psychological, and social functioning of the older people (Jane and Gabilondo, 2008).

2. METHODS

2.1. Data Source and Respondents

Data used in this article came from a large scale 2011 Taiwan Social Change Survey, TSCS (Academia, 2011). The data from TSCS represents the most comprehensive self-report data source in relation to Taiwan's societal conditions. It is an interdisciplinary research project funded by Taiwan's National Science Council and operated by the Institute of Sociology, Taiwan Academia Sinica, with a purpose of tracking Taiwan's political, economic, social, and cultural trends of change. The resulting data are archived on Internet for free public access. A total of 12 items (as listed in Table 1) from 2011 TSCS were selected to represent the constructs of interest (religiosity, spiritual experience, physical activeness, growth needs, life satisfaction) under investigation, along with six demographic variables (age, gender, education level, religious affiliation, marital status, and income) for statistical control purpose. The 2011 TSCS sampling design adopted a three-stage stratified random sampling scheme in proportion to population size across all major population centers in Taiwan. It was conducted by highly-trained interviewers making home visits in a one-to-one interview setting under strict supervision and afterward post-interview verification. All electronic data were confirmed through double checking before they were made available on Internet for public access. Beginning in 1985, this long-term cross-sectional survey has followed 5-year cycles of rotating modules, with environment as the theme of choice in 2011 from which the above mentioned 12 items were chosen. The TSCS has become the largest and most comprehensive survey of its kind in Taiwan since its inception. The response rate of the 2011 TSCS was 47%.

The original 2011 TSCS data comprised of responses from 1,895 individuals to a large number of items, of which only a small number of relevant items were used. Only 258 respondents were aged 65 and older, and they constituted the subjects of investigation in this study. The design of 2011 TSCS allowed for respondents to enter their response to most questions as "Don't Know" or "Don't Understand", and they were coded as missing in the computation of scale scores. Because of the presence of missing values, the effective sample size varied slightly from one statistical analysis to another.

The valid sample size was 258, of which 126 were males and 132 females. The average age was 73.535 with a standard deviation of 6.293 and a maximum of 93. The respondents' religious affiliation covered a wide spectrum: Buddhism (n=60), Taoism (n=40), folk-religion (n=113), I-Guan-Tao (n=4), Catholics (n=2), Christianity (n=9), No-religion (n=27), and others (n=3). The self-reported religious affiliations were combined into three religion types where enough sample sizes permitted meaningful statistical manipulations: Buddhism (23.26%), Folk-Religion with Taoism included (59.3%) and No-Religion (10.47%). Even with the Catholics combined, there were not enough Christian respondents to form an independent type. The vast majority of the respondents were married and living with their spouse at the time of the survey. One hundred and six people had only primary school education (41.09%) and 29 completed education above high school level (11.24%).

When four religion types (including Christian participants) were subjected to ANOVA statistical procedure in relation to some background variables, it was found that Christians differed significantly from other religion types in educational level ($F[3,247]=13.21$, $P<.000$), income ($F[3,245]=3.98$, $P<.009$) and religious participation ($F[3,247]=13.21$, $P<.000$). While the followers of Buddhism and Folk-religion were similar in terms of most demographic attributes, Christian respondents tended to show higher education level, more income and were more active in religious participation. Since the focus of this study was on the relationship between religiosity/spirituality and quality of life within each religion type, some of these demographic differences could complicate the interpretation of such a relationship, and therefore it was decided that Christian sample be dropped from further analysis. The decision of removing Christian respondents was made with much deliberation after taking into consideration of controlling for confounding as well as better statistical properties.

2.2. Measures

The constructs and the 2011 TSCS items from which the constructs were derived were summarized in Table 1. All data were transformed to a format so that a higher score would indicate a higher degree of the construct measured for the sake of easy interpretation.

Religiosity. Religiosity was measured by the frequency of participating in religious activities on weekly basis in the past year on 1-8 scale, with 1 indicating never participated and 8 denoting more than seven times a week. Religious attendance is a behavioral indicator of religiosity and has been most widely used in past research on relating the efficacy of religion to health.

Spirituality. There is agreement that the currently existing spirituality measures are mostly theistically based and heavily favor people with Judeo-Christian faiths (Traphagan, 2005; Koenig, 2008). To correct for this cultural bias, spiritual experience was used as the indicator of spirituality.

Two items in 2011 TSCS provided us with information about spiritual experience: *During your participation of group or individual spiritual activities, did you ever have the experience that your life was filled with the power of peace and love ? (Y/N)* and *During your participation of group or individual spiritual activities, did you ever have the experience that your body and mind was empowered by some divine energy? (Y/N)* Those who answered no to both items were placed into the "no spiritual experience" group (n=177), the rest were placed into the "with spiritual experience" group (n=81).

Quality of Life. The quality of life concept was represented by three constructs: growth needs, physical activeness, and life satisfaction. These constructs were compatible with recommendation from World Health Organization's position paper on the assessment of quality of life (WHO, 1995).

Growth Needs. The construct of growth needs was used to measure the capacity to pursue new things and development in one's daily life. It was measured by three items on a 1-4 scale: making use of opportunities to increase knowledge, making use of talents and further develop them, and enjoying new things in life. The internal consistency of these three items was deemed excellent as indicated by a Cronbach's alpha of .99.

Physical Activeness. This construct measured how physically active the respondent was in his/her daily life. The item taken from 2011 TSCS was expressed as *How frequent do you do aerobic activities or sports in a week, such as playing ball games, jogging, swimming, cycling, hiking, dancing, or other aerobic exercises?* The item was presented on a 1-6 scale with 1 indicating none at all and 6 more than seven times a week.

Life Satisfaction. Five items were used to measure the extent respondents were satisfied with the quality of their current life in four aspects on 1-4 scale: general daily life, health conditions, relation with friends, and community. The internal consistency of these five items was judged good as indicated by a Cronbach's alpha of .64.

2.3. Statistical Analyses

Logistic regression was performed to model the probability of having spiritual experience as a function of participating in religious activities. Pearson product moment correlation coefficient was employed as a measure of strength for the relationship between religiosity and quality of life. The moderation effect of spirituality was assessed in two ways: comparing the pattern of change in the above correlation coefficients as obtained at each level of spirituality and t tests for testing the differences in the quality of life measures between two levels of spirituality. Educational level and income were initially used as two covariates in logistic regression and general linear modeling, they were found to have not significantly altered the results concerning the effects of religiosity and spirituality and no significant interaction effects were detected. For ease of interpretation, all results were presented using statistical runs without the covariates. All statistical analyses were performed using Statistical Analysis System (SAS 8.1) on an IBM compatible personal computer.

3. RESULTS

There were three criterion variables for quality of life in this study: growth needs, physical activeness, and general life satisfaction. There appeared to be slight negative skewness in the

distribution of growth needs and general life satisfaction, with more people on the positive side of these two aspects than on the negative. As for physical activeness, the data appeared to be bimodal with most people on the two ends of the activeness scale and a small number of people in the middle. This phenomenon showed that the majority of the Taiwanese older population were either physically active (do physical activities once a day or more) or physically inactive (do physical activities once a week or less), only a small percentage stood in between (13.18%). The findings from this study were presented in four sections. The first section describes the relationship between religiosity and spirituality. The second section addresses the impact of religiosity on the quality of life. The third section reports the impact of religiosity at each level of spirituality, and the last section addresses the effect of spirituality on quality of life for the elderly.

3.1. Religiosity and Spirituality

Religiosity was indicated in the 2011 TSCS data as the frequency of participating in religious activities in a week. The original question as presented in the 2011 TSCS was on a scale of 0-7, with zero indicating no participation at all and 7 indicating seven times a week or more. It was later transformed to a scale of 1-8 in data analyses for the sake of consistency in the usual form of Likert Scales. Such a transformation would not affect the subsequent statistical outcomes in any way. The spirituality variable was measured by whether one had had an encounter with the divine in their participation of personal or group spiritual activities (81 in the yes group and 177 in the no group). The odds ratios of two related probabilities (having a spiritual experience over not having such an experience) were analyzed by the logistic regression analysis with the frequency of weekly religious attendance serving as the independent variable. If the odds ratio was less than one, then the subject was less likely to have encountered a spiritual experience than not. If the odds ratio was greater than one, then the subject was more likely to have had a spiritual encounter than not. When the single-predictor logistic model was subjected to the Hosmer-Lemeshow test, it yielded a Chi-square value of 6.802 with 5 degrees of freedom ($p<.2358$), indicating that this logistic model fit the 2011 TSCS data well. The odds ratio increased from 0.08 for people who did not attend religious activities at all to 1.56 for people who attended seven times a week. The regression coefficient (.4088) was found to be highly significant as detected by a single degree of freedom Chi-square test value of 30.895 ($p<.000$). Exponentiation of 0.4088 yielded an odds ratio of 1.505, suggesting that for every unit increase in the weekly religious attendance, the probability of having had encountered a spiritual experience over not having encountered one would increase by 50.5%.

3.2. Religiosity and Quality of Life

The Pearson's product-moment correlation coefficients for measuring the strength of the relationship between religious attendance and the three criterion variables of quality of life were summarized in Table 2. This analysis showed the gross effect of religiosity on quality of life separately for each religion type. As seen, the nature of relationship between religious attendance and quality of life changed from one religion type to another. The strongest association was found in Buddhism, as shown by moderately strong correlation coefficients of .367 and .436 with growth needs and general life satisfaction respectively, and a weak yet significantly positive coefficient of .216 with physical activeness. For folk-religion followers, religious attendance only weakly and

positively predicted general life satisfaction. Of course, it should come as no surprise that religious attendance did not predict quality of life at all for the no-religion group. In fact, this association became significantly negative when the amount of time spent on physical activities was concerned, as seen by a negative coefficient of -.333, meaning the more time they involved themselves in religious activities, the less time they would have for physical or recreational activities.

3.3. Relating Religiosity to Quality of Life with Spirituality as a Moderator

A moderator of a relationship by definition means that the relationship changes depending on the level of the moderator. Does the relationship between religiosity and quality of life change as the condition of spirituality vary? The 2011 TSCS data allowed us to separate those who reported spiritual experience from those who did not. The correlation coefficients as obtained above were now reported separated for these two groups of older people and the results were summarized in Table 3. As seen, the moderating effect of spirituality was clearly shown by the substantial differences between two spirituality groups across different religion types. It is interesting to note that there were substantial differences in the percentage of people claiming to have had spiritual experience across religion types: Buddhism claimed the largest percentage (40%), followed by folk-religion (25%), whereas two people out of 27 in the no-religion group also claimed to have had such experience (7%).

In Buddhism, where religious attendance was concerned, moderately strong correlations were observed with growth needs and general life satisfaction, indicating that the more religiously involved the Buddhists were, the more capacity for new things they showed and the more they were satisfied with their current life. In folk-religion, however, the nature of association between religiosity and quality of life was quite different from what was observed in the Buddhist sample. While religious attendance still positively predicted quality of life in the folk-religion sample, the strength of association was substantially weaker. Moreover, instead of a positive relationship between religious attendance and growth needs as observed in the Buddhist sample, the relationship was found to be significantly negative in the folk-religion group, meaning the more religiously involved the folk-religion followers were, the less capacity they would have for new things in their life. As for the no-religion sample, it was not surprising to see that religious attendance predicted neither growth needs nor general life satisfaction. For obvious reasons, it was also not surprising to see that religious attendance negatively predicted physical activeness for this type of older people.

3.4. Spirituality and Quality of Life

The results of t-tests performed to test the difference between two spirituality groups in three quality of life criterion variables were reported in Table 4. As seen, spirituality had significant impact on quality of life only in the Buddhist sample, where difference in all three variables was detected as significant. In contrast, spirituality did not show any effect on any of the quality of life variables in the folk-religion and no-religion samples.

4. DISCUSSION

This study examined the impact of religiosity on quality of life in older people in the Taiwanese context. One feature that made this study different from all earlier studies of its kind was that the operational definitions for the constructs of both religiosity and spirituality were behavior-based rather than instrument-based. The existing instruments for measuring the degree of spirituality and religiosity abound (Piedmont and Friedman, 2012), but they are problematic to use because the contents of those instruments have been conceptualized in relation to Judeo-Christian ideologies. Given that most of the previous studies on religiosity/spirituality were done in western countries, this study provided an insight into the association between religiosity/spirituality and quality of life of older people in Taiwan using measures that are clearly understood in the local culture. Despite the difference in operational definition, the results of this study were largely compatible with the majority of studies of its kind with regard to the effects of religiosity.

One plausible explanation for the observed positive effects associated with religiosity is through the social benefits of religious homophily (Robicheaux, 2003). Homophily is the natural tendency of individuals to associate and bond with similar others, which leads to unconscious seeking of friendship and commitment with people sharing the same religious faith, which then results in a better perceived quality of life. Religious beliefs provide internal motivation for their adherents to form friendship with each other to the exclusion of other relationships, and such exclusion has been reported to have a positive effect on their emotional and mental health (Krause and Wuff, 2005). In the Taiwanese context, most Buddhists are converts from folk religion (Gries *et al.*, 2012), and therefore Buddhists appear to have a higher degree of homophily than folk religion followers, which may then be used to explain why greater positive relationships between religiosity and general well-being were observed for Buddhists in this study, but less so for the folk religion followers. When viewed from this perspective, the results of this study appear to lend support to the conclusion made in a recent American study that the effect of religious homophily is reported to be directly and positively related to the degree of theological exclusivity, at both the individual and congregational level (Scheitle and Adamczyk, 2009).

Of course, the efficacy of religiosity cannot extend indefinitely without developing undesirable social consequences. Despite all the positive findings associated with religiosity, Kim and Wilcox (2013), using data from the National Survey of Families and Households, most recently demonstrated that religiosity tends to reduce American people's participation in civic activities, especially in religions that promote familism. The results of this study are largely compatible with their arguments in that folk religion followers in Taiwan tend to emphasize the importance of family as a result of the traditional Confucian influence, whereas followers of Buddhism appear to rise above the usual family constraints. In this study participation in folk religion tends to decrease the positive effect of religiosity on general well-being, especially in terms of physical activeness and the capacity for new knowledge. Similarly, while spiritual experiences intensify the positive effect of religiosity for Buddhists, such an effect is dampened for followers of folk religion because they tend to focus on the interests and needs of their own family members. Due to the limitation of the 2011 TSCS data, there is no provision for clarifying the impetus for such a relationship in either of our Buddhist or folk religion sample. Future studies should seek to extend religiosity measures to include the impacts of exclusive doctrinal beliefs associated with each religion type in the

assessment of the efficacy of religiosity/spirituality, and also make use of more specific categories of religion that will discriminate the overlapping type of Buddhism and folk religions.

One limitation of this study was the use of a single item to represent the religious affiliation of our respondents (the respondents were asked to choose their religious identity from a list of religions in 2011 TSCS). While such an approach may be meaningful for monotheistic religions of the West, it causes problems in Taiwan's polytheistic society because the line of separating folk-religion and Buddhism is often blurred as doctrinal differences between these two are often irrelevant to their respective adherents. In actual practices, cross-worshipping of deities by followers of these two religions is a common sight (folk-religion worships a pantheon of gods including personages from Buddhism, whereas Buddhism followers at the grass-root level often apply folk-religion's rituals in the manipulation of supernatural forces to their advantage). While the disparate effects of religious beliefs of these two religion types on the general well-being of Taiwanese older people might have been somewhat compromised in this study, the efficacy of religiosity on quality of life in older people is manifest beyond doubt, especially for those who claimed to have had spiritual experiences.

With an aim of providing better measures for use in future research, Fetzer Institute / National Institute on Aging working group published a book called Multidimensional Measurement of Religiousness/Spirituality for Use in Health Research, originally in 1999 and was later revised in 2003 as a recommendation for measurement on religiousness/spirituality (Fetzer, 2003). The Fetzer Institute's instrument for measuring religiousness/spirituality, popularly known as the Brief Multidimensional Measurement of Religiousness/Spirituality (BMMRS), is particularly relevant in the context of this study because it was developed with application in the elderly population in mind. However, the BMMRS instrument does not distinguish spirituality from religiousness.

Instead, religiousness and spirituality are combined into a single concept measured in twelve facets: daily spiritual experiences, meaning, values, beliefs, forgiveness, private religious practices, religious/spiritual coping, religious support, religious/spiritual history, commitment, organizational religiousness, and religious preference. In studying the relationship between religiosity/spirituality and mental health in older people, the focus of this research has been conceptual rather than theoretical. As Fetzer's BMMRS was developed by treating spirituality within the concept of religiosity, the goal of this study was to differentiate these two constructs by capitalizing on the availability of online data provided by the 2011 Taiwan Social Change Survey to affirm the roles of religiosity as conceptualized in Fetzer's BMMRS. There should be no doubt, given the results from this study, that spiritual construct is a relevant dimension in relation to understanding older people's mental health, especially in assessing the efficacy of religiosity on their quality of life. Our data provided empirical evidence to support other prominent researchers' claim that religiosity and spirituality are indeed related, but not equivalent constructs (Miller and Thoresen, 2003; Hill and Pargament, 2008). Albeit the difficulty in precisely defining these two constructs in differentiation from each other, a need for such a differentiation still remains if scientific research is to be conducted with the hope of increasing our understanding in this field (Piedmont and Friedman, 2012). Toward this end we echo the call from Koenig (2008), a long time active researcher in this field, that until such a differentiation is made, the indiscriminate mention of religiosity and spirituality as a composite construct should be avoided in future research altogether.

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Table-1. List of items as taken from 2010 TSCS

Construct Measured	Original Item No	Item Description	Scale
Religiosity	43a	How often do you attend religious activities by going to temple or church? (1 indicating never attend and 8 indicating attend several times a week)	1-8
Physical Activeness	51	How frequent do you do aerobic activities or sports in a week, such as playing ball games, jogging, swimming, cycling, hiking, dancing, or other aerobic exercises? (1 indicating none at all to 6 indicating more than 7 times a week)	1-6
Spiritual Experience	44f	During your participation of group or individual spiritual activities, did you ever experience that your life was filled with the power of love?	Y/N
	44g	During your participation of group or individual spiritual activities, did you ever experience that your body and mind was empowered by some divine energy?	Y/N
Growth Needs	68a	I like to make use of opportunities to increase my knowledge.	1-4
	68f	I like to make use of my talents and further develop them.	1-4
	68i	I enjoy experiencing new things in my life.	1-4
Life Satisfaction*	69a	Overall, are you satisfied with the quality of your current life?	1-4
	69b	Are you satisfied with your current health conditions?	1-4
	69c	Are you satisfied with your current relation with friends?	1-4
	69e	Overall, are you currently living a happy life?	1-4
	69g	Overall, are you satisfied with the community you are living in?	1-4

* The original TSCS items were so arranged that odd-numbered respondents were directed to answer Item 69 on 1-5 scale whereas even-numbered respondents were directed to answer Item 70 on 1-4 scale. The format of Item 69 was changed to 1-4 scale (by coding 3 no particular tendency as missing) to be cross-referenced with Item 70.

Table-2. Correlating religious attendance with quality of life

Religion Type	n	Quality of Life		
		Growth Needs	Life Satisfaction	Physical Activeness
Buddhism	60	.367***	.436****	.216*
Folk-Religion	153	-.125	.202**	.088
No-Religion	27	-.248	.043	-.333*

The level of statistical significance is indicated by the following: * P<0.10, ** P<0.05, *** P<0.01, **** P<0.005

Table-3. Correlating religious attendance with quality of life by spirituality condition

Religion Type	Spiritual Experience	n	Quality of Life		
			Growth Needs	Life satisfaction	Physical Activeness
Buddhism	Yes	24	.406*	.524***	-.090
	No	36	.161	.231	.225
Folk-Religion	Yes	39	-.292**	.340**	.094
	No	114	-0.101	.144	.074
No-Religion	Yes	2	n/a	n/a	n/a
	No	25	-.221	.069	-.363*

The level of statistical significance is indicated by the following: * P<0.10, ** P<0.05, *** P<0.01, **** P<0.005

Table-4. Testing the effect of spiritual experience on quality of life

Religion Type	Quality of Life Dimension	Spiritual Experience	n	Mean	Standard Deviation	t	P>|t|
Buddhism	Growth Needs	No	35	7.971	2.242	2.82	0.0067
		Yes	21	9.571	1.690		
	Life satisfaction	No	36	13.750	3.597	2.42	0.0189
		Yes	24	15.958	3.264		
	Physical Activeness	No	36	3.417	2.183	2.24	0.0289
		Yes	24	4.583	1.613		
Folk-Religion	Growth Needs	No	113	7.558	2.401	1.16	0.2470
		Yes	39	8.077	2.421		
	Life Satisfaction	No	114	14.649	3.051	1.46	0.1466
		Yes	39	15.436	2.426		
	Physical Activeness	No	114	3.632	2.175	0.67	0.5060
		Yes	39	3.897	2.075		
No-Religion	Growth Needs	No	25	8.440	2.311	-0.26	0.7952
		Yes	2	8.000	1.414		
	Life Satisfaction	No	25	14.760	2.314	-0.16	0.8775
		Yes	2	14.500	0.707		
	Physical Activeness	No	25	3.880	1.764	0.87	0.3923
		Yes	2	5.000	1.414		