Applied Research Quality Life (2009) 4:109–127
DOI 10.1007/s11482-009-9076-8

An Exploratory Study of Religiosity, Meaning in Life and Subjective Wellbeing in Muslim Students from Algeria

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Received: 29 August 2008 / Accepted: 18 June 2009 /
Published online: 1 July 2009

Abstract This study explores the relationships between religiosity, Meaning in Life and Subjective Wellbeing (SWB) in a sample of 495 Muslim students (330 Females, and 165 males) from Algeria. Their Mean age is 21.26 (SD2.30). Relying on experts' judgments and pilot-testing, a Comprehensive Measure of Islamic Religiosity (CMIR) has been developed. It consists of 60 items covering four broad areas with high inter-correlations: Religious Belief, Religious Practice, Religious Altruism, and Enrichment of religious experience. A short version of the 'Presence of Meaning in Life' (PML) scale, Satisfaction With Life Scale (SWLS), and Personal Wellbeing Index (PWI) are also administered in one set of questionnaires, together with religiosity items. The results indicate that Religious Belief and Religious Altruism significantly contribute in providing subjects with meaning in life. Nevertheless, Hierarchical Regression Analyses show that only Religious Belief makes a significant contribution in both SWLS and PWI. But, this effect has almost totally been accounted for by Meaning in life in the second step. Comparisons on the basis of the demographic characteristics show that males marginally differ from females ($p<.05$) in Religious Altruism, but these latter are higher in SWLS ($p<.05$). Moreover, it has been shown that students of science score marginally higher in Belief and Practice and also in PML, and SWLS compared to their counterparts of Arts studies. Though no differences are found in the strength of religious belief in subjects from rural and urban location, the former have generally higher scores on other religiosity subscales. This trend is slightly reversed in PWI ($p<.05$).

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Furthermore, subjects from high income families are favoured in PML, SWLS, and PWI. These results are discussed on the light of current international research.

Keywords Islamic religiosity · Meaning in life · Satisfaction with life · Subjective wellbeing · Algerian students

Introduction

Putting religiosity and spirituality under the scrutiny of scientific study is increasingly gaining interest among researchers. For instance, Williams and Sternthal (2007) enumerated 1,200 publications examining aspects of religiosity with relation to indicators of health. Meanwhile, 3,040 studies exploring the link between spirituality and health quality of life (QOL) were identified by Sawatzky et al. (2005). Moreover, the attitude of positive psychologists, who considered religiosity as a 'human strength' in their theoretical constructions, contributed in further invigorating research in this area for the last 25 years (Lewis and Cruise 2006).

However, many issues remain unresolved with relation to the contribution, or else, of religiosity on the way to enhance human wellness and flourishing. As early as 1962, Glock warns that "*Religion is not the same to all men—neither in the modern complex societies nor in even to the most homogeneous of primitive ones. Even within a single religious tradition, many variations can be found. This simple fact scarcely needs documentation*" (p. 98). This implies that conceptual clarifications are required for the advancement of this inquiry.

One of the persisting questions has been to establish the limits between the concepts of 'religiosity' and 'spirituality'. In this respect, though no one can exclude the fact that some levels of spirituality form the basics of all organised religious traditions, a variety of personalised spiritual quests could be found outside the boundaries of these latter. So, the need to dichotomise spirituality and religiosity in this study seems redundant.

Methodological issues, such as how best to measure religiosity, are also omnipresent in this search, and have created difficulties in integrating research (Lewis and Cruise 2006; Abdel-Khalek 2006). It is also notable that 'actual' religious commitment is sometimes confounded with self-reported satisfaction with religiosity, whereas discrepancies between the two facets of religiosity cannot be ruled out. This is fundamental if one considers that some religious traditions, such as Judaism give more importance to practice in being religious (Cohen et al. 2003). Islam also shares this preference.

Accordingly, we draw upon this distinction in the present study for which a specifically designed scale of Islamic religiosity (the Comprehensive Measure of Islamic Religiosity, CMIR) has been used in order to explore the relationships between religiosity, Presence of Meaning in Life (PML) and subjective wellbeing (SWB).

This paper enfolds as follows: In the first part some of the related literature is reviewed, and then the procedure and the used measures are described. Afterwards, we summarise and discuss the results, as well as the limitations of this research.

Subjective Wellbeing (SWB)

Subjective, Psychological or Personal Wellbeing, Happiness, and Life Satisfaction have extensively been studied in recent years. This effort has been motivated not only by the intrinsic value of these psychological states, but because some of their variants could be developed as policy outcome measures in both developed and developing nations (e.g., Diener and Seligman 2004; Diener 2006).

Nevertheless, conceptual and methodological disputes are also difficult to overcome here. Ryan and Deci (2001) ended up by distinguishing between *Hedonic* and *Eudaimonic* dimensions of human wellness. While the first covers all aspects of momentary pleasures, the second refers to human flourishing and the fulfillment of one's potential in general. Means to attend these latter have not been fully agreed upon. However, hedonic measures may include happiness, which is construed as a basically affective construct and life satisfaction which is dominated by cognition. Both could be included under the heading of subjective wellbeing (SWB) (e.g., Samman 2007). Meanwhile, the *eudaimonic* dimension reflects psychological wellbeing and comprises multifaceted measures of 'flourishing', such as the presence and search for meaning in life (Samman 2007).

Religiosity/Spirituality and Wellbeing

Religiosity has been studied as another correlate of good life (reviews: Peterson and Webb 2006; Williams and Sternthal 2007; Sawatzky et al. 2005), and even a component of SWB from this latter standpoint. For instance, Dierendonck (2005) extended Ryff's Psychological Wellbeing scales to include a spiritual wellbeing subscale. Wills (2009) and Tiliouine (2009b) provided evidence for the addition of a satisfaction with religiosity/spirituality domain to PWI, as suggested by the International Wellbeing Group (IWG 2006).

Moreover, many researchers have reported that religious people are healthier and even live longer (e.g., Levin and Schiller 1987; McIntosh and Spilka 1990; reviews: Ellison and Levin 1998; Williams and Sternthal 2007), experience higher levels of happiness and satisfaction with life (e.g., Poloma and Pendleton 1990), enjoy higher SWB (Tiliouine et al. 2009), have lower suicide rates (e.g., Helliwell and Putnam 2005), and higher resistance against life setbacks (e.g., Ellison and Levin 1998).

Religiosity/Spirituality and Meaning in Life

Nonetheless, the important question that has not been fully addressed is what is in religion or religious activity that leads to these positive results? Meaning in life is suspected to be cultivated by religion. A link has already been established between the two (Dufton and Perlman 1986; Morgan and Fastides 2009a, b). Morgan and Fastides (2009a, b) stress that religion may foster meaning through many mediators, by focusing individuals' attentions on meaning-inducing activities such as positive relationships, personal growth, and service to others, or by providing a framework of beliefs with which to make sense of one's life. The results of these latter researchers

generally confirm that altruism, personal growth and spirituality are the most consistent predictors of meaning in life.

Meaning in life is also described as an important component of *eudaimonic* happiness and SWB (Morgan and Fastides 2009b; Samman 2007). Its deficiency in life leads to *noogenic neurosis* according to Frankl, which is characterized among other things by apathy and boredom (*cited in* Morgan and Fastides 2009b). Furthermore, it has been suggested that meaning consistently predicts psychological wellbeing among college students in the United States (Zika and Chamberlain 1992), and has a positive relationship with satisfaction in life (Sheck 1993 *cited in* Samman 2007). But, more research is needed in this area before any clear-cut conclusions can be drawn.

It is worth of noting that research with Muslims in these particular fields of study is scarce, and the little available is inconclusive. Modest correlations between religiosity on the one hand and happiness on the other hand and SWL are registered (Suhail and Chaudhry 2004; Abdel-Khalek 2006; Abdel-Khalek and Naceur 2007). Variations between men and women have also been found (Abdel-Khalek 2006; Abdel-Khalek and Naceur 2007; Tiliouine et al. 2009). In these studies, religiosity is reported to predict SWB at a marginal level of significance (Suhail and Chaudhry 2004; Abdel-Khalek 2006; Abdel-Khalek and Naceur 2007). Tiliouine et al. (2009) have generally found good links between Islamic Religiosity and PWI, but weak association between satisfaction with life (SWL) and religiosity in two groups of self-identified healthy and unhealthy subjects. This has been explained by the possible interactions between underdevelopment of the researched country and religiosity.

However, measuring religiosity remains a complex task. The existing measures related to Islamic religiosity, such as "Muslim Attitudes towards Religion Scale" (MARS) of Wilde and Joseph (1997) put more emphasis on attitudes and the experiential dimension not the actual beliefs and practices of Muslims. So, a comprehensive measure which is able to systematically cover the key indicators of Islam seems lacking. The approach developed in Tiliouine et al. (2009), in which they referred to traditional religious textbooks and used wide consultancy of experts in Islamic studies to select these key indicators has been adopted and expanded here as will be described later.

This religiosity scale has been used along with Steger et al. short scale of the presence of meaning in life (Samman 2007) (PIL), the Personal Wellbeing Index (PWI) (IWG 2006) and Diener et al. (1985) Satisfaction With Life Scale (SWLS) in one set of questionnaires. However, the importance of such an approach stems of the need to scientifically understand populations who are yet unknown. The main aim is to try to establish the link between the level of religious commitment and feelings of wellbeing, and verify to what extent all this is related to the notion of meaning in life. Such a knowledge base can be valuable even for practitioners, such as those of mental health and family therapies (Hall and Levingston 2006).

In the present research, we explore the relationship between the three constructs of religiosity, meaning in life and SWB in a Muslim sample.

The aim of this study is to explore the following four research questions:

- What is the nature of Islamic Religiosity?
- Is Islamic Religiosity related to meaning in life for individuals?

- Is Islamic Religiosity related to subjective well-being?
- What are the demographic variables which may have a relationship with Islamic Religiosity? (such as gender, residence location and household income)

Method

Notably, the present research took place at the University of Oran. Oran is a Mediterranean coastal city on the West the country of Algeria. This latter country is a North African state, mostly Arab and Muslim, with a population of about 33 million. It was colonized by France from 1830 to 1962. Afterwards, it was ruled by a single party system. Since 1989, it has opted for a pluralist democratic system, but the nullifying of the first round of parliamentary elections ended up in a violent opposition between the Army and the Islamist groups, leaving a death toll of up to 2000. However, the security crisis has sensibly improved since 2003 (Mortimer 2006). This research has thus been conducted in normalised conditions. Oran remains one of the safest cities in the country.

Participants

Five hundred and ten full-time Algerian Muslim students filled out the research questionnaires with no remuneration. Twelve of the questionnaires were discarded as they lacked basic information. Three other ones were identified as outliers, and hence excluded as suggested in PWI manual (IWG 2006), leaving a final sample of 495 participants (Mean age 21.26, SD 2.30). 98.6% of them are single. Females (330 subjects, 66.7%) outnumbered males (165 subjects, 33.3%). This is in accordance with the general trend in University recruits being dominated by females in this country. Among the sample, 224 (45.3%) enrolled in the Faculty of Sciences (mainly studying Biology and Earth Sciences), while 271 (54.7%) belonged to Arts fields (mainly, Arabic Literature and Psychology).

Participants were asked to rate their permanent residence locations on a 5-point scale: Rural areas (6.7%), small village (14.9%), small city (19.4%), Medium-size city (28.1%), and big city (30.9%), Table 1. They were also asked to rate their families' financial income: Very low (5.3%), low (8.3%), average (69.5%), high (16%), and very high (1%). In the final analysis, both of the latter items were pulled out together creating only three categories: Low, Average and High (Table 1). We asked about Family average income, rather than personal income, because public education in Algeria is free at all levels, but students receive a very small scholarship. They usually rely on their families assistance in covering other expenses.

Procedure and Measures

Questionnaires were distributed in a classroom setting after previous appointments with the students and their teachers. The front page contained the objectives of the study and stressed the anonymous character of the answers. Instructions on how to

Table 1 Demographic characteristics of the sample

		N	%
Gender	Male	165	33.3
	Female	330	66.7
Type of study	Science	224	45.3
	Arts	271	54.7
Location	Rural	33	6.7
	Small village	74	14.9
	Small city	96	19.4
	Medium size city	139	28.1
	Big city	153	30.9
Family income	Very low	26	5.3
	Low	41	8.3
	Average	344	69.5
	High	79	16
	Very high	5	1

answer the questions were also included on this page. The fifth and last page contained demographic information.

The measures are as follows:

a. The Comprehensive Measure of Islamic Religiosity (CMIR)

Our attempt to construct an improved measure of Islamic Religiosity stems out of the need for a measure which encompasses the fundamental Islamic prescriptions and code of conduct. This cannot be developed without referring to basic religious texts, mainly the Koran and *Hadith* (The prophets' sayings and doings). Tiliouine et al. (2009) made a first attempt by using a short measure of 16 items, of which only 11 items were usable. Two factors were identified: Religious Practice and Religious Altruism, with a small percentage of variance of, respectively 24.58% and 9.27% of the variance.

The present scale (CMIR) has been intended to be more comprehensive, well-referenced in terms of its contents, and unbiased in terms of gender. So, contacts were undertaken with many scholars who teach Islamic studies in local universities in order to identify the specific religious prescriptions. These prescriptions were included in a list of 70 items, covering: *Obligations or duties* (such as prayers on time, advise others to good and avoid sin), and *prohibitions* or *interdictions* (avoid alcoholic drinks, avoid gambling).

Pilot testing resulted in the adoption of 60 items with clear wording and no repetition.

In the final step, another group of experts (University teachers) were asked to create subscales on the basis of a content analysis. This procedure aims to ensure that item grouping is done on the basis of the meaning/understanding conveyed by each item.

Accordingly, the 60 retained items were divided into four religious domains, to which we refer henceforth as subscales, as described below.

Religious Belief 17 items dealing with faith matters, such as: believing in God, Judgment Day, Hell, Paradise, and Sacred Books. Item-subscale total correlations were positive and significant, ranging from: .34 to .67. Inter-items correlations were also mostly positive and significant. Cronbach's alpha reached .79.

Religious Practice 20 items dealing with practical matters such as: Islamic prayers, fasting, avoid alcoholic drinks, respect restrictions on clothing, and hair style. Item and subscale-total correlations were positive and significant, ranging from: .30 to .63. Inter-items correlations were also mostly positive and significant. Cronbach's alpha reached: .78.

Religious Altruism 12 items dealing with relational aspects, such as to be good to parents, relatives, neighbours, and advising others. Item and subscale-total correlations were positive and significant, ranging from: .36 to .59. Inter-items correlations were also mostly positive and significant. Cronbach's alpha reached: .71.

Religious Enrichment 11 items dealing with activities that broaden religious knowledge and spiritual experiences, such as reading religious books, attend religious meetings, follow religious TV/radio programmes and read the Koran. Item and subscale-total correlations were positive and significant, ranging from: .43 to .71 (Table 2). Cronbach's alpha reached: .81.

Table 2 Comparisons between self-assessed religious commitment groups in religiosity subscales

		N	Mean	SD	F
Belief	Low	108	82.41	9.10	31.61*
	Average	227	85.38	7.51	
	high	153	89.54	5.43	
Practice	Low	108	71.98	9.73	41.65*
	Average	227	75.02	8.03	
	high	155	80.95	7.58	
Altruism	Low	108	70.17	10.73	33.62*
	Average	228	73.45	9.44	
	high	156	79.36	8.33	
Enrichment	Low	109	68.94	12.27	35.93*
	Average	229	72.85	10.01	
	high	156	79.40	9.17	

Belief: F(2, 485)=31.61 (average>low, p=.002; high>low, p=.000; high> average, p=.000

Practice: F(2, 487)=41.65 (average>low, p=.008; high>low, p=.000; high> average, p=.000

Altruism: (2, 489)=33.62 (average>low, p=.008; high>low, p=.000; high> average, p=.000

Enrichment: (2, 491)=35.93 (average>low, p=.003; high>low, p=.000; high> average, p=.000

*p<.001

Respondents were asked to indicate the strength/ frequency of the described aspect in each item on a 5-point scale (e.g., *I believe that Koran relieves pain and disease*: 1= *not at all*, 5 *extremely*; *I try to learn by heart some Koranic Verses:* 1= *not at all*, 5 *always*). Furthermore, 19 items were worded in the opposite direction and, thus reverse-scored prior to data analyses.

In order to ensure that each subscale effectively distinguishes between subjects with high, average, and low commitment to religion, we used an additional item in which each subject rated his own Religious commitment (high, average, or low). Analysis of variance between the three groups confirmed the same pattern of response in which significantly high means were found in favour of the high, followed by average, and then low commitment group (Table 2). These results prove the discriminatory power of the religiosity measures and further comfort our comparisons. Correlations between the four categories were also positive and significant ($p<.001$), ranging from: .56 to .72.

b. Personal Wellbeing Index (PWI)

PWI (IWG 2006) has been proposed as a parsimonious measure of SWB. In this approach, PWI measures satisfaction with the eight broad domains that represent the first-level deconstruction of 'satisfaction with life as a whole'. These are: standard of living, personal health, achieving in life, personal relationships, personal safety, community connectedness, future security and spirituality/religiosity.

One of the advantages of this measure is that these domains are theoretically and empirically derived as the first-level deconstruction of the single item 'satisfaction with life as a whole'. Thus, each domain contributes unique variance to the prediction of this global construct (see manual for more details).

Previous uses of this Index in three large Algerian surveys, conducted on the basis of an 18-month interval since 2003 and totalling a sample of 6,886 subjects from general population (Tiliouine et al. 2006, 2009; Tiliouine 2009a) showed good sensitivity, validity and reliability. This has generally been found with samples from other countries, thus making the PWI suitable as a cross-cultural tool for the measurement of subjective wellbeing. In Australia, the PWI has a minimum Cronbach alpha value of .70. In this study, it is .74 and comparable to their equivalent in our previous surveys. Inter-item total correlations were positive and largely significant ($p<.001$), ranging between .46 and .67. All correlations between items were also positive and significant.

c. Satisfaction With Life Scale (SWLS)

Diener et al (1985) has proposed a general measure of overall satisfaction with life (SWLS) which has shown good psychometric qualities and a high validity and reliability. It is a 5-item measure of the cognitive component of SWB and has become a popular measure of life satisfaction (Vitterso et al. 2005). Respondents rate their degree of agreement with each item on a 7-point scale (1= *strongly disagree*, 7= *strongly agree*).

In the translation (from English into Arabic), we followed the standard method of forward and back-translation by four University teachers who worked independently. The final version was adopted after a discussion in a post hoc meeting.

Factor Analysis of the five items yielded one factor solution, explaining 44.56% of the variance. All items loaded beyond .56 on the factor, except the last item (.49).

Inter item-total correlations ranged from: .65 to .69. All correlations between items were positive and significant, ranging from .19 to .69. Conbach's Alpha is .67.

d. Presence of Meaning in Life (PML)

In measuring Meaning in Life, Steger et al (2006) developed two distinct measures: the 'Presence of Meaning' and the 'Search for Meaning'. They noticed that other existing measures have confounded these two dimensions. Here, we follow Samman (2007) who argues that the study of the presence of meaning is more important with relation to life satisfaction than the search for meaning if internationally comparable indicators are sought. Originally, the presence of meaning scale consists of five items, but the short-form used here contains three items only: 1. *My life has a clear sense of purpose;* 2. *I have a good sense of what makes my life meaningful; 3. I have discovered a satisfying life purpose* (Samman 2007, p. 3).

The items are rated by Steger et al. on a 7-point scale. Here, it has been replaced by an 11-point scale, ranging from 0 to 10.

Factor Analysis of the three items yielded one factor explaining 65.33 % of the variance, with loadings higher than .80. Inter-item total correlations are also high: .79, to .83 (correlations between items are: .47, .47 and .50). Cronbach's alpha is: .73.

Data Analyses

As suggested by Cummins et al. (2003), all measures scores were standardized into units of percentage of Scale Maximum (%SM) on a 0 to 100 distribution to facilitate comparability of the results, except SWLS in which the original 7-point scale was conserved.

Results

1- Table 3 displays means and SDs of the 60 items, as well as those of the identified subscales of religiosity. Only one item registered a result lower than the theoretical mean of 50, commitment to pray in a group or a mosque (46.59, SD26.67). The highest is refusing alcoholic drinks even for fun (96.39, SD14.29). These generally high means indicate that religiosity is ubiquitous in this sample.

It also is interesting to note that Religious Belief is the strongest subscale (86.03, SD 7.78), and the weakest is Enrichment of religious experience (74.06, SD11.01). This indicates that fewer people strive to improve their knowledge and religious experiences (Table 3).

2- Testing for the contribution of religious domains in PML resulted in two significant predictors: Belief (p=.004), and Altruism (p=.02) (Table 4).

Additionally, comparisons between self-ratings of commitment to religion (a single item) indicate that subjects with high commitment score significantly higher in PML and SWLS. Average and low commitment groups only do not significantly

Table 3 Items and subscales means, SDs and item-subscale total correlations

Domain	Items	N	Mean	SD	Item-subscale total correlations
Belief	I believe in God	493	89. 70	15.28	.42
	Prophets' life stories inspire me in my life	494	64.74	18.79	.50
	Life events strengthen my belief in *Destiny*	494	90.61	15.37	.49
	Rewards of Paradise encourage me to do good doings	494	93.40	12.97	.50
	Existence of Hell leads me to avoid wrong-doings	494	84.98	16.52	.59
	I often forget the punishment of Hell[a]	494	73.52	23.80	.41
	I often remember the Judgment Day	494	85.30	16.91	.59
	I believe in Apocalypse Signals	494	94.33	11.96	.36
	I love the Prophet Mohammed	493	95.78	10.28	.44
	I take the Prophet as a model in life	493	80.45	18.45	.67
	The Prophet Companions' way of life inspires me	493	69.61	19.61	.64
	I rely on God's help in hard times	495	93.98	12.54	.50
	I see marriage as a religious duty	494	84.94	17.60	.33
	I fear all that offend God[a]	495	91. 80	12.78	.49
	I feel discomfort when missing worship time (such as prayers)[a]	495	85.62	19.05	.48
	Koran relieves pain and disease	494	94.98	11.84	.39
	Feel God's presence on my side[a]	495	89.17	15.45	.46
		488	86.03	7.78	
Practice	Dress in accordance with religion	494	74.09	21.89	.63
	Physical apparel (hair style…) in accordance with religion	494	73.56	22.86	.56
	Say '*Shahada*' before going to sleep	495	87.68	16.27	.36
	Imitate the '*Sunna*' in food and drinks taking	495	82.11	17.35	.46
	All possessions *Halal* (acquire properties in a religiously *legal* way)	495	94.14	14.91	.34
	I take Alcoholic drinks for fun[a]	495	96.53	13.92	.30
	I do not take others' property without permission even close relationships	495	85.54	23.52	.38
	Ask God's pardon for wrong sayings or lies	495	88.73	16.39	.43
	Do not gamble even for fun	495	72.16	32.17	.40
	Choose my words in order not to be *impious* (bad)	493	82.76	19.52	.49
	Recite some traditional prayers	494	76.92	20.63	.53
	Avoid sexual relationships out of marriage	495	91.56	17.09	.50
	Begin work on the name of God	494	87.81	13.88	.40
	Average no. of voluntary prayers[a]	495	51.07	18.40	.47
	Average no. of prayers on time[a]	495	72.97	19.48	.54
	Committed to prayers in groups or Mosque[a]	495	51.03	19.64	.38
	Weekly hours studying Koran[a]	495	46.46	26.58	.51
	Voluntary fasting other than Ramadan[a]	495	64.48	26.11	.41

Table 3 (continued)

Domain	Items	N	Mean	SD	Item-subscale total correlations
	Mecca pilgrimage	495	67.43	14.78	.42
	Avoid watching 'nudes' movies even when alone[a]	495	77.66	23.10	.42
		490	76.22	8.96	
Altruism	Obedient to parents (for religious reasons)	494	90.61	13.81	.45
	Pay visits to relatives as a religious duty	495	72.16	20.72	.47
	Avoid mixing with opposite sex	494	72.23	24.29	.46
	Avoid swearing by God's name	495	70.34	19.83	.43
	Prefer to deal with people whose religious commitment high	495	70.02	22.33	.56
	Care about neighbours and their wellbeing	495	77.09	21.44	.59
	Advise others to do good and avoid sin[a]	495	76.16	17.65	.53
	Give away Charity as religious duty[a]	495	71.72	19.68	.48
	Tolerate others for God's sake[a]	495	76.65	20.74	.49
	'Spy' others[a]	494	75.75	18.69	.36
	Greeting others even strangers	495	69.66	24.14	.52
	Help people in their difficulties for God's sake	495	73.05	20.76	.54
		492	74.60	10.01	
Enrichment	Read/Listen to Prophets' biography	494	64.57	16.49	.50
	Watch/ listen or attend religious meetings	495	65.74	18.56	.69
	Read/ listen to Koran	495	75.43	17.80	.68
	Recite some Koranic verses when beginning work	495	75.47	20.53	.52
	Try to learn by heart some Koranic verses	495	75.64	19.89	.66
	Read Prophet's Sayings	495	67.68	19.70	.71
	Avoid listening to songs written in *impious* words	495	79.39	25.84	.43
	Weekly time watch/read/listen religion[a]	495	53.17	18.86	.61
	Seek relief from God when anxious/sad[a]	495	89.17	16.52	.53
	Ask for advise or read religious books in order to clarify matters in my life[a]	495	76.73	19.95	.61
	Enjoy listening to Koran[a]	495	91.64	14.63	.45
		494	74.06	11.01	

All correlations are significant ($p<.001$)

[a] Reverse-scored items

differ in meaning in life (Table 5). This means that students with high religious commitment display higher levels in both satisfaction with life and presence of meaning in their lives.

3- In order to determine whether the strength of religiosity and the PML contribute in SWL and PWB, hierarchical regression analyses results are displayed in Table 6.

Table 4 Regression analysis of self-assessed religious commitment on the presence of meaning in life

	B	β	part
Belief	.473**	.173	.124
Practice	.223	.094	.062
Altruism	.273*	.128	.097
Enrichment	.032	.016	.010
	R^2=.122		
	Adj. R2=.114		

** p<.005, *p<.05

It is notable that a similar pattern of results is found in both SWL and the PML scales. Only religious belief makes a significant contribution in each of them. But, this effect has almost totally been accounted for by Meaning in life in the second step of the regression. Thus, the presence of meaning in life is the strongest predictor of both constructs: SWL and PWI.

4- The demographic character of the measures is as follows:

Gender

- *Males* (76.33, SD10.31) *scored marginally higher means than females* (73.73, SD 9.76) in Religious Altruism t(490)=2.74, p<.05).
- Females (4.45, SD1.17) have significantly higher means than men (4.20, SD1.17) in SWLS: t(492)=2.24, p<.05). In both sexes, the means in satisfaction with life are much lower than those reported in samples from developed countries (Vitterso et al. 2005).

No significant differences are noticed on other measures.

Table 5 Comparisons between religious commitment groups in satisfaction with life (SWLS) and the presence of meaning in life (PML)

		N	Mean	SD	F
SWLS	high	156	4.70	1.09	14.79***
	average	229	4.35	1.18	
	Low	109	3.93	1.16	
	Total	494	4.36	1.18	
PML	high	157	76.58	17.62	5.78**
	average	228	70.66	21.19	
	Low	108	68.46	24.51	
	Total	493	72.06	21.13	

-SWLS: F(2, 491)=14.79 (High>average, p=.008; High>low, p=.000; average>low, p=.004)

-PML: F(2, 490)=5,78 (high>average, p=.01; High>low, p=.005)

***p<.001; **p<.005; *p<.05

Table 6 Hierarchical regression of religiosity subscales, and meaning in life (PML) on personal wellebeing index (PWI) and on satisfaction with life

		SWLS			PWI		
		B	β	ΔR^2	B	β	ΔR^2
Step 1	1. Religious belief	.02*	.136	.057	.354**	.173	.068
	2. Practice	.015	.114		.166	.093	
	3. Altruism	.012	.104		.061	.038	
	4. Enrichment	00	−.087		00	−.007	
Step 2	1. Religious belief	.011	.076	.163	.17	.85	.283
	2. Practice	.001	.082		.087	.49	
	3. Altruism	.007	.059		00	−.024	
	4. Enrichment	.00	−.092		00	−.020	
	5. Meaning	.019***	.347		.371***	.496	
				R2=.163			R2=.283
				Adjusted R^2=.154			Adjusted R^2=.276

***p<.001; **p<.005; *p<.05

Type of study

Students of science reported higher ratings for both Belief and Practice subscales (p<.05). PML and SWLS also favour science students (p<.05) (Table 7)

Location

Differences concern Practice favouring rural compared to urban (p=.005); Altruism, favouring respectively rural compared to urban (p. 000) and semi-urban (p=.008), Enrichment, favouring semi-urban to urban (p=.006), and PWI favouring respectively semi-urban and urban to rural (both p=.04) (Table 8).

Family income

No significant differences are registered between income groups in religiosity subscales, but they differ respectively in measures of PML, SWLS, and PWI. In the three cases results generally favour people from higher income families (Table 8).

Discussion

The present study attempts to extend the body of existing research in many ways: through improving the measurement of Islamic religiosity and also through examining the associations between this latter, meaning in life, and both aspects of subjective wellbeing: a cognitive one (satisfaction with life), and a basically affective one (personal wellbeing).

Table 7 Comparisons between arts and science students in religiosity subscales, presence of meaning in life (PML), and satisfaction with life scale (SWLS)

Scale	Type of study	N	Mean	SD	t
Religious belief	Science	265	86.74	7.78	2.21*
	Arts	223	85.18	7.72	
Religious practice	Science	266	76.98	8.73	2.04*
	Arts	224	75.33	9.16	
Altruism	Science	268	74.88	10.30	.67
	Arts	224	74.27	9.68	
Enrichment	Science	270	74.38	11.32	.71
	Arts	224	73.67	10.63	
Presence of meaning in life PML	Science	269	74.11	20.89	2.37*
	Arts	224	69.60	21.2	
SWLS	Science	270	4.47	1.18	2.28*
	Arts	224	4.23	1.18	

* $p<.05$

1. Generally, the high means in the overwhelming majority of religiosity items confirm that religiosity is ubiquitous in Algerian samples (Tiliouine et al. 2009). This is not surprising as in mainstream Muslim societies religiosity continues to be socially highly desirable. Religion is omnipresent throughout Muslims' lives. They are required to execute religious duties very often: 1) pray five times a day, 2) go to Friday noon group prayers in a mosque each week, 3) fast a full month, 4) give away alms as charity on savings and some property at least each year, and 5) complete a Mecca pilgrimage at least once in one's lifetime. Besides, religion is omnipresent is the socialization and education of children and youths. Particular festivities or celebrations and rituals reinforce these processes. Nonetheless, one should not equate the strength of Islamic attachments or the degree of religious piety among ordinary Muslims with the likelihood of holding extremist political views. Such a popular stereotype is largely challenged by researchers (Tessler 2003, for a review).
2. With regard to the question of: Does Islamic religiosity provide meaning in life? Two religious domains have been found to significantly contribute in meaning in life: Belief and Altruism. It is plausible that belief is the first predictor because it provides a framework with which to make sense of one's life (Morgan and Fastides 2009a, b). Altruism is also important because engaging in social relationships can be a valuable source of feelings of belongingness, and hence meaning. Neither practice nor enriching religious experiences significantly provide meaning, maybe because such activities are usually left to an older age. Tiliouine et al. (2009) found that youngest people (aged 18 to 25) are some 12 percentage points less than the oldest in religious practice. So, it would be interesting if future studies clarify how religiosity is experienced in a lifespan.

Table 8 Comparisons between location and family income groups in religiosity subscales, presence of meaning in life (PML), personal wellbeing index (PWI) and satisfaction with life scale (SWLS)

	Scale		N	Mean	SD	F
Location	Religious Belief	Urban	106	86.08	8.35	1.37
	Religious Practice	Semi-urban	93	87.17	6.99	5.76**
		rural	289	85.64	7.80	
		Urban	107	78.23	8.92	
	Altruism	Semi-urban	94	77.35	8.28	10.74***
		rural	289	75.11	9.04	
		Urban	107	77.57	8.63	
	Enrichment	Semi-urban	95	76.40	8.59	5.94**
		rural	290	72.92	10.58	
		Urban	107	75.50	11.04	
	PML	Semi-urban	95	76.65	9.24	
		rural	292	72.68	11.34	
		Urban	107	73.02	20.79	.14
	PWI	Semi-urban	96	71.87	18.54	
		rural	290	71.77	22.10	
		Urban	106	62.46	16.43	3.68*
	SWLS	Semi-urban	96	67.86	14.18	
		rural	290	66.75	15.93	
		Urban	107	4.14	1.05	2.75
		Semi-urban	95	4.36	1.08	
		rural	292	4.46	1.24	
Family income	Religious belief	Low	67	86.04	8.30	1.64
		Average	337	86.37	7.44	
		High	84	84.65	8.61	
	Religious	Low	66	76.06	9.68	.83
	Practice	Average	341	76.53	8.75	
		High	83	75.12	9.26	
	Altruism	Low	67	75.35	10.73	.29
		Average	342	74.39	9.90	
		High	83	74.88	10.00	
	Enrichment	Low	67	73.92	12.49	1.12
		Average	343	74.47	10.50	
		High	84	72.47	11.76	
	PML	Low	67	65.02	25.09	5.95**
		Average	342	72.28	20.55	
		High	84	76.79	18.66	
	PWI	Low	67	56.31	18.11	20.67***
		Average	342	66.45	15.15	
		High	83	72.20	12.65	

Table 8 (continued)

Location	Scale		N	Mean	SD	F
	Religious Belief	Urban	106	86.08	8.35	1.37
	SWLS	Low	67	3.57	1.30	21.60***
		Average	343	4.43	1.09	
		High	84	4.74	1.14	

*** $p<.001$, ** $p<.005$, * $p<.05$

Location: *Religious Practice*: rural>urban, $p=.005$; *Altruism*: rural>urban, $p=.000$; semi-urban>rural, $p=.008$; *Enrichment*: semi-urban>urban, $p=.006$; PWI: semi-urban>rural, $p=.04$; urban>rural, $p=.04$; *SWLS*: urban>rural, $p=.05$

Family Income: *PML*: average>low, $p=.03$; high>low, $p=.002$; *PWI*: average>low, $p=.000$; high>low, $p=.000$; *SWLS*: average>low, $p=.000$; high>low, $p=.000$

However, the finding that higher religious commitment is generally accompanied with higher satisfaction and presence of meaning in life (Table 5) reinforces the hypothesis that religion does provide those committed to it with a frame reference and guidelines that positively affect their way of life.

3. The presence of meaning is confirmed as a good contributor in boosting PWI which is consistent with findings among college students in the United States (Zika and Chamberlin 1992). This effect is weaker in satisfaction with life maybe because of the interaction with the objective deficiencies in living conditions in a basically developing country.
4. Many variations have been detected amongst the different demographic groups in approaching religiosity and feelings of wellbeing and meaning with varying effects of gender, academic discipline, urban/rural residence and level of income.

Unexpectedly, men score higher than women in religious altruism ($p<.05$). This particular result is in opposition with Tiliouine et al. (2009) findings with general population. But again the young age of the sample may account for this difference. In the aforementioned research youngest people (aged 18–25) registered the lowest scores in Religious Altruism.

Nevertheless, one should bear in mind that women are generally found to be more satisfied with their religiosity than men (Tiliouine 2009b and Wills 2009 with Catholics). Abdel-Khalek and Naceur (2007) with a group of 244 Algerian students also found higher means in females in answering the question: What is your level of religiosity in general? The female gender-bias in our research sample (two thirds are women) presents the need for an extensive investigation of the gender invariance of religiosity measures in the future.

Furthermore, women express higher levels of satisfaction with life. This is generally consistent with previous surveys (Tiliouine et al. 2006; Tiliouine 2009b; Abdel-Khalek and Naceur 2007) and maybe because they are more expressive than males.

5. Unexpectedly, Science students seem to show more conformism with regard to religion as they have higher scores in both religious belief and practice than

Arts' students ($p<.05$). The dominating teaching methods and the fostered relation to science in Algerian education may explain these differences. As empirically-oriented researchers, science students are taught to make verifiable tests. Speculation about abstract possibilities is less emphasized in their training and development. As eye witnesses, it seems to us that scientific subjects are taught as certainties and critical thinking is not as valued as it should be among the students. They seem to extend this approach to social and religious issues.

Furthermore, Science students are more satisfied with life. One explanation of this is that holders of degrees in Sciences are highly valued in the society, and expect more promising careers than their counterparts who generally fall victims to unemployment. Moreover, their higher reported levels of PML could be attributed to their stronger religious attachment.

6. Interestingly, students from rural areas are more attached to religion. Maybe because in those areas, which have a basically an agro-pastoral economic life, traditionalism is strong. With relation to PWI, it has already been found that generally people with university education have higher PWI than other population groups in Algeria, which is in accordance with international literature (Tiliouine et al. 2006; Tiliouine 2009a). Beyond this, it is found here that students from rural areas have marginally lower PWI scores. This could be explained by the palpable disparities between rural and urban areas in the country as in the majority of developing countries. They lack basic necessities both in terms of infrastructure and life commodities.
7. The result that no difference in religiosity is attributable to income confirms earlier findings with the general population of Algeria (Tiliouine et al. 2009). Similar results were also registered with respect to higher SWB, and SWL scores in favour of high income groups. Previous findings around the world agree that this trend holds in people with low income from Developing Countries. Maybe because money availability helps one overcome everyday life pressures which are basically a consequence of underdevelopment. However, the association between low income and low PML scores in such contexts is problematic. Further research is hoped to reveal the role played by economic factors in cultivating meaning in life. It should also try to differentiate between meaning in life and levels of economic and social development.

Limitations and Suggestions for Future Research

Our research has several limitations. Firstly, the sample has a 2:1 ratio of females to males. Secondly, it is also important to consider how the sample's relatively young age (Mean 21.26, SD2.30) and the respondents' limited experience in life could have affected the association of religiosity scales with meaning in life. It is possible that in older age cohorts the association would be even stronger. However, this is an empirical question to be answered in future studies. Thirdly, Algeria has recently experienced harsh instability due to a terrorist insurgency. Fundamentalists identify themselves as being dedicated to pure Islam, of which they stood in defense. This situation created vivid discussions over the role of religion in various domains of life

including the political scene. Such a situation may have effects on the results of the study. Finally, with the exception of religiosity measures, all other scales have been translated from English into Arabic. Translation may limit conveying the exact equivalent meanings of the items. It therefore would prove interesting to diversify research techniques in order to overcome such possible limitations.

Finally, this paper contributes to filling a big gap in the measurement of religiosity, through presenting an alternative measure of Islamic religiosity. The approach followed in the construction of CMIR has been fruitful. We relied heavily on our previous work (Tiliouine et al. 2009), basic religious textbooks, and advice of experts in Islamic studies. In its present format, CMIR looks to be a comprehensive and a valid alternative, but contains many items (60 items). Future research should pare it down using samples from other Muslim populations. Furthermore, our finding that the strength of Islamic religion lies in the provision of meaning in life to its followers may be challenging and needs further exploration.

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