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Dispositional mindfulness associated with less academic burnout among Muslim students during the COVID-19 pandemic

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In the study reported on here we examined the potential mediating role of perceived stress in the association between dispositional mindfulness and academic burnout among Muslim students. Seven hundred and seventy-five Yemeni university students were enlisted to complete the Maslach Burnout Inventory-Student Survey (MBI-SS), the Perceived Stress Scale (PSS), and the Mindful Attention Awareness Scale (MAAS). The results show that dispositional mindfulness was negatively correlated with perceived stress, emotional exhaustion, cynicism, and reduced academic efficacy. Moreover, perceived stress was positively related to emotional exhaustion, cynicism, and reduced academic efficacy. Structural equation modeling revealed that the mediation model fit the data well. That is, perceived stress partly mediated the dispositional mindfulness-burnout association. We found that dispositional mindfulness could predict academic burnout among Muslim students, and perceived stress may be one of the underlying factors of this association.

Keywords: academic burnout; COVID-19 pandemic; dispositional mindfulness; Muslim students; perceived stress

Introduction

Learning activities can exert pressure and stress on students, which was especially true during the Coronavirus disease (COVID-19) pandemic (e.g., Mahapatra & Sharma, 2021). Some students may overcome these challenges with their social or emotional regulation and characteristic strengths, while others may fail. Academic burnout is one of the most recurrent learning problems (Zhang X, Klassen & Wang, 2013). High academic requirements may lead to greater depression, anxiety, and stress among university students (Bewick, Koutsopoulou, Miles, Slaa & Barkham, 2010). According to Portoghese, Leiter, Maslach, Galletta, Porru, D'Aloja, Finco and Campagna (2018), stress overload is linked to higher risks of psychological (such as anxiety, stress, and burnout), behavioural (such as eating disorders), physical health issues (such as ulcers, high blood pressure, and headaches), and even suicidal ideation. High stress is linked to reduced academic performance, low graduation, and a high drop-out rate (Portoghese et al., 2018). Therefore, many researchers are interested in what factors can mitigate the negative outcomes of stress overload. Mindfulness as a personal strength in dealing with academic pressures among university students has been examined in recent studies (Zenner, Herrnleben-Kurz & Walach, 2014). Mindfulness training can increase students' educational performance and make them more resilient to stress (e.g., Singh, Lancioni, Winton, Fisher, Wahler, McAleavey, Singh & Sabaawi, 2006).

Studies indicate that Islamic mindfulness can also treat stress and reduce depression (Alkusayer, 2018; Munif, Poeranto & Tami, 2019). Muslims who pray regularly with mindfulness have better mental health than those who do not (Ijaz, Khalily & Ahmad, 2017). More and more Muslim participants are becoming familiar with such practices (Alkusayer, 2018). Therefore, with this study we aimed to examine the potential mediating effects of perceived stress on dispositional mindfulness and academic burnout among Yemeni students during the COVID-19 pandemic.

Dispositional Mindfulness and Academic Burnout

According to Kabat-Zinn (2003, 2013), dispositional mindfulness is the awareness and nonjudgmental acceptance of present-moment sensations. Regardless of mindfulness techniques, they can also occur at various levels throughout the population (Brown, Ryan & Creswell, 2007). While Randal, Pratt and Bucci (2015) define mindfulness as a set of skills and a trait like propensity, one can learn to be aware through mindfulness training, which is the ability to pay attention and be focused on the present moment without passing judgment (Garland & Howard, 2013).

When practicing mindfulness, one concentrates on what is happening rather than thinking about the past or the future. Intentional perception of feelings and emotions occurs without assessment of their morality or correctness. As a result, those with higher degrees of mindfulness demonstrate greater empathy, acceptance, and compassion for themselves and others. According to Burgoon, Berger and Waldron (2000) and Feltman, Robinson and Ode (2009), people in a mindful state have better lifestyles and can develop advanced personal abilities. Research suggests that mindfulness may predict psychological stress reduction, decreased anxiety, and decreased depressive symptoms (Alzahrani, Hakami, AlHadi, Batais, Alrasheed & Almigbal, 2020).

Academic burnout involves emotional exhaustion, cynicism, and reduced academic efficacy in school (Dyrbye, West, Satele, Boone, Tan, Sloan & Shanafelt, 2014; Zhang Y, Gan & Cham, 2007). Students may feel less motivated, more exhausted and irritable, and less inspired and creative as a reaction to prolonged learning activities. They may also experience psychosomatic problems such as insomnia, headaches, and depression (Maslach, Schaufeli & Leiter, 2001). Evidence shows that mindfulness practices may be effective ways to overcome academic burnout. Mindfulness training programmes can reduce emotional exhaustion, cynicism, and reduced academic efficacy (Gustafsson, Skoog, Davis, Kenttä & Haberl, 2015; Li, Zhu, Zhang, Gustafsson & Chen, 2019; Walker, 2013). Correspondingly, dispositional mindfulness can negatively predict academic (Xu, An, Ding, Yuan, Zhuang & Goh, 2017) and workplace burnout (Cohen-Katz, Wiley, Capuano, Baker & Shapiro, 2004; Gustafsson et al., 2015; Krasner, Epstein, Beckman, Suchman, Chapman, Mooney & Quill, 2009).

Perceived Stress as a Mediator

Repeated, chronic, or acute stress harms well-being, especially during the COVID-19 pandemic (e.g., O'Connor, Wetherall, Cleare, McClelland, Melson, Niedzwiedz, O'Carroll, O'Connor, Platt, Scowcroft, Watson, Zortea, Ferguson & Robb, 2021). Stress may result in psychological distress and poor cognitive, emotional, and behavioral functioning, such as nervousness, peevishness, dread, vacillation of state of mind, disarray, humiliation, or disruption (Cohen, Kamarck & Mermelstein, 1983). Perceived stress is an individual's emotions or thoughts about how much stress they are under at a given point, as expected, or throughout a given period (Lazarus & Folkman, 1984). It involves feelings about uncontrollability and unpredictability in dealing with annoying troubles and how many changes have occurred in dealing with problems or difficulties.

Stress is responsible for burnout in both schools and workplaces. Chronic and insurmountable stress leads to feelings of helplessness and despair, which consequently cause loss of interest and low motivation. Studies also show that mindfulness might reduce the negative effects of prolonged stress. Mindfulness entails paying attention to the present moment without judgment, enhancing the ability to be less involved in stressful events. Mindfulness is also related to better emotion regulation. Studies show that mindfulness is negatively associated with perceived stress (Bao, Xue & Kong, 2015; Ramli, Alavi, Mehrihezad & Ahmadi, 2018). Mindfulness practices show robust effects on reducing stress, depression, and anxiety. Valikhani, Kankat, Hariri, Salehi and Moustafa (2020) found that the negative effects of mindfulness on depression and anxiety were mediated by stress. According to other studies (Campbell, Thoburn & Leonard, 2017), stress also moderated the link between mindfulness and cognitive outcomes (Fiocco & Mallya, 2015) and parental responsiveness (Fiocco & Mallya, 2015). According to a recent study on university students in Spain, behaving with awareness, not passing judgment on one's inner experience, reporting it without reacting, and non-reactivity to inner experience were all mindfulness features that adversely impacted perceived stress, which in turn predicted academic burnout (Martinez-Rubio, Sanabria-Mazo, Feliu-Soler, Colomer-Carbonell, Martinez-Brotóns, Solé, Escamilla, Giménez-Fita, Moreno, Pérez-Aranda, Luciano & Montero-Marín, 2020). These findings suggest that mindfulness can decompress and reduce stress, decreasing academic burnout risk.

This Study

Many more students experienced greater pressure and a sense of helplessness during the COVID-19 pandemic. Therefore, it is particularly important to identify factors associated with resilience to stress and prevent students from experiencing academic burnout. Literature suggests that interventions aimed at increasing the ability to focus non-judgmentally on the present moment can decrease physical and psychological harm related to perceived stress. With this research we investigated whether dispositional mindfulness was negatively associated with academic burnout via decreased perceived stress. The findings from this study can help educators develop low-cost but effective intervention programmes.

Recent findings show that mindfulness can be applied to Islamic populations to enhance psychological functioning. For example, mindfulness can enhance academic and social functioning among Emirate Muslim women (Thomas, Raynor & Bakker, 2016). Salat, an Islamic meditation exercise, can lead to

cardiovascular, musculoskeletal, postural, and compositional benefits in the healthy population and people with disabilities (Doufesh, Ibrahim, Ismail & Ahmad, 2014). In a new study, Durić, Sinanović and Turdiev (2020) found that Muslim students in the United States of America had higher levels of stress, anxiety, and depression during the COVID-19 pandemic – a situation that could have been improved by the students engaging in spiritual practices. This suggests that regular prayer practices may help promote relaxation and reduce stress and anxiety. However, no study has been conducted to confirm the positive effects of mindfulness in Yemen, an Arab country with a population of more than 30 million.

With this study, we investigated the associations between dispositional mindfulness, perceived stress, and academic burnout in Yemeni university students. We examined the potential mediating effects of perceived stress on the dispositional mindfulness-burnout link. We expected that the relationship between dispositional mindfulness and three burnout dimensions (emotional exhaustion, cynicism, and reduced academic efficacy) would be mediated by perceived stress.

Method

Participants and Procedures

After giving informed consent to ensure the privacy of their responses, a total of 775 students (561 male and 214 female) who majored in the college of education at three public Yemeni universities (Sana'a University, Thamar University, and Ibb University) voluntarily participated in this study. The age of the sample ranged from 18 to 40 years ($M = 1.66$, $SD = 0.755$). All of the students were Muslims and had not received any mindfulness training before. The questionnaires were individually administered online and took between 15 and 30 minutes. Mplus (version 6) was used to estimate structural equation models (SEM) in the data analysis process.

Instruments

Dispositional mindfulness

The reliability and validity of the Arabic edition of the Mindful Attention Awareness Scale (MAAS),

comprising 15 items (Brown & Ryan, 2003), have been demonstrated in Arabic contexts (e.g., Najwani, 2019). Respondents assessed each item on a 6-point Likert-type scale from 1 (*almost always*) to 6 (*almost never*). Items formulated negatively were reversed, ensuring that elevated scores correspond to greater levels of dispositional mindfulness. The internal consistency of the scale in this study was measured using Cronbach's alpha, yielding a coefficient of 0.92.

Perceived stress

The Arabic edition of the Perceived Stress Scale (PSS), comprising 10 items on a 5-point Likert-type scale, was developed by Zimet, Dahlem, Zimet and Farley (1988), with response options ranging from 0 (*never*) to 4 (*very often*). Reliability and validity of the PSS has been confirmed (e.g., Tashtoush, 2015). In our study, the internal consistency of the PSS was assessed using Cronbach's alpha, yielding a coefficient of 0.82.

Academic burnout

The Arabic version of the Maslach Burnout Inventory-Student Survey ([MBI-SS] Schaufeli, Martínez, Pinto, Salanova & Bakker, 2002) features three distinct subscales, each comprising 15 items scored on a scale ranging from 0 (*never*) to 6 (*always*). This measurement tool has demonstrated its reliability and validity within Arabic populations. Illustrative items include "experience emotional exhaustion in studies (emotional exhaustion)", "develop cynicism regarding the usefulness of studying (cynicism)", and "lack feelings of being a competent student (reduced academic efficacy)." The MBI-SS and its subscales respectively exhibited Cronbach's alpha coefficients of .87, .71, and .68.

Results

Correlations

The results (Table 1) show that dispositional mindfulness correlated negatively with perceived stress, emotional exhaustion, cynicism, and reduced academic efficacy. Moreover, perceived stress was positively related to emotional exhaustion, cynicism, and reduced academic efficacy.

Table 1 Correlation among research variables ($N = 775$)

Variables	1	2	3	4	5
1) Dispositional mindfulness	1				
2) Perceived stress	-.325*	1			
3) Emotional exhaustion	-.247*	.363*	1		
4) Cynicism	-.227*	.354*	.711*	1	
5) Reduced academic efficacy	-.258*	.392*	.661*	.706*	1
<i>M</i>	30.83	35.66	19.41	16.18	23.60
<i>SD</i>	10.587	7.809	4.165	3.223	4.508

Note. * $p < 0.001$.

Mediating Effects

Mediation analysis was conducted using Mplus (Preacher & Hayes, 2008), with dispositional mindfulness as the predictor, perceived stress as a mediator, and academic burnout as the outcome. As MAAS is a one-dimensional structure scale with over 10 items, items were packaged into three dimensions using the random packaging method. Model fit statistics ($\chi^2/df = 2.465$, CFI = 0.939, TLI = 0.931, and RMSEA = 0.044) indicated that the hypothesis model fitted the data well. Standardised path coefficients in Figure 1 indicate that dispositional mindfulness negatively predicted

perceived stress, emotional exhaustion, and reduced academic efficacy, while the effect of dispositional mindfulness on cynicism was insignificant. Furthermore, perceived stress positively predicts emotional exhaustion, cynicism, and reduced academic efficacy. The bias-corrected bootstrap method (5,000 samples, 95% CI) revealed that perceived stress significantly mediated the relationship between dispositional mindfulness and emotional exhaustion (95% CI: [-0.219, -0.093]), cynicism (95% CI: [-0.212, -0.097]), as well as reduced academic efficacy (95% CI: [-0.237, -0.105]) (Table 2).

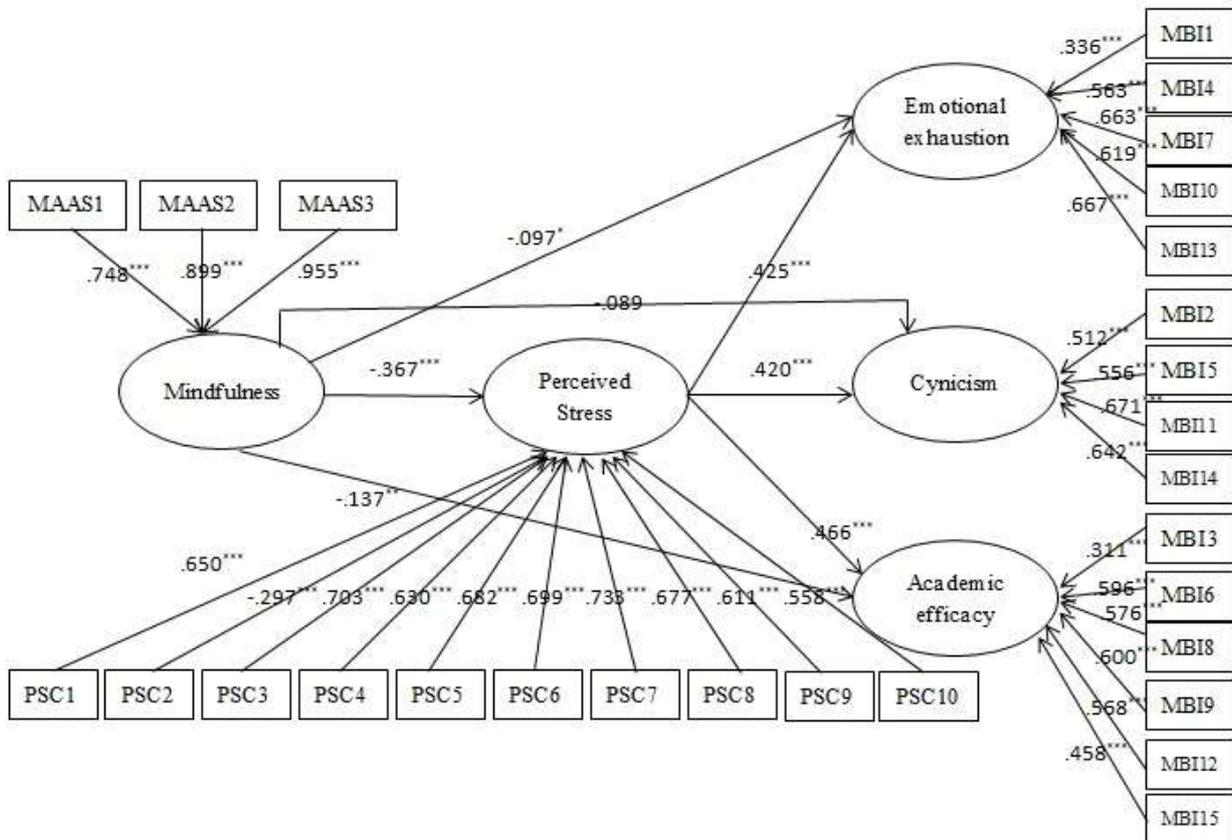


Figure 1 Mediators between dispositional mindfulness and academic burnout

Note. * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 2 The standardised specific indirect effect of dispositional mindfulness on academic burnout

Variables	Indirect effect	95% Bootstrap CI	
		Bootstrap LLCL	Bootstrap ULCL
Dispositional mindfulness→ Perceived stress→ Emotional exhaustion	-0.156	-0.219	-0.093
Dispositional mindfulness→ Perceived stress→ Cynicism	-0.154	-0.212	-0.097
Dispositional mindfulness→ Perceived stress→ Reduced academic efficacy	-0.171	-0.237	-0.105

Note. LLCL: Lower level of confidence for all confidence intervals. ULCL: Upper level of confidence for all confidence intervals.

Discussion

In this study we found that dispositional mindfulness was negatively related to perceived stress, emotional exhaustion, cynicism, and reduced academic efficacy. Moreover, perceived

stress was associated negatively with emotional exhaustion, cynicism, and reduced academic efficacy. These findings confirm the role of dispositional mindfulness in reducing academic burnout (Tu, 2019; Xu et al., 2017) and the

mediating role of perceived stress (Bao et al., 2015; Ramli et al., 2018). This result is consistent with that of Martunez-Rubio et al. (2020) who found that different facets of mindfulness negatively predicted perceived stress, which in turn predicted burnout. Our study was different because it disclosed the relationship between dispositional mindfulness awareness measured by MAAS and three academic burnout dimensions among Muslim students.

Mindfulness practice has been adapted to include various belief systems and is no longer tied to any specific religion, as indicated by Palitsky and Kaplan in 2021. This adaptation involves distancing from explicit Buddhist teachings to accommodate practitioners' diverse religious viewpoints. Scientific evidence supports the notion that the effects of mindfulness practice have a biological foundation and are not constrained by cultural contexts. This implies that individuals of different faiths, such as Muslims, Christians, or Buddhists, can experience the advantages of mindfulness.

Furthermore, awareness is a benefit rather than a drawback within the Islamic religion. Islamic traditions, for instance, advocate for the development of mental presence. Muslims are urged to focus entirely on the present moment and to avoid executing tasks automatically while they are in a state of prayer. This is emphasised in the work of Mitha in 2019. The act of eliminating distractions and preventing the mind from wandering is deemed crucial for the effective development of strategies for regulating emotions. Islamic followers are also prompted to incorporate momentary awareness into everyday activities, such as eating, dressing, and using the restroom. They are encouraged to observe their internal and external experiences with a gentle, open, and receptive attitude without any intention to alter these encounters. This perspective was highlighted by Thomas, Furber and Grey in 2017.

Based on the findings of our study, personalised mindfulness interventions are recommended in academic contexts to prevent the occurrence of student burnout. For example, the Mindfulness and Self-Compassion Intervention (MSCBI) programme is better at promoting mindful description and non-reactivity and is more effective in reducing stress. In comparison, the Mindfulness and Positive Stress Management (MPSM) programme is better at enhancing autonomy and environmental mastery, promoting task engagement and performance. The effects of mindfulness may depend on the stage of burnout.

Limitations of our study include adopting a cross-sectional design and self-reported measures for data collection. Participants were Yemeni students from three public colleges; it is debatable whether the findings from the research can be

generalised. Despite the flaws of the study, we demonstrated the value of dispositional mindfulness in lowering students' perceptions of stress and preventing academic burnout. Educators can conduct dispositional mindfulness intervention programmes in their classes and encourage students to practice mindfulness daily. During the COVID-19 pandemic, dispositional mindfulness practices (e.g., mindful breathing, walking, eating, and socialising) were useful in protecting against stressors, revitalising the mind, and maintaining good academic performance. We conclude that dispositional mindfulness or mindfulness practice can relieve perceived stress among Muslim students, thereby preventing academic burnout. Mindfulness practice can enhance the psychological well-being and academic performance of students from different religious and cultural backgrounds.

Authors' Contributions

Aamer Aldbyani wrote the article and collected the data; Dr Mohammed Alabyadh assisted with data collection; Bingqing Ma, Yiqing Lv, and Jie Leng analysed the data, and Prof. Qingke Guo reviewed and developed the article.

Notes

- i. This article is based on the doctoral thesis of Aamer Aldbyani.
- ii. Published under a Creative Commons Attribution Licence.
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References

- Alkusayer A 2018. Exploration of how to construct a mindfulness based treatment for depression anchored in Muslim practice. PhD dissertation. Newton, MA: William James College. Available at <https://www.proquest.com/docview/2169907398?pq-origsite=gscholar&fromopenview=true>. Accessed 31 August 2023.
- Alzahrani AM, Hakami A, AlHadi A, Batais MA, Alrasheed AA & Almigbal TH 2020. The interplay between mindfulness, depression, stress and academic performance in medical students: A Saudi perspective. *PLoS ONE*, 15(4):e0231088. <https://doi.org/10.1371/journal.pone.0231088>
- Bao X, Xue S & Kong F 2015. Dispositional mindfulness and perceived stress: The role of emotional intelligence. *Personality and Individual Differences*, 78:48–52. <https://doi.org/10.1016/j.paid.2015.01.007>
- Bewick B, Koutsopoulou G, Miles J, Slaa E & Barkham M 2010. Changes in undergraduate students' psychological well-being as they progress through university. *Studies in Higher Education*, 35(6):633–645. <https://doi.org/10.1080/03075070903216643>
- Brown KW & Ryan RM 2003. The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social*

- Psychology*, 84(4):822–848.
<https://doi.org/10.1037/0022-3514.84.4.822>
- Brown KW, Ryan RM & Creswell JD 2007. Addressing fundamental questions about mindfulness. *Psychological Inquiry*, 18(4):272–281.
<https://doi.org/10.1080/10478400701703344>
- Burgoon JK, Berger CR & Waldron VR 2000. Mindfulness and interpersonal communication. *Journal of Social Issues*, 56(1):105–127.
<https://doi.org/10.1111/0022-4537.00154>
- Campbell K, Thoburn JW & Leonard HD 2017. The mediating effects of stress on the relationship between mindfulness and parental responsiveness. *Couple and Family Psychology: Research and Practice*, 6(1):48–59.
<https://doi.org/10.1037/cfp0000075>
- Cohen S, Kamarck T & Mermelstein R 1983. A global measure of perceived stress. *Journal of Health and Social Behavior*, 24:385–396.
<https://doi.org/10.2307/2136404>
- Cohen-Katz J, Wiley SD, Capuano T, Baker DM & Shapiro S 2004. The effects of mindfulness-based stress reduction on nurse stress and burnout: A quantitative and qualitative study. *Holistic Nursing Practice*, 18(6):302–308.
<https://doi.org/10.1097/0006-200411000-00004650>
- Doufesh H, Ibrahim F, Ismail NA & Ahmad WAW 2014. Effect of Muslim prayer (*salat*) on a electroencephalography and its relationship with autonomic nervous system activity. *The Journal of Alternative Complementary Medicine*, 20(7):558–562. <https://doi.org/10.1089/acm.2013.0426>
- Durić A, Sinanović E & Turdiev M 2020. Muslim students and COVID-19: Understanding the needs of Muslim students within higher education. *Muslim Student Life*, 2. Available at <https://surface.syr.edu/msl/2>. Accessed 16 August 2023.
- Dyrbye LN, West CP, Satele D, Boone S, Tan L, Sloan J & Shanafelt TD 2014. Burnout among U.S. medical students, residents, and early career physicians relative to the general U.S. population. *Academic Medicine*, 89(3):443–451.
<https://doi.org/10.1097/ACM.000000000000134>
- Feltman R, Robinson MD & Ode S 2009. Mindfulness as a moderator of neuroticism-outcome relations: A self-regulation perspective. *Journal of Research in Personality*, 43(6):953–961.
<https://doi.org/10.1016/j.jrp.2009.08.009>
- Fiocco AJ & Mallya S 2015. The importance of cultivating mindfulness for cognitive and emotional well-being in late life. *Journal of Evidence-Based Complementary & Alternative Medicine*, 20(1):35–40.
<https://doi.org/10.1177/2156587214553940>
- Garland EL & Howard MO 2013. Mindfulness-oriented recovery enhancement reduces pain attentional bias in chronic pain patients. *Psychotherapy and Psychosomatics*, 82(5):311–318.
<https://doi.org/10.1159/000348868>
- Gustafsson H, Skoog T, Davis P, Kenttä G & Haberl P 2015. Mindfulness and its relationship with perceived stress, affect, and burnout in elite junior athletes. *Journal of Clinical Sport Psychology*, 9(3):263–281. <https://doi.org/10.1123/jcsp.2014-0051>
- Ijaz S, Khalily MT & Ahmad I 2017. Mindfulness in Salah prayer and its association with mental health. *Journal of Religion and Health*, 56(6):2297–2307.
<https://doi.org/10.1007/s10943-017-0413-1>
- Kabat-Zinn J 2003. Mindfulness-based stress reduction (MBSR). *Constructivism in the Human Sciences*, 8(2):73–107.
- Kabat-Zinn J 2013. *Mindfulness meditation in everyday life and exercise and meditations*. Los Angeles, CA: BetterListen.com.
- Krasner MS, Epstein RM, Beckman H, Suchman AL, Chapman B, Mooney CJ & Quill TE 2009. Association of an educational program in mindful communication with burnout, empathy, and attitudes among primary care physicians. *Jama*, 302(12):1284–1293.
<https://doi.org/10.1001/jama.2009.1384>
- Lazarus RS & Folkman S 1984. *Stress, appraisal, and coping*. New York, NY: Springer.
- Li C, Zhu Y, Zhang M, Gustafsson H & Chen T 2019. Mindfulness and athlete burnout: A systematic review and meta-analysis. *International Journal of Environmental Research and Public Health*, 16(3):449. <https://doi.org/10.3390/ijerph16030449>
- Mahapatra A & Sharma P 2021. Education in times of COVID-19 pandemic: Academic stress and its psychosocial impact on children and adolescents in India. *International Journal of Social Psychiatry*, 67(4):397–399.
<https://doi.org/10.1177/0020764020961801>
- Martinez-Rubio D, Sanabria-Mazo JP, Feliu-Soler A, Colomer-Carbonell A, Martinez-Brotóns C, Solé S, Escamilla C, Giménez-Fita E, Moreno Y, Pérez-Aranda A, Luciano JV & Montero-Marín J 2020. Testing the intermediary role of perceived stress in the relationship between mindfulness and burnout subtypes in a large sample of Spanish university students. *International Journal of Environmental Research and Public Health*, 17(19):7013.
<https://doi.org/10.3390/ijerph17197013>
- Maslach C, Schaufeli WB & Leiter MP 2001. Job burnout. *Annual Review of Psychology*, 52:397–422.
<https://doi.org/10.1146/annurev.psych.52.1.397>
- Mitha K 2019. Sufism and healing. *Journal of Spirituality in Mental Health*, 21(3):194–205.
<https://doi.org/10.1080/19349637.2018.1464423>
- Munif B, Poeranto S & Tami Y 2019. Effects of Islamic spiritual mindfulness on stress among nursing students. *Nurse Media Journal of Nursing*, 9(1):69–77.
<https://doi.org/10.14710/nmjn.v9i1.22253>
- Najwani NbaK 2019. Mental vigilance among post-basic education students in light of some variables in the Governorate of Muscat. *Journal of Educational and Psychological Studies - Sultan Qaboos University*, 31(2):222–234.
- O'Connor RC, Wetherall K, Cleare S, McClelland H, Melson AJ, Niedzwiedz CL, O'Carroll RE, O'Connor DB, Platt S, Scowcroft E, Watson B, Zortea T, Ferguson E & Robb KA 2021. Mental health and well-being during the COVID-19 pandemic: Longitudinal analyses of adults in the UK COVID-19 Mental Health & Wellbeing study. *The British Journal of Psychiatry*, 218(6):326–333.
<https://doi.org/10.1192/bjp.2020.212>

- Palitsky R & Kaplan DM 2021. The role of religion for mindfulness-based interventions: Implications for dissemination and implementation. *Mindfulness*, 12:2076–2089. <https://doi.org/10.1007/s12671-019-01253-0>
- Portoghese I, Leiter MP, Maslach C, Galletta M, Porru F, D'Aloja E, Finco G & Campagna M 2018. Measuring burnout among university students: Factorial validity, invariance, and latent profiles of the Italian version of the Maslach Burnout Inventory Student Survey (MBI-SS). *Frontiers in Psychology*, 9:2105. <https://doi.org/10.3389/fpsyg.2018.02105>
- Preacher KJ & Hayes AF 2008. Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3):879–891. <https://doi.org/10.3758/BRM.40.3.879>
- Ramli NHH, Alavi M, Mehrinezhad SA & Ahmadi A 2018. Academic stress and self-regulation among university students in Malaysia: Mediator role of mindfulness. *Behavioral Sciences*, 8(1):12. <https://doi.org/10.3390/bs8010012>
- Randal C, Pratt D & Bucci S 2015. Mindfulness and self-esteem: A systematic review. *Mindfulness*, 6(6):1366–1378. <https://doi.org/10.1007/s12671-015-0407-6>
- Schaufeli WB, Martínez IM, Pinto AM, Salanova M & Bakker AB 2002. Burnout and engagement in university students: A cross-national study. *Journal of Cross-Cultural Psychology*, 33(5):464–481. <https://doi.org/10.1177/0022022102033005003>
- Singh NN, Lancioni GE, Winton ASW, Fisher BC, Wahler RG, McAleavey K, Singh J & Sabaawi M 2006. Mindful parenting decreases aggression, noncompliance, and self-injury in children with autism. *Journal of Emotional Behavioral Disorders*, 14(3):169–177. <https://doi.org/10.1177/10634266060140030401>
- Tashtoush RA 2015. Satisfaction with life, perceived social support and the relationship between them in a sample of breast cancer patients. *The Jordanian Journal of Educational Sciences*, 11(4):449–467.
- Thomas J, Furber SW & Grey I 2017. The rise of mindfulness and its resonance with the Islamic tradition. *Mental Health, Religion & Culture*, 20(10):973–985. <https://doi.org/10.1080/13674676.2017.1412410>
- Thomas J, Raynor M & Bakker MC 2016. Mindfulness-based stress reduction among Emirati Muslim women. *Mental Health, Religion & Culture*, 19(3):295–304. <https://doi.org/10.1080/13674676.2016.1168389>
- Tu J 2019. Mindfulness and resilience as predictors of burnout. MS thesis. San Jose, CA: San José State University. Available at https://scholarworks.sjsu.edu/cgi/viewcontent.cgi?article=8594&context=etd_theses. Accessed 29 August 2023.
- Valikhani A, Kankat LR, Hariri P, Salehi S & Moustafa AA 2020. Examining the mediating role of stress in the relationship between mindfulness and depression and anxiety: Testing the mindfulness stress-buffering model. *Journal of Rational-Emotive Cognitive-Behavior Therapy*, 38(1):14–25. <https://doi.org/10.1007/s10942-019-00321-7>
- Walker S 2013. Mindfulness and burnout among competitive adolescent tennis players. *South African Journal of Sports Medicine*, 25(4):105–108. <https://doi.org/10.17159/2413-3108/2013/v25i4a344>
- Xu W, An Y, Ding X, Yuan G, Zhuang Y & Goh PH 2017. Dispositional mindfulness, negative posttraumatic beliefs, and academic burnout among adolescents following the 2016 Yancheng Tornado. *Personality and Individual Differences*, 116:405–409. <https://doi.org/10.1016/j.paid.2017.05.029>
- Zenner C, Herrnleben-Kurz S & Walach H 2014. Mindfulness-based interventions in schools—a systematic review and meta-analysis. *Frontiers in Psychology*, 5:603. <https://doi.org/10.3389/fpsyg.2014.00603>
- Zhang X, Klassen RM & Wang Y 2013. Academic burnout and motivation of Chinese secondary students. *International Journal of Social Science Humanity*, 3(2):134–138. <https://doi.org/10.7763/IJSSH.2013.V3.212>
- Zhang Y, Gan Y & Cham H 2007. Perfectionism, academic burnout and engagement among Chinese college students: A structural equation modeling analysis. *Personality and Individual Differences*, 43(6):1529–1540. <https://doi.org/10.1016/j.paid.2007.04.010>
- Zimet GD, Dahlem NW, Zimet SG & Farley GK 1988. The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment*, 52(1):30–41. https://doi.org/10.1207/s15327752jpa5201_2