



Pilot Study on the Relation Between Orthodox Spirituality, Inclusion and Health, In a Sample of Wheelchair Users

Konstantinos N. Papanikolaou*

Aristotle University of Thessaloniki, Thessaloniki, Greece

Abstract

Persons with disabilities have significantly lower life expectancy compared to the general population. Concerning wheelchair users, the main causes of premature death are heart attack and cancer. The main risk factors are physical inactivity and obesity. Factors such as depression and social isolation seem to play also an important role. This project evaluates a religious and spiritual intervention and examines the correlation between physical, social and spiritual variables that seem to be related with health and premature mortality. Most of the results confirm previous projects. Nevertheless, some results seem opposite to what was expected. This raises new questions and the need for deeper exploration.

Introduction

It is well known so far that persons with disabilities have significantly lower life expectancy compared to the general population. At a previous stage of our project, we identified the main premature death causes, with heart attack and cancer representing 62.9% of the total premature deaths. The most vulnerable wheelchair users were persons with spinal cord injury [1].

According to Harold Koenig, who is a distinguished expert at the international level, religious and spiritual practices contribute to the limitation of unhealthy and the increase of healthy lifestyles, as well as coping with adversity, cultivating positive emotions, improving well-being, developing hope, optimism, meaning, purpose, self-esteem, a sense of control, and other positive characteristics [2].

From a physical point of view, the main risk factors that increase the possibility of a premature death are physical inactivity and obesity, followed by an unhealthy lifestyle.

From a social point of view, inaccessibility, unemployment, and retirement are additional factors that affect wheelchair users, decreasing their activity level. Social isolation is an identified risk factor for acute myocardial infarction, which can be caused by rejection and marginalization, and may lead to loneliness. Accessibility problems in healthcare and other basic facilities, as well as communication problems between persons with disabilities and health professionals, such as the denial of symptoms, have been reported by the participants and contribute to marginalization.

From a spiritual point of view, spiritual practices contribute to ontological harmony (balance of the body, soul, and spirit). Divine intervention is perceived as contributing to improving difficult situations. The development of a relationship with God results in spiritual support. This support results in feelings of calm and relaxation. From a practical point of view, participation in parish activities may contribute to a more harmonious family and social life.

From a Greek-Orthodox spiritual point of view, inactivity is similar to idleness, which, however, includes the potential of personal intervention. Obesity, on the other hand, is the result of gastrimargy and can be managed by temperance in eating and fasting. Depression has also been identified as a common risk factor of premature death for persons with disabilities. However, depression has common characteristics with acedia and athymia, which are concepts based on the Greek-Orthodox tradition. For this reason, in this project, I decided to use indicators concerning these two concepts. Ways of spiritual management include the cultivation of virtues by the persons themselves, their families, and their social environments.

Methods and Materials

This project is a pilot study, namely a preliminary trial in a small number of participants. As such, it aims to remove flaws of the toolbox and reveal potential fundamental problems [3]. It is also a case



OPEN ACCESS

*Correspondence:

Dr. Konstantinos N. Papanikolaou,
Ph.D., Aristotle University of
Thessaloniki, Thessaloniki, Greece, Tel:
+306974711895;
E-mail: papanikolaou@mycosmos.gr/
ORCID: <https://orcid.org/0000-0002-2270-141X>

Received Date: 25 Jun 2026

Accepted Date: 06 Aug 2026

Published Date: 08 Aug 2026

Citation:

Papanikolaou KN. Pilot Study on
the Relation Between Orthodox
Spirituality, Inclusion and Health,
In a Sample of Wheelchair Users.
WebLog J Community Med. *wjcm*.2026.
h0809. <https://doi.org/10.5281/zenodo.21860514>

Copyright© 2026 Konstantinos N. Papanikolaou. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

study, since it focuses on a specific group of people and examines a current phenomenon in its real-life situation [4]. Furthermore, it is a multi-strategy research, since I drew data from questionnaires, which is quantitative and from a focus group, which is qualitative method. The research design is a quasi-experiment and the type is evaluation research since it evaluates an intervention [5]. These methods were chosen due to the limited number of subjects, but also because they are suitable for clinical studies that evaluate methods before and after an intervention [6].

According to the above, the research question is: Does the intervention contribute into the attenuation of the risk factors for premature death? This can be divided into the following two questions:

a) How can risk factors, social, spiritual, and religious determinants of health be related?

b) How can a gentle encouragement for Orthodox spiritual and religious development contribute to decreasing risk factors for premature death for wheelchair users.

The dependent variables are based on the previous stage of the research [1] and are linked with the first research question. They are included in three questionnaires, which depict the following three categories:

a) Relationship with self, that is, health and lifestyle: Body Mass Index, physical activity, smoking, alcohol use, loneliness.

b) Relationship with others, that is, family and society: feelings towards and experiences from family, social relations, education, work, health, and social services.

c) Relationship with God, that is, spirituality and religiosity: athymia, acedia, (passions), faith in God, love in Christ, fasting, gratitude, humility, lack of envy (virtues), church attendance, prayer, confession, Holy Communion, spiritual guidance by a priest, participation in parish activities.

In the concepts related to spirituality, we used indicators based on operational definitions. The indicators of spiritual concepts derive from descriptions of Church Fathers [7].

The independent variables are linked with the second research question and are the following:

a) Gentle encouragement to participate in religious services (1 per month).

b) Gentle encouragement to be engaged in spiritual discussions (1 per month).

c) Gentle encouragement to read spiritual books.

The project is valid since it has a clear evaluation research design, methods of measurement, data collection, and analysis [7]. Validity is improved since I applied triangulation, by analyzing data from questionnaires, but also from the focus group. Moreover, the design of a quasi-experiment to some degree minimizes the existence of other potential variables that may pollute the results [4].

All participants signed an informed consent form that guaranteed the protection of their privacy, data confidentiality, and the exclusive use of the information for academic and scientific purposes. The project has been approved by the Ethics Committee of the Aristotle University of Thessaloniki.

The analysis is performed using the Spearman rho correlation coefficient as the variables are ordinal. The analysis of the questionnaires was based on the Spearman rho correlation coefficient and the T-test (before and after the intervention). The software used for analysis is SPSS, and I presented only the statistically significant results.

Results and Discussion

In the project, 8 wheelchair users (5 men, 3 women) were involved. From them, 4 men and 1 woman were diagnosed with Spinal Cord Injury, 1 man and 1 woman had polio, and 1 woman had muscular dystrophy.

The hypotheses can be summarized in that after the intervention, the risk factors for premature death are expected to be decreased, the experiences and feelings towards other people are expected to be expressed as more harmonized and positive, and spiritual issues are expected to be improved. In other words, the relations with the self, others, and God need to be more harmonized.

Statistically Significant correlations before and after the intervention

In this section, I am going to present the statistically significant correlation between the variables. This can help us understand better the relations between them (Table 1).

According to the results, Body Mass Index appears to have a statistically significant negative correlation with Alcohol Consumption Frequency and a positive correlation with Prayer Frequency. Both results do not seem to confirm the research hypotheses, which rely on previous projects. Booranasuksakul *et al.*, reveal a positive relationship between alcohol consumption and BMI, supporting that daily alcohol consumption is a risk factor for excessive weight [8]. However, there is evidence that the relation between alcohol consumption and Body Mass Index (BMI) is not clearly positive or negative, at least for young adults [9]. In any case, “obesity and excess alcohol are both related to all-cause and liver mortality” [10]. The relation between body weight

Table 1: Pre-Intervention significant correlations.

Entry	Variable 1	Variable 2	Result
1	Body Mass Index (BMI)	Alcohol Consumption Frequency (ACF)	-.630*
2	Body Mass Index (BMI)	Prayer Frequency (PF)	.672*
3	Alcohol Consumption Frequency (ACF)	Health Services Satisfaction (HSS)	-.556*
4	Social Relations Satisfaction (SRS)	Health Services Satisfaction (HSS)	.586*
5	Education Satisfaction (ES)	Job Satisfaction (JS)	.591*
6	Education Satisfaction (ES)	Health Services Satisfaction (HSS)	.681**
7	Job Satisfaction (JS)	Health Services Satisfaction (HSS)	.663*
8	Health Services Satisfaction (HSS)	Social Services Satisfaction (SSS)	.757**
9	Health Services Satisfaction (HSS)	Prayer Frequency (PF)	.672*
10	Social Services Satisfaction (SSS)	Faith in God Indicators (FGI)	.595*
11	Social Services Satisfaction (SSS)	Prayer Frequency (PF)	.701*
12	Social Services Satisfaction (SSS)	Worship Participation Frequency (WPF)	.763**
13	Loneliness Indicators (LI)	Athymia Indicators (AtI)	.861**
14	Loneliness Indicators (LI)	Acedia Indicators (Acl)	.692**
15	Athymia Indicators (AtI)	Acedia Indicators (Acl)	.654*

Table 2: Post-Intervention significant correlations.

Entry	Variable 1	Variable 2	Result
1	Body Mass Index	Smoking Frequency	.777'
2	Alcohol Consumption	Confession Frequency	.894"
3	Alcohol Consumption	Spiritual Guidance Frequency	.803'
4	Physical Inactivity	Acedia Indicators	.718'
5	Family Relations Satisfaction	Spiritual Guidance	-.915"
6	Social Relations Satisfaction	Education Satisfaction	.945"
7	Social Relations Satisfaction	Social Services Satisfaction	.721'
8	Social Relations Satisfaction	Faith in God Indicators	.899"
9	Education Satisfaction	Social Services Satisfaction	.739'
10	Education Satisfaction	Faith in God Indicators	.882"
11	Education Satisfaction	Love in Christ Indicators	.749'
12	Job Satisfaction	Health Services Satisfaction	.786'
13	Health Services Satisfaction	Social Services Satisfaction	.807'
14	Athymia Indicators	Acedia Indicators	.756'
15	Athymia Indicators	Holy Communion Frequency	.766'
16	Fasting Indicators	Prayer Frequency	.756'
17	Fasting Indicators	Spiritual Guidance Frequency	.722'

and spirituality/religiosity has triggered the interest of researchers, with not very clear results, so far [11]. Obesity is more likely to occur in persons with disabilities, and this has triggered the interest of the scientific community [12]. Body Mass Index is the most reliable indicator of obesity and an identified risk factor for premature death of wheelchair users [1].

Another statistically significant result was observed in entry 3, which indicates a negative correlation between Alcohol Consumption Frequency and Health Services Satisfaction. This finding also triggers questions for future research.

Relationships with others are depicted in the entries 4-12. Strong positive correlations appear between the variables Social Relations Satisfaction, Education Satisfaction, Job Satisfaction, and Health Services Satisfaction.

In addition, Health Services Satisfaction appears to have a strong positive correlation with Prayer Frequency, and Social Services Satisfaction appears to have a strong positive correlation with Faith in God Indicators, Prayer Frequency and, Worship Participation

Frequency.

From a psycho-spiritual point of view, strong positive correlations appear between loneliness, athymia and acedia indicators. This seems rational since these concepts are similar and related to depression.

After the intervention, the correlations are different (Table 2). Body Mass Index is correlated positively with Smoking Frequency. Surprisingly, Alcohol Consumption is positively correlated with Confession Frequency and Spiritual Guidance Frequency. The positive correlation between Physical Inactivity and Acedia Indicators is easily understood.

Relationships with others are depicted in the entries 6-13. Compliant to the pre-intervention stage, strong positive correlations also appear between the variables Social Relations Satisfaction, Education Satisfaction, Job Satisfaction, and Health Services Satisfaction. In this stage, Social Services Satisfaction is added. An interesting negative correlation appears between Family Relations Satisfaction and Spiritual Guidance. This seems to need further investigation. Moreover, positive correlations appear between Social Relations Satisfaction and Faith in God Indicators, as well as Education Satisfaction on the one hand and Faith in God and Love in Christ indicators on the other.

From a spiritual point of view, not surprisingly, Athymia and Acedia indicators are positively correlated. The same is between Fasting Indicators on the one hand and Prayer Frequency and Spiritual Guidance Frequency on the other. Nevertheless, the positive correlation of Athymia Indicators and Holy Communion Frequency seems rather surprising.

Differences before and after the intervention

In this section, I am going to compare the scores of the variables and their indicators before and after the intervention. The first table presents the variables related to health and lifestyle. The comparison has been performed by the t-test method. That is, we calculated the means of the variables before and after the intervention. In the pairs where no difference appears, the null hypothesis is true, while in the pairs where a difference appears, an alternative hypothesis can be true.

In the following table, the variables of body mass index, smoking, alcohol consumption, physical inactivity, and indicators for loneliness are presented (Table 3).

Table 3: Health and lifestyle paired samples statistics.

Variables		Mean	N	Difference	t	df	Significance	
							One-Sided <i>p</i>	Two-Sided <i>p</i>
Pair 1	Body Mass Index Before	29.7186	7	2.70571	2.822	6	0.015	0.030
	Body Mass Index After	27.0129	7					
Pair 2	Smoking Before	2.25	8	0.125	0.357	7	0.366	0.732
	Smoking After	2.13	8					
Pair 3	Alcohol Consumption Before	1.50	8	0.125	0.552	7	0.299	0.598
	Alcohol Consumption After	1.38	8					
Pair 4	Physical Inactivity Before	4.25	8	0.375	1.000	7	0.175	0.351
	Physical Inactivity After	3.88	8					
Pair 5	Loneliness Indicators Before	2.2000	8	-0.20000	-0.647	7	0.269	0.538
	Loneliness Indicators After	2.4000	8					

Table 4: Family and society paired samples statistics.

	Variables	Mean	N	Difference	t	df	One-Sided <i>p</i>	Two-Sided <i>p</i>
Pair 1	Family Relations Satisfaction Before	8.6025	8	-0.16875	-0.421	7	0.343	0.686
	Family Relations Satisfaction After	8.7713	8					
Pair 2	Social Relations Satisfaction Before	7.4500	8	-0.46750	-1.170	7	0.140	0.280
	Social Relations Satisfaction After	7.9175	8					
Pair 3	Education Satisfaction Before	6.6700	8	-0.83000	-1.323	7	0.114	0.227
	Education Satisfaction After	7.5000	8					
Pair 4	Job Satisfaction Before	6.5000	7	-1.00000	-2.103	6	0.040	0.080
	Job Satisfaction After	7.5000	7					
Pair 5	Health Services Satisfaction Before	6.7663	8	0.21125	0.530	7	0.306	0.613
	Health Services Satisfaction After	6.5550	8					
Pair 6	Social Services Satisfaction Before	6.3814	7	-0.30429	-0.790	6	0.230	0.460
	Social Services Satisfaction After	6.6857	7					

The first observation is that in all the variables, differences appear. Therefore, the null hypotheses can be rejected for all variables. In the first four variables, a slight decrease after the intervention is observed, while in the fifth variable, an increase is observed. Although the *t*-values are clear, the results are not statistically significant, since in none of them is the *p*-value <0.005, which by convention is the threshold of statistical significance.

However, from a practical point of view, the results seem important. As it has been mentioned above, obesity is one of the most significant risk factors for premature death for persons with disabilities in general [12] and for wheelchair users in particular. Body Mass Index is the most reliable indicator of obesity. Concerning smoking and alcohol abuse, they are identified as risk factors for esophageal squamous cell carcinoma [13]. Alcohol abuse is also related to early mortality after Spinal Cord Injury and, therefore, alcohol consumption frequency is a reliable indicator. It has to be noted that the majority of persons with SCI are wheelchair users. In general, poor self-care is also related to early mortality after SCI [14]. Physical inactivity is also a risk factor for premature death [1]. In our project, although the differences of the means before and after the intervention are not very impressive, they seem important. Nevertheless, loneliness, which is also a factor that contributes to social isolation and a risk factor for premature death, has increased after the intervention.

In Table 4, the satisfaction of the participants from their families, social environment, education system, job, health, and social services are presented.

Again, in all the variables appear differences, and therefore, the null hypotheses can be rejected. In five out of six variables related to satisfaction with family and society, an increase after the intervention is identified. Experiences and feelings towards family, social relations, education, work and social services appear slightly improved after the intervention. On the other hand, feelings and experiences concerning health services have decreased. Therefore, in general, the participants perceive themselves as more socially included after the intervention. Again, although the *t*-values are clear, the results are not statistically significant, since in none of them the *p*-value is <0.005.

From a practical point of view, the results presented above cannot be ignored, since it is well known that social relationships

play a crucial role on health, since social isolation is a major risk factor for mortality [15]. More specifically, negative interactions with the social environment result in stress and increase the risk of health deterioration. On the other hand, social support, offered by surroundings, is a stress buffering mechanism that reduces stressful experiences. Furthermore, inclusion in the social environment improves psychological health, and this results in better physical health, and motive to care of oneself [16].

Finally, in Table 5, spiritual and religious aspects related to health are presented.

In general, in most of the variables, differences appear. In them, the null hypothesis can be rejected, and an alternative hypothesis can be true. The results of the differences concerning spiritual concepts appear rather confusing. Athymia and acedia, which have been chosen to replace depression, appear slight decrease after the intervention. Surprisingly, the indicators used to estimate faith in God and gratitude also appear to decrease. On the other hand, indicators used to estimate the concepts of love in Christ, fasting, humility, and lack of envy appear impressive increase. However, the only concept that appears statistically significant is love in Christ.

The differences of the concepts related to religiosity are rather surprising, since they appear either to decrease or remain stable. Worship participation, prayer, confession, and Holy Communion frequency clearly decrease after the intervention. Spiritual guidance and participation in parish activities do not appear to have changed, and, therefore, in these concepts, the null hypothesis is true.

From a practical point of view, the decrease of athymia and acedia can be considered as a decrease of depressive symptoms, since, at least, acedia has been related to depression [17]. Moreover, there is evidence that religious interventions can contribute to the treatment of depression [18]. The increase of love in Christ, fasting, humility, and lack of envy indicators endorses health promotion. There is evidence that love is positively related to physical and emotional health [19], while fasting can result in a reduction of body weight, and other risk factors of health deterioration [20]. Additionally, humility is also related positively to physical and mental health [21]. Envy, on the other hand, affects physical and mental health and therefore lack of envy contributes in health promotion [22]. Faith in God [23] and gratitude [24] contribute in health promotion, as well.

Table 5: Spirituality and religiosity paired samples statistics.

	Variables	Mean	N	Difference	t	df	One-Sided p	Two-Sided p
Pair 1	Athymia Indicators Before	2.0363	8	0.19750	2.755	7	0.014	0.028
	Athymia Indicators After	1.8388	8					
Pair 2	Acedia Indicators Before	1.7863	8	0.01750	0.107	7	0.459	0.918
	Acedia Indicators After	1.7687	8					
Pair 3	Faith in God Indicators Before	3.7775	8	0.69500	3.011	7	0.010	0.020
	Faith in God Indicators After	3.0825	8					
Pair 4	Love in Christ Indicators Before	3.2188	8	-0.65750	-3.967	7	0.003	0.005
	Love in Christ Indicators After	3.8762	8					
Pair 5	Fasting Indicators Before	2.4525	8	-0.11000	-.612	7	0.280	0.560
	Fasting Indicators After	2.5625	8					
Pair 6	Gratitude Indicators Before	3.5888	8	0.29625	3.476	7	0.005	0.010
	Gratitude Indicators After	3.2925	8					
Pair 7	Humility Indicators Before	3.4650	8	-0.48500	-2.110	7	0.036	0.073
	Humility Indicators After	3.9500	8					
Pair 8	Lack of Envy Before	4.2037	8	-0.64000	-2.250	7	0.030	0.059
	Lack of Envy After	4.8438	8					
Pair 9	Worship Participation Frequency Before	4.33	6	0.500	1.000	5	0.182	0.363
	Worship Participation Frequency After	3.83	6					
Pair 10	Prayer Frequency Before	5.00	6	0.167	1.000	5	0.182	0.363
	Prayer Frequency After	4.83	6					
Pair 11	Confession Frequency Before	2.80	5	0.400	1.633	4	0.089	0.178
	Confession Frequency After	2.40	5					
Pair 12	Holy Communion Frequency Before	3.80	5	0.400	1.000	4	0.187	0.374
	Holy Communion Frequency After	3.40	5					
Pair 13	Spiritual Guidance Frequency Before	2.60	5	0.000	0.000	4	0.500	1.000
	Spiritual Guidance Frequency After	2.60	5					
Pair 14	Participation in Parish Activities Before	1.80	5	0.000	0.000	4	0.500	1.000
	Participation in Parish Activities After	1.80	5					

Also, from a practical point of view, the decrease in worship participation or religious attendance does not contribute to health improvement, since there is recent evidence that “the stability of frequent religious practice over time was associated with better health...” [25]. Moreover, there is evidence that prayer [26] and confession [27] can contribute to health improvement. In general, religiosity can be a protective factor for health deterioration [28].

Focus group

In this section, I quote notes of the focus group meetings. During these meetings, we discussed spiritual matters, and I tried to elicit information related to the project. Below I present the most important ideas that were derived.

The first meeting took place on 4/7/2024. In the discussion was mentioned that the questions about spiritual matters seem personal and therefore, it was not easy to be discussed in the focus group. However, the participants agreed that the questions and the way they were formulated (in the questionnaires) contributed to the development of personal reflections. Three out of eight participants were absent because of the bad weather, lack of assistant and health problems.

The second meeting took place on 12/8/2024. The interesting information that was added concerned the inability of a member of the group to participate physically because of the inability to find available transportation. However, she emphasized that the prayer book was very helpful and thanked us for this. Moreover, she added that she attends religious services on the internet and has an active sacramental life, even from a distance.

The third meeting took place on 5/12/2024. After attending the service, we had a very nice discussion about passions, virtues, and fasting with the priest of the Church. The members of the group participated actively and expressed their interest by asking questions and discussing experiences. This practice has also been proven beneficial, since a specific participant, in a private discussion, expressed repentance for his sins during youth, making a first step toward confession.

The fourth meeting took place on 16/1/2025. Again, the participants attended the vespers reverently. After the service, we had the opportunity to enjoy a general discussion about spiritual issues. Participants were touched and started to develop a team spirit, related to our meetings. The enjoyment of participation in religious services and discussion with different priests became now apparent.

In general, the team started to act as a self-help group. The policy of the focus group included gentle motivation and free participation. The communication was informal. Therefore, we did not apply the rules of focus groups strictly, but we maintained a relaxed atmosphere, where everybody feels free, enjoys participation in worship, and contacts different priests. Moreover, all of the participants enjoyed the dinners that followed the meeting as social activities.

Limitations

The generalizability of the project is rather limited. The first reason for this is the size of the sample. Since the study is a pilot, the sample is small. In addition, the participants come from a Greek-Orthodox background, and most of the participants have SCI. Therefore, the number of other types of disability is very limited. Therefore, the results may not be generalized.

Conclusions and Recommendations

The project revealed a complex nexus of relations between factors related to the self, others, and God. Given that the project concerns risk factors of premature death, the decrease in Body Mass Index, smoking, alcohol consumption, and physical inactivity shows that the intervention is effective. Nevertheless, the increase in loneliness indicators seems problematic, since the participants in the focus groups expressed increased satisfaction as regards their social contacts. And, since loneliness is an identified risk factor related positively to social isolation, it is important that this result be taken into account.

Concerning the relations with others, the results are also positive, in general. Experiences and feelings towards family, social environment, education, job, and social services appear to have increased after the intervention. This may mean that the attitudes of the participants appear more positive. Nevertheless, the feelings and experiences towards health services appear to have decreased.

Concerning spiritual factors, athymia and acedia, which are related to depression, appear to have decreased, and this is positive for the participants. Positive qualities such as love in Christ, fasting, humility, and lack of envy appear to have increased. These results seem to contribute to better health, according to the theoretical background. On the other hand, faith in God and gratitude, as well as all religious life indicators, appear to have decreased. In general, the results confirm the theoretical background of the project, as well as the majority of other similar projects. That is, participation in worship and spiritual discussions, as well as spiritual readings of the Orthodox Christian Tradition, seems to contribute to the decrease of risk factors and contributors of premature death for wheelchair users. However, some results seem to be problematic. In order to have more secure results, it is important to apply the project to a wider population of specific types of physical disabilities.

References

- Papanikolaou K, Andreopoulos A, Chatzitoliou A, Gianasmidis A, Goble C. Exploring Health and Premature Mortality of Wheelchair Users from a Medical and a Greek-Orthodox Perspective. *Religions*. 2022; 13(7): 636.
- Koenig HG. Religion, Spirituality, and Health: The Research and Clinical Implications. *ISRN Psychiatry*. 2012; 2012: 1-33.
- Bailey DM. Research for the Health Professional: A Practical Guide. 2nd ed. F. A. Davis Company. 1997.
- Baker Therese. Doing Social Research. McGraw-Hill. 1994.
- Bryman A. Social Research Methods. Oxford University Press. 2004.
- Harris AD, McGregor JC, Perencevich EN, Furuno JP, Zhu J, Peterson DE, et al. The Use and Interpretation of Quasi-Experimental Studies in Medical Informatics. *J Am Med Inform Assoc*. 2006; 13(1): 16-23.
- Macklin J, Gullickson AM. What does it mean for an evaluation to be 'valid'? A critical synthesis of evaluation literature. *Evaluation and Program Planning*. 2022; 91: 102056.
- Booranasuksakul U, Singhato A, Rueangsri N, Prasertsri P. Association between Alcohol Consumption and Body Mass Index in University Students. *Asian Pac Isl Nurs J*. 2019; 4(1): 57-65.
- Albani V, Bradley J, Wrieden WL, Scott S, Muir C, Power C, et al. Examining Associations between Body Mass Index in 18–25 Year-Olds and Energy Intake from Alcohol: Findings from the Health Survey for England and the Scottish Health Survey. *Nutrients*. 2018; 10(10): 1477.
- Patra J, Buckley C, Kerr Wc, Brennan A, Purshouse Rc, Rehm J. Impact of body mass and alcohol consumption on all-cause and liver mortality in 240 000 adults in the United States. *Drug Alcohol Rev*. 2021; 40(6): 1061-1070.
- Davidson JC, Kent BV, Cozier YC, Kanaya AM, Warner ET, Eliassen AH, et al. "Does Religious Service Attendance Modify the Relationship between Everyday Discrimination and Risk of Obesity? Results from the Study on Stress, Spirituality and Health". *J Racial Ethn Health Disparities*. 2024; 11(5): 3076-390.
- Froehlich-Grobe K, Lollar D. Obesity and Disability. *Am J Prev Med*. 2011; 41(5): 541-545.
- Chung CS, Lee YC, Wang CP, Ko JY, Wang WL, Wu MS, et al. Secondary Prevention of Esophageal Squamous Cell Carcinoma in Areas Where Smoking, Alcohol, and Betel Quid Chewing are Prevalent. *J Formos Med Assoc*. 2010; 109(6): 408-421.
- De Vivo MJ, Stuart Krause J, Lammertse DP. Recent trends in mortality and causes of death among persons with spinal cord injury. *Arch Phys Med Rehabil*. 1999; 80(11): 1411-1419.
- House JS, Landis KR, Umberson D. Social Relationships and Health. *Science*. 1988; 241(4865): 540-545.
- Cohen S. Social Relationships and Health. *Am Psychol*. 2004; 59(8): 676-684.
- McAllister D. Acedia and its Relation to Depression. Peter Lang Incorporated, International Academic Publishers. 2020.
- Marques A, Ihle A, Souza A, Peralta M, de Matos MG. Religious-based interventions for depression: A systematic review and meta-analysis of experimental studies. *J Affect Disord*. 2022; 309: 289-296.
- Post SG. Pure unlimited love: The seven paths to inner peace. 2025.
- Georgakouli K, Siamata F, Draganidis D, Tsimeas P, Papanikolaou K, Batrakoulis A, et al. The Effects of Greek Orthodox Christian Fasting during Holy Week on Body Composition and Cardiometabolic Parameters in Overweight Adults. *Diseases*. 2022; 10(4): 120.
- Krause N, Pargament KI, Hill PC, Ironson G. Humility, stressful life events, and psychological well-being: Findings from the landmark spirituality and health survey. *J Positive Psychol*. 2016; 11(5): 499-510.
- Smith RH, Combs DJY, Thielke SM. Envy and the Challenges to Good Health. Oxford University Press. 2008.
- Upenieks L. Does the Belief in Biblical Literalism Matter for Mental Health? Assessing Variations by Gender and Dimensions of Religiosity. *J Relig Health*. 2022; 61(1): 175-202.
- Chen Y, Okereke OI, Kim ES, Tiemeier H, Kubzansky LD, VanderWeele TJ. Gratitude and Mortality Among Older US Female Nurses. *JAMA Psychiatry*. 2024; 81(10): 1030-1038.
- Upenieks L, Schafer MH. Religious Attendance and Physical Health in

- Later Life: A Life Course Approach. *Journal of Health and Social Behavior*. 2020; 61(4): 486-502.
26. Olver IN. Investigating Prayer: Impact on Health and Quality of Life. Springer. 2013; 8: 535-537.
27. Pennebaker JW, Emotion, disclosure, & health. *Am Psychol Assoc*. 2006.
28. Fountoulakis KN, Siamouli M, Magiria S, Kaprinis G. Late-life depression, religiosity, cerebrovascular disease, cognitive impairment and attitudes towards death in the elderly: Interpreting the data. *Medical Hypotheses*. 2008; 70(3): 493-496.