Cognitive-Behavioral-Related Prayer Types and Mental Health Relations
among Muslim Samples

Müslüman Örneklemler Arasında Bilişsel-Davranışla İlişkili Dua Türleri ve

Ruh Sağlığı İlişkisi

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Abstract: Psychological and subjective well-being depends on how an individual feels about his/her life and how he/she responds to life events. Individually, the person may unconsciously feel all external events occurring beyond his/her control in his cognitive schemas. Especially considering mental health, the influence of religious beliefs and practices on various components of mental well-being has emerged as one of the most studied topics in the psychology of religion in recent years. Most studies have focused on the role of religion in seeking answers about individuals' search for meaning and their reactions to life events. There is a prevalent finding that prayer plays a constructive role in the lives of individuals faced with life's difficulties and exposed to stressors. Thus, for scientists over the past few decades, the possible application of the cognitive behavioral framework within the psychology of religion has become a key element of both subjective and psychological well-being. Using theoretical applications as to the relationship between religiosity and mental health, it was appeared that various prayer measures are predominantly derived from Christian religious norms and beliefs. However, non-Christian religions have been mostly disregarded in such inquiries. More specifically, the links between religiosity and mental health among Muslim individuals have been neglected even though there are several forms of religious behavior in Islam that are of great importance to the daily lives of believers. Therefore, the current research aims to investigate the link between different types of Islamic prayer and indicators of well-being using the cognitive-behavioral mechanism among Muslim individuals. An online link was used to recruit participants from many Islamic student communities and several worship places in different cities/regions of England in this study. The online questionnaire composed of six prayer types (obligatory, necessary, voluntarily, supererogatory, supplication, and invocation prayers), six psychological well-being domains (autonomy, environmental mastery, positive relations with others, personal growth, self-acceptance, and purpose in life), and two subjective well-being domains (life satisfaction, and positive and negative affects). The representative sample consisted of 214 participants (female= 145, male= 69), aged between 18 and 66 ($M = 27.01$, $SD = 8.80$). The results of the correlational analysis indicated that obligatory (fard) prayer, voluntarily (sunna) prayer, supplication (du'ā') prayer and invocation (dhikr/remembrance of God) prayer have positive relationship with the well-being variables, while no correlation of necessary (wājib) prayer and supererogatory (nawāfil) prayer with any of the well-being variables is appeared. The results of the multiple regression analysis showed that obligatory, voluntarily, and necessary prayers were not predictors of psychological or subjective well-being variables. Although only the type of supererogatory prayer was found to be predictive, the relationship was in the opposite direction. In addition, the supplication prayer accounted for the unique variance in predicting the

psychological well-being scores, while the invocation prayer accounted for the unique variance in predicting subjective well-being. In light of James and Wells' cognitive and behavioral models, the present study has identified only the types of supplication and invocation prayer as important factors that have a positive effect for individuals in providing psychological support for them. Therefore, the presented data suggest that people are more like to have better psychological and subjective well-being when their prayers take the form of a supplication prayer and invocation prayer in which they rely on God for guidance and support and refresh their thinking through feeling God's presence. As can be seen from the present findings, it is important to consider the applicability of belief structures in specific community settings. Here, both the theoretical framework and practical direction can contribute to an understanding being held as to the relationship between Muslim prayer types and mental well-being and provides guidance for health practitioners regarding how different prayer models can lead individuals to have better well-being.

Keywords: Psychology of Religion, Mental Health, Cognitive-Behavioral Model, Prayer Types, Muslim Individuals

Müslüman Örneklemler Arasında Bilişsel-Davranışla İlişkili Dua Türleri ve Ruh Sağlığı İlişkisi

Öz: Psikolojik ve öznel iyi oluş, bireyin yaşamı hakkında nasıl hissettiğine ve yaşam olaylarına nasıl tepki verdiğine bağlıdır. Bireysel olarak kişi, kontrolü dışında gerçekleşen tüm dış olayları bilişsel şemalarında istemsizce hissedebilir. Özellikle ruh sağlığı göz önüne alındığında, son yıllarda dini inanç ve uygulamaların ruh sağlığının çeşitli bileşenleri üzerindeki etkisi, din psikolojisinde en çok çalışılan konulardan biri olarak ortaya çıkmaktadır. Çoğu çalışma, bireylerin anlam arayışları ve yaşam olaylarına tepkileri hakkında cevaplar ararken dinin rolüne odaklanmıştır. Hayatın zorluklarıyla karşılaşan ve strese maruz kalan bireylerin yaşamlarında ibadetlerin onarıcı bir rol oynadığına dair yaygın bir kanı vardır. Bu nedenle, son birkaç yılda bilim adamları için, bilişsel davranışçı çerçevenin din psikolojisi içindeki olası uygulaması hem öznel hem de psikolojik iyi oluşun kilit bir unsuru haline gelmiştir. Dindarlık ve ruh sağlığı arasındaki ilişkiye ilişkin teorik uygulamalar kullanılarak, çeşitli dua biçimlerinin ağırlıklı olarak Hıristiyan dini norm ve inançlarından türetildiği ortaya çıkmaktadır. Ancak, bu tür araştırmalarda Hıristiyan olmayan dinler çoğunlukla göz ardı edilmiştir. Daha spesifik olarak, İslam'da inananların günlük yaşamlarında büyük önem taşıyan çeşitli dini davranış biçimleri olmasına rağmen, Müslüman bireyler arasında dindarlık ve ruh sağlığı arasındaki bağlantılar ihmal edilmiştir. Bu nedenle, mevcut araştırma, Müslüman bireyler arasında bilişsel-davranışçı mekanizmayı kullanarak farklı İslami dua türleri ile iyi oluş hali göstergeleri arasındaki bağlantıyı araştırmayı amaçlamaktadır. Bu çalışmada İngiltere'nin farklı şehirlerinde/bölgelerinde birçok İslami öğrenci topluluğundan ve çeşitli ibadet yerlerinden katılımcı toplamak için çevrimiçi bir anket linki kullanılmıştır. Online anket altı dua türünden (farz, vacip, sünnet, nafile, dua ve zikir formlarından), altı psikolojik iyi bileşenlerinden (özerklik, çevresel hakimiyet, başkalarıyla olumlu ilişkiler, kişisel gelişim, kendini kabul ve yaşamda amaç) ve iki öznel iyi oluş bileşeninden (hayat memnuniyeti ve olumlu ve olumsuz etkiler) oluşmaktadır. Temsili örneklem, yaşları 18 ile 66 arasında (Ort. = 27.01, SS = 8.80) olan 214 katılımcıdan (Kadın= 145, Erkek= 69) oluşmaktadır. Korelasyon analizi sonuçları, farz namaz, sünnet namaz, sözlü dua ve zikir/Allah'ı anmanın iyi oluş hali değişkenleri ile pozitif bir ilişkiye sahip olduğunu, ancak vacip ve nafile namazların iyi oluş hali değişkenleriyle herhangi bir korelasyon göstermediğini ortaya çıkarmıştır. Çoklu regresyon analizi sonuçları, farz, sünnet ve vacip namazların psikolojik veya öznel iyi oluş değişkenlerinin yordayıcıları olmadığını göstermiştir. Sadece nafile namazın türü yordayıcı bulunsa da bu ilişki tam tersi yöndedir. Ek olarak, dua ibadeti psikolojik iyi oluş puanlarını tahmin etmedeki benzersiz varyansı açıklarken, zikir ibadeti ise öznel iyi oluşu tahmin etmedeki benzersiz değişkenliği açıklamaktadır. James ve Wells'in bilişsel ve davranışçı modelleri ışığında, bu çalışma sadece

dua ve zikir ibadetlerini, bireylere psikolojik destek sağlamada olumlu etkisi olan önemli faktörler olarak belirlemiştir. Dolayısıyla sunulan veriler, kişilerin ibadetleri, rehberlik ve destek için Tanrı'ya güvendikleri ve Tanrı'nın varlığını hissederek düşüncelerini tazeledikleri bir dua ve zikir modelini aldığında daha iyi psikolojik ve öznel iyi oluşa sahip olma olasılıklarının daha yüksek olduğunu göstermektedir. Mevcut bulgulardan görülebileceği gibi, inanç yapılarının belirli topluluk ortamlarında uygulanabilirliğini göz önünde bulundurmak önemlidir. Burada hem teorik çerçeve hem de pratik yön, Müslüman dua türleri ile zihinsel iyi oluş arasındaki ilişkiye ilişkin bir anlayışa katkıda bulunabilir ve sağlık uygulayıcılarına farklı dua modellerinin bireyleri daha iyi bir iyi oluşa nasıl yönlendirebileceği konusunda rehberlik edebilir.

Anahtar Kelimeler: Din Psikolojisi, Ruh Sağlığı, Bilişsel-Davranışçı Model, Dua Türleri, Müslüman Bireyler.

Introduction

Based on the literature on religion and psychology, many studies have revealed that prayer has been linked to greater happiness, well-being and optimism as well as decreased anxiety and negative affect.[2] However, it is worth nothing that several recent studies have exclusively concentrated on the association between prayer and multiple facets of mental health,[3] without taken into consideration the theories that boost the relationship found between different dimensions of prayer and mental well-being components.[4] Thus, the application of scientific considerations on how different prayer types can be successful in fostering mental health is minimal. The purpose of this article is to see whether such theoretical methods clarify the connections that exist between various forms of prayer and mental well-being.

While several research have indicated that prayer is linked to improved mental health, a theoretical conceptualization is needed to focus on the particular forms of prayer in connection to mental health factors. In this context, Houts and Graham first proposed the religious

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[2] James W. Anderson - Paige A. Nunnelley, "Private Prayer Associations with Depression, Anxiety and Other Health Conditions: An Analytical Review of Clinical Studies", *Postgraduate Medicine* 128/7 (2016), 635-641; Patrick Pössel et al., "Do Trust-Based Beliefs Mediate the Associations of Frequency of Private Prayer with Mental Health? A Crosssectional Study", *Journal of Religion and Health* 53 (2014), 904-916;, James Lake, "Spirituality and Religion in Mental Health: A Concise Review of the Evidence", *Psychiatric Times* 29 (2012), 34-38; Harold G. Koenig, "Religion and Depression in Older Medical Inpatients", *The American Journal of Geriatric Psychiatry* 15 (2007), 282-291; Neal Krause, "Praying for Others, Financial Strain, and Physical Health Status in Late Life", *Journal for the Scientific Study of Religion* 42 (2003), 377-391; Neal Krause, "Assessing the Relationships Among Prayer Expectancies, Race, and Self-esteem in Late Life", *Journal for the Scientific Study of Religion* 43/3 (2004), 395-408.

[3] Neal Krause, "Praying for Others, Financial Strain, and Physical Health Status in Late Life", *Journal for the Scientific Study of Religion* 42 (2003), 377-391; Hanan M. Hashem et al. "Arab American Youth: Considerations for Mental Health and Community Engagement", *Community Mental Health Engagement with Racially Diverse Populations* (2020), 133; Hanan M. Hashem - Germine H. Awad, "Religious Identity, Discrimination, and Psychological Distress Among Muslim and Christian Arab Americans", *Journal of Religion and Health* (2021).

[4] Michael J. Breslin - Christopher Alan Lewis, "Theoretical Models of the Nature of Prayer and Health: A Review", *Mental Health, Religion and Culture* 11 (2008), 9-21; John Maltby et al., "Prayer and Subjective Well-being. The Application of a Cognitive-Behavioural Framework", *Mental Health, Religion and Culture* 11 (2008), 119-129; Abigail James - Adrian Wells, "Religion and Mental Health: Towards a Cognitive-Behavioural Framework", *British Journal of Health Psychology* 8 (2003), 359-376; Margaret M. Poloma - Brian F. Pendleton, *Exploring Neglected Dimensions of Religion in Quality of Life Research* (Wales: Edwin Mellen Press, 1991); Michael E. McCullough, "Prayer and Health: Conceptual Issues, Research Review, and Research Agenda", *Journal of Psychology and Theology* 23 (1995), 15-29.

defense framework[5], and then Pargament developed the religious coping mechanisms.[6] In terms of these theories, they have solely concentrated on the functions of religious behavior in appraising individual life experiences, coping with challenging conditions and managing helpless sentiments within the confront of things an individual cannot control.[7] On the other hand, James and Wells suggested a conceivable cognitive behavioral conceptualization of religion to understand the emergence of different relationships between religion and mental health.[8]

In this context, James and Wells put forward two hypotheses to support the extent to which the links between religiousness and mental health inspire more noteworthy guidance about people's life experiences, the invisible cause of everything behind life, and the reason for life, and so forth.[9] The theory proposed by McGuire and Peterson and Roy is the basis of the first cognitive behavioral mechanism in this matter. These researchers suggested that religious behaviors have a substantial influence on a person's view of life and meaning in the universe. Such practices aid a person's comprehension of the motives for their life, significance, and meaning in the universe.[10] The second cognitive behavioral framework claims that religious behaviors, meditative prayer in particular, can have an effect on ongoing cognitive processes, such as individual's exposure to internal events, and thus leads to a greater well-being. This hypothesis is grounded on empirical results showing that religious behavior improves self-control while reducing self-focus, worries/ruminations, or stresses. In this way, individuals' subjective well-being improves as a result of religious behavior or activity.[11] This theory is primarily based on studies carried out by Poloma and Pendleton, as well as Poloma and Gallup, on various forms of prayer. Any religious conduct, according to this hypothesis, may have a significant effect on both a person's mental states and other unhealthy consequences such as obsessiveness, guilt, anxiety, and depression.[12] Consistent with this, James and Wells discovered that meditative prayer would help individuals regulate their self-focus and stress levels. To their suggestions, one can experience less concern as a result of praying. Consequently, meditative prayer is used as a practice that will guide individuals in coping with day-to-day problems.

Based on previous research, this proposed cognitive-behavioral framework has established and clarified a variety of important associations between multiple facets of religiousness (such as personal prayer preference and religious orientation) and mental well-being variables.[13] For example, Maltby et al. applied this cognitive-behavioral model to investigate

[5]   Arthur C. Houts - Kenton Graham, "Can Religion Make You Crazy? Impact of Client and Therapist Religious Values on Clinical Judgements", *Journal of Consulting and Clinical Psychology* 54/2 (1986), 267-271.
[6]   Kenneth I. Pargament, "God Help Me: Toward a Theoretical Framework of Coping for the Psychology of Religion", *Research in the Social Scientific Study of Religion* 2 (1990) 195-224; Kenneth I. Pargament, "Religious Methods of Coping: Resources for The Conservation and Transformation of Significance", *Religion and the Clinical Practice of Psychology*, ed. Edward P. Shafranske (Washington DC: American Psychological Association, 1996).
[7]   James - Wells, "Religion and Mental Health", 359-376.
[8]   James - Wells, "Religion and Mental Health", 359-376.
[9]   Maltby et al., "Prayer and Subjective Well-being", 119-129.
[10] James - Wells, "Religion and Mental Health", 359-376.
[11] Maltby et al., "Prayer and Subjective Well-being", 119-129.
[12] Gail Steketee et al., "Religion and Guilt in OCD Patients", *Journal of Anxiety Disorders* 5 (1991), 359-367; Adrian Wells - A. Hackman, "Imagery and Core Beliefs in Health Anxiety: Content and Origins", *Behavioural and Cognitive Psychotherapy* 21 (1993), 265-273; Adrian Wells, *Cognitive Therapy of Anxiety Disorders: A Practice Manual and Conceptual Guide* (UK: Wiley, 1997); John E. Pérez et al., "Types of Prayer and Depressive Symptoms Among Cancer Patients: The Mediating Role of Rumination and Social Support", *Journal of Behavioral Medicine* 34/6 (2011), 519-530.
[13] James - Wells, "Religion and Mental Health", 359-376; Maltby et al., "Prayer and Subjective Well-being", 119-129; John Maltby et al., "Religion and Health: The Application of a Cognitive-Behavioural Framework", *Mental Health, Religion & Culture* 13/7-8 (2010), 749-759.

the links between different prayer dimensions (as measured by Poloma and Pendleton) and subjective well-being. In their study, four prayer types including prayer experience, reciting prayer, praying for/with others, and meditative prayer were found to be the best predictors of mental health. This investigation discovered that among other prayer forms, the frequency of personal prayer plays a central role between the cognitive and behavioral facets in James and Wells' model. Later, the differences between intrinsic and extrinsic religious orientation, as well as the association between these religious aspects and mental well-being were investigated.[14] It was found that those whose religious orientation were intrinsic had higher mental health scores, and those whose religious orientation were extrinsic had lower mental health scores.[15]

Apart from the abovementioned scientists' hypotheses, no further research has been conducted to apply the cognitive-behavioral-related prayer models to determine the extent to which they (as defined by non-Christian schemas) contribute to mental well-being states. Indeed, the bulk of previous studies has been hampered by a scarcity of diverse religious communities that place a high value on prayer as part of their religious traditions. Many of the self-report indicators that have been used in the literature so far have exclusively been focused on Christian communities.[16] The fact that the studied samples mainly attributed to Christian communities and the lack of the studies involving other religious communities require the use of different assessments.[17]

Psychological studies show a variety of mental health components that appear to measure the negative psychological outcomes such as anxiety and depression,[18] as well as the positive psychological effects such as well-being, the satisfaction of life, and happiness.[19] However, different aspects of religiosity can have different effects on mental well-being, and different aspects of mental health can be linked to religiosity in different ways. According to previous research, ritualistic prayer type, in which the focus is to worship God, does not necessarily yield consistent associations with well-being across religious groups.[20] As noted earlier, no previous study has directly examined the relationship between multidimensional prayer and well-being in Muslim communities using James and Wells' theoretical model. If

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[14] Maltby et al., "Religion and Health", 749-759.
[15] Maltby et al., "Religion and Health", 749-759.
[16] Stephanie Winkeljohn Black et al., "Poloma and Pendleton's (1989) Prayer Types Scale in Christian, Jewish, and Muslim Praying Adults: One Scale or A Family of Scales?", *Psychology of Religion and Spirituality 7*/3 (2015), 205-216; Michael. J. Breslin et al., "A Psychometric Evaluation of Poloma and Pendleton's (1991) and Ladd and Spilka's (2002, 2006) Measures of Prayer", *Journal for the Scientific Study of Religion* 49 (2010), 710-723; Ralph W. Hood et al. *The Psychology of Religion: An Empirical Approach,* 4th Ed. (New York: Guilford Press, 2009); Leslie J. Francis - Mandy Robbins, "Psychological Type and Prayer Preferences: A Study Among Anglican Clergy in the United Kingdom", *Mental Health, Religion & Culture* 11/1 (2008), 67-84; Simon Dein - Roland Littlewood, "The Psychology of Prayer and the Development of the Prayer Experience Questionnaire", *Mental Health, Religion, and Culture* 11/1 (2008), 39-52; Charles H. Hackney - Glen S. Sanders, "Religiosity and Mental Health: A Meta-Analysis of Recent Studies", *Journal for the Scientific Study of Religion* 42/1 (2003), 43-56.
[17] Vivian Miu-Chi Lun - Michael Harris Bond, "Examining the Relation of Religion and Spirituality to Subjective Well-being Across National Cultures", *Psychology of Religion and Spirituality* 5 (2013), 304-325.
[18] Hisham Abu-Raiya et al. "Relationships Between Religious Struggles and Well-being Among a Multi-national Muslim Sample: A Comparative Analysis", *Social Work,* 63/4 (2018), 347-356.
[19] Hackney - Sanders, "Religiosity and Mental Health", 43-56; Brandon L. Whittington - Steven J. Scher, "Prayer and Subjective Well-being: An Examination of Six Different Types of Prayer", *International Journal for the Psychology of Religion* 20 (2010) 59-68; Aryeh Lazar, "The Relation Between Prayer Type and Life Satisfaction in Religious Jewish Men and Women: The Moderating Effects of Prayer Duration and Belief in Prayer", *The International Journal for the Psychology of Religion* 25/3 (2015), 211-229.
[20] Margaret M. Poloma - George H. Gallup, *Varieties of Prayer: A Survey Report* (Harrisburg: Trinity Press, 1991); Whittington - Scher, "Prayer and Subjective Well-being", 59-68.

advancement is to be made, Islam, which is now the world's second largest religion,[21] must undoubtedly be included in the field of psychology of religion through such research. The aim of the current study is to replicate and extend previous results by testing the associations between multiple facets of prayer and well-being variables through the suggested theoretical framework.

1. Current Study

Using the pattern of previous findings as a basis, the suggested cognitive behavioral model will be applied to different prayer types and their relationship with mental well-being to assess whether prayer models used in the Muslim sample differ uniquely. Knowing how different Muslim prayer types relate to well-being may allow mental health professionals and practitioners to develop diverse approaches to increase well-being and/or mental health. Hence, the current research looks at six distinct forms of prayer, i.e., prayers that are considered as obligatory (praying as a daily reminder of God), necessary (praying in conscious recognition of the Divine's presence), voluntary (achieving the Divine's love), supererogatory (praying more than required duties), supplication (relying on God for everything with being conscious of the Divine's presence), and invocation (reaching internal peace with contemplating the universe as a whole).

"Here, the supplication type of prayer reflects James and Wells' first mechanism of the model that is associated with the self-perception of individuals, their significance in the world and how their purpose of life provides an awareness of God's presence. The second mechanism of James and Wells' model is consistent with the invocation aspect of prayer and associated with quiet reflection of the universe and creation and generates self-regulation in one's attention and thinking processes that help free one from any kind of stress or worry. James and Wells thus suggest the model's ability to provide researchers and mental health practitioners with a deeper understanding of how religiosity possibly contribute to mental health and well-being."[22] The following research questions motivated this investigation: a) Are there any differential correlations between Muslim prayer types and any aspects of well-being? and b) Can the findings of this analysis be explained by the two proposed cognitive-behavioral mechanisms, i.e., the supplication and invocation types of Muslim prayer?

2. Method
2.1. Participants

The sample consisted of 214 participants (145 females and 69 males), aged from 18 to over 60 years old ($M = 27.01$, $SD = 8.80$). The target population of the study were Muslims who were resident in the UK. Reported marital status was single (65%), married (32.7%), divorced 1.9% and widowed (0.5%). In terms of educational achievement, the education levels of the participants were as high school graduation (n= 65, 30.4%), as bachelor's degree (n =44, 20.6%), as master students (n = 78, 36.4%), as PhD students (n = 19, 8.9%), and as 'Other' (n = 8, 3.7%). Considering their nationality, most participants placed their ethnicity as Asian/Asian British (n = 89, 41.6%), as Caucasian (n = 13, 6.1%), as mixed background (n = 10, 4.7%), as Black/Black British (n = 14, 6.5%), as other ethnic groups (n = 75, 35%). Of the 214 participants, 13 (6.1%) refused to report their ethnicity.

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[21] Ahmed M. Abdel-Khalek, "Personality Dimensions and Religiosity Among Kuwaiti Muslim College Students", *Personality and Individual Differences* 54 (2013), 149-152.

[22] Fatumetul Zehra Guldas, *Prayer Types and Their Associations with Mental and Psychophysiological Health* (Leicester: University of Leicester, Doktora Tezi, 2019), 34.

2.2. Measures and Questionnaires

Several questions were asked about various prayers performed on a different frequency basis. And, a series of assessments regarding mental well-being and demographic questions (age, sex, marital status, educational status, and race/ethnicity) were applied. The following four assessments were given to participants to complete:

2.2.1. Self-rating Prayer Types

This research aims to extend previous findings by incorporating some Islamic-based prayer material into the psychology of religion. Therefore, six types of self-report prayers, which are ritual prayers and verbal prayers, were used in this study as active and passive prayer practices. Here, fard prayers, wājib prayers, sunna prayers and nawāfil prayers were the four types of ritual prayer, all of which required reciting a memorized script from the Holy Qur'ān. The verbal prayers were divided into two categories: du'ā' and dhikr, which refer to a causal dialogue with God. Six items were used to evaluate obligatory (fard) prayer, which is a type of worship consisting of bodily movements to serve God and that believers feel they are devoted to God. These must be done at prescribed times and include the repetition of Qur'ānic verses, allowing mind, soul, and body in deep communication with God. Necessary (wājib) prayer (as assessed by three items) likewise entails structured acts that are almost proceeded as instructed as obligatory prayers. They are performed to establish a spiritual bond with the divine and to maintain knowledge of the divine presence through reciting of the Qur'ānic verses. Voluntary (sunna) prayer, which is evaluated with twelve items, is encouraged by the Prophet as a means of earning the love of God. Supererogatory (nawāfil) prayer (assessed by twenty-one items) involves beyond the required duties, with this being held in variety of ways to seek guidance and find answers and protection in life. Supplication (du'ā') prayer, measured in six items, means having an open-ended dialogue with God anytime and anywhere. In this way, the person expresses to God his/her desires for himself/herself or for others. Assessed by three items, invocation (remembrance of God, or dhikr) prayer involves the deed of remembrance of God, resulting in a feeling closer to God with spiritual peace.

Within each cluster of prayer, there were three main questions about how often, how intensely, and how important prayer behaviors were for the individual. The frequency of which prayer was measured, for example, by asking, "How frequently do you practice this (type of) prayer in a week/a year?" The intensity of which prayer was assessed by asking, "How intense is this experience for you when you engage in this (type of) prayer," Third question was "How important is participating in this (type of) prayer to you?" The answer scale to each question was set differently. Regarding the internal consistency of prayer types, the Cronbach's Alpha coefficients are as follows: obligatory prayer (α= .73), necessary prayer (α= .84), voluntary prayer (α= .86), supererogatory prayer (α= .90), supplication prayer (α= .88) and remembrance of God prayer α= .70) suggesting that a sufficient reliability was achieved for all multi-item prayer inventories in the current sample.[23]

2.2.2. Psychological Well-Being (PWB)

This 18-item PWB scale was created by Ryff and Keyes[24] to assess a variety of psychological well-being factors with an emphasis on long-term life involvement and fulfillment. These facets consist of six different but related psychological functions; "autonomy (i.e., the ability to resist social pressure in a certain way through being self-determined and independent), environmental mastery (i.e., the ability to manage and create a proper environment for

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[23]   Rex B. Kline, *Principles and Practice of Structural Equation Modelling* (New York: Guilford Press, 2011).

[24]   Carol D. Ryff - Corey Lee M. Keyes, "The Structure of Psychological Well-being Revisited", *Journal of Personality and Social Psychology* 69/4 (1995), 719-727.

personal needs), personal growth (i.e., the sense of continued development and self-knowledge), positive relatedness (i.e., the ability to build a trusting relationship with others), purpose in life (i.e., the aims held as to discovering meaning in life) and self-acceptance (i.e., the satisfaction in one's self despite possible diverse aspects of self)."[25] A brief version of the 18-item psychological well-being scale applied in the current study, has a 6-point response scale. Participants indicated the most suitable option for them among the response scales given (e.g., "Some people wander aimlessly through life, but I am not one of them" [Item 14]). The Cronbach's alpha for the overall PWB score was .73, with internal consistencies of each subscales; .25 for purpose in life; .51 for personal growth; .36 for autonomy; .52 for positive relations; .43 for environmental mastery; and .62 for self-acceptance. Ryff and Keyes found such comparable results for the shortened Psychological Well-being Scale in a US sample, with alphas of the subscales ranging between .33 to .56.

2.2.3. Subjective Well-Being (SWB)

Subjective well-being scale, on the other hand, is cognitive and affective evaluations that express short-term pleasant aspects of human existence, such as general satisfaction in life and positive and negative experiences corresponding to life problems.[26]

2.2.3.1. The Satisfaction with Life Scale (SWLS)

This 5-item scale designed to measure one's general assessment of his/her life experiences was developed by Diener et al. [27] The scale's items are rated on a Likert response scale from 1 (*strongly disagree*) to 7 (*strongly agree*) (e.g., "So far I have gotten the important things I want in life" [Item 4]). In the current sample, the internal consistency for the SWLS measure is .79.

2.2.3.2. The Positive and Negative Affect Schedule (PANAS)

The 20-item emotion-related scale aimed to measure both positive and negative mood factors was created by Watson et al.[28] With a 5-point response scale, all items are evaluated from 1 (very slightly or *not at all*) to 5 (*extremely*) to determine how participants felt over the past week (e.g., "I have felt distressed over the past week" [Item 2]). The positive affect (PA) reflects a state of one's feelings such as enthusiastic, alert, pride, and active while the negative affect (NA) reflects aversive mood states including fear, anxiety, sadness, guilt, anger, and stress. In the present study, the internal consistency for this scale is .84.

2.3. Research Procedure

Muslim participants were recruited through email lists from Islamic societies of five universities in addition to the local mosques and cultural centers in the UK. Respondents were either reached directly and sent an online questionnaire link to complete or were asked to take part in the survey through intermediators (the heads of each society or the mosque's clergy). In this research, the specifics of the research (such as the study's goal, the measurements used, and the participation criteria) were given to the target participants through a

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25 Guldas, *Prayer Types and Their Associations with Mental and Psychophysiological Health,* 38.
26 Diener, Ed et al., "Subjective Well-being: The Science of Happiness and Life Satisfaction". *Handbook of Positive Psychology.* ed. C. R. Synder - Shane J. Lopez. 63-73. New York: Oxford University Press, 2002, 63.
27 Ed Diener et al., "The Satisfaction with Life Scale", Journal of Personality Assessment 49 (1985), 71-75.
28 David Watson et al., "Development and Validation of Brief Measures of Positive and Negative Affect: The PANAS Scales", Journal of Personality and Social Psychology 54/6 (1988), 1063-1070.

web-based survey. The study measured demographics, different prayer types, and well-being dimensions. Inclusion criteria for the study were being Muslim and over the age of 18. The data collection procedure of this research was approved by the departmental ethic board of the University of Leicester (Leicester, UK).

2.4. Statistical Analysis

In this study, independent variables include six different prayer types as measures of religiosity. Dependent variables include two well-being variables that assess mental health indices. After examining the normality of the data distribution, descriptive statistics were used to define the mean and standard deviation scores of all variables by gender differences (Table 1). "First, Pearson product moment coefficients correlation analysis was conducted to examine the relationship between the multi-dimensional prayer forms and indices of well-being. Then, two multiple regression analyses were used to determine whether a type of prayer predicts psychological well-being and/or subjective well-being. In order to determine the effect size of the regression association, Cohen's convention considered an f^2 of .02 (accounts for 2% of the variance) to be a small effect, while .15 (accounts for 13% of the variance) is held to be a medium effect and .35 (accounts for 26% of the variance) is held to be a large effect (Cohen, 1988)."[29] The significance level was set at .05 in all statistical analyses. Since previous studies have shown inconsistent findings regarding mental health dimensions, each well-being measure was statistically analyzed separately. Furthermore, via the software package G*Power 3.1, the appropriate sample size was calculated[30] according to Cohen's guidelines.[31] Based on the result of G-Power analysis, the required sample size for this study is 206, which seem sufficient to answer the research questions. Thus, the probability of producing a Type II error has been minimized and a strong level has been achieved in all analyses.

3. Results

Table 1 presents mean and standard deviation statistics of the research variables by gender. As observed in Table 1, women scored significantly higher than men in some domains of well-being, such as self-acceptance, life satisfaction, and negative affect. In addition, women demonstrated significantly greater tendency towards supplication and invocation prayers than men. This finding contributes to the supporting literature addressing that women have consistently more religious tendency than men.[32] Notably, males scored significantly higher than females in obligatory prayer alone.

Table 1: Gender Differences of Mean (*SD*) Scores in Six Prayer Types and Well-being Variables (*N*= 214)

Scales	Woman (*n* = 145) Mean (*SD*)	Man (*n* = 69) Mean (*SD*)	*t*	*p*
Obligatory prayer	16.00 (4.24)	19.45 (4.67)	-5.38	.00
Necessary prayer	8.72 (3.87)	8.83 (4.00)	.18	.86

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[29] Guldas, *Prayer Types and Their Associations with Mental and Psychophysiological Health,* 40.

[30] Axel Buchner et al., "How to Use G*Power [Computer Software and Technical Manual]", 1997.

[31] Jacob Cohen, "Quantitative Methods in Psychology: A Power Primer", *Psychological Bulletin* 112/1 (1992), 155-159.

[32] Benjamin Beit-Hallahmi - Michael Argyle, *The Psychology of Religious Belief, Behaviour and Experience* (London: Routledge, 1997); John Maltby - Liz Day, "Religious Orientation, Religious Coping and Appraisal of Stress", *Personality and Individual Differences* 34 (20003), 1029-1039.

Voluntary prayer	30.60 (9.24)	31.10 (10.15)	-.36	.72
Supererogatory prayer	40.62 (19.25)	37.99 (18.50)	.95	.34
Supplication prayer	18.37 (4.76)	15.32 (7.11)	3.71	.00
Invocation prayer	10.40 (1.61)	9.10 (2.92)	4.16	.00
Autonomy	10.27 (2.40)	9.57 (2.91)	1.87	.06
Env. Mastery	9.54 (2.43)	10.23 (2.66)	-1.87	.06
Personal Growth	12.81 (2.14)	12.17 (2.70)	1.88	.06
Positive Relations	10.68 (2.87)	10.29 (2.68)	.94	.35
Purpose in Life	10.96 (2.62)	11.12 (2.69)	-.41	.68
Self-acceptance	10.50 (2.68)	9.41 (3.28)	2.58	.01
Life Satisfaction	20.03 (5.11)	18.14 (5.82)	2.41	.02
Positive Affect (PA)	20.70 (8.33)	19.10 (7.46)	1.36	.18
Negative Affect (NA)	13.34 (8.28)	9.68 (7.35)	3.14	.00

Notes. Env. Mastery = Environmental Mastery, $p < .05$

The significant relationships that arise between all variables among the overall sample are summarized in Table 2. When looking at the six prayer types, they all appear significantly interrelated. Although an inverse correlation was found with negative affect, the obligatory prayer was significantly correlated with environmental mastery and positive affect. Similarly, a positive correlation was obtained between the voluntarily prayer and only environmental mastery. Three variables of personal development, positive relations, and purpose in life were found to be positively associated with the supplication prayer. It has been found that the invocation prayer has a significant association with self-acceptance, satisfaction of life, and positive affect schedule. However, neither the psychological nor subjective well-being components showed any association with necessary prayer and supererogatory prayer.

Although a set of correlational comparisons of forms of prayer with indices of well-being was summarized in Table 2, the processes underlying these correlations are not fully clarified. Thus, two linear regression models were carried out to explore if any certain type of prayer would model psychological and/or subjective well-being variables uniquely. Table 3 shows how uniquely each type of prayer (obligatory, necessary, voluntary, supererogatory, supplication, and invocation) regresses on measures of well-being. Table 4 demonstrates the six types of prayer that regressed on the subjective well-being variable consisting of the life satisfaction assessment. "The result of the regression statistics as to psychological well-being was significantly different from zero; $F(6, 206) = 3.06$, $r = .29$, $r^2 = .08$, Adj. $r^2 = .06$, $p = .01$. The result of the regression analysis as to subjective well-being has been found as follows; $F(6, 206) = 1.07$, $r = .17$, $r^2 = .03$, Adj. $r^2 = .00$, $p = .38$.

Table 2: Correlations Between Six Prayer Types and Well-being Variables for All Participants

	M (SD)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Obligatory	17.11 (4.66)	-	.52**	.62**	.42**	.28**	.22**	-.04	.21**	-.03	.01	.04	.05	.07	.14*	-.16*
2. Necessary	8.76 (3.90)		-	.64**	.49**	.33**	.24**	-.05	.05	-.02	.01	-.03	-.08	.04	.03	-.06
3. Voluntarily	30.77 (9.52)			-	.63**	.40**	.34**	-.05	.18**	.05	.05	.05	-.03	.08	.10	-.06
4. Supererogatory	39.77 (19.01)				-	.47**	.40**	-.08	.09	.00	-.05	-.09	-.08	.07	.08	-.01
5. Supplication	17.38 (5.79)					-	.51**	.04	.02	.20**	.19**	.15*	.06	.07	.11	-.05
6. Invocation	9.98 (2.21)						-	.05	.07	.11	.09	-.08	.21**	.23**	.15*	-.02
7. Autonomy	10.04 (2.59)							-	.17*	.24**	.08	.09	.13*	-.01	.10	-.15*
8. Env. Mastery	9.77 (2.52)								-	.32**	.35**	.26**	.34**	.31**	.23**	-.34**
9. Personal Growth	12.61 (2.34)									-	.31**	.37**	.26**	.10	.23**	-.24**
10. Positive Reltions	10.55 (2.81)										-	.34**	.39**	.14*	.27**	-.17*
11. Purpose in Life	11.01 (2.64)											-	.16*	-.02	.12	-.09
12. Self-Aceptance	10.14 (2.93)												-	.56**	.27**	-.22**
13. Life Satisfaction	19.42 (5.41)													-	.39**	-.07
14. PA	20.19 (8.08)														-	.08
15. NA	12.16 (8.16)															-

Notes. N = 214. M= Mean; SD= Standard Deviation; Env. Mastery = Environmental Mastery; PA= Positive Affect; NA= Negative Affect; ** p< .01; * p< .05

Furthermore, the total variance of the linear combination of the ratings for six independent variables showed a small amount of variance ($R^2 = .02$), namely in explaining 0% of the total variance in the subjective well-being variable in which invocation prayer accounted for the unique variance in predicting the subjective well-being scores among the total sample ($\beta = .17, p = .04$)." [33] Despite the regression statistics, this is not being significantly different from zero.

Table 3: Linear Regression Analysis of Six Prayer Types on The Psychological Well-being

Variables	B	SE B	ß	t	Sig.
Obligatory prayer	.13	.18	.06	.70	.48
Necessary prayer	-.32	.22	-.13	-1.41	.16
Voluntary prayer	.16	.11	.15	1.44	.15
Supererogatory prayer	-.13	.05	-.25	-2.76	.01
Supplication prayer	.37	.14	.22	2.65	.01
Invocation prayer	.34	.35	.08	.97	.33

Note. $N = 213$; $R = .29$, $R^2 = .08$, Adj. $R^2 = .06$

$p < .05$

Table 4: Linear Regression Analysis of Six Prayer Types on The Life Satisfaction

Variables	B	SE B	ß	t	Sig.
Obligatory prayer	-.06	.27	-.02	-.22	.82
Necessary prayer	-.23	.33	-.06	-.68	.50
Voluntary prayer	.06	.16	.04	.35	.73
Supererogatory prayer	.03	.07	.03	.36	.72
Supplication prayer	-.08	.21	-.03	-.37	.71
Invocation prayer	1.09	.52	.17	2.08	.04

Note. $N = 213$; $R = .17$, $R^2 = .03$, Adj. $R^2 = .00$

$p < .05$

Unexpectedly, supererogatory prayer that is defined as ritual prayers showed a unique association with overall psychological well-being scores. The beta value (ß) of the supererogatory prayer shows an inverse direction in association with psychological well-being.

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[33]   Guldas, *Prayer Types and Their Associations with Mental and Psychophysiological Health,* 44-45.

It can be said that those who perform supererogatory prayer more often due to their self-attachment to life problems, this prayer may have a reminding effect on their life by recalling them of the negative sides of life. This conduct has the capacity to reduce the feeling of well-being.

4. Discussion

Based on previous findings, prayer has been found to be useful religious practice that offers better explanations for the relationships between religiosity and mental health. Numerous researchers have also revealed that people who perform prayer on a daily basis have higher levels of life satisfaction and improved health outcomes.[34] In Islam, there are many types of religious behavior that are very important to adherents' daily lives (such as donation, reading the Qur'ān, praying, ablution, etc). Here, the purpose of this research was to explore whether Islamic prayer types and mental well-being components are differentially related.

According to the present findings, obligatory (fard) prayer, voluntary (sunna) prayer, supplication (duʿāʾ) prayer, and invocation (dhikr/remembrance of God) prayer all have a significantly positively correlated with the well-being variables; however, necessary (wājib) prayer and supererogatory (nawāfil) prayer did not indicate any association with the well-being variables. With the exception of the supererogatory prayer among other prayer types, the findings from the multiple regression analysis show that the psychological or subjective well-being variables are not predicted by any ritual prayer types (obligatory, voluntarily and necessary prayers). In comparison to ritualistic prayers, the supplication type of prayer is uniquely found to be predictor of the psychological well-being, while the invocation prayer to be the best predictor of the life satisfaction. As a result, the current findings suggest that those who pray in the supplication and invocation forms of prayer, in which they seek guidance and protection from God and refresh their thoughts with a conscious awareness of God's existence.

Furthermore, it is interesting to note that not only supplication type of prayer but supererogatory prayer was also found to be a predictor of psychological well-being after using multiple regression analysis. Because, surprisingly, when Pearson product moment correlation coefficient analysis was used, no correlational results emerged for this type of prayer with any well-being variables. Strikingly, researchers who achieved such findings clarified this situation by emphasizing that when high inter-correlations were used, the resulting associations with dependent variables could be significantly altered by multiple predictors.[35] As such, it seems that supererogatory prayer with a state of self-reflection in the face of life problems or desires has inversely related with psychological well-being. The result is coherent with Poloma and Pendleton's previous research, in which a positive relation between ritual prayer and negative affect was found. Based on this previous finding, those who performed ritual prayer may be less likely to be happy, relaxed, or social. Given that, the present finding can be considered as one of the most important contributions gained in this study in terms of referring to the level of personal need beyond necessity. As a form of ritual prayer, this type of prayer was less likely to contribute to an individual's well-being. The reason for this is that this prayer, which is made due to its purpose-oriented nature and content, can carry the task of reminding the painful situation when faced with the stresses of daily life.

As the two prayer measurements were found to be consistent with James and Wells' (2003) cognitive-behavioral framework, the current research suggests that the types of sup-

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[34] Harold G. Koenig, "Religion and Depression in Older Medical Inpatients", *The American Journal of Geriatric Psychiatry* 15 (2007), 282-291.

[35] Brian P. Lancaster, "Defining and Interpreting Suppressor Effects: Advantages and Limitations", *Advances in Social Science Methodology.* ed. B. Thompson. 139-48 (Stanford CT: JAI Press, 1999); Maltby et al., "Prayer and Subjective Well-being", 119-129.

plication and invocation prayer are key factors in providing psychological support to individuals in reducing any stress, worry, or rumination they may face. Turning one's unlikeable minds and/or painful thoughts in a positive direction is better accomplished through these two kinds of prayer. Therefore, the above-mentioned result supports our final research question by implying that the suggested cognitive-behavioral framework may clarify different forms of Islamic prayer and various aspects of mental and well-being associations. It is suggested here that such a religious guiding schema may serve as an interpretative mechanism for life events, resulting in improved well-being outcomes.

Given the idea that prayer has a positive impact on psychological adjustments for appraising life events, the various types of prayer investigated in this research provide solid evidence for theory of James and Wells. And it also gives further direction to the multifaceted inquiry that underpins the strong links between religiosity and mental health. These prayer models can possibly be implicated in clinical services because a lot of evidence implies that they have the potential to help individuals cope with depressive emotions, ruminations, or life stressors. Religion's cognitive and behavioral processes seem to be beneficial in terms of seeking purpose in difficult situations, which is crucial to consider. Previous studies regarding the cognitive-behavioral model have been done on different facets of religiosity, such as religious orientations and various types of Christian prayer.[36] Hence, the current results, in terms of both on a theoretical basis and on a practical approach, are remarkable as they can provide a broader understanding on the associations between Muslim prayer types and psychological outcomes, and help to inform health practitioners about the role of different prayer models in clinical services.

In conclusion, this study aims to outline the proposed cognitive-behavioral framework's possible application to the variety forms of prayer and their differential relations with mental health. It can be observed that the potential link between religiosity and mental health will vary depending on what kinds of prayer and well-being components are taken into account.[37] The findings put forward that certain types of prayer (particularly supplication and invocation prayer) can be beneficially introduced by healthcare providers or counselors to address everyday stressors, and that the person may experience less anxiety, worry or depression as a result. It is also necessary to consider the significance of the applicability of certain faith systems in such health settings. Within the cognitive-behavioral framework, further research should be encouraged on the complex relationship between various types of prayer and other components of mental health, including other religious groups and communities that perform various prayer rituals. As a result of this, the opportunity to integrate prayer types into clinical practice will be improved.

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[36] James - Wells, "Religion and Mental Health", 359-376; Maltby et al., "Prayer and Subjective Well-being", 119-129; Maltby et al., "Religion and Health", 749-759.

[37] Larry. R. Petersen - Anita Roy, "Religiosity, Anxiety, and Meaning and Purpose: Religion's Consequences for Psychological Well-being", *Review of Religious Research* 27 (1985), 49-62.

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