

Relationship of Subjective Well-Being and Religiosity from Theoretical and Statistical Perspectives

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Abstract

Objectives: Among several models offered for mental health two were singled out to be explored as regards their relationship, i.e., subjective well-being (SWB) and religiosity.

Method: On thousand one hundred twenty three pre-university students registered in senior high schools in Iran took the Satisfaction with Life Scale (SWLS) as a measure of SWB. Their responses on the scale were subjected to factor analysis to validate it in Persian. One hundred and forty seven of students also took the Persian Shia Ithna Ashari Religious Orientation scale (SIAROS) as a measure of religiosity. The SWLS was correlated with the SIAROS and its eight underlying factors, i.e., social, ceremonial, inspirational, sacrificial, humanitarian, the o-pacific, inquisitive, charitable, representing various dimensions of religiosity.

Results: One factor was extracted from the SWLS which explained 58% of extraction variation in the five items constituting the scale. When it was correlated with the SIAROS and its eight underlying factors no significant coefficients could be obtained.

Conclusion: There is no significant relationship between pre-university students' domains of religiosity and SWB because they differ in being culture specific and global, respectively, as explained by the micro structural and macro structural analyses of schema theory. Similarly, the eight factors underlying religiosity reveal no significant relationship to SWB because they are dependent on cultural consideration.

Keywords: factor analysis; schema theory; mental health; subjective well-being; religiosity

Introduction

Acknowledging the fact that psychiatry is always talking about mental health, but nobody ever does anything about it Vaillant[1] tried to address it fairly extensively in terms of seven models, i.e., mental health as A) above normal, B) positive psychology, C) maturity, D) resilience, E) socio emotional intelligence, F) subjective well-being and G) positive or spiritual emotions such as empathy, compassion and parental love, This study was designed to study the relationship between models F and G by operationalizing them through two currently available scales: Satisfaction with Life Scale (SWLS) and Shia Ithna Ashari

Religious Orientation Scale (SIAROS)

Although Vaillant did not specify on what rationale he had based his models of mental health, schema theory explains them through two approaches, i.e., macro structural and micro structural [2]. Macro structurally, every single or phrasal word such as "mental health" represents a stable concept which remains globally constant through space and time or languages and cultures [3, 4, 5]. Micro structurally, however, it represents an unstable concept which evolves throughout individuals' life as they develop physiologically and mentally [6, 7].

While the macro structural approach of schema theory (MACAST) does not explain how "mental health" relates to other domains brought up as models, the micro structural approach of schema theory (MICAST) places it within a fairly comprehensive hierarchical system in which not only the domains but also their constituting taxa, i.e., kingdoms, phyla, classes, orders, families, genera, and species [8] are explained. These taxa have already been employed in fields such as education to study domains of interest linguistically and cognitively.

Linguistically, the title of a book is usually presented as a single or phrasal noun. That noun, according to the MACAST, represents a domain such as "mental health" in and of itself for everybody everywhere. According to the MICAST, however, the domain represented by the title of the book is understood differently by those who read its constituting volumes, sections, chapters, headings, paragraphs, sentences and words. These terms not only represent the linguistic kingdoms, phyla, classes, orders, families, genera, and species of a domain but also render it reader rather than author dependent [9].

According to the MACAST, the linguistic noun "dogs", for example, represents the same mental concept or domain for all individuals. The advocates of MICAST, however, argue that the concept will be different for each individual who is familiar with the hierarchically related cognitive taxa of which "dogs" form a part. The mental concept of individual who know that dogs are, for example, members of familirais (species), canis (genus),

canidae (family), carnivore (order), mammalian (class), chordata (phylum), animal (kingdom), and organism (domain) will be different from those who are familiar with just one or a few of these taxa.

While the taxa of domains such as “organisms” have been established and to some extent accepted in fields such as biology, little attempt, if any, has been made to specify the taxa of “mental health” in fields such as psychology and psychiatry. Neither have the present researchers come across any comprehensive scale to explain and measure it theoretically and psychometrically.

Instead of employing a single scale to measure mental health as subjective well-being (SWB), Vaillant [1], for example, quantified SWB at age 55 not only “by summing each man’s report of satisfaction over the past 20 years (on a 5 point scale) in four life areas (marriage, children, job, and friends),” but also by “adding his best score from one of four additional areas (hobbies, sports, community activities, and religion)” Although employing these procedures provides a comprehensive index of SWB, it is not only time consuming but also questionable as regards its validity because it includes domains such as religion which are spiritual rather than SWB.

The present researchers, therefore, employed a single scale to measure SWB, i.e., SWLS. According to Diener, Emmons and Griffin [10], the SWLS deals specifically with life satisfaction. However, many scholars treat life satisfaction, happiness and SWB synonymously, e.g., Sadock, Sadock and Ruiz, [11] and Carta et al. [12]. The SWLS was preferred over other scales because its constituting items are not only few in number but also “global rather than specific in nature, allowing respondents to weight the domains of their lives in terms of their own values”[13],

It was hypothesized in this study that if the items comprising the SWLS were global, i.e., MACAST-based, rather than culture-specific, i.e., MICAST-based, then they would load acceptably on a single factor. It would represent the cognitive domain of SWB when its items were translated into Persian and administered to the pre-university students in Iran. Research findings have already shown that they load acceptably on a single factor when the SWLS is administered to Dutch, [14], French, [15], Mandarin Chinese, [16], and Russian [17] speakers.

In addition to employing life satisfaction synonymously with SWB the present researchers followed [18] and used positive or spiritual emotions synonymously with religiosity. Furthermore, the proposer of Model G, Vaillant [1] himself believed “religiosity is consistently and positively correlated with well-being” as did other researchers [19, 25]. Religiosity also relates significantly to anxiety [26, 27] cardiovascular reactivity among older adults [28], depression [29, 33] and happiness [34, 35].

Upon choosing the SWLS as a measure of SWB, the Persian SIAROS was also employed in this study as a measure of religiosity to explore its relationship with SWB. Between its 38-item and 26-item versions both validated with pre-university students [36,37], the latter was chosen because it was shorter and each of its constituting items loaded acceptably and exclusively on

a single factor extracted by Principal Axis Factoring (PAF) and then rotated via Varimax with Kaiser Normalization (VKN). The factors represented the social, inspirational, observant, sacrificial, humanitarian, the o-pacific, inquisitive and charitable families of religiosity, respectively.

Seven genera constitute the first factor representing pre-university students’ social family. They 1) consider mosques as the most important places where good social relationships are formed, 2) become a member of mosque to establish themselves in the community, 3) spend periods of time in private religious thought and meditation, 4) give priority to everyday congregations, 5) attach more importance to religious trips than to tourism, 6) observe Ghusl (i.e., washing oneself for pray) and attend Friday prayer and 7) try to carry the *Quran* under all conditions.

Ceremonial family is represented by the second factor consisting of four genera, i.e., 1) to actively attend the mourning ceremonies held for the Prophet [Muhammad’s] household, 2) to participate in mourning ceremonies particularly in the months of Muharram and Safar, 3) to attend the ceremony of the Night of Qadr (i.e., the night at which the *Quran* was revealed to Muhammad) and 4) to participate in ceremonies celebrating the birthdays of the Prophet and his household.

Similar to second factor, four genera comprise the inspirational family of religiosity represented by the third factor, i.e., 1) to keep the account of one’s wealth and possessions and pay its Zakat and Khoums, 2) to believe that both men and women should observe Hijab, 3) to believe in the effect of alms-giving in shielding against catastrophes and problems and 4) to consume Halal food when travelling to different countries.

In contrast to the third factor, the fourth factor representing sacrificial family comprises only two species, i.e., sacrificing an animal on Eid-al Adha (i.e., one of the stages of Hajj) and other occasions and consuming sacrificed meat for its religious effect. Similarly, the *fifth* factor representing humanitarian family is made of two genera, i.e., to support the deprived as a religious duty and to visit patients as a religious duty.

The sixth factor representing the o-pacific family consists of three genera, i.e., to accept that religion offers comfort when sorrows and misfortune strike, to pray to gain relief and protection (from spiritual problems and to pray in order to secure a happy and peaceful life. The seventh factor representing the inquisitive family, however, contains two genera, i.e., to obtain information on other religions besides Islam and to do a research before accepting Islam as do the last two genera of charitable family, i.e., to do charitable work like supporting the orphans and to allocate some money to help charitable organizations.

To address the objectives of the study empirically, three hypotheses were formulated. 1) The five items comprising the SWLS load acceptably on a single factor to represent the domain of SWB. 2) The domains of SWB and religiosity do not correlate significantly with each other. 3) Neither does the domain of SWB correlate significantly with any of the eight families comprising the domain of religiosity.

Methodology

Participants

For validating the Persian SWLS, it was administered to 1123 pre-university students, 732 female (65.2%) and 391 male (34.8%) in 2016. They had registered as full time pre-university students in 19 senior high schools of which 14 were state schools whereas three were nemouneh mardomi and the remaining three were run privately. The majority of schools were from educational districts of 1, 2, 3, 4, 5, 6 and 7 of Mashhad (i.e., 18) and one was located in Fariman. (Mashhad is the capital city of Khorasan-e-Razavi province in Iran and Fariman is the closest city to Mashhad). The age of participants ranged between 15 and 20 (mean=17.51, SD=.595). While the majority spoke Persian (98.6%) as their mother tongue a few conversed in languages such as Arabic and Turkish.

Instruments

Three scales were employed in this study, i.e., a demographic scale, the Persian SWLS and SIAROS

The Demographic Scale (DS): It consisted of four short answer questions in Persian dealing with the participants' age, school name, final English language score as well as their grade point average at grade three senior high school: It also contained five multiple choice items dealing with the students' gender, field of study, the type of school they had registered and the district in which their school was located, and their mother language.

The SWLS: The English version of SWLS [10] was translated into Persian by the present researchers so that the Iranian pre-university students' perfect comprehension of its content in their mother language could be secured. It contained five items such as "In most ways, my life is close to ideal" with which the students had to agree on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). The range of possible scores on the SWLS is from minimal satisfaction with life [5] to very high satisfaction with life [35]. Pavot et al.'s [38] findings indicated that the SWLS enjoys high empirical validity because it showed strong relationship with the Life Satisfaction Index-A (LSI-A), i.e., $r = .81, p < .01$ [39].

The SIAROS: The validated Persian SIAROS [37] was employed in this study. It consisted of 26 items representing genera such as "It is important and necessary to spend periods of time in private religious thought and meditation". They were presented on a five-point Likert scale, i.e., 1) disagree strongly, 2) disagree, 3) have

no idea, 4) agree and 5) agree strongly, The administration of the SIAROS to 453 pre-university students showed that the SIAROS represents a highly reliable cognitive domain of Shia Ithna Ashari religiosity (i.e., $\alpha = .88$), but also two of its constituting factors do the same for the inspirational and ceremonial families (i.e., .82 and .80, respectively). The remaining five families enjoy "moderate" [40] reliability because their alpha coefficients fall between .53 (charitable) and .79 (social).

Procedures

All female and male English teachers in high schools described in the participants section were contacted by the second researcher of this study and their cooperation was sought in administering the DS, SWLS and SIAROS in their schools. The teachers talked to their pre-university students and secured their oral consent to take the scales on a single occasion. The researcher then attended the schools and distributed the scales in person to female students while she kept walking along the aisles explaining the necessity of exploring the relationship between SWB and religiosity. (Since she could not do the same in boys' schools because of gender issues her male colleagues accomplished the task by being contacted and informed by the researcher almost on a daily basis.) It took about 25 minutes on average for the students to complete the scales at the beginning of the school year in 2016.

Statistical Analyses

The PAF was utilized to extract the factors underlying the Persian SWLS. The initial eigen values of one and higher were adopted as the main criterion to determine the number of factors to be extracted [41]. Based on Pallant's, [42] suggestion Pearson correlations were used to explore the relationship between the cognitive domains and genera of SWB and Shia Ithna Ashari religious orientation. The IBM SPSS Statistics 23.0 was utilized to run all statistical analyses.

Results

Item five on the Persian SWLS represented the only species (i.e., If I could live my life over, I would change almost nothing) with which the majority of pre-university students (51%) disagreed (Table 1). In contrast, more than fifty percent of the students agreed with the remaining four items of SWLS. The agreement was the highest with items one and two representing the species "in most ways, my life is close to ideal" (65%) and "the conditions of my life are excellent" (62%), respectively table-1.

Table 1: Descriptive Statistics of Items Comprising the Persian SWLS (n=1123)

Item	Mean	SD	Communalities		Likert Point Percentage						
			Initial	Extraction	STD	DA	SLD	NDNA	SLA	Agree	STA
1	4.74	1.684	0.62	0.7	7	7	8	15	25	28	12
2	4.69	1.655	0.657	0.75	6	8	7	17	26	24	12
3	5.11	1.628	0.597	0.675	5	5	5	15	19	32	19
4	4.48	1.741	0.426	0.479	8	10	8	17	25	20	11
5	3.47	2.05	0.259	0.279	27	14	10	13	17	10	9

Note: STD=Strongly disagree, DA=Disagree, SLD=Slightly Disagree, NDNA=Neither Disagree nor Agree, SLA=Slightly Agree, STA=Strongly Agree

Applying the KMO statistics to the items constituting the Persian SWLS yielded .853. Since it was in .80s, the data were, according to Kaiser [43], “meritorious” in providing a common-factor model. Bartlett’s test of sphericity was also run to check the appropriateness of applying factor analysis to the data. Since the statistic was significant (i.e., $\chi^2 = 2776.556$, $df=10$, $p<.001$) it indicated that “the correlation matrix does not resemble an identity matrix” [44] and therefore pre-university students’ responses on the SWLS could be subjected to factor analysis.

Upon securing the appropriateness of factor analysis, the responses given to the five items of the Persian SWLS were subjected to the PAF. The analysis showed that all items loaded acceptably on one single factor and thus rendered the rotation of the solution impossible (Table 2). These results did, therefore, answer the first hypothesis that the five items comprising the SWLS would load acceptably on a single factor to represent not only family but also domain of SWB table-2.

Table 2: Total Variance Explained in the Persian SWLS

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.262	65.24	65.24	2.884	57.674	57.674
2	.697	13.934	79.174			
3	.489	9.785	88.958			
4	.306	6.118	95.077			
5	.246	4.923	100.000			

The findings of this study are in line with those of Diener et al. [10] who administered the English SWLS to 176 undergraduate university students, subjected their responses to the PAF and determined the number of factors by “an inspection of the scree plot of eigen values. Using this criterion, a single factor emerged, accounting for 66% of the variance”. This study also employed the PAF which resulted in the extraction of only one factor with an eigen value of 3.26. The extraction sums of the squared loading, however, reduced the size of eigen value to 2.9 explaining 57.7% of variance in the whole scale.

In Diener et al.’s [10] study as well as the present one the first item representing the genus “in most ways my life is close to my ideal” had the same magnitude of loading on the first factor (0.84). The second genus, “the conditions of my life are excellent”, however, had the third and first highest magnitude of loading in the two studies, respectively. Nevertheless, item total correlations obtained in this study were all higher than those reported by Diener et al. (Table 3). In addition to having factorial validity, the Persian SWLS enjoyed a very high level of reliability ($\alpha = 0.85$) as did its English version ($\alpha = 0.86$) table-3.

Table 3: SWLS Items and Their Factor Loadings

Item	Genera	Factor loadings		Item total correlations	
		This study	Diener et al (1985)	This study	Diener et al (1985)
1	In most ways my life is close to my ideal.	.837	.84	.844	.75
2	The conditions of my life are excellent.	.866	.77	.855	.69
3	I am satisfied with my life	.822	.83	.831	.75
4	So far I have gotten the important things I want in life.	.692	.72	.781	.67
5	If I could live my life over, I would change almost nothing.	.528	.61	.704	.57

The SWLS did not correlate significantly with the SIAROS ($r = .051$, ns) and thus confirmed the second hypothesis that there is no significant relationship between the domains of SWB and religiosity. The third hypothesis was also confirmed because none of the eight families comprising the domain of religiosity correlated significantly with the SWLS, i.e., social ($r = .112$, ns), ceremonial ($r = .078$, ns), inspirational ($r = .053$, ns), sacrificial ($r = -.032$, ns), humanitarian ($r = -.023$, ns), the o-pacific ($r = -.129$, ns), inquisitive ($r = -.034$, ns) and charitable ($r = .111$, ns).

Discussion

Upon validating the Persian SWLS the present study employed it as an objective measure of mental health as subjective well-being. It also employed the Persian SIAROS to measure mental

health as religiosity. When the two scales were correlated with each other, no significant relationship was found challenging assertions such as “religiosity is consistently and positively correlated with well-being” [1].

SWB measured by the SWLS did not relate significantly to religiosity measured by the SIAROS for several reasons. First, the SWB is based on MACAST because it represents a “static” [45] or in Pavrot and Diener’s, [10] terms “global” concept which remains the same for all people speaking different languages reflecting different cultures. In other words it is a hierarchically and culturally independent schema (HACIS) because it has a set tax on or factor and that tax on remains the same for takers of the SWLS who speak languages reflecting eastern culture (e.g., Chinese and Persian) and the western (e.g., English and French).

The religiosity measured by the SIAROS, however, drives its validity from the MICAST [9] as a hierarchically and culturally organized schema (HACOS) whose domain depends on the experiences individuals have had with the species and genera represented by the word types and sentences comprising the SIAROS. The processing of these taxa by adults and youth representing two different age groups with specific cultures shows that the genera of SIAROS are subsumed under various families in different numbers because they differ from each other as regards their experiences with the species comprising the genera.

Approaching religiosity as a HACOS highlights the fact that individual change it at various stages of their life though adapting their various social needs to cultural norms, however unacceptable they might be to them, so that they can be met as efficiently as possible. In other words, the HACOS of religiosity as a domain depends on what species, genera and families serve individuals' needs when they move from youth to adulthood. Not only age but also other variables such as religion, language, education and places of worship have proved to relate to religiosity as a multi-taxonal HACOS.

Allport and Ross, [46], for example, developed their Religious Orientation Scale (ROS) to measure religiosity as a HACIS. They believed that it consisted of 155 species and 20 genera through which all Christian individuals could be divided into either intrinsic or extrinsic families. In order to find out whether they could do the same with Polish speaking Catholic Christians as well, Brewczynski and MacDonald, [47] increased the number of genera from 11 to 12 genera by adding one belonging to Feagin [48] and administered the 21-item ROS to 303 university students in Poland. When they ran confirmatory factor analysis they found that Polish students' Christianity differed from those of Americans for several reasons.

First, instead of nine genera forming the intrinsic family of American religiosity, those of Polish Christians consisted of six. Secondly, out of the twelve genera characterizing extrinsic Americans, six proved to be irrelevant to the Polish while the remaining six assigned them to *socially* and *personally* extrinsic Christians. And finally, the species comprising the Polish Christianity were fewer than those of Americans, i.e., 97 and 165, respectively. Brewczynski and MacDonald's [47] findings thus showed that the MICAST-based HACOS of Polish Christians differed from the American MICAST-based HACIS in species, genera and families when their religiosity was measured by the same scale.

Khodadady and Golparvar's, [49] administration of Islamized and Persian version of 21-item ROS to 329 university students in Iran confirmed Brewczynski and MacDonald's, [47] findings. When they subjected the students' responses to PAF and VKN, 14 items loaded acceptably and exclusively on four factors, indicating that religiosity measured by the ROS was a HACOS for Iranian university students as well. It consisted of 124 species, 14 genera and four families. Among the species "religious" had the highest token of five followed by "life" and "mosque" with the second highest token of four.

Khodadady and Bagheri, [50, 51] expanded the ROS to SIAROS by adding 24 items brought up by Iranian university students as well as Shia Ithna Ashari pilgrims to Imam Reza Shrine in Mashhad to 19 and one items composed by Allport and Ross, [46] and Feagin, [48], respectively. The SIAROS thus consisted of 246 species and 44 genera, among which "religious," "religions," and "life" had the first, second and third highest tokens of 12, 8 and 7, respectively.

When Khodadady and Bagheri, [51] administered the SIAROS to 749 Iranian, Afghan and Pakistani pilgrims in Imam Reza Shrine and subjected their responses to PAF and VKN, 29 items loaded acceptably and exclusively on nine factors. Their results did, therefore, indicate that the religiosity of pilgrims, the majority of whom had secondary education, was a MICAST-based HACOS because out of 246 species of religiosity, only 178 played a religious role in their life. Furthermore, the 44 genera were reduced to 29 subsumed under nine families, i.e., inspirational, intrinsic, congregational, social, ceremonial sacrificial, the o-pacific, humanitarian, and extrinsic. Among the species comprising these families, "religious" was the first most frequent with a token of 10, followed by "ceremonies" and "religions" both having a token of four.

The participants in Khodadady and Bagheri's, [51] study were adults because their mean age was 35.48 (SD=13.80). In contrast, those of Dastgahian and Khodadady, [37] were youth whose mean age was 17.43 (SD = .565). Since these two groups had almost the same level of secondary education, their responses on the SIAROS shows the domain of religiosity changes from youth to adulthood. While 151, 26 and 8 species, genera, and families, for example, comprise the religiosity of youth, it increases to 178, 29 and 9 for adults, respectively, indicating that individuals approach religiosity as a HACOS so that they can justify their cultural norms.

If the SIAROS developed by Khodadady and Bagheri, [51] measured religiosity as a HACIS, all its 44 items must have loaded on a single factor as the five items of SWLS did in this study. However, in Dastgahian and Khodadady's, [36, 37] study eight factors were extracted from young pre-university students' responses showing that their religiosity was a HACOS because 18 out of 44 items had no relations to their life because they did not load acceptably and exclusively on any factor. These youths' religiosity must, therefore, be understood as regards eight families which change in number and genera later in their lives, providing further evidence for treating religiosity as a HACOS.

The ninth factor of pilgrims in Khodadady and Bagheri's, [51] study, for example, represents their extrinsic family which is unique to them as adults. It consists of two genera developed originally by Allport and Ross, [46], i.e., "to lead a moral life without attaching any importance to what religion one believes and "that in spite of being a religious person, religious considerations should not be allowed to influence everyday affairs". Since these two genera do not contribute to the religiosity of youth, they show that the so called realities on the ground, i.e., cultural norms, provide adults with moral justifications to compromise their religious principles.

The MICAST does, therefore, show that for pre-university students the domain of “religiosity” is not a HACIS as is the SWB measured by the SWLS. It measures their religiosity as a HACOS whose constituting species, genera and families depend on their current experiences within their religious society. Allport and Ross’ genus, “I try hard to carry my religion over into all my other dealings in life”, and Khodadady and Bagheri’s, [38] species, “it is important and necessary to visit the Prophet’s descendants on Id al-Ghadir”, for example, do not contribute to any of the eight families constituting their domain of religiosity.

In contrast to the SIAROS, the SWLS has proved to be measuring Iranian pre-university students’ SWB as a HACIS which consists of 33 species and five genera not only for them but also for American university students [29], Chinese students [8], French-Canadian college students [7] and Moscow State University students [9]. The very fact that the domains of SWB and religiosity a HACIS and HACOS, respectively, provide another reason for their being unrelated.

The last reason for not finding a significant relationship between pre-university students’ SWB and their religiosity as measured by the SWLS and SIAROS, respectively, is that the former deals with their freedom to decide whether they are satisfied with their own personal life whereas the latter requires compromising freedom with safety to secure social positions within an officially religious society, i.e., Islamic Republic of Iran [36]. In other words, the students, according to Fromm [52], try to enjoy the freedom of having their own identity and role as species of life satisfaction but face existential discomfort because they must, at the same time, comply with religious laws enforced by their theocratic government.

The species comprising the SIAROS not only require spiritual emotions such as empathy brought up implicitly in the genus “to do charitable work like supporting the orphans”, but also entail religiosity as “involvement in organized religion” [53]. One of the seven species contributing to the social genus of pre-university students’ religiosity, for example, requires them “to become a member of mosques to establish themselves in the community” rather than develop themselves as religious individuals.

The Iranian community has lost its traditional structure in which mosques played a significant role in their religiosity of individuals. Due to population explosion, ever-increasing inflation, and the rule of capitalism rather than Shia Ithna Ashari Islam (SIAI) most young men are either jobless or their income is not enough to meet the requirements of a normal family cost. The truly SIAI ruled Muslims for the first and last time by Ali, the cousin and bridegroom of the prophet Muhammad. His government did not, however, last more than five years due to his uncompromising religious principles. The majority of Iranian men and women, therefore, stay single and fail to satisfy their various needs classified as basic needs (e.g., sex) letting alone those of higher needs (e.g., self-actualization) [54, 55].

Limitations

Although 732 female pre-university students took the SWLS voluntarily, only 147 of these students agreed to take the SIAROS

as well. This untoward fact has rendered the findings of this study gender-specific. Further research is, therefore, required to find out whether they are equally applicable to male students as well.

In addition to keeping the variable of gender constant, spiritual emotions were treated synonymously with religiosity as Gardner [18] did. A measure of spiritual intelligence such as King’s [56] 24-item Spiritual Intelligence Self-Report Inventory might produce results different from those of the present study. (The present researchers could not, however, find the Persian version of this inventory validated with pre-university students in Iran.)

Conclusion

Religiosity and SWB measured by the SIAROS and SWLS, respectively, do not correlate significantly with each other because they differ for several reasons. First, while 151 species comprise the 26 genera of religiosity domain, they are reduced to 31 and five, respectively, for the SWB domain. While religiosity consists of eight families, i.e., social, ceremonial, inspirational, sacrificial, humanitarian, the o-pacific, inquisitive and charitable, SWLS has no family, indicating that the two domains do not require the same level of cognitive involvement.

The second reason for the lack of relationship between religiosity and SWB of pre-university students is the significant difference in the number of noun species comprising and contributing to the two domains, i.e., 54 and 5, respectively. Among these species only “life” is common to both. However, the token or frequency of this very common species explains why religiosity and SWB bear no significant cognitive relationship to each other.

The species “life” for example, is pivotal to SWB because it has a token of five and forms the main theme of all its five species (see Table 3). It does, however, appear only once in the SIAROS and contributes to one of the two species constituting the o-pacific genus, i.e., it is important and necessary to pray in order to secure a happy and peaceful life. Thus all the species of SWB deal specifically with life as its main theme while just one out of 26 species contributing to just one out of eight genera constituting religiosity deal with life, not as its main theme but dependent on the religious act of praying.

The findings of the present study do, therefore, show that the two models of mental health, i.e., SWB and religiosity, have no significant relationship with each other when they differ in their theoretical and cognitive structure. The present researchers’ development of a scripture-specific religious orientation scale and its administration to pre-university students, however, show that the two domains do relate significantly to each other and thus contribute to the domain of mental health. The findings will be presented in separate studies.

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Declarations

Ethical approval

There are no conflicts of interest. The aims and procedures of this study were approved by the Research Ethics Committee of Ferdowsi University of Mashhad.

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