Research article
Ερευνητική εργασία

Religiosity dimensions and subjective health status in Greek students

K.T. Kioulos,[1] J.D. Bergiannaki,[1] A. Glaros,[2] M. Vassiliadou,[1] Z. Alexandri,[3] G. Papadimitriou[1]

[1]1st Department of Psychiatry, University of Athens, Medical School, Eginition Hospital, Athens, [2]Department of Social Theology, Faculty of Theology, University of Athens, [3]Psychologist, Athens, Greece

Psychiatriki 2015, 26:38–44

The quest for existential meaning constitutes a universal phenomenon traditionally manifested in official religions (religiosity) or personal modes of transcendence (spirituality). Religiosity and spirituality have been found to be associated with a variety of mental health and illness parameters. In the last decades there is an increasing number of publications with interesting results on the relationship between religiosity and mental health, both on a theoretical and a clinical level. Recent research suggests the presence of clinically important interactions between religious beliefs and mental health, although the exact nature of the associations remains unclear. The aim of the present study is to investigate subjective health status in relation to specific dimensions of religiosity and spirituality in Greek students; 202 students of the faculty of Theology of the University of Athens were interviewed using the Brief Multidimensional Measurement of Religiousness/Spirituality (BMMRS), which assesses the dimensions of "daily spiritual experiences", "meaning", "values/beliefs", "forgiveness", "private religious practices", "religious/spiritual coping", "religious support", "religious/spiritual history", "commitment", "organizational religiousness", and "religious preferences". Subjective health status was measured by the General Health Questionnaire (GHQ-28) which examines four areas of health in the following sub-scales: (a) somatic symptoms, (b) anxiety and insomnia, (c) social dysfunction and (d) severe depression. Pearson correlations coefficients and linear regression analyses were used to estimate the associations of GHQ-28 subscales with religiosity dimensions. High scores in each dimension of BMMRS corresponded to a low level of religiosity. The dimension of "daily spiritual experiences" was positively correlated with the subscales of anxiety/ insomnia, social dysfunction and severe depression, while the dimension of "values/beliefs" with social dysfunction and severe depression and the dimension of "forgiveness" with all GHQ-28 subscales. The "organizational religiousness" dimension was positively correlated with anxiety/ insomnia, while overall self-ranking with social dysfunction and severe depression. Additionally, the dimension of "meaning" had a negative correlation with somatic symptoms. Moreover, in the multiple linear regression analyses, "meaning" was independently negative associated with somatic symptoms (p=0.032), whilst "daily spiritual

experiences" were positively associated with anxiety/insomnia (p=0.023). Also, "values/beliefs and the overall self-ranking were positively associated with social dysfunction (p=0.026), (p=0.01) and "daily spiritual experiences", "values/beliefs", "forgiveness", as well as the overall self-ranking with severe depression (p=0.03), (p=0.01), (p=0.017), (p=0.009). Certain religiosity dimensions ("daily spiritual experiences", "values/beliefs", "forgiveness" and "organizational religiousness") were correlated with lower morbidity, in accordance to previous reports in different populations, whereas "meaning" was correlated with more somatic symptoms.

Key words: Religiosity, spirituality, mental health.

Introduction

Religion is an organized system of beliefs, practices, rituals and symbols designed to facilitate closeness to the sacred or transcendent (God, higher power, or ultimate truth/reality) and to foster an understanding of one's relationship and responsibility to others in living together in a community.[1] Religiosity is defined as the level of involvement and the personal significance that the subject invests in a given religion. Religiosity is a description of the extent and depth to which a person holds the beliefs of his/her religion.[2] Spirituality is the personal quest for understanding answers to ultimate questions about life, meaning and relationship to the sacred or transcendent, which may (or may not) lead to or arise from the development of religious rituals and the formation of community.[1]

Religion continues playing an important role in the lives of many people. Recent research suggests the presence of clinically important interactions between religious beliefs and mental health, although the exact nature of the associations remains unclear. Psychiatry has been biased against taking full account of this for many possible reasons, but this seems to be changing in the last decades.[3]

Most of previous research has operationalized psychological health and well-being in terms of low scores on a variety of non-diagnostic measures of depression and anxiety and only a small number of studies have examined the relationship between indices of religiosity and mental health employing the General Health Questionnaire (GHQ). This is somewhat surprising as the family of GHQ measures is much favored in health, epidemiology, and clinical psychology in order to detect minor psychiatric disturbances in community or non-psychiatric clinical settings.[4] The aim of the present study is to investigate subjective health status in relation to specific dimensions of religiosity-spirituality in Greek students in order to extend the research base in this area to the Greek Christian Orthodox tradition.

Material and method

Our sample consisted of 202 students attending the second year of the department of Social Theology of the University of Athens. They were interviewed using the Brief Multidimensional Measurement of Religiousness/Spirituality (BMMRS), which assesses the dimensions of "daily spiritual experiences", "meaning", "values/beliefs", "forgiveness", "private religious practices", "religious/spiritual coping", "religious support", "religious/spiritual history", "commitment", "organizational religiousness", and "religious preferences".[5] A team of researchers supported by the Fetzer Institute and the National Institute on Aging has developed this questionnaire which is one of the best-recognized in the field of health and religiosity. It was translated into Greek according to the WHO guidelines and the recommendations of the Trust Scientific Advisory Committee (forward and backward translations, review of translated versions and revision by experts etc).[6,7] Subjective health status was measured by the General Health Questionnaire (GHQ-28) which is a well known self-report measure of common psychiatric symptoms widely used to identify short term changes in mental health and is often used as a screening instrument for detecting mental disorders in clinical and non-clinical populations.[8] The instrument examines four areas of health in the following sub-scales: (a) somatic symptoms, (b) anxiety and insomnia, (c) social dysfunction and (d) severe depression. The questions were rated on a Likert scale of 0-1-2-3.

Psychometric properties of the 28-item Greek version are reported as satisfactory.[9] Quantitative variables are presented with mean and standard deviation (SD). Qualitative variables are presented with absolute and relative frequencies. Pearson correlations coefficients were used to explore the association of two continuous variables. Linear regression analyses were used to estimate the associations of GHQ-28 subscales with religiosity dimensions after adjusting for sex, age, family status, number of family members, living alone, with others or with family and place of birth. Each religiosity dimension was examined separately in the linear regression model because model diagnostics with two or more dimensions in the models indicated that the regression estimates were highly collinear. Regression coefficients and standard errors were computed from the results of the linear regression analyses. All reported p values are two-tailed. Statistical significance was set at $p<0.05$ and analyses were conducted using SPSS (version 19.0).

Table 1. Sample characteristics

	n (%)
Sex	
Women	131 (64.9)
Men	71 (35.1)
Age (years), mean±SD	22.5 (4.9)
Married	
No	170 (91.9)
Yes	15 (8.1)
Lives with:	
Alone	36 (20.1)
Family	133 (74.3)
Others	10 (5.6)
No of family members, mean±SD	4.4 (1.3)
Place of birth	
Urban	125 (65.8)
Rural	51 (26.8)
Other country	14 (7.4)

Results

The mean age of the 202 participants was 22.5 years (SD=4.9 years), whilst 71 of them were men (35.1%) and 131 women (64.9%). Sample characteristics are presented in table 1. Most of the participants lived with their family (74.3%) and 91.9% were single. Bivariate associations of GHQ-28 subscales with religiosity dimensions are shown in table 2. The dimension of "daily spiritual experiences" was correlated with the subscales of anxiety/insomnia, social dysfunction and severe depression. The dimension of "values/beliefs" was correlated with social dysfunction and severe depression. Also, the dimension of "forgiveness" was correlated with all GHQ-28 subscales. The "organizational religiousness" dimension was correlated with anxiety/insomnia, while overall self-ranking was correlated with social dysfunction and severe depression. On the contrary, the dimension of "meaning" had a negative correlation with somatic symptoms. Multiple linear regression analyses were conducted with dependent variables the GHQ-28 subscales. After adjusting for demographics (sex, age, family status, number of family members, living alone, with others or with family and place of birth) it was found that the dimension of "meaning" was independently negative associated with somatic symptoms and the dimension of "daily spiritual experiences" was positively associated with anxiety and insomnia symptoms (table 3). Also, the dimension of "values/beliefs" and the overall self-ranking were positively associated social dysfunction and the dimensions of "daily spiritual experiences", "values/beliefs", "forgiveness", as well as the overall self-ranking were associated with severe depression (table 4).

Discussion

In order to comprehend the above findings it is essential to have in mind that high scores in the dimensions of religiosity corresponded to a low level of religiosity and high scores in the GHQ-28 subscales corresponded to high morbidity. In our study certain religiosity dimensions ("daily spiritual experiences", "values/beliefs", "organizational religiousness" and overall self-ranking) were correlated with specific subscales of GHQ-28 and "forgiveness" with all subscales, with the exception of the "meaning" dimension which was negatively correlated with somatic symptoms. In the multiple linear regression analyses "meaning" was independently negative associated with somatic symptoms, but on the other hand, "daily spiritual experiences" are independently associated with anxiety and insomnia symptoms, "values/beliefs" and the overall self-ranking are independently

Table 2. Pearson's correlation co-efficients of GHQ-28 subscales with religiosity dimensions.

	GHQ-28			
	Somatic symptoms	*Anxiety/ insomnia*	*Social dysfunction*	Severe depression
Daily spiritual experiences	0.05	0.21**	0.15*	0.22**
Values/Beliefs	–0.08	0.05	0.15*	0.20**
Forgiveness	0.16*	0.17*	0.17*	0.28***
Private religious practices	0.00	0.10	0.00	0.11
Religious/Spiritual coping	–0.14	–0.04	0.09	0.08
Religious support	0.04	0.10	–0.04	0.11
Religious/Spiritual history	0.02	0.13	0.02	0.11
Commitment	0.03	0.08	0.11	0.14
Organizational religiousness	0.09	0.22**	0.00	0.13
Overall self-ranking	0.02	0.12	0.24**	0.21**
Meaning	–0.15*	0.03	0.11	0.02

*p<0.05, **p<0.01, ***p<0.001

Table 3. Multiple linear regression models: regression coefficients±standard errors for somatic symptoms and Anxiety/Insomnia subscales.

	Somatic symptoms		*Anxiety/insomnia*	
	β±SE*	*p*	*β*±SE*	*p*
Daily spiritual experiences	0.26±0.36	0.475	0.91±0.4	**0.023**
Values/Beliefs	–0.48±0.71	0.499	0.66±0.78	0.398
Forgiveness	0.79±0.7	0.260	1.05±0.77	0.175
Private religious practices	0.06±0.3	0.829	0.35±0.33	0.286
Religious/Spiritual coping	–1.19±0.82	0.153	–0.23±0.94	0.810
Religious support	0.12±0.53	0.826	0.46±0.6	0.446
Religious/Spiritual history	–0.12±1.29	0.926	1.83±1.43	0.203
Commitment	0.29±0.56	0.602	0.47±0.63	0.460
Organizational religiousness	0.21±0.33	0.538	0.60±0.38	0.117
Overall self-ranking	–0.22±0.57	0.704	0.53±0.64	0.407
Meaning	–1.18±0.54	**0.032**	0.14±0.61	0.819

*Adjusted for sex, age, family status, number of family members, living alone, with others or with family and place of birth

associated to social dysfunction and "daily spiritual experiences", "values/beliefs", "forgiveness", as well as the overall self-ranking were independently associated with severe depression.

In the present study, most of the dimensions of religiosity were correlated with lower morbidity, with the exception of finding meaning. That is, the greater the religious meaning exhibited by the participants, the more bodily symptoms they displayed. Perhaps, this result could be interpreted with recourse to religion in order to find meaning in life ordeals.

The daily spiritual experiences seem to constitute a predictive factor for anxiety and insomnia, a finding similar to previous reports.[10–12] This dimension refers mainly to the subject's relationship to the transcendental in daily life, as it is hypostasized in experiences of unity, fulfilment, security, love and harmony. These feelings may play a protective role against psychological stress, and therefore are helpful in sustaining health and well-being.

Also, increased religiosity in general (overall self-ranking) seems to promote social functioning, a fact which could contribute to sustaining relation-

Table 4. Multiple linear regression models: regression co-efficients±standard errors for social dysfunction and severe depression subscales.

	Social dysfunction		*Severe depression*	
	β±SE*	*p*	*β*±SE*	*p*
Daily spiritual experiences	0.54±0.29	0.063	0.61±0.28	**0.030**
Values/Beliefs	1.25±0.55	**0.026**	1.40±0.54	**0.010**
Forgiveness	0.8±0.56	0.152	1.29±0.53	**0.017**
Private religious practices	0.04±0.24	0.868	0.30±0.23	0.187
Religious/Spiritual coping	0.76±0.67	0.260	1.16±0.65	0.077
Religious support	–0.45±0.43	0.297	0.49±0.42	0.240
Religious/Spiritual history	0.2±1.03	0.845	0.43±1.01	0.674
Commitment	0.55±0.45	0.223	0.88±0.46	0.086
Organizational religiousness	0.01±0.27	0.979	0.35±0.26	0.186
Overall self-ranking	1.17±0.45	**0.010**	1.16±0.44	**0.009**
Meaning	0.46±0.44	0.299	0.02±0.43	0.955

*Adjusted for sex, age, family status, number of family members, living alone, with others or with family and place of birth

ships, social interactions and a supportive social network.[13] Social support, defined as the feeling of belonging to a social network encompassing, accepting and offering tangible support to the individual, is considered to be an important factor maintaining health in general and mental health and well-being in particular.[14]

In the present study, forgiveness was independently associated with depression, which means that forgiveness may help prevent depressive symptoms. These results are consistent with a growing body of research supporting a positive association between forgiveness and lower levels of psychological distress and depression.[15–18]

A direct effect of forgiveness on depression may operate through rumination by involving such negative emotions as resentment, hatred, hostility, anger and fear.[19] Cognitive theory suggests that negative and often punitive thoughts about the self, such as worthlessness and guilt, are a key characteristic of depression.[20] An indirect effect may operate through mediating associations with distinct variables such as health behavior, interpersonal functioning and social support.[21] So, improvements in intrapersonal and interpersonal functioning, via forgiveness, may consequently affect risk for depression.[22]

In addition, daily spiritual experiences, strong religious values and increased religiosity in general may help prevent depressive symptoms. These findings are in accordance to previous reports in different populations.[23–25]

It is a fact that in some studies about religiosity and morbidity there were no statistically significant correlations,[26,27] but this could be caused by the misrecognition of crucial dimensions of religious experience as well as by the lack of sensitivity of the instruments measuring religiosity.[28] In any case, there is a growing bibliography foregrounding the relationship between religiosity and its various dimensions with low morbidity or mental well-being[29–31] and our findings support this conclusion. Further investigation could demonstrate possible interactions within the dimensions of religiosity and spirituality, as well as the way in which religiosity and situational factors might co-determine morbidity on an individual level.

Limitations

The population of our study was relatively homogeneous with respect to religiosity or health status. A non-clinical sample of young adults completing a measure of subjective health status is likely to result in limited variability for individual items which, in turn, can also attenuate the resulting correlations of interest. Furthermore, it is always important to consider that respondents reporting on religiousness and spirituality can be influenced by social desirability. Our self report, cross-sectional methodology precludes assessment of causality.

Διαστάσεις θρησκευτικότητας και υποκειμενική αξιολόγηση της υγείας σε Έλληνες φοιτητές

Κ.Θ. Κιούλος,[1] Ι.Δ. Μπεργιαννάκη,[1] Α. Γλάρος,[2] Μ. Βασιλειάδου,[1] Ζ. Αλεξανδρή,[3] Γ.Ν. Παπαδημητρίου[1]

[1]Α΄ Ψυχιατρική Κλινική, Ιατρική Σχολή Πανεπιστημίου Αθηνών, Αιγινήτειο Νοσοκομείο, [2]Τμήμα Κοινωνικής Θεολογίας, Θεολογική Σχολή Πανεπιστημίου Αθηνών, [3]Ψυχολόγος, Αθήνα

Ψυχιατρική 2015, 26:38–44

Η αναζήτηση υπαρξιακού νοήματος αποτελεί καθολικό και πανανθρώπινο φαινόμενο που βρίσκει την έκφρασή του μέσα από τις επίσημες θρησκείες ή την προσωπική «αναζήτηση». Η σύγχρονη έρευνα έχει αναδείξει ποικίλες συσχετίσεις μεταξύ της θρησκευτικότητας και παραμέτρων ψυχικής υγείας˙ 202 υγιείς φοιτητές του τμήματος Κοινωνικής Θεολογίας ΕΚΠΑ συμπλήρωσαν το Βραχύ Πολυδιαστατικό Ερωτηματολόγιο Θρησκευτικότητας-Πνευματικότητας (BMMRS) και το Ερωτηματολόγιο Γενικής Υγείας (GHQ-28). Οι μετρούμενες διαστάσεις της θρησκευτικότητας/πνευματικότητας είναι οι εξής: ημερήσιες πνευματικές εμπειρίες, αξίες/πεποιθήσεις, συγχωρητικότητα, ιδιωτικές θρησκευτικές πρακτικές, θρησκευτικοί/πνευματικοί τρόποι αντιμετώπισης, θρησκευτική υποστήριξη, θρησκευτικό/πνευματικό ιστορικό, δέσμευση, οργανωμένη θρησκευτικότητα, νόημα ζωής και θρησκευτική προτίμηση/συνολική αυτοαξιολόγηση. Το GHQ-28 είναι ένα αυτοσυμπληρούμενο ερωτηματολόγιο το οποίο χρησιμοποιείται για την ανίχνευση πρόσφατης (τελευταίες δύο εβδομάδες) ψυχικής νοσηρότητας και περιλαμβάνει 4 υποκλίμακες: σωματικά συμπτώματα, άγχος και αϋπνία, κοινωνική δυσλειτουργία, σοβαρή κατάθλιψη. Για τον έλεγχο της σχέσης δύο ποσοτικών μεταβλητών χρησιμοποιήθηκε ο συντελεστής συσχέτισης του Pearson. Η ανάλυση γραμμικής παλινδρόμησης με τη διαδικασία διαδοχικής ένταξης/αφαίρεσης χρησιμοποιήθηκε για την εύρεση ανεξάρτητων συσχετίσεων των διαστάσεων θρησκευτικότητας με τις υποκλίμακες GHQ-28. Πρέπει να υπογραμμισθεί πως χαμηλή βαθμολογία αντιστοιχεί σε υψηλή θρησκευτικότητα/πνευματικότητα σε όλες τις διαστάσεις του BMMRS. Όσο λιγότερες ήταν οι ημερήσιες πνευματικές εμπειρίες, τόσο περισσότερα ήταν τα συμπτώματα άγχους και αϋπνίας, κοινωνικής δυσλειτουργίας και κατάθλιψης. Ακόμη, όσο λιγότερες οι αξίες/πεποιθήσεις, τόσο περισσότερη η κοινωνική δυσλειτουργία και η κατάθλιψη καθώς και όσο λιγότερη ήταν η συγχωρητικότητα, τόσο περισσότερα ήταν τα συμπτώματα σε όλες τις υποκλίμακες του GHQ-28. Επιπλέον, όσο λιγότερη ήταν η οργανωμένη θρησκευτικότητα, τόσο περισσότερα ήταν τα συμπτώματα άγχους και αϋπνίας, ενώ όσο μικρότερη ήταν η συνολική αυτοαξιολόγηση, τόσο περισσότερη η κοινωνική δυσλειτουργία και η κατάθλιψη. Αντίθετα, όσο μεγαλύτερο νόημα ζωής βρίσκουν οι συμμετέχοντες στη θρησκεία, τόσο περισσότερα ήταν τα σωματικά τους συμπτώματα. Επιπροσθέτως, στην ανάλυση γραμμικής παλινδρόμησης, η υποκλίμακα των σωματικών συμπτωμάτων εξαρτάται αρνητικά από τη διάσταση «νόημα» (p=0,032), ενώ η υποκλίμακα του άγχους-αϋπνίας εξαρτάται θετικά από τη διάσταση «ημερήσιες πνευματικές εμπειρίες» (p=0,023). Επίσης, η υποκλίμακα της κοινωνικής δυσλειτουργίας εξαρτάται θετικά από τη διάσταση «αξίες/πεποιθήσεις» (p=0,026) και τη συνολική αυτοαξιολόγηση (p=0,01), ενώ η υποκλίμακα της κατάθλιψης εξαρτάται θετικά από τις διαστάσεις «ημερήσιες πνευματικές εμπειρίες» (p=0,03), «αξίες/πεποιθήσεις» (p=0,01), «συγχωρητικότητα» (p=0,017) και τη συνολική αυτοαξιολόγηση (p=0,009). Ορισμένες διαστάσεις θρησκευτικότητας-πνευματικότητας (ημερήσιες πνευματικές εμπειρίες, αξίες/πεποιθήσεις, συγχωρητικότητα και οργανωμένη θρησκευτικότητα) συσχετίζονται με χαμηλότερη νοσηρότητα, ενώ η διάσταση «νόημα ζωής» με περισσότερα σωματικά συμπτώματα.

Λέξεις ευρετηρίου: Θρησκευτικότητα, πνευματικότητα, ψυχική υγεία.

References

1. Koenig HG, McCullough ME, Larson DB. Handbook of Religion and Health. Oxford University Press, New York, 2001:18
2. Meador KG, Koenig HG. Spirituality and religion in psychiatric practice: Parameters and implications. *Psychiatr Annals* 2000, 30:549–555
3. Neeleman J, Persaud R. Why do psychiatrists neglect religion? *Br J Med Psychol* 1995, 68:169–178
4. Lewis CA, Shevlin M, Francis LJ, Quigley CF. The Association Between Church Attendance and Psychological Health in Northern Ireland: A National Representative Survey Among Adults Allowing for Sex Differences and Denominational Difference. *J Relig Health* 2011, 50:986–995
5. Fetzer Institute, National Institute on Aging Working Group. *Multidimensional Measurement of Religiousness, Spirituality for Use in Health Research*. A Report of a National Working Group. Supported by the Fetzer Institute in Collaboration with the National Institute on Aging. Kalamazoo, MI, Fetzer Institute, 2003
6. Sartorius N, Janca A. Psychiatric Assessment Instruments developed by the World Health Organization. In: Thornicroft G, Tansella M (eds) *Mental Health Outcome Measures*. Springer, Berlin, 1996:153–177
7. Scientific Advisory Committee of the Medical Outcomes Trust. Assessing health status and quality-of-life instruments: Attributes and review criteria. *Qual Life Res* 2002, 11:193–205
8. Goldberg DP, Hillier VF. A scaled version of the Gen. Health Questionnaire. *Psychol Med* 1979, 9:139–145
9. Garyfallos G, Karastergiou A, Adamopoulou A, Moutzoukis C, Alagiozidou E, Mala D et al. Greek version of the General Health Questionnaire: accuracy of translation and validity. *Acta Psychiatr Scand* 1991, 84:371–378
10. Brown KW, Levy AR, Rosberger Z, Edgar L. Psychological distress and cancer survival: a follow-up 10 years after diagnosis. *Psychosom Med* 2003, 65:636–643
11. Hart J. Spirituality and Health. *Alter Complement Ther* 2008, 14:189–193
12. Ross SM. Insomnia: An Integrative Approach to Stress-Induced Insomnia. *Hol Nurs Pract* 2011, 25:266–269
13. Koenig HG, Hays JC, George LK, Blazer DG, Larson D, Landerman LR. Modelling the cross-sectional relationships between religion, physical health, social support, and depressive symptoms. *Am J Geriatr Psychiatry* 1997, 5:131–144
14. Barrera M. Distinctions between social support concepts, measures and models. *Am J Community Psychol* 1986, 14:413–445
15. Ryan RB, Kumar VK. Willingness to forgive: Relationships with mood, anxiety and severity of symptoms. *Ment Health Relig Cult* 2005, 8:13–16
16. Toussaint LL, Williams DR, Musick MA, Everson SA. Forgiveness and health. Age differences in a US probability sample. *J Adult Dev* 2001, 8:249–257
17. Toussaint L, Webb J. Theoretical and empirical connections between forgiveness, mental health, and well-being. In: Worthington EL (ed) *Handbook of Forgiveness*. Brunner-Routledge, New York, NY, USA, 2005:349–362
18. Maltby J, Macaskill A, Day L. Failure to forgive self and others: a replication and extension of the relationship between forgiveness, personality, social desirability and general health. *Pers Individ Dif* 2001, 30:881
19. Berry JW, Worthington EL Jr, O'Connor LE, Parrott L 3rd, Wade NG. Forgivingness, Vengeful Rumination and Affective traits. *J Pers* 2005, 73:183–225
20. Beck AT, Brown G, Steer RA. Prediction of eventual suicide in psychiatric inpatients by clinical ratings of hopelessness. *J Consult Clin Psychol* 1989, 57:309–310
21. Temshok L, Wald RL. Forgiveness and health in persons living with HIV/AIDS. In: Worthington EL Jr (ed) *Handbook of Forgiveness*. Brunner-Routledge, New York, 2005:335–348
22. Overholser J. Cognitive-behavioral treatment of depression, part II: Techniques for improving social functioning. *J Contemp Psychother* 1995, 25:205–222
23. Smith TB, McCullough ME, Poll J. Religiousness and depression: evidence for a main effect and the moderating influence of stressful life events. *Psychol Bull* 2003, 129:614–636
24. Mofidi M, Devellis RF, Blazer DG, Devellis BM, Panter AT, Jordan JM. Spirituality and depressive symptoms in a racially diverse US sample of community-dwelling adults. *J Nerv Ment Dis* 2006, 194:975–977
25. Kalkstein S, Tower RB. The daily spiritual experiences scale and well being: Demographic comparisons and scale validation with older Jewish adults and a diverse internet sample. *J Relig Health* 2009, 48:402–417
26. Williams DR, Larson DB, Buckler RE, Heckmann RC, Pyle CM. Religion and psychological distress in a community sample. *Soc Sci Med* 1991, 32:1257–1262
27. O'Connor DB, Cobb J, O'Connor RC. Religiosity, stress and psychological distress: no evidence for an association among undergraduate students. *Pers Individ Dif* 2003, 34:211–217
28. Maltby J, Lewis CA, Day L. Religious orientation and psychological well-being: The role of the frequency of personal prayer. *Br J Health Psychol* 1999, 4:363–378
29. Ross CE. Religion and psychological distress. *J Sci Stud Relig* 1990, 29:236–245
30. Leslie J, Francis LJ, Robbins M, Lewis CA, Quigley CF, Wheeler C. Religiosity and general health among undergraduate students: a response to O'Connor, Cobb and O'Connor (2003). *Pers Individ Dif* 2004, 37:485–494
31. Jarvis GE, Kirmayer LJ, Weinfeld M, Lasry JC. Religious Practice and Psychological Distress: The Importance of Gender, Ethnicity and Immigrant Status. *Transcult Psychiatry* 2005, 42:657–675

Corresponding author: K.T. Kioulos, 1st Department of Psychiatry, University of Athens, Medical School, 14 Eginitou street, GR-115 28 Athens, Greece
Tel: (+30) 210-72 31 989
e-mail: porfurida@hotmail.com