Islamic Guidance and Counseling Journal
https://journal.iaimnumetrolampung.ac.id/index.php/igcj

# Spiritual Mindfulness-Based Intervention for Nomophobia: A Randomized Controlled trial

**Triantoro Safaria*[1], Diana Putri Arini[2], Nofrans Eka Saputra[3]**
[1] Universitas Ahmad Dahlan, Indonesia
[2] Universitas Khatolik Musi Charitas, Indonesia
[3] Universitas Jambi, Indonesia
triantoro.safaria@psy.uad.ac.id*

**Article Information:**
Received September 9, 2023
Revised October 5, 2023
Accepted October 28, 2023

**Keywords:** intervention; nomophobia; spiritual mindfulness

**Abstract**

Nomophobia has emerged as a new psychological issue in the modern world, indicating an increasing prevalence among young people. Therefore, there is a need for interventions to reduce nomophobic behavior. This study aimed to examine whether spiritual mindfulness intervention is effective in reducing individuals' levels of nomophobia. A randomized controlled trial was employed in this research, comparing pre-test, post-test, and follow-up scores between the experimental and control groups. A total of 60 participants voluntarily participated in 15 sessions of spiritual mindfulness. The participants in this study are Moslem, aged between 21 to 24, consisting of 50 (83.33%) females and 10 (16.67%) males. All participants are students of a private university in Yogyakarta. Independent t-tests and general linear models were used to analyze the data. The results of this study demonstrate that spiritual mindfulness intervention has an impact on reducing individual nomophobia levels in the experimental group. Meanwhile, individuals in the control group showed an increase in their nomophobic behavior. In conclusion, spiritual mindfulness intervention is effective in reducing nomophobia levels by 70.8%, as indicated by the partial eta squared value. Further explanations of the psychological dynamics are detailed in this article.

## INTRODUCTION

The progress of information technology and the internet has brought about changes in every aspect of life and individual behavior (Bragazzi & Del Puente, 2014; King, 2014; Aguilera-Manrique et al., 2018; Durak, 2018). The remarkable progress in information technology and internet speed has rendered smartphones an indispensable component of people's everyday existence (Lee et al., 2018; Kara et al., 2019; Jahrami et al., 2021). The development of Android-based and iOS-based applications as well as various other programs has made the capabilities of smartphones limitless (Yildirim & Correia, 2015; Pivetta et al., 2019; Güner & Demir, 2021). The various functions that support individual activities have turned the phone into an essential tool. The high demand for the functions offered by smartphones has led to excessive dependence on the devices themselves (Brown et al., 2013; Billieux et al., 2015; Nawaz et al., 2017; Bekaroğlu & Yılmaz, 2020; Berdida & Grande, 2023).

Several negative impacts of unhealthy phone usage have given rise to internet addiction (James et al., 2023), social media addiction (Kim et al., 2009; Arness & Ollis, 2022; Boniel-Nissim et al., 2022), problematic phone usage (Wang et al., 2015; Muench & Muench, 2020), phubbing (Tomczyk & Lizde, 2022), FoMO (Popovac & Hadlington, 2019; Mannion et al., 2021; Swiatek et al., 2021; O'Brien et al., 2022; Sun et al., 2022), and nomophobia

How to cite: Safaria, T., Arini, D. P., & Saputra, N. E. (2023). Spiritual Mindfulness-Based Intervention for Nomophobia: A Randomized Controlled trial. *Islamic Guidance and Counseling Journal, 6*(2). https://doi.org/10.25217/0020236404400
**E-ISSN:** 2614-1566
**Published by:** Institut Agama Islam Ma'arif NU (IAIMNU) Metro Lampung

(Argumosa-Villar et al., 2017; Bekaroğlu & Yılmaz, 2020; Ercengiz et al., 2020; Valenti et al., 2022).

Nomophobia, short for 'no mobile phone phobia, refers to the "fear of not being able to use a mobile phone or not being able to be contacted via phone" (Yildirim & Correia, 2015). Nomophobia refers to the "discomfort or anxiety experienced by individuals when they cannot use their phone or make use of the features provided by this device" (King, 2014). Nomophobia is a "new type of disorder related to smartphone use" (Bragazzi & Del Puente, 2014; Adawi et al., 2019; Jahrami et al., 2021) or a disorder in the modern era (Argumosa-Villar et al., 2017; Avci, 2022) caused by problematic phone usage (Valenti et al., 2022). Therefore, there have been suggestions to include nomophobia as a "specific phobia" in the "situation phobia" category in the Diagnostic and Statistical Manual of Mental Disorders by the American Psychiatric Association (APA) (Bragazzi & Del Puente, 2014).

Previous research has shown several harmful effects for individuals with high levels of nomophobia. The harmful impacts of nomophobia have been found to correlate with distress and depression (Durak, 2018; Darvishi et al., 2019; Kuscu et al., 2021), loneliness (Valenti et al., 2022), paranoid ideation (Bekaroğlu & Yılmaz, 2020), FoMO (Mannion et al., 2021), phubbing (Tomczyk & Lizde, 2022), phone use while driving (Di Milia et al., 2011; O'Hern & Stephens, 2022), problematic social media use (Berdida & Grande, 2023), decreased happiness (Dai et al., 2021), decreased academic performance (Qutishat et al., 2020), decreased productivity (Arora & Chakraborty, 2020), smartphone addiction (Anshari et al., 2019), and insomnia (Jahrami et al., 2021). Hence, appropriate interventions are needed to reduce nomophobia symptoms in individuals. One promising intervention that has shown effectiveness is mindfulness-based intervention (Arpaci et al., 2017; Pratikta, 2020; Prameswari & Yudiarso, 2021; Strauss et al., 2023).

## Literature Review

Mindfulness is commonly described as "the awareness that arises through paying attention on purpose, in the present moment, non-judgmentally, to the unfolding of experience moment by moment" (Kabat-Zinn, 2005). Mindfulness is defined as "the engaged process of fully attending, in a discerning way, to the experiential phenomena that arise from one moment to the next, maintained from one moment to the next" (Shonin & Van Gordon, 2014; Frostadottir & Dorjee, 2019). Although, mindfulness techniques used in mental health settings are based on Buddhist models (Bishop et al., 2004; Shonin & Van Gordon, 2014). However, in other religious traditions, similar practices are also known. In the Christian tradition, practices like Centering Prayer and Lectio Divina exist (Keating, 1996; Foster, 2015). Meanwhile, in the Islamic tradition, there are practices of dhikr (remembrance of God), salat (prayer), and tafakkur (contemplation), which emphasize creating a state of profound presence and inner connection with Allah (Hamsyah & Subandi, 2017).

Mindfulness is the practice of self-regulating attention while adopting an orientation of acceptance, curiosity, and openness to current experiences (Williams & Bakitas, 2012; Michalak et al., 2015). Meanwhile, Mindfulness-Based Interventions (MBI) focus on actively changing attention and awareness, with mindfulness also being conceptualized as a dispositional trait (Hanh, 2023). Individuals with high dispositional mindfulness tend to be non-reactive and non-judgmental toward their internal experiences; they are observant of their thoughts and emotions and act with awareness and concentration in their daily activities (Kabat-Zinn, 2005; Khoury et al., 2013).

Mindfulness training aims to make individuals aware of the present moment, developing a holistic awareness that includes recognizing physical sensations, perceptions, emotional states, thoughts, and mental images. The ultimate goal of mindfulness training is to cultivate and develop nonjudgmental awareness, involving full focus without emotional

interference. Previous research has provided evidence that mindfulness interventions can reduce psychological stress and medical symptoms (Carmody et al., 2008), decrease insomnia and depression symptoms (Carmody et al., 2008; Reangsing et al., 2021; Purwanto et al., 2023), alleviate anxiety (Burgstahler & Stenson, 2020), and mitigate fatigue (Green & Kinchen, 2021). Additionally, prior research has shown that mindfulness-based interventions can lower stress levels, enhance performance and quality of life (Márquez et al., 2021; Purwanto et al., 2023), and reduce mood disturbances (Chang et al., 2018). This study will integrate Islamic spirituality with mindfulness in an intervention to alleviate nomophobia. Previous research has shown the positive role of spirituality in individuals' mental health (Miller & Thoresen, 2003; Koenig, 2014; Seybold & Hill, 2016). Therefore, in this article, spirituality will be explained in greater depth. A bridge is needed for a better transition. So, the discussion from mindfulness to spirituality will not be abrupt.

Spirituality has become an important theme in health research (Ghorbani et al., 2012; Lintang, 2021), including incorporating spirituality into mental health interventions (Miller & Thoresen, 2003; Sutton, 2010; Ghorbani et al., 2016). Previous research findings indicate that spirituality significantly contributes to individual well-being (Miller & Thoresen, 2003; Koenig, 2014; Seybold & Hill, 2016) and has a positive impact on mental health in general (Hadzic, 2011; Ghorbani et al., 2012; Musa, 2015). Numerous studies have linked the effects of spirituality to positive physiological, emotional, and psychological growth in individuals (Hayman et al., 2007). This is because in many cultures, individuals view spirituality as an essential part of their existence, making the integration of spirituality into interventions and counseling are important (Bauer & Johnson, 2018; Keleshteri & Rohani, 2019; Brown et al., 2022).

Religion and spirituality have demonstrated their influence on how individuals experience life, respond to their environment, interact with their social surroundings, and make decisions that impact their overall mental health (Pargament et al., 1988; Thurston, 1999). The spiritual dimension has been significantly tested as an important social and psychological resource in an individual's ability to cope with stress and negative life events (Pargament et al., 1988; Koenig, 2014). (Hayman et al., 2007) reported that spirituality serves as a buffer against the effects of stress on an individual's self-esteem; the higher an individual's level of spirituality, the stronger their ability to cope with stress and maintain adequate self-esteem. Additionally, positive contributions of the spiritual dimension have been found in individuals with depression, where individuals with meaningful spirituality can effectively overcome their depression (Subandi et al., 2010; Coelho-Junior et al., 2022; Di et al., 2023) and manage anxiety well (Graham et al., 2001).

For Muslims, one of the practices recommended by the Islamic faith is "*dhikr*" or remembrance of Allah (Hamsyah & Subandi, 2016). *Dhikr* involves recalling and uttering the name of Allah for the purpose of strengthening faith, cultivating piety, and worshiping Him (Mitha, 2018). Dhikr is a practice that can be carried out more flexibly; for instance, we can engage in dhikr during journeys, before sleep, while walking, jogging, and even during meditation or self-contemplation (Kosasih, 2015; Ghorbani et al., 2016; Sulistyawati et al., 2019).

Allah SWT states in the Quran that individuals who consistently engage in *dhikr*, both in times of joy and hardship, will find tranquillity and peace in their lives (Bonab et al., 2013). Many individuals experiencing depression, distress, frustration, and disappointment resort to escaping their problems through substance abuse, nightlife, and alcohol consumption. However, these coping mechanisms do not resolve their issues; instead, it adds to the already heavy psychological burden and increases the risk of suicidal actions. Allah SWT says, "Those who have believed and whose hearts are assured by the remembrance of Allah. Unquestionably, by the remembrance of Allah hearts are assured." (Q.S. Ar-Ra'd: 28).

Dhikr originates from the Arabic language, derived from the root word "*dzakara, yadzkuru, & dzikran*" which means to mention and remember (Al-Banna, 2016; Yunus, 2015). *Dhikr* is also related to the root word "*zhikr*," which means to remember, mention, and teach (Arifin, 2020; Basri, 2021). In addition to the above definitions, there are several meanings of dhikr found in the Quran. First, dhikr is understood as lessons, as stated in Allah SWT's words, "And We have certainly made the Quran easy to remember, so is there any who will remember?" (Q.S. Al Qamar: 17).

Second, *dhikr* is seen as the Quran itself, as in the verse, "That is what We recite to you, [O Muhammad], of [Our] verses and the precise [and wise] message [of the Qur'an]." (Q.S. Ali Imran: 58). Third, *dhikr* is associated with great honor, as Allah SWT says, "And indeed, it is a noble Qur'an. In a Register well-protected." (Q.S. Az-Zuhruf: 44). Fourth, dhikr serves as a reminder, as seen in the verse, "Then have you become oblivious that there has come to you a reminder from your Lord through a man from among you, that he may warn you?" (Q.S. Al-A'raf: 68). Fifth, *dhikr* is explained, as in the verse, "The mention of the mercy of your Lord to His servant Zechariah." (Q.S. Maryam: 2).

From these explanations, it can be concluded that according to the Quran and As-Sunnah, *dhikr* encompasses all forms of remembering Allah, uttering His name through various forms such as reciting "*tahlil*" (*la ilaha illallah*), "*tasbih*" (*subhanallah*), "*tahmid*" (*alhamdulillah*), "*taqdis*" (*subbuhun quddusun rabbul malaa'ikati war-ruuh*), "*takbir*" (*Allahu akbar*), "*tasmiyah*" (*bismillah*), "*hasbalah*" (*hasbunallahu wa ni'mal wakeel*), reciting the beautiful names of Allah (*asmaul husna*), and reading supplications passed down from the Prophet Muhammad SAW. This study combines elements of Islamic spirituality (*dhikr*) with mindfulness intervention for Muslim college students to examine whether it has a positive effect on reducing the levels of nomophobia.

**Rationale o the Study**

Nomophobia has become an increasingly prevalent disorder among mobile phone users worldwide (Bragazzi & Del Puente, 2014; S et al., 2017; Anshari et al., 2019; Berdida & Grande, 2023). The rising incidence of nomophobia cannot be left unaddressed due to its cascading negative impacts on individuals' lives (Catone et al., 2020; Kaur et al., 2021; Lin et al., 2021; Jahrami et al., 2022). Therefore, the need for an intervention to address this issue is evident. (Arpaci et al., 2020) have identified the role of mindfulness in relation to nomophobia, where mindfulness shows a negative correlation with nomophobia. This suggests that individuals with higher levels of mindfulness tend to exhibit lower nomophobic behaviors. Meanwhile, for Muslims, the values and principles of Islamic teachings hold significant importance and influence every aspect of Muslims' experiences, behaviors, and lives (Achour et al., 2015; Makin, 2016; Achour et al., 2021). Utilizing the strength of Islamic teachings in a psychological intervention is believed to be crucial and determinant of the success of the intervention provided (Ghorbani et al., 2012; Achour et al., 2015). This is because the intervention aligns with the beliefs and convictions of Muslims, thereby significantly impacting their spiritual growth (Bonab et al., 2013; Kahn, 2014; Salleh et al., 2015; Ahmad & Khan, 2016).

One significant ritual in Islamic teachings is "*dhikr*" or remembrance of Allah. Current research incorporates dhikr into the mindfulness intervention process (Salleh et al., 2015). *Dhikr* itself means remembering Allah. The Quran states that when Muslims engage in dhikr or "remember Allah," their hearts attain tranquility (Iskandar & Dirhamsyah, 2019; Sulistyawati et al., 2019). Dhikr becomes a central act of worship in Islamic teachings that strengthens the faith, piety, and spiritual meaningfulness for Muslims (El-Menouar, 2014; Musa, 2015; Sulistyawati et al., 2019; Kusuma et al., 2020). Previous studies indicate that incorporating dhikr into psychological interventions has positively contributed to the mental

health of Muslim individuals (Iskandar & Dirhamsyah, 2019). (Purwanto et al., 2023) shows that dhikr mindfulness breathing significantly improves the quality of life for individuals with insomnia. (Agustina et al., 2020) finds that using the intervention of *dhikr* "*asma ul husna ya Rahman ya Rahiim*" reduces anxiety in the elderly. (Kusuma et al., 2020) discovers that dhikr therapy can lower anxiety levels in patients with chronic renal failure undergoing haemodialysis. (Soliman & Mohamed, 2013) demonstrates that dhikr meditation and jaw relaxation reduce anxiety and pain in patients undergoing surgery. However, research that combines Islamic spirituality (dhikr) with mindfulness to reduce nomophobia is still quite limited. Therefore, this study aims to bridge this knowledge gap and provide new insights for the field, particularly regarding addressing nomophobia through a spiritual mindfulness approach.

### Hypothesis

The purpose of this research is to examine whether spiritual mindfulness intervention is effective in reducing nomophobia symptoms among Muslim students. Therefore, the proposed hypothesis is that spiritual mindfulness-based intervention is effective in reducing nomophobia symptoms among Muslim students. – only one hypothesis, so the title should be revised or list all of the hypotheses if available.

## METHODS

### Research Design

This study employed a randomized controlled trial design. Participants were randomly assigned in a 1:1 ratio to either the experimental group or the control group. The research followed the guidelines of the Consolidated Standards of Reporting Trials (CONSORT) (Hopewell et al., 2008; Moher et al., 2010; Eldridge et al., 2016; Butcher et al., 2022), the World Medical Association Declaration of Helsinki (1964) last updated in 2013, as well as the International Ethical Guidelines for Biomedical Research Involving Human Subjects (CIOMS 2016). This study received approval from The Research Ethics Committee of Universitas Ahmad Dahlan (Ethics Number: 012206071 KEP UAD).

### Participants

Open recruitment for participants of this study was carried out in July 2023 through a WhatsApp group of the class taught by the researcher. The purpose of open recruitment is to inform potential participants about the experimental study on spiritual-mindfulness to reduce nomophobia symptoms. Individuals who are interested and feel that they have nomophobia symptoms can participate in the offered intervention. A total of 85 students registered and were initially eligible, but after conducting screening using Nomophobia questionnaire, 7 students did not meet the inclusion criteria, and 12 students stated that they would not participate for various reasons. In the end, 66 participants met the criteria and were randomly divided into the experimental and control groups in a 1:1 ratio. The inclusion criteria were as follows: (1) having moderate to high Nomophobia scores (score > 32), (2) a Moslem, and (3) being willing to engage. The exclusion criteria were: (1) having low Nomophobia scores, (2) currently experiencing severe psychological disorders. The participants in this study are aged 21 to 24, consisting of 50 (83.33%) females and 10 (16.67%) males. All participants are students of a private university in Yogyakarta.Furthermore, product implementation on a wide scale involved 106 students. Sampling was carried out using a stratified cluster random sampling technique, categorized into state schools and private schools. From each category, one school was then taken using a cluster random sampling technique. Next, using the same sampling technique, two classes were taken from each school. The first class was designated as the experimental, and the second class was defined as the control. Based on this sampling

flow, the number of samples in the experimental class was 54 students, while the control class was 52 students. The research sample characteristics for the implemented product are presented in Table 2.

### Randomization

Randomization, blinding, and controlled trial methods were employed in this research. The research assistant and the outcome evaluator remained blinded throughout the 15 intervention sessions. Participants were randomly assigned to two groups using the random.org application. Random.org is a website and service that provides truly random numbers and other random data. Random.org generates randomness from atmospheric noise. This noise is collected through the use of hardware devices, like radio receivers, that monitor electromagnetic radiation in the atmosphere. Since atmospheric noise is unpredictable and uncontrollable, it serves as a source of true randomness. Random.org uses hardware random number generators (HRNG) to convert the collected atmospheric noise into random numbers. These HRNGs are designed to provide a continuous stream of random bits. The random bits obtained from the HRNGs are processed to ensure they meet the required statistical properties of randomness. This includes testing for bias and independence. An independent facilitator, who was blinded to the subject groups, divided the participants into the two groups. A data processing team that was also blinded was responsible for analyzing the research data.

### Interventions

The participants attended 15 sessions of spiritual-mindfulness intervention. The intervention consisted of 15 sessions in 7 days, each lasting for 1.5 hours. Three trained facilitators, with master's and doctoral degrees, who were well-versed in the intervention manual, delivered the sessions. The research design employed in this study was a randomized controlled trial with a pre-post test approach. The intervention consisted of 15 sessions, each lasting for 1.5 hours. The sessions encompassed various aspects, including spiritual-mindfulness techniques related to breathing sensation, body sensation, brain sensation, and feeling sensation all combined with dhikr uttering repetition (Ya Rahmaan Ya Rahiim). Additionally, the intervention included supplementary materials such as biofeedback sensation, emotion regulation management, self-control skills, and smartphone management. Table 1 presents the primary materials used in the intervention.

The module was developed based on the theory of spiritual psychology and mindfulness-based intervention by the researcher. An expert panel was formed to evaluate the designed module The expert panel consisted of four individuals specializing in clinical psychology, holding doctoral degrees, and having practiced psychotherapy for 10 years. The experts' specialties included psychotherapy, mindfulness intervention, and spirituality. Inputs from these experts were used to enhance the intervention module, aligning it with the intervention goals and making it more effective in achieving them. The expert panel's feedback covered various aspects, including session duration, content delivered to participants, homework materials, PowerPoint materials, and specific techniques that were refined for greater utility.

After undergoing evaluation by the expert panel and refining the intervention module, the next step involved testing the improved intervention module with 15 participants. The intervention was conducted over 15 sessions. Additionally, a trial was conducted involving the use of a spiritual mindfulness journal booklet, a daily record book that applied the principle of self-monitoring. This journal served as a homework task for participants to complete throughout the week, which was subsequently evaluated for its content.

Overall, participants stated that the provided intervention module was well-designed and comprehensible. Feedback from participants suggested adjusting the timing of material delivery in each session to allow for brief breaks. After summarizing the trial participants' feedback, the intervention module was further improved and prepared for implementation within the experimental group of the study.

Table 1. Description of Material Content in the Intervention

| Module Material | Content Description |
|---|---|
| Breathing sensation | This material teaches and trains participants to become more aware of the breathing process, including awareness of the breath's pace, the flow of air in and out of the nose, throat, abdomen, and lungs, as well as awareness of any sensations that occur during the act of breathing. |
| Body sensation | This material teaches and trains participants to become more aware of every sensation occurring in their bodies, including muscles throughout the entire body, starting from the upper body, which is the head, down to the lower body, which is the feet. It also involves becoming aware of tension in their muscles and specific areas of their body. By being conscious of every sensation in their body, individuals will be able to control and achieve overall relaxation related to their body's condition. |
| Brain sensation | This material teaches and trains participants to become more aware of every thought that arises in their mind, recognize the emergence of passing memories, become aware of what troubles their thoughts, observe every leap of thought, ideas, or memories in their mind. Developing this awareness will enhance an individual's self-awareness and self-reflection, making them less susceptible to negative thoughts and anxious thinking. |
| Feeling sensation | This material teaches and trains participants to become more aware of every emotion that arises, to label their emotions, understand these emotions, and fully accept each emotion mindfully. The expectation is that participants will be able to manage their emotions effectively and constructively in the future, particularly in relation to negative emotions that cause psychological stress and pressure. |
| Biofeedback sensation | This material teaches and trains participants to become more aware of their physiological responses, particularly the relationship between thoughts, breathing, and heart rate. In the process, the material utilizes a biofeedback tool called heart rate variability (HRV), which directly detects changes in heart rate on a second-by-second basis. Through this intervention, participants can understand how mindfulness in thoughts and breathing can regulate heart rate. This skill will enable participants to continuously create a state of relaxation within themselves. |
| Emotion regulation skill | This material teaches and trains participants to become more aware, understand, and accept their emotions, both positive and negative, while also being able to manage these emotions constructively. Through this material, participants are taught how to appropriately and effectively reduce the intensity of their emotions. One of the topics covered is emotional management through cognitive reappraisal. |
| Self-control skill | This material teaches and trains participants on how to strengthen self-control through the use of emotion regulation skills, mindfulness, relaxation, and spirituality learned in previous sessions. It also provides individuals with an understanding of their current level of self-control and what needs to be done to enhance it. |
| Smartphone management | This material teaches and trains participants on how to manage smartphone usage in a healthy manner, avoid excessive smartphone usage, refrain from using smartphones as a compensation for stress, and establish a schedule or goals for smartphone usage that benefit positive activities. |

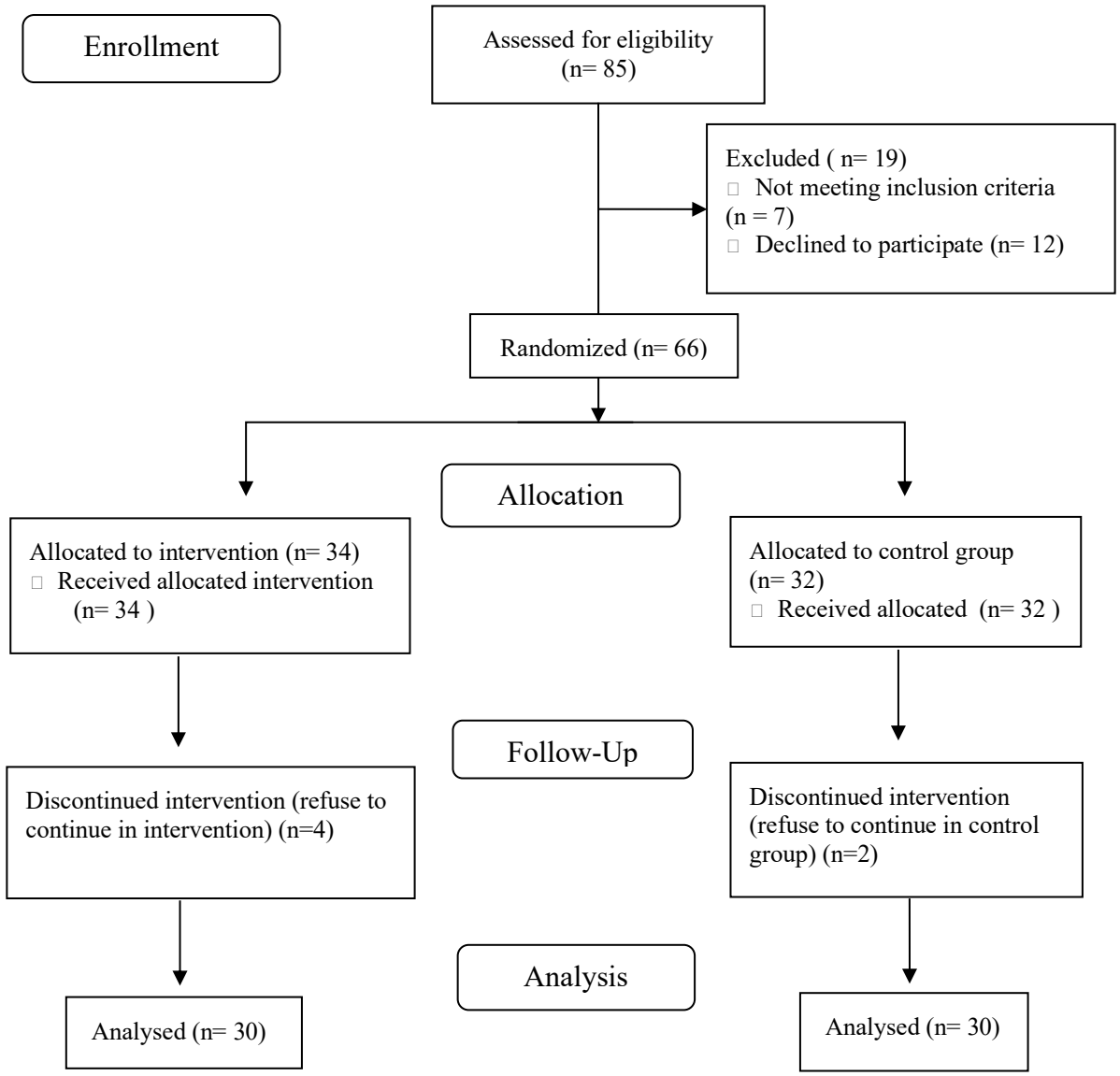


Figure 1. Flow Diagram of the Progress through the Phases of a Parallel Randomized Trial of Two Groups

**Outcomes**

This research utilized the Nomophobia Questionnaire developed by (Yildirim & Correia, 2015) to measure the intervention outcome, namely the level of nomophobia. The nomophobia scale by (Yildirim & Correia, 2015) comprises four dimensions: "not being able to communicate," "losing connectedness," "not being able to access information," and "giving up convenience." Prior to usage, the researchers made modifications and translated the items of this scale to make them more suitable for the research context and respondents. Sample items include: “I would feel anxious because I could not instantly communicate with my family and/or friends,” “I would be nervous because I would be disconnected from my online identity,” “I would feel uncomfortable without constant access to information through my smartphone,” “If I did not have a data signal or could not connect to Wi-Fi, then I would constantly check to see if I had a signal or could find a Wi-Fi network.” The Cronbach's alpha coefficient of this scale is 0.864, with item-total correlations ranging between 0.311 and 0.775.

### Statistical Methods

The data were analyzed using descriptive analysis and independent t-tests through gain scores and also general linear model by a blinded independent team to prevent research bias in the results. Data analysis was conducted using Statistical Package for the Social Sciences program (SPSS version 25).

## RESULTS AND DISCUSSION

### Results

This randomized controlled trial aimed to examine whether spiritual mindfulness-based intervention could reduce the level of nomophobia. The chosen approach involved incorporating Islamic teachings through the practice of "dhikr" (remembrance of God). The participants of this study were Muslim students with moderate to high nomophobia scores. The data analysis results are presented in Table 1 below.

Based on the gain score analysis using an independent t-test, the results indicate a significant difference in gain scores between the experimental group and the control group ($t = -8.409$, $df = 58$, $p = 0.000$). The experimental group showed a reduction in the mean nomophobia score by -1.83, in contrast to the control group's mean score of .400 This analysis suggests that the spiritual mindfulness-based intervention effectively reduced the level of nomophobia in the experimental group, while no decrease in nomophobia scores was observed in the control group.

Table 2 presents the descriptive statistics for the Nomophobia mean scores of both the experimental group and the control group at three distinct time points: pre-test, post-test, and follow-up. The table includes the mean and standard deviation for each group at each of these stages.

Initially, during the pre-test phase, the control group exhibited a slightly higher mean Nomophobia score, with a mean of 47.00, compared to the experimental group, which had a mean score of 43.96. This suggests that before any intervention, individuals in the control group may have experienced a somewhat higher level of Nomophobia.

Moving to the post-test results, both groups showed a decrease in their Nomophobia scores following the intervention. However, it is noteworthy that the experimental group demonstrated a more significant reduction in their mean score, which decreased from 43.96 to 42.20. In contrast, the control group's mean score only slightly decreased from 47.00 to 47.40. This indicates that the intervention had a more pronounced effect on reducing Nomophobia symptoms in the experimental group compared to the control group.

Table 2. Independent t-Test with Gain Score Results (N = 60)

| | | N | Mean | SD | F | Sig. | t | df | Sig. |
|---|---|---|---|---|---|---|---|---|---|
| Gain Score | Experimental | 30 | -1.83 | .9498 | .277 | .601 | -8.409 | 58 | .000 |
| | Control | 30 | .400 | 1.101 | | | | | |

Note: $p < 0.05$ indicates a statistically significant result

Table 3. Descriptive result of Nomophobia Mean score (N=60)

| | Group | M | SD |
|---|---|---|---|
| Pre-Test | Experimental | 43.96 | 4.66 |
| | Control | 47 | 3.74 |
| Post-Test | Experimental | 42.2 | 4.62 |
| | Control | 47.4 | 3.24 |
| Follow-Up | Experimental | 40.8 | 4.31 |
| | Control | 47.6 | 3.24 |

Table 4. Tests of Within-Subjects Effects result on Nomophobia (N=60)

| Source | | Type III Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Time | Sphericity Assumed | 47.211 | 2 | 23.606 | 23.556 | .000 |
| | Greenhouse-Geisser | 47.211 | 1.606 | 29.401 | 23.556 | .000 |
| | Huynh-Feldt | 47.211 | 1.673 | 28.220 | 23.556 | .000 |
| | Lower-bound | 47.211 | 1.000 | 47.211 | 23.556 | .000 |
| Time * Group | Sphericity Assumed | 111.211 | 2 | 55.606 | 55.489 | .000 |
| | Greenhouse-Geisser | 111.211 | 1.606 | 69.258 | 55.489 | .000 |
| | Huynh-Feldt | 111.211 | 1.673 | 66.475 | 55.489 | .000 |
| | Lower-bound | 111.211 | 1.000 | 111.211 | 55.489 | .000 |

As we transition to the follow-up assessment, we continue to observe a notable difference between the two groups. The experimental group maintained a lower mean Nomophobia score of 40.80, while the control group had a mean score of 47.60. This suggests that the positive effects of the intervention persisted in the experimental group even at the follow-up stage, indicating the durability of the intervention's impact.

In summary, the data reveals that, initially, the control group had a higher level of Nomophobia. However, as a result of the intervention, the experimental group consistently displayed lower mean scores in subsequent assessments. This underscores the effectiveness of the intervention in reducing Nomophobia symptoms and its ability to sustain these positive effects over time, as demonstrated in the follow-up evaluation.

Table 3 presents the results of Tests of Within-Subjects Effects on Nomophobia, encompassing a total of 60 study participants. This table provides insights into the impact of time (pre-test, post-test, and follow-up) and the interaction between time and group (experimental and control) on the mean scores of nomophobia.

The F-statistic pertaining to the time factor stands as notably significant ($F = 23.556$, $p < 0.001$). This signifies a statistically significant difference in mean scores across the three time points. Essentially, it suggests that, on average, there is a noticeable alteration in nomophobia scores over time for all study participants.

Furthermore, the table also furnishes results regarding the interaction between time (pre-test, post-test, and follow-up) and group (experimental and control). The F-statistic for this interaction is highly significant ($F = 55.489$, $p < .001$), signifying a substantial interaction effect between time and group. This implies that the changes in nomophobia scores over time differ between the experimental and control groups.

Table 5. Tests of Between-Subjects Effects on Nomophobia result (N=60)

| Groups | | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |
|---|---|---|---|---|---|---|---|
| Experimental Group | Pillai's trace | .708 | 68.997[a] | 2 | 57 | .000 | .708 |
| | Wilks' lambda | .292 | 68.997[a] | 2 | 57 | .000 | .708 |
| | Hotelling's trace | 2.421 | 68.997[a] | 2 | 57 | .000 | .708 |
| | Roy's largest root | 2.421 | 68.997[a] | 2 | 57 | .000 | .708 |
| Control Group | Pillai's trace | .100 | 3.158[a] | 2 | 57 | .050 | .100 |
| | Wilks' lambda | .900 | 3.158[a] | 2 | 57 | .050 | .100 |
| | Hotelling's trace | .111 | 3.158[a] | 2 | 57 | .050 | .100 |
| | Roy's largest root | .111 | 3.158[a] | 2 | 57 | .050 | .100 |

Based on the results presented in Table 4, it is evident that a significant interaction effect exists, leading to discernible changes in nomophobia scores over time (pre-test, post-test, and follow-up) for all participants in the study. Moreover, the significant interaction effect between time and group indicates that these changes over time differ between the experimental and control groups. Notably, the experimental group, which received the spiritual mindfulness intervention, demonstrated lower nomophobia scores in both the post-test and follow-up assessments compared to the control group. This highlights the more pronounced impact of the spiritual mindfulness intervention in reducing nomophobia scores within the experimental group. Additionally, the analysis reveals that in the experimental group, a Partial Eta Squared value of 0.708 was obtained, signifying that the provided spiritual mindfulness intervention led to a substantial 70.8% reduction in nomophobia, while the control group exhibited only a minimal reduction of 0.10%.

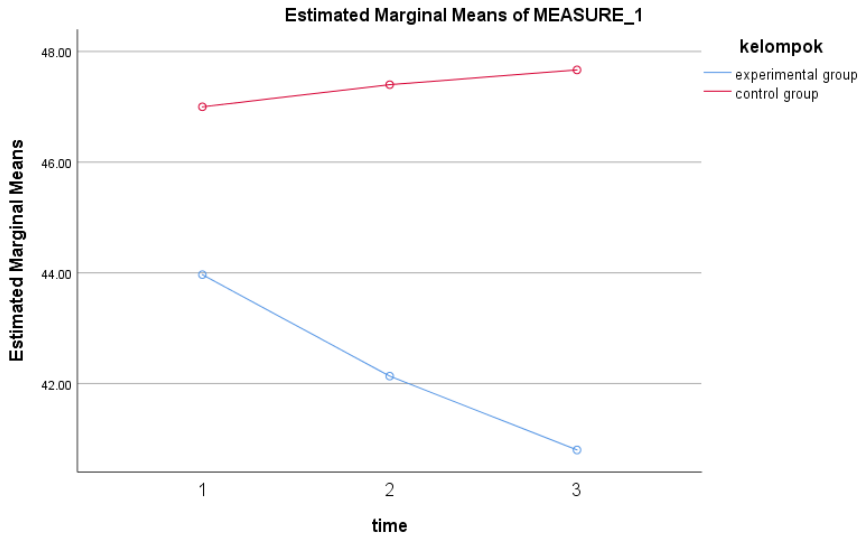


Figure 1. Graph of pre-test, post-test, and follow-up nomophobia scores between the experimental and control groups

In Figure 1 above, we can observe the changes in nomophobia scores between the experimental and control groups. In the experimental group, a decrease in nomophobia scores is evident from the pre-test to the post-test and follow-up. Conversely, in the control group, an increase in nomophobia scores is observed. The reduction in nomophobia scores in the experimental group indicates that the spiritual mindfulness intervention is quite effective and has an impact on addressing nomophobic behavior in individuals who received the intervention. Meanwhile, individuals who did not receive the intervention show an increase in their nomophobic behavior.

## Discussion

The findings of this study demonstrate that spiritual mindfulness-based intervention with dhikr uttering can effectively reduce nomophobia, as evidenced by the lower gain scores in the experimental group compared to the control group. This study corroborates previous research for instance, Liu et al. (2018) found a positive relationship between perceived stress and problematic use mediated by self-control and moderated by mindfulness. In other words, stress can lead to self-control deficits, driving problematic use when mindfulness is low. Li & Hao (2019) discovered that the negative impact of alexithymia on smartphone addiction weakens in individuals with high mindfulness, suggesting that mindfulness protects against

harmful usage in those who are less reflective of their emotional states. (Arpaci et al., 2020) found a significant negative relationship between mindfulness and nomophobia. The higher the individual's mindfulness, the lower their level of nomophobia. Mindfulness intervention also associated with a decrease in addictive behaviors. High mindfulness also exhibits a protective effect against addictive behaviors, including perceived stress (Tseng et al., 2023), sleep problem, fatigue, depression and anxiety (Black, 2014; Kaviani et al., 2011; Williams & Penman, 2018), smoking addiction (Black, 2014) and alcohol use (Karyadi & Cyders, 2015).

Mindfulness is a state of present-moment awareness that involves being attentive and nonjudgmental toward thoughts, feelings, and sensations being experienced (Kabat-Zinn, 2005). In the context of reducing nomophobia (the fear of being without mobile devices or internet access), mindfulness practices can have physiological and psychological effects that help alleviate nomophobia symptoms. Mindfulness practices have been shown to reduce stress levels and lower the production of the cortisol hormone (Creswell et al., 2014). Cortisol is a stress hormone that can contribute to increased nomophobia symptoms. By reducing stress and cortisol, mindfulness practices can help alleviate the anxiety associated with the fear of losing access to mobile devices (Baer, 2003; Arpaci et al., 2020). Mindfulness can also activate the relaxation response through the parasympathetic nervous system, which balances the fight-or-flight response of the sympathetic nervous system (Baer, 2003; Roeser & Peck, 2009; Creswell et al., 2014; Hallauer et al., 2022). This can help lower heart rate and blood pressure, which can become elevated due to nomophobia symptoms.

Furthermore, from a psychological perspective, mindfulness involves being aware of thoughts, feelings, and sensations in the present moment without judgment. By increasing self-awareness of the fears and anxieties that arise when lacking access to mobile devices, individuals can better manage their emotional reactions (Baer, 2003; Roeser & Peck, 2009; Creswell et al., 2014; Hallauer et al., 2022). Mindfulness also fosters an attitude of acceptance toward all types of thoughts and emotions, including feelings of anxiety (Kaviani et al., 2011; Williams et al., 2014; Tseng et al., 2023). This means individuals can learn to face nomophobia-related feelings without avoiding or fighting them. This can reduce feelings associated with the fear of losing access to technology.

In terms of emotional regulation, mindfulness practices allow individuals to observe their emotions from a distance, without becoming overly emotionally involved (Baer, 2003; Creswell et al., 2014). This enables them to regulate their emotional responses to stimuli, such as losing device access, more effectively (Kaviani et al., 2011; Williams & Penman, 2018; Tseng et al., 2023). Mindfulness also helps reduce the tendency to ruminate on negative thoughts or worries that contribute to nomophobia symptoms (Baer, 2003; Creswell et al., 2014; Kaviani et al., 2011; Roeser & Peck, 2009; Williams & Penman, 2018; Hallauer et al., 2022; Tseng et al., 2023). By directing attention to the present experience, individuals can avoid the cycle of rumination that exacerbates feelings of anxiety (Baer, 2003; Creswell et al., 2014).

**Implications**

This research finding indicates the influence of spiritual mindfulness in reducing the level of nomophobia in the experimental group. More specifically, the application of dhikr "*Ya Rahman Ya Rahim*" combined with mindfulness training can reduce the level of nomophobia in the experimental group. This study involved individuals who are Muslim because it applied the dhikr of the Divine Names (*asmaul husnah*) in its implementation. The specific application of spiritual mindfulness enhances individuals' awareness of emotional and mental fluctuations, enabling individuals to understand, label, and accept without judgment every psychological dynamic experienced by the individual. This expanded awareness and self-acceptance foster the emergence of self-compassion, wisdom, and the ability to create

meaning within oneself. Additionally, spiritual mindfulness intervention demonstrates an increase in individuals' spiritual meaning, an expanded appreciation of the transcendental dimension, and a closer connection with their God.

### Limitations and Suggestions for Further Research

Future research is recommended to compare this spiritual mindfulness intervention with other interventions such as cognitive-behavioral therapy, transcendental meditation, logotherapy, or other modalities. This can help assess the comparative effects between spiritual mindfulness intervention and other interventions, whether they yield similar results or not. Additionally, further research is suggested to involve a larger number of participants to enhance the validity of research findings.

## CONCLUSION

The randomized pre-post-test design of this spiritual-mindfulness intervention study has yielded significant results in reducing participants' levels of nomophobia. The experimental group, which underwent the spiritual-mindfulness-based intervention over 15 sessions, exhibited a notable decrease in nomophobia compared to the control group.

## ACKNOWLEGMENT

The author expresses gratitude to the Ministry of Education, Culture, Research, and Technology of Republic of Indonesia in the Fiscal Year 2023, particularly the Directorate of Research, Technology, and Community Service, with Reference Number: 0162/E5.4/DT.05.00/2023 dated March 6, 2023, regarding the Ongoing Advanced Research Program of the Fiscal Year 2023.

## AUTHOR CONTRIBUTION STATEMENT

TS is responsible for proposing research ideas and designs, designing the research, creating modules, writing the initial draft of the publication manuscript, coordinating the research implementation, and revising the publication manuscript. DPA assists in constructing research ideas, creating modules, and helping to write the publication draft. NES assists in writing modules, creating the initial draft of the publication, and coordinating the research implementation.

## REFERENCES

Achour, M., Grine, F., Mohd Nor, M. R., & MohdYusoff, M. Y. (2015). Measuring religiosity and its effects on personal well-being: a case study of Muslim female academicians in Malaysia. *J Relig Health*, *54*(3), 984-997. https://doi.org/10.1007/s10943-014-9852-0

Achour, M., Muhamad, A., Syihab, A. H., Mohd Nor, M. R., & Mohd Yusoff, M. Y. Z. (2021). Prayer Moderating Job Stress Among Muslim Nursing Staff at the University of Malaya Medical Centre (UMMC). *J Relig Health*, *60*(1), 202-220. https://doi.org/10.1007/s10943-019-00834-6

Adawi, M., Zerbetto, R., Re, T. S., Bisharat, B., Mahamid, M., Amital, H., Del Puente, G., & Bragazzi, N. L. (2019). Psychometric properties of the Brief Symptom Inventory in nomophobic subjects: insights from preliminary confirmatory factor, exploratory factor, and clustering analyses in a sample of healthy Italian volunteers. *Psychol Res Behav Manag*, *12*, 145-154. https://doi.org/10.2147/PRBM.S173282

Aguilera-Manrique, G., Marquez-Hernandez, V. V., Alcaraz-Cordoba, T., Granados-Gamez, G., Gutierrez-Puertas, V., & Gutierrez-Puertas, L. (2018). The relationship between nomophobia and the distraction associated with smartphone use among nursing students

in their clinical practicum. *PLOS ONE*, *13*(8), e0202953. https://doi.org/10.1371/journal.pone.0202953

Agustina, N., Handayani, S., & Nurjanah, L. (2020). Effects of reading dhikr Asmaul Husna Ya Rahman and Ya Rahim against changes in the level of anxiety in the elderly. *Journal of Physics: Conference Series*, *012049*, 10 1088 1742–6596 1517 1081 012049.

Ahmad, M., & Khan, S. (2016). A Model of Spirituality for Ageing Muslims. *J Relig Health*, *55*(3), 830-843. https://doi.org/10.1007/s10943-015-0039-0

Al-Banna, H. (2016). *Al-Ma'tsurat: Dzikir Dan Doa Rasulullah Pagi Dan Sore. Terj: Tim Pustaka Nuun*. Pustaka Nuun.

Anshari, M., Alas, Y., & Sulaiman, E. (2019). Smartphone addictions and nomophobia among youth. *Vulnerable Children and Youth Studies*, *14*(3), 242-247. https://doi.org/10.1080/17450128.2019.1614709

Argumosa-Villar, L., Boada-Grau, J., & Vigil-Colet, A. (2017). Exploratory investigation of theoretical predictors of nomophobia using the Mobile Phone Involvement Questionnaire (MPIQ). *J Adolesc*, *56*, 127-135. https://doi.org/10.1016/j.adolescence.2017.02.003

Arifin, B. (2020). *Samudra Al Fatehaa*. Bina Ilmu.

Arness, D. C., & Ollis, T. (2022). A mixed-methods study of problematic social media use, attention dysregulation, and social media use motives. *Curr Psychol*, 1-20. https://doi.org/10.1007/s12144-022-03472-6

Arora, A., & Chakraborty, P. (2020). Diagnosis, prevalence and effects of nomophobia - A review. *Psychiatry Res*, *288*, 112975. https://doi.org/10.1016/j.psychres.2020.112975

Arpaci, I., Balo, M., & Kozan, Ö. (2017). Individual Differences in the Relationship Between Attachment and Nomophobia Among College Students : The Mediating Role of Mindfulness. *J Med Internet Res*, *19*(12), 1–13. https://doi.org/10.2196/jmir.8847

Arpaci, I., Gundogan, S., & Arpaci, I. (2020). Mediating role of psychological resilience in the relationship between mindfulness and nomophobia between mindfulness and nomophobia. *British Journal of Guidance & Counselling*, *0*(0), 1–9. https://doi.org/10.1080/03069885.2020.1856330.

Avci, E. (2022). The difference between gender in terms of nomophobia in Turkey: a meta-analysis. *The European Research Journal*, *8*(1), 74–83. https://doi.org/10.18621/eurj.865153.

Baer, R. A. (2003). Mindfulness Training as a Clinical Intervention: A Conceptual and Empirical Review. *Clinical Psychology: Science and Practice*, *10*(2), 125-143. https://doi.org/10.1093/clipsy.bpg015

Basri, M. M. (2021). *24 jam dzikir & doa Rasulullah SAW*. Penerbit Biladi.

Bauer, A. S., & Johnson, T. J. (2018). Conceptual overlap of spirituality and religion: An item content analysis of several common measures. *Journal of Spirituality in Mental Health*, *21*(1), 14-36. https://doi.org/10.1080/19349637.2018.1437004

Bekaroğlu, E., & Yılmaz, T. (2020). Nomophobia: Differential diagnosis and treatment. *Current Approaches in Psychiatry*, *12*(1), 131–142. https://doi.org/10.18863/pgy.528897.

Berdida, D. J. E., & Grande, R. A. N. (2023). Nursing students' nomophobia, social media use, attention, motivation, and academic performance: A structural equation modeling approach. *Nurse Educ Pract*, *70*, 103645. https://doi.org/10.1016/j.nepr.2023.103645

Billieux, J., Maurage, P., Lopez-Fernandez, O., Kuss, D. J., & Griffiths, M. D. (2015). Can Disordered Mobile Phone Use Be Considered a Behavioral Addiction? An Update on Current Evidence and a Comprehensive Model for Future Research. *Current Addiction Reports*, *2*(2), 156-162. https://doi.org/10.1007/s40429-015-0054-y

Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., Segal, Z. V., Abbey, S., Speca, M., Velting, D., & Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice*, *11*(3), 230-241. https://doi.org/10.1093/clipsy.bph077

Black, D. S. (2014). Mindfulness-based interventions: an antidote to suffering in the context of substance use, misuse, and addiction. *Subst Use Misuse*, *49*(5), 487-491. https://doi.org/10.3109/10826084.2014.860749

Bonab, B. G., Miner, M., & Proctor, M. T. (2013). Attachment to God in Islamic Spirituality. *Journal of Muslim Mental Health*, *7*(2), 77–104.

Boniel-Nissim, M., van den Eijnden, R. J. J. M., Furstova, J., Marino, C., Lahti, H., Inchley, J., Šmigelskas, K., Vieno, A., & Badura, P. (2022). International perspectives on social media use among adolescents: Implications for mental and social well-being and substance use. *Computers in Human Behavior*, *129*. https://doi.org/10.1016/j.chb.2021.107144

Bragazzi, N. L., & Del Puente, G. (2014). A proposal for including nomophobia in the new DSM-V. *Psychol Res Behav Manag*, *7*, 155-160. https://doi.org/10.2147/PRBM.S41386

Brown, D. R., Carney, J. S., Parrish, M. S., & John, L. (2013). Assessing Spirituality : The Relationship Between Spirituality and Mental Health. *Journal of Spirituality in Mental Health*, *15*(2), 107–122. https://doi.org/10.1080/19349637.2013.776442.

Brown, G., Medcalf-Bell, R., & Yan, Z. (2022). Phoning It in: Social Anxiety, Intolerance of Uncertainty, and Anxiety Reduction Motivations Predict Phone Use in Social Situations. *Human Behavior and Emerging Technologies*, *2022*, 1-8. https://doi.org/10.1155/2022/6153053

Burgstahler, M. S., & Stenson, M. C. (2020). Effects of guided mindfulness meditation on anxiety and stress in a pre-healthcare college student population: a pilot study. *J Am Coll Health*, *68*(6), 666-672. https://doi.org/10.1080/07448481.2019.1590371

Butcher, N. J., Monsour, A., Mew, E. J., Chan, A. W., Moher, D., Mayo-Wilson, E., Terwee, C. B., Chee, A. T. A., Baba, A., Gavin, F., Grimshaw, J. M., Kelly, L. E., Saeed, L., Thabane, L., Askie, L., Smith, M., Farid-Kapadia, M., Williamson, P. R., Szatmari, P., . . . Offringa, M. (2022). Guidelines for Reporting Outcomes in Trial Reports: The CONSORT-Outcomes 2022 Extension. *JAMA*, *328*(22), 2252-2264. https://doi.org/10.1001/jama.2022.21022

Carmody, J., Reed, G., Kristeller, J., & Merriam, P. (2008). Mindfulness, spirituality, and health-related symptoms. *J Psychosom Res*, *64*(4), 393-403. https://doi.org/10.1016/j.jpsychores.2007.06.015

Catone, G., Senese, V. P., Pisano, S., Siciliano, M., Russo, K., Muratori, P., Marotta, R., Pascotto, A., & Broome, M. R. (2020). The drawbacks of Information and Communication Technologies: Interplay and psychopathological risk of nomophobia and cyber-bullying, results from the bullying and youth mental health Naples study (BYMHNS). *Computers in Human Behavior*, *113*. https://doi.org/10.1016/j.chb.2020.106496

Chang, Y. Y., Wang, L. Y., Liu, C. Y., Chien, T. J., Chen, I. J., & Hsu, C. H. (2018). The Effects of a Mindfulness Meditation Program on Quality of Life in Cancer Outpatients: An Exploratory Study. *Integr Cancer Ther*, *17*(2), 363-370. https://doi.org/10.1177/1534735417693359

Coelho-Junior, H. J., Calvani, R., Panza, F., Allegri, R. F., Picca, A., Marzetti, E., & Alves, V. P. (2022). Religiosity/Spirituality and Mental Health in Older Adults: A Systematic Review and Meta-Analysis of Observational Studies. *Front Med (Lausanne)*, *9*(May), 877213. https://doi.org/10.3389/fmed.2022.877213

Creswell, J. D., Pacilio, L. E., Lindsay, E. K., & Brown, K. W. (2014). Brief mindfulness meditation training alters psychological and neuroendocrine responses to social evaluative stress. *Psychoneuroendocrinology*, *44*, 1-12. https://doi.org/10.1016/j.psyneuen.2014.02.007

Dai, C., Tai, Z., & Ni, S. (2021). Smartphone Use and Psychological Well-Being Among College Students in China: A Qualitative Assessment. *Front Psychol*, *12*(September), 708970. https://doi.org/10.3389/fpsyg.2021.708970

Darvishi, M., Noori, M., Nazer, M. R., Sheikholeslami, S., & Karimi, E. (2019). Investigating Different Dimensions of Nomophobia among Medical Students: A Cross-Sectional Study. *Open Access Maced J Med Sci*, *7*(4), 573-578. https://doi.org/10.3889/oamjms.2019.138

Di, D., Cranney, S., Vaidyanathan, B., & Fitzgerald, C. A. (2023). Religion, Spirituality, and Mental Health among Scientists during the Pandemic: A Four-Country Study. *Zygon®*, *58*(4), 815-837. https://doi.org/10.1111/zygo.12912

Di Milia, L., Smolensky, M. H., Costa, G., Howarth, H. D., Ohayon, M. M., & Philip, P. (2011). Demographic factors, fatigue, and driving accidents: An examination of the published literature. *Accid Anal Prev*, *43*(2), 516-532. https://doi.org/10.1016/j.aap.2009.12.018

Durak, H. Y. (2018). Investigation of nomophobia and smartphone addiction predictors among adolescents in Turkey: Demographic variables and academic performance Investigation of nomophobia and smartphone addiction variables and academic performance. *The Social Science Journal*. https://doi.org/10.1016/j.soscij.2018.09.003.

El-Menouar, Y. (2014). The five dimensions of Muslim religiosity: Results of an empirical study. *Methods, Data, Analyses*, *8*(1), 53–78.

Eldridge, S. M., Chan, C. L., Campbell, M. J., Bond, C. M., Hopewell, S., Thabane, L., Lancaster, G. A., & group, P. c. (2016). CONSORT 2010 statement: extension to randomised pilot and feasibility trials. *BMJ*, *355*, i5239. https://doi.org/10.1136/bmj.i5239

Ercengiz, M., Yildiz, B., Savci, M., & Griffiths, M. D. (2020). Differentiation of self , emotion management skills , and nomophobia among smartphone users : The mediating and moderating roles of intolerance of uncertainty ARTICLE HISTORY. *The Social Science Journal*, *00*(00), 1–15. https://doi.org/10.1080/03623319.2020.1833148.

Foster, D. D. (2015). *Contemplative Prayer*. Bloomsbury Publishing.

Frostadottir, A. D., & Dorjee, D. (2019). Effects of Mindfulness Based Cognitive Therapy (MBCT) and Compassion Focused Therapy (CFT) on Symptom Change, Mindfulness, Self-Compassion, and Rumination in Clients With Depression, Anxiety, and Stress. *Front Psychol*, *10*, 1099. https://doi.org/10.3389/fpsyg.2019.01099

Ghorbani, N., Watson, P. J., Chen, Z., & Norballa, F. (2012). Self-Compassion in Iranian Muslims: Relationships With Integrative Self-Knowledge, Mental Health, and Religious Orientation. *International Journal for the Psychology of Religion*, *22*(2), 106-118. https://doi.org/10.1080/10508619.2011.638601

Ghorbani, N., Watson, P. J., Madani, M., & Chen, Z. J. (2016). Muslim Experiential Religiousness: Spirituality Relationships With Psychological and Religious Adjustment in Iran. *Journal of Spirituality in Mental Health*, *18*(4), 300-315. https://doi.org/10.1080/19349637.2016.1162676

Graham, S., Furr, S., Flowers, C., & Burke, M. T. (2001). Research and Theory Religion and Spirituality in Coping With Stress. *Counseling and Values*, *46*(1), 2-13. https://doi.org/10.1002/j.2161-007X.2001.tb00202.x

Green, A. A., & Kinchen, E. V. (2021). The Effects of Mindfulness Meditation on Stress and Burnout in Nurses. *J Holist Nurs*, *39*(4), 356-368. https://doi.org/10.1177/08980101211015818

Güner, T. A., & Demir, İ. (2021). Relationship between Smartphone Addiction and Nomophobia , Anxiety , Self-Control in High School Students. *The Turkish Journal on Addictions*, 1–7. https://doi.org/10.5152/ADDICTA.2021.21089.

Hadzic, M. (2011). Spirituality and Mental Health: Current Research and Future Directions. *Journal of Spirituality in Mental Health*, *13*(4), 223–235. https://doi.org/10.1080/19349637.2011.616080.

Hallauer, C. J., Rooney, E. A., Billieux, J., Hall, B. J., & Elhai, J. (2022). Mindfulness mediates relations between anxiety with problematic smartphone use severity. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, *16*(1). https://doi.org/10.5817/cp2022-1-4

Hamsyah, F., & Subandi. (2016). Dzikir and Happiness: A Mental Health Study on An Indonesian Muslim Sufi Group. *Journal of Spirituality in Mental Health*, *19*(1), 80-94. https://doi.org/10.1080/19349637.2016.1193404

Hamsyah, F., & Subandi. (2017). Dzikir and Happiness : A Mental Health Study on An Indonesian Muslim Sufi Group Dzikir and Happiness : A Mental Health Study on An. *Journal of Spirituality in Mental Health*, *19*(1), 80–94. https://doi.org/10.1080/19349637.2016.1193404

Hanh, T. N. (2023). *How to love*. Parallax Press. Google Scholar

Hayman, J. W., Kurpius, S. R., Befort, C., Nicpon, M. F., Hull-Blanks, E., Sollenberger, S., & Huser, L. (2007). Spirituality among college freshmen: Relationships to self-esteem, body image, and stress. *Counseling and Values*, *52*(1), 55–70. https://doi.org/10.1002/j.2161-007X.2007.tb00087.x.

Hopewell, S., Clarke, M., Moher, D., Wager, E., Middleton, P., Altman, D. G., Schulz, K. F., & Group, C. (2008). CONSORT for reporting randomized controlled trials in journal and conference abstracts: explanation and elaboration. *PLoS Med*, *5*(1), e20. https://doi.org/10.1371/journal.pmed.0050020

Iskandar, I., & Dirhamsyah, M. (2019). The Effect of Dhikrullah on Brain Health According to Neuroscience". *Asian Social Work Journal*, *4*(2), 71 – 77. https://doi.org/10.47405/aswj.v4i2.92.

Jahrami, H., Rashed, M., AlRasheed, M. M., Bragazzi, N. L., Saif, Z., Alhaj, O., BaHammam, A. S., & Vitiello, M. V. (2021). Nomophobia is Associated with Insomnia but Not with Age, Sex, BMI, or Mobile Phone Screen Size in Young Adults. *Nat Sci Sleep*, *13*, 1931-1941. https://doi.org/10.2147/NSS.S335462

Jahrami, H., Trabelsi, K., Boukhris, O., Hussain, J. H., Alenezi, A. F., Humood, A., Saif, Z., Pandi-Perumal, S. R., & Seeman, M. V. (2022). The Prevalence of Mild, Moderate, and Severe Nomophobia Symptoms: A Systematic Review, Meta-Analysis, and Meta-Regression. *Behav Sci (Basel)*, *13*(1), 35. https://doi.org/10.3390/bs13010035

James, R. J. E., Dixon, G., Dragomir, M. G., Thirlwell, E., & Hitcham, L. (2023). Understanding the construction of 'behavior' in smartphone addiction: A scoping review. *Addict Behav*, *137*(September 2022), 107503. https://doi.org/10.1016/j.addbeh.2022.107503

Kabat-Zinn, J. (2005). Coming to our senses: Healing ourselves and the world through mindfulness. In. Hachette UK. Google Scholar

Kahn, J. S. (2014). Foundational Islam: Implications for Dialogue. *Arena Magazine*, *134*, 22–26. Google Scholar

Kara, M., Erdoğdu, F., Kokoç, M., & Cagiltay, K. (2019). Challenges Faced by Adult Learners in Online Distance Education: A Literature Review. *Open Praxis*, *11*(1), 5–22. https://doi.org/10.5944/openpraxis.11.1.929.

Karyadi, K., & Cyders, M. (2015). Elucidating the association between trait mindfulness and alcohol use behaviors among college students. *Mindfulness*, *6*, 10 1007 12671–12015–10386–12677. https://doi.org/10.1007/s12671-015-0386-7

Kaur, A., Ani, A., Sharma, A., & Kumari, V. (2021). Nomophobia and social interaction anxiety among university students. *International Journal of Africa Nursing Sciences*, *15*, 100352. https://doi.org/10.1016/j.ijans.2021.100352.

Kaviani, H., Javaheri, F., & Hatami, N. (2011). Mindfulness-based Cognitive Therapy ( MBCT ) Reduces Depression and Anxiety Induced by Real Stressful Setting in Non-clinical Population. *International Journal of Psychology and Psychological Therapy*, *11*(2), 285–296. Google Scholar

Keating, T. (1996). Meditative technologies: Theological ecumenism. In B. Bruteau (Ed.), *The Other Half of My Soul* (pp. 112–124). Quest Books. Google Scholar

Keleshteri, Z. M., & Rohani, C. (2019). Spiritual interventions in health care studies in Iran: A systematic review. *Journal of Spirituality in Mental Health*, *22*(4), 302-329. https://doi.org/10.1080/19349637.2019.1620667

Khoury, B., Lecomte, T., Fortin, G., Masse, M., Therien, P., Bouchard, V., Chapleau, M. A., Paquin, K., & Hofmann, S. G. (2013). Mindfulness-based therapy: a comprehensive meta-analysis. *Clin Psychol Rev*, *33*(6), 763-771. https://doi.org/10.1016/j.cpr.2013.05.005

Kim, J., LaRose, R., & Peng, W. (2009). Loneliness as the cause and the effect of problematic Internet use: the relationship between Internet use and psychological well-being. *Cyberpsychol Behav*, *12*(4), 451-455. https://doi.org/10.1089/cpb.2008.0327

King, L. A. (2014). The commonplace experience of meaning in life. *International Journal of Existential Psychology & Psychotherapy*, *5*(1), 9–17.

Koenig, H. G. (2014). Religion, spirituality, and health: A review and update. *Advances in Mind-Body Medicine*, *29*(3), 19–26. Google Scholar

Kosasih, A. (2015). The Tradition for Spiritual Learning (Tariqat) through a Sequence of Holy Phrases (Tijaniyah): The Case of Darussalam Boarding School. *Asian Social Science*, *11*(21). https://doi.org/10.5539/ass.v11n21p71

Kuscu, T. D., Gumustas, F., Rodopman Arman, A., & Goksu, M. (2021). The relationship between nomophobia and psychiatric symptoms in adolescents. *Int J Psychiatry Clin Pract*, *25*(1), 56-61. https://doi.org/10.1080/13651501.2020.1819334

Kusuma, A. N., Rahmawati, D., Lusiani, M., & Dede, R. (2020). The effect of Dhikr therapy on anxiety levels in chronic kidney failure patients that have done hemodialysis therapy in Indonesia. *Enfermeria Clinica*, *30*, 175–178. https://doi.org/10.1016/j.enfcli.2019.11.048

Lee, S., Kim, M., Mendoza, J. S., & McDonough, I. M. (2018). Addicted to cellphones: exploring the psychometric properties between the nomophobia questionnaire and obsessiveness in college students. *Heliyon*, *4*(11), e00895. https://doi.org/10.1016/j.heliyon.2018.e00895

Li, X., & Hao, C. (2019). The Relationship Between Parental Attachment and Mobile Phone Dependence Among Chinese Rural Adolescents: The Role of Alexithymia and Mindfulness. *Front Psychol*, *10*(598), 598. https://doi.org/10.3389/fpsyg.2019.00598

Lin, C. Y., Potenza, M. N., Ulander, M., Brostrom, A., Ohayon, M. M., Chattu, V. K., & Pakpour, A. H. (2021). Longitudinal Relationships between Nomophobia, Addictive Use of Social Media, and Insomnia in Adolescents. *Healthcare (Basel)*, *9*(9). https://doi.org/10.3390/healthcare9091201

Lintang, G. (2021). The Relation between Physical, Mental and Spiritual Health. *Academia Letters*, *3322*(August 2021), 1–7. https://doi.org/10.20935/al3322

Liu, Q.-Q., Zhang, D., Yang, X.-J., Zhang, C.-Y., Fan, C.-Y., & Zhou, Z.-K. (2018). Perceived stress and mobile phone addiction in Chinese adolescents: A moderated mediation model. *Computers in Human Behavior*, *87*, 247–253. https://doi.org/10.1016/j.chb.2018.06.006.

Makin, A. (2016). *Challenging Islamic orthodoxy accounts of Lia Eden and other prophets in indonesia*. Springer. Google Scholar

Mannion, K. H., Nolan, S. A., & Monacis, L. (2021). The effect of smartphones on anxiety: An attachment issue or fear of missing out? *Cogent Psychology*, *7*(1). https://doi.org/10.1080/23311908.2020.1869378

Márquez, M. A., Galiana, L., Oliver, A., & Sansó, N. (2021). The impact of a mindfulnessbased intervention on the quality of life of Spanish national police officers. *Health and Social Care in the Community*, *29*(5), 1491–1501. https://doi.org/10.1111/hsc.13209

Michalak, J., Schultze, M., Heidenreich, T., & Schramm, E. (2015). A randomized controlled trial on the efficacy of mindfulness-based cognitive therapy and a group version of cognitive behavioral analysis system of psychotherapy for chronically depressed patients. *J Consult Clin Psychol*, *83*(5), 951-963. https://doi.org/10.1037/ccp0000042

Miller, W. R., & Thoresen, C. E. (2003). Spirituality, religion, and health. An emerging research field. *Am Psychol*, *58*(1), 24-35. https://doi.org/10.1037/0003-066x.58.1.24

Mitha, K. (2018). Sufism and healing. *Journal of Spirituality in Mental Health*, *21*(3), 194-205. https://doi.org/10.1080/19349637.2018.1464423

Moher, D., Hopewell, S., & Schulz, K. F. (2010). CONSORT 2010 explanation and elaboration: updated guidelines for reporting parallel group randomized trials. *BMJ*, *2010;340:c869*. https://doi.org/10.1136/bmj.c869.

Muench, R., & Muench, C. (2020, 2020). *Me Without My Smartphone? Never! Predictors of Willingness for Smartphone Separation and Nomophobia* HCI International 2020 - Posters: 22nd International Conference, HCII 2020, https://doi.org/10.1007/978-3-030-50732-9_29

Musa, A. (2015). Spiritual Beliefs and Practices, Religiosity, and Spiritual Well-Being Among Jordanian Arab Muslim University Students in Jordan. *Journal of Spirituality in Mental Health*, *17*(1), 34-49. https://doi.org/10.1080/19349637.2014.957609

Nawaz, I., Sultana, I., Amjad, M. J., & Shaheen, A. (2017). Measuring the Enormity of Nomophobia Among Youth in Pakistan. *Journal of Technology in Behavioral Science*, *2*(3-4), 149-155. https://doi.org/10.1007/s41347-017-0028-0

O'Hern, S., & Stephens, A. N. (2022). Mobile phone use while driving in Finland. *Transportation Research Part F: Traffic Psychology and Behaviour*, *90*(August), 220-228. https://doi.org/10.1016/j.trf.2022.08.018

O'Brien, O., Sumich, A., Baguley, T., & Kuss, D. J. (2022). A partial correlation network indicates links between wellbeing, loneliness, FOMO and problematic internet use in university students. *Behaviour & Information Technology*, 1-18. https://doi.org/10.1080/0144929x.2022.2142845

Pargament, K. I., Kennell, J., Hathaway, W., Grevengoed, N., Newman, J., & Jones, W. (1988). Religion and the problem-solving process: Three styles of coping. *Journal for the Scientific Study of Religion*, *27*, 90–104. https://doi.org/10.2307/1387404

Pivetta, E., Harkin, L., Billieux, J., Kanjo, E., & Kuss, D. J. (2019). Problematic smartphone use: An empirically validated model. *Computers in Human Behavior*, *100*(May), 105–117. https://doi.org/10.1016/j.chb.2019.06.013.

Popovac, M., & Hadlington, L. (2019). Exploring the role of egocentrism and fear of missing out on online risk behaviours among adolescents in South Africa. *International Journal of Adolescence and Youth*, *25*(1), 276-291. https://doi.org/10.1080/02673843.2019.1617171

Prameswari, A., & Yudiarso, A. (2021). Efektivitas Mindfulness-Based Cognitive Therapy untuk Menurunkan Depresi : Meta-Analisis. *Psycho Idea*, *19*(2). https://doi.org/10.30595/psychoidea.v19i2.9943

Pratikta, A. C. (2020). Mindfulness as an effective technique for various psychological problems: A conceptual and literature review. *Journal of Professional in Guidance and Counseling*, *1*(1), 1–13. https://doi.org/10.21831/ProGCouns

Purwanto, S., Ahmad, M., Said, Z., Anganthi, N. R. N., & Zulaekah, S. (2023). Effect of Mindfulness Dhikr Breathing Therapy for Insomniacs on Quality of Life: A Randomized Controlled Trial. *Islamic Guidance and Counseling Journal*, *6*(2). https://doi.org/10.25217/0020236368800

Reangsing, C., Punsuwun, S., & Schneider, J. K. (2021). Effects of mindfulness interventions on depressive symptoms in adolescents: A meta-analysis. *Int J Nurs Stud*, *115*, 103848. https://doi.org/10.1016/j.ijnurstu.2020.103848

Roeser, R. W., & Peck, S. C. (2009). An Education in Awareness: Self, Motivation, and Self-Regulated Learning in Contemplative Perspective. *Educ Psychol*, *44*(2), 119-136. https://doi.org/10.1080/00461520902832376

S, D. A., F, I. I., & L, G. P. (2017). Nomophobia: A study to evaluate mobile phone dependence and impact of cell phone on health. *Natl J Community Med*, *28*(11), 688–693. Google Scholar

Salleh, S., Embong, R., Noruddin, N., & Kamaruddin, Z. (2015, 2015). *Spiritual coping strategies from the islamic worlview* Proceedings of ICIC2015 International Conference on Empowering Islamic Civilization in the 21 Century. e-ISBN. Google Scholar

Seybold, K. S., & Hill, P. C. (2016). The Role of Religion and Spirituality in Mental and Physical Health. *Current Directions in Psychological Science*, *10*(1), 21-24. https://doi.org/10.1111/1467-8721.00106

Shonin, E., & Van Gordon, W. (2014). Managers' Experiences of Meditation Awareness Training. *Mindfulness*, *6*(4), 899-909. https://doi.org/10.1007/s12671-014-0334-y

Soliman, H., & Mohamed, S. (2013). Effects of zikr meditation and jaw relaxation on postoperative pain, anxiety and physiologic response of patients undergoing abdominal surgery. *Journal of Biology, Agriculture and Healthcare*, *3*(2), 23–38. Google Scholar

Strauss, C., Bibby-Jones, A. M., Jones, F., Byford, S., Heslin, M., Parry, G., Barkham, M., Lea, L., Crane, R., de Visser, R., Arbon, A., Rosten, C., & Cavanagh, K. (2023). Clinical Effectiveness and Cost-Effectiveness of Supported Mindfulness-Based Cognitive Therapy Self-help Compared With Supported Cognitive Behavioral Therapy Self-help for Adults Experiencing Depression: The Low-Intensity Guided Help Through Mindfulness (LIGHTMind) Randomized Clinical Trial. *JAMA Psychiatry*, *80*(5), 415-424. https://doi.org/10.1001/jamapsychiatry.2023.0222

Subandi, M. A., Achmad, T., Kurniati, H., & Febri, R. (2010). Spirituality , gratitude , hope and post-traumatic growth among the survivors of the 2010 eruption of Mount Merapi in Java , Indonesia. *Australasian Journal of Disaster and Trauma Studies*, *18*(1), 19–26. Google Scholar

Sulistyawati, R. A., Probosuseno, & Setiyarini, S. (2019). Dhikr Therapy for Reducing Anxiety in Cancer Patients. *Asia Pac J Oncol Nurs*, *6*(4), 411-416. https://doi.org/10.4103/apjon.apjon_33_19

Sun, C., Sun, B., Lin, Y., & Zhou, H. (2022). Problematic Mobile Phone Use Increases with the Fear of Missing Out Among College Students: The Effects of Self-Control,

Perceived Social Support and Future Orientation. *Psychol Res Behav Manag*, *15*, 1-8. https://doi.org/10.2147/PRBM.S345650

Sutton, G. W. (2010). Journal of Spirituality in Mental Health When Religion Becomes Evil : Five Warning Signs : Revised and Updated. *Journal of Spirituality in Mental Health Publication*, *12*(1), 70–80. https://doi.org/10.1080/19349630903495616.

Swiatek, A. H., Szczesniak, M., & Bielecka, G. (2021). Trait Anxiety and Social Media Fatigue: Fear of Missing Out as a Mediator. *Psychol Res Behav Manag*, *14*, 1499-1507. https://doi.org/10.2147/PRBM.S319379

Thurston, B. (1999). *To Everything a Season: A Spirituality of Time*. Crossroad Publishing.

Tomczyk, Ł., & Lizde, E. S. (2022). Nomophobia and Phubbing: Wellbeing and new media education in the family among adolescents in Bosnia and Herzegovina. *Children and Youth Services Review*, *137*(July 2021). https://doi.org/10.1016/j.childyouth.2022.106489.

Tseng, H. W., Chou, F. H., Chen, C. H., & Chang, Y. P. (2023). Effects of Mindfulness-Based Cognitive Therapy on Major Depressive Disorder with Multiple Episodes: A Systematic Review and Meta-Analysis. *Int J Environ Res Public Health*, *20*(2). https://doi.org/10.3390/ijerph20021555

Valenti, G. D., Bottaro, R., & Faraci, P. (2022). Effects of Difficulty in Handling Emotions and Social Interactions on Nomophobia: Examining the Mediating Role of Feelings of Loneliness. *Int J Ment Health Addict*, *0123456789*, 1-15. https://doi.org/10.1007/s11469-022-00888-w

Wang, J. L., Wang, H. Z., Gaskin, J., & Wang, L. H. (2015). role of stress and motivation in problematic smartphone use among college students. *Computers in Human Behavior*, 53,181–188. https://doi.org/10.1016/j.chb.2015.07.005.

Williams, A. L., & Bakitas, M. (2012). Cancer family caregivers: a new direction for interventions. *J Palliat Med*, *15*(7), 775-783. https://doi.org/10.1089/jpm.2012.0046

Williams, J. M., Crane, C., Barnhofer, T., Brennan, K., Duggan, D. S., Fennell, M. J., Hackmann, A., Krusche, A., Muse, K., Von Rohr, I. R., Shah, D., Crane, R. S., Eames, C., Jones, M., Radford, S., Silverton, S., Sun, Y., Weatherley-Jones, E., Whitaker, C. J., . . . Russell, I. T. (2014). Mindfulness-based cognitive therapy for preventing relapse in recurrent depression: a randomized dismantling trial. *J Consult Clin Psychol*, *82*(2), 275-286. https://doi.org/10.1037/a0035036

Williams, M., & Penman, D. (2018). *Mindfulness: A practical guide to finding peace in frantic world*. Little Brown Book. Google Scholar

Yildirim, C., & Correia, A. (2015). Exploring the dimensions of nomophobia: Development and validation of a self-reported questionnaire. *Computers in Human Behavior*, *49*, 130–137. https://doi.org/10.1016/j.chb.2015.02.059.

Yunus, M. (2015). *Kamus Arab Indonesia*. YPPP AL Qur'an.