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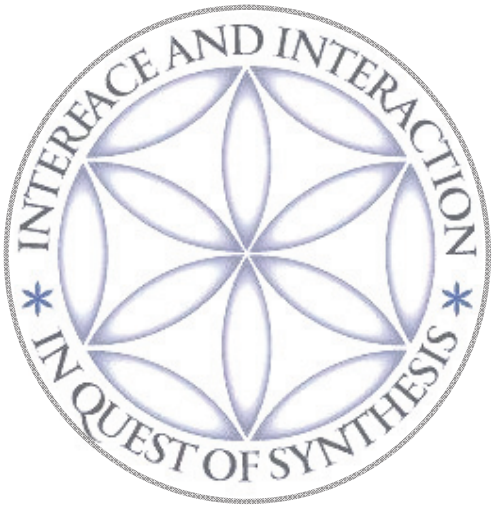

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Association Of The Religiosity Dimension Of Forgiveness To Psychopathology Measures In Greek Students

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Summary

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. **Material and method**: 202 healthy students of the faculty of Theology of the University of Athens were interviewed using the Brief Multidimensional Measurement of Religiousness/Spirituality, which assesses, among others, the dimension of "forgiveness". The scale is "inverted", i.e. high scores in the dimensions of religiosity correspond to a low level of religiosity. Symptom Checklist-90-R was used for the assessment of specific factors of present psychopathology. Pearson correlations coefficients were used to explore the association of two continuous variables. The association between forgiveness dimension and SCL-90 factors scores was modeled using multiple linear regression analyses. **Results:** There was significant positive correlation between the score of the dimension of "forgiveness" and interpersonal sensitivity, depression, anxiety, hostility, paranoid ideation, psychoticism, as well as the SCL-90 global score. Moreover, in the multiple linear regression analysis, "forgiveness" was independently associated with depression, hostility, paranoid ideation, psychoticism and the SCL-90 global score indicating that lower levels of forgiveness are associated with worse psychopathology related to the aforementioned factors. **Conclusion:** Lower level of forgiveness relates to higher scores in depression, interpersonal sensitivity, anxiety, hostility, paranoid ideation, psychoticism and the SCL-90 global score, suggesting more symptoms/complaints. In accordance to the existing literature, forgiveness appears to be an essential psychological distress buffer.

Introduction

Religion is an organized system of beliefs, practices, rituals and symbols designed a) to facilitate closeness to the sacred or transcendent (God, higher power, or ultimate truth/reality) and b) 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 to play 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].

Religious beliefs about the value of forgiveness can instigate the affective process of empathy and facilitate an altruistic behavior that helps preserve relationships and relieve offended parties of extended emotional distress. In this case, cultural beliefs promote an effective coping behavior that overrides powerful, automatic emotional reactions. Observations of the positive consequences of forgiveness have long provided sound experiential support for it, but only recently have psychologists begun to investigate the conditions that promote or discourage forgiveness and to formulate a theory about its action[4].

The aim of the present study is to investigate specific factors of psychopathology in relation to forgiveness as a dimension 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

Two hundred and two healthy 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". The scale is "inverted", i.e. high scores in the dimensions of religiosity correspond to a low level of religiosity. The dimension of "forgiveness", which was measured in this study, contains single items for forgiveness of self, forgiveness of others, and forgiveness by God[5]. The Symptom Checklist-90-Revised (SCL-90-R) was used for the assessment of specific clusters of present psychopathology and psychological distress. SCL-90-R is a 90-item self-report inventory designed to assess current levels of psychological symptoms and symptom patterns in samples ranging from "normal" individuals, through medical patients, to psychiatric patients[6]. Each item is a description of a psychological symptom and is rated by respondents on a five-point Likert scale (0 to 4) as having caused them no discomfort to extreme discomfort during the past week. Nine primary factors are represented: somatization, obsessive-compulsivity, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism.

Quantitative variables are presented with mean and standard deviation (SD). Qualitative variables are presented with absolute and relative frequencies. The association between "forgiveness" dimension and SCL-90 factors scores was based on Pearson correlations coefficients and it was modeled using multiple linear regression analysis. All models were adjusted for sex, age, marital status, number of family members and place of birth. Regression coefficients and standard errors were computed from the results of the linear regression analysis. All reported p values are two-tailed. Statistical significance was set at $p<0.05$ and analyses were conducted using SPSS (version 19.0).

Results

The sample consisted of 202 participants with mean age 22.5 years (SD=4.9 years); 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 8.1% were married. The mean score on "forgiveness" dimension was 1.9 (SD=0.5). Correlation coefficients of the SCL-90 scales with "forgiveness" are presented in Table 2. Univariate analysis showed a significant and positive correlation between the score of the "forgiveness" dimension and interpersonal sensitivity, depression, anxiety, hostility, paranoid ideation and psychoticism factors. Also, the correlation between SCL-90 global score with "forgiveness" dimension was significant (p=0.003). Results of the multiple linear regression analyses with SCL-90 factors as the dependent variables are reported in Table 3 and 4. Adjusting the analysis for demographics, the score for "forgiveness" was positively associated with depression, hostility, paranoid ideation, psychoticism and the SCL-90 global score, indicating that lower levels of forgiveness are associated with worse psychopathology related to the aforementioned factors. Furthermore, female gender was independently associated with somatization, anxiety and phobic anxiety, rural origin was associated with anxiety and age was negatively associated with hostility.

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)
Number of family members, mean±SD	4.4(1.3)
Place of birth	
Greece-Urban	125(65.8)
Greece-Rural	51(26.8)
Other country	14(7.4)

Table 2. *Pearson's correlation coefficients of SCL-90 scale scores with Forgiveness dimension*

	r	P
SCL-90		
Somatization	0.09	0.215
Obsessive-Compulsivity	0.14	0.052
Interpersonal sensitivity	0.17	**0.019**
Depression	0.21	**0.003**
Anxiety	0.15	**0.041**
Hostility	0.24	**0.001**
Phobic anxiety	0.09	0.191
Paranoid ideation	0.23	**0.001**
Psychoticism	0.23	**0.001**
Global score	0.21	**0.003**

Table 3. *Multiple linear regression models: regression coefficients ± standard error for Somatization, Obsessive-Compulsivity, Interpersonal sensitivity, Depression and Anxiety.*

	Somatization		**Obsessive-Compulsivity**		**Interpersonal Sensitivity**		**Depression**		**Anxiety**	
	β±SE	P	β±SE	P	β±SE	P	β±SE	P	β±SE	P
Sex										
Men,*(reference)*										
Women	0.27±0.11	**0.018**	0.05±0.13	0.688	0.07±0.13	0.559	0.23±0.13	0.083	0.33±0.12	**0.009**
Age (years)	0.02±0.01	0.086	-0.01±0.02	0.573	-0.02±0.02	0.253	-0.01±0.02	0.677	0±0.02	0.770
Married										
No,*(reference)*										
Yes	0.01±0.25	0.970	0.08±0.3	0.780	0.07±0.29	0.806	-0.1±0.29	0.726	0.11±0.28	0.697
No of family members	0.07±0.04	0.145	0.06±0.05	0.221	0.03±0.05	0.514	0.07±0.05	0.212	-0.01±0.05	0.841
Lives with:										
Alone,*(reference)*										
Family	0.05±0.16	0.741	-0.11±0.18	0.535	0.14±0.18	0.429	0.07±0.18	0.714	0.08±0.17	0.628
Others	-0.22±0.24	0.375	-0.36±0.29	0.206	-0.12±0.28	0.655	-0.16±0.28	0.566	0.02±0.27	0.937
Place of birth										
Urban,*(reference)*										
Rural	0.2±0.13	0.139	0.15±0.16	0.340	0.22±0.15	0.145	0.26±0.16	0.106	0.38±0.15	**0.012**
Other country	0.05±0.24	0.829	0.07±0.29	0.809	0.1±0.27	0.703	0.05±0.28	0.867	0.21±0.27	0.431
Forgiveness	0.14±0.10	0.140	0.13±0.11	0.265	0.14±0.11	0.207	0.24±0.11	**0.027**	0.06±0.11	0.562

Table 4. *Multiple linear regression models: regression coefficients ± standard error for Hostility, Phobic anxiety, Paranoid ideation, Psychoticism and global SCL-90 score*

	Hostility		**Phobic anxiety**		**Paranoid Ideation**		**Psychotism**		**Global Score**	
	β±SE		β±SE		β±SE		β±SE		β±SE	
Sex										
Men,*(reference)*										
Women	0.19±0.15	0.227	0.22±0.11	0.041	0.12±0.15	0.402	0.11±0.11	0.312	0.18±0.1	0.077
Age (years)	-0.03±0.01	**0.049**	0.01±0.01	0.566	-0.01±0.02	0.524	-0.02±0.01	0.177	-0.01±0.01	0.544
Married										
No,*(reference)*										
Yes	0.29±0.34	0.394	0.03±0.24	0.889	0.44±0.32	0.179	0.17±0.25	0.505	0.1±0.23	0.660
No of family members	0.02±0.06	0.806	0.03±0.04	0.434	0.06±0.06	0.270	0.06±0.04	0.159	0.04±0.04	0.275
Lives with:										
Alone,*(reference)*										
Family	-0.02±0.21	0.943	0.02±0.15	0.869	0±0.2	0.996	0.06±0.16	0.709	0.03±0.14	0.828
Others	-0.27±0.33	0.423	-0.11±0.23	0.624	-0.32±0.31	0.314	0.09±0.24	0.720	-0.17±0.22	0.450
Place of birth										
Urban,*(reference)*										
Rural	0.15±0.18	0.407	0.2±0.13	0.122	-0.03±0.17	0.847	0.2±0.13	0.143	0.2±0.12	0.103
Other country	-0.28±0.33	0.391	0.04±0.23	0.869	-0.45±0.31	0.149	0.12±0.24	0.609	0.04±0.22	0.862
Forgiveness	0.35±0.13	**0.008**	0.06±0.09	0.517	0.27±0.12	**0.031**	0.19±0.1	**0.049**	0.18±0.08	**0.030**

Discussion

In our study "forgiveness" was negatively correlated with many indices of psychological distress derived from the SCL-90-R. Those indices were interpersonal sensitivity, depression, anxiety, hostility, paranoid

ideation, psychoticism, as well as the SCL-90 global score, indicating that students who reported more tendencies for forgiveness of self, forgiveness of others, and forgiveness by God, are likely to experience less feelings of inadequacy and inferiority, depression, anxiety, anger, isolation and thought disturbance. In multiple regression analyses controlling for various demographic characteristics, the association remained for depression, hostility, paranoid ideation, psychoticism and the SCL-90 global score. These results are consistent with a growing body of research supporting a positive association between forgiveness and lower levels of psychological distress and an increase in adaptive mental health outcomes[7-10].

The constructive association between forgiveness and mental health may operate through direct and indirect mechanisms. The direct effect of forgiveness on health may operate through prevention of rumination involving such negative emotions as resentment, hatred, hostility, anger and fear[11-12]. Cognitive theory suggests that negative and often punitive thoughts about the self, such as worthlessness and guilt, are a key characteristic of depression[13]. An indirect effect may operate through mediating associations with distinct variables such as health behavior, interpersonal functioning and social support[14]. These mediating variables are commonly associated with improved mental health. So, improvements in intrapersonal and interpersonal functioning, via forgiveness, may consequently affect risk for depression[15]. In a very interesting study of the prospective relations between forgiveness of oneself and others and diagnosable depression risk, Toussaint and colleagues found that forgiveness of oneself and forgiveness of others proved to be important predictors of depression[16]. Another important issue is hostility. People who are high in religious or spiritual involvement tend to have low levels of hostility. This finding is quite robust and suggests that low hostility might be one mechanism by which religious involvement conveys positive effects on health and well-being[17]. The hypothesized model is that religiosity is related to greater forgiveness; greater forgiveness is related to reduced hostility and reduced hostility is related to better subjective health[18]. In regard to psychoticism and paranoid ideation, it has been suggested in the past that religiosity may be considered an aspect of psychosis. This is an important issue because if religiosity is an aspect of psychotic behavior, then religiosity could be a predisposing factor to psychosis. However, the findings in healthy populations are conflicting, in part because of the diversity of the psychometric tools used, as well as the different religiosity dimensions examined[19-21]. Therefore, there is no convincing evidence that religious beliefs predispose to the development of schizophrenia or other severe mental illnesses, nor that schizotypal or psychotic traits are more common among religious persons[22]. Our findings that forgiveness is negatively associated with hostility, paranoid ideation and psychoticism could support this, as far as we consider forgiveness a religiosity dimension. It should be mentioned that according to ICD-10 one of the criteria of the paranoid personality disorder is a tendency to bear grudges persistently, i.e. refusal to forgive insults and injuries or slights.

Finally, in our sample, female gender was independently associated to somatization, anxiety and phobic anxiety, whereas, age was negatively associated with hostility and rural origin was associated with anxiety, similarly to previous reports[23-26].

Limitations: The population of our study was relatively homogeneous with respect to religiosity or psychological distress. A non-clinical sample of young adults completing a measure of psychological distress is likely to result in limited variability for individual items which, in turn, can also attenuate the resulting correlations of interest. Moreover, the number of forgiveness items could have been greater. It may also be helpful to include additional dimensions of forgiveness, for example, feeling forgiven by others. This would have allowed for a broader assessment and would have helped to reduce measurement error. Furthermore, it is always important to consider that respondents reporting on religiousness, spirituality, and forgiveness can be influenced by social desirability. Our self report, cross-sectional methodology precludes assessment of causality.

Approval has been obtained by the authors'Institutional Review Committee for data retrieval and their publication.

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