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Mindfulness and Psychological Flexibility as Predictors of Burnout in Healthcare Workers: A Comparative Gender-Based Study

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ABSTRACT

Healthcare workers are particularly concerned about burnout, which is characterised by depersonalization (DP), emotional exhaustion (EE), and decreased personal accomplishment (PA). Among 160 healthcare workers in Odisha, India, this study examined the predictive functions of psychological flexibility and mindfulness in connection to burnout. Multiple regression analysis, two-way ANOVA, Pearson's correlation, and descriptive statistics were used to analyse the data. Mindfulness showed a positive correlation with PA ($r = 0.44$, $p < .01$) and a negative correlation with EE ($r = -0.56$, $p < .01$) and DP ($r = -0.47$, $p < .01$). Psychological flexibility showed a positive correlation with PA ($r = 0.37$, $p < .01$) and a negative correlation with EE ($r = -0.49$, $p < .01$) and DP ($r = -0.41$, $p < .01$). Regression studies showed that psychological flexibility ($B = -0.64$, $\beta = -0.36$, $t = -5.79$, $p < .001$) and mindfulness ($B = -0.48$, $\beta = -0.41$, $t = -6.78$, $p < .001$) were significant predictors of burnout. Main effects of gender on EE ($F(1,156) = 6.84$, $p = .01$) and DP ($F(1,156) = 5.92$, $p = .02$) were found by two-way ANOVA. Additionally, a gender × psychological flexibility interaction on EE was found ($F(1,156) = 4.77$, $p = .03$). Males reported higher DP, whereas females reported higher EE. The results support mindfulness and flexibility-based therapies in healthcare and highlight the value of psychological resources in lowering burnout.

Introduction

Burnout is becoming more widely acknowledged as a widespread workplace risk among medical personnel. Three interconnected dimensions—emotional exhaustion (EE), depersonalization (DP), and decreased personal accomplishment (PA)—are how burnout is conceptualised by Maslach and Jackson (1981). Emotional exhaustion is a reflection of long-term emotional depletion and weariness resulting from ongoing interpersonal pressures at work. Depersonalization is a cynical and disengaged attitude towards patients, whilst a decrease in personal accomplishment indicates feelings of inadequacy and a decline in professional proficiency. When considered collectively, these factors encompass the psychological costs of helping others, particularly in demanding and emotionally taxing medical settings.

According to meta-analyses, up to 50% of doctors and nurses worldwide suffer from severe burnout symptoms, a worrying increase in burnout among healthcare professionals (West et al., 2018). In addition to endangering the psychological health of professionals, this phenomenon also puts patient safety, care quality, and institutional stability at risk. Burnout has been linked in studies to higher staff turnover, greater medical errors, and lower patient satisfaction (Shanafelt et al., 2015; Dyrbye et al., 2017). The addition of burnout as an occupational phenomenon to the International Classification of Diseases (ICD-11) by the World Health Organisation highlights the condition's worldwide significance (WHO, 2019).

In India, the issue is just as troubling. The healthcare system is confronted with issues that exacerbate occupational stress, including socioeconomic limitations, overworked staff, and poor infrastructure (Kesarwani et al., 2020; Sidiq et al., 2024; Mehta et al., 2024). An estimated 20–40% of Indian physicians and nurses suffer from moderate to severe burnout, according to empirical research (Kesarwani et al., 2020). One particularly urgent setting is the state of Odisha. Long work hours, high patient-to-doctor ratios, and a lack of resources often expose Odisha's healthcare workers to ongoing occupational stress in the absence of sufficient institutional support. It is important to systematically investigate how psychological resilience variables and systemic restrictions interact in these kinds of situations.

Psychological Factors in Burnout Prevention

The understanding that burnout can be caused by both environmental stressors and human psychological processes has led to an increase in interest in internal stress-reduction techniques. Among these, psychological flexibility and mindfulness are now widely accepted ideas that support adaptive functioning and emotional resilience (Kabat-Zinn, 2005; Hayes et al., 2006; Bond et al., 2011). The nonjudgmental awareness of the present moment, known as mindfulness, reduces rumination and improves self-regulation. Acceptance and Commitment Therapy (ACT) is the foundation of psychological flexibility, which is the capacity to accept one's own feelings and act in a way

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that aligns with one's values despite discomfort (Hayes et al., 2013). According to Mengist et al. (2021) and Bond et al. (2011), these ideas have been associated with lower levels of burnout in a range of professional contexts, lower stress reactivity, and promote cognitive openness.

The Context of Odisha and the Need for Localised Inquiry

Most empirical studies on burnout and psychological resilience in healthcare workers have been conducted in Western or urban regions. Odisha and other Indian states, however, have quite distinct organisational, cultural, and economic contexts. In this region's sometimes resource-constrained healthcare system, professionals face challenges such as high patient loads, understaffed clinics, and low institutional recognition (Sahoo et al., 2023). Further research on adaptive psychological components is particularly important because these conditions may exacerbate emotional exhaustion and cynicism. In order to develop context-sensitive therapies, it is crucial to carry out culturally sensitive research that investigates how psychological flexibility and mindfulness operate in the Indian healthcare setting.

Rationale and Significance

Resolving burnout is essential to preserving both professional wellbeing and the standard of treatment. It has been demonstrated that psychologically flexible and mindfulness-focused interventions reduce depersonalization and emotional exhaustion while increasing self-efficacy and work engagement (Lamothe et al., 2016; Regehr et al., 2014; Lomas et al., 2018). However, most current research emphasises on specific constructs or intervention effects rather than analysing the predictive relationships among numerous psychological resources. Additionally, there is a dearth of research on how they interact to affect various burnout traits in India. This discrepancy limits the generalisability of Western findings and impedes the creation of local intervention strategies. The current study aims to explore the predictive roles of psychological flexibility and mindfulness in relation to the burnout subscales of personal accomplishment, depersonalization, and emotional exhaustion among healthcare workers in Odisha.

Practical applications of the findings include developing institutional cultures that prioritise psychological flexibility, implementing mindfulness-based seminars, and creating preventive training programs. Such therapies have the potential to improve well-being in addition to clinical performance and attrition. Therefore, our study provides an empirical and societal difference by illuminating how psychological processes might sustain resilience in challenging hospital environments.

Conceptual Framework

The proposed connections between psychological flexibility, mindfulness, and the three aspects of burnout are depicted in the conceptual model that follows. In particular, it is anticipated that increased psychological flexibility and mindfulness will be positively correlated with personal accomplishment and adversely correlated with emotional exhaustion and depersonalization.

Literature Review

Dimensions and Consequences of Burnout

The tripartite burnout model has dominated conceptualisation for over 40 years (Maslach & Jackson, 1981; Maslach et al., 2001). Emotional exhaustion has consistently been identified as the most accurate measure of overall burnout severity, with a strong association to psychological distress and turnover intention (Shanafelt et al., 2015). Depersonalization has been shown to undermine professional empathy and compassion, resulting in less successful therapeutic relationships. It is typified by a detached and cynical attitude towards patients (Dyrbye et al., 2017; Maslach & Leiter, 2016). Reduced motivation and feelings of inadequacy are indicators of a decline in personal accomplishments and are often linked to depression and a wish to steer clear of opportunities for career growth (Bakker et al., 2014). All these repercussions negatively impact the institution's stability and the quality of patient treatment.

Burnout not only results in physiological exhaustion but also moral and emotional exhaustion in healthcare workers. Doctors that are burnt out are more likely to make mistakes in diagnosis (West et al., 2018) and have less empathy (Neumann et al., 2011). A study conducted in India by Kesarwani et al. (2020) found that 27% of doctors had high scores on depersonalization and 23% on emotional exhaustion.These figures emphasise the importance of identifying protective psychological traits that can mitigate the adverse effects of burnout.

Mindfulness as a Protective Resource

Numerous studies have examined mindfulness as a resilience component and burnout intervention. The definition of mindfulness, which has its roots in Buddhist contemplative traditions but has been secularised by contemporary psychology, is "paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally" (Kabat-Zinn, 2005). Its mechanisms—nonreactivity, emotional acceptance, and attentional regulation—directly combat the emotional and cognitive rigidity linked to burnout (Creswell,2017).According to meta-analyses, mindfulness-based programs help healthcare workers feel less stressed, anxious,and burned out (Lamothe et al., 2016; Fortney et al., 2013; Lomas et al., 2018).

There is strong evidence from several intervention trials. According to Shapiro et al. (2005), mindfulness training greatly improved healthcare workers' empathy and reduced their emotional exhaustion. An eight-week Mindfulness-Based Stress Reduction (MBSR) program reduced burnout and increased job satisfaction in nurses, according to Cohen-Katz et al. (2005). Additionally, long-term research indicates that consistent mindfulness training improves emotional intelligence and self-compassion, which in turn promotes long-term resilience (Hülsheger et al., 2013; Taylor et al., 2005). Although its association with burnout subscales is still little understood, mindfulness interventions have been successfully incorporated into hospital wellness programs in India, demonstrating decreases in stress and anxiety (Goyal et al., 2014).

Psychological Flexibility and Burnout Mitigation

The foundation of ACT, psychological flexibility, includes behavioural awareness, openness to new experiences, and dedicated action that is consistent with one's values (Hayes et al., 2006; Bond et al., 2011). Its inverse link with job stress, emotional exhaustion, and burnout is supported by empirical research (Dunn et al., 2008; Lloyd et al., 2013; Malik et al., 2023). People with high psychological flexibility are more likely to use adaptive coping strategies, stay motivated in the face of hardship, and bounce back from work-related stressors faster. Biglan et al. (2008) showed that

among healthcare workers, flexibility acted as a mediator in the link between psychological well-being and occupational stress.

Flexibility-based therapies, which frequently incorporate mindfulness elements, educate people to engage in important areas of their lives while embracing upsetting ideas without avoiding them. This strategy has shown effective in improving meaning at work and decreasing depersonalization (Hayes et al., 2012; Holmberg et al., 2020). A synergistic mechanism is provided by combining flexibility with mindfulness: flexibility allows for value-driven action in the face of discomfort, while mindfulness fosters awareness of interior experiences.

Contextual Relevance and Cultural Considerations

Indian healthcare personnels' psychosocial reality are different from those in Western settings in terms of patient expectations, hierarchy, and workload. Research demonstrates that Indian healthcare workers are more prone to fatigue because they frequently feel cultural guilt related to self-care (Saravanabavan et al., 2019). The stigma associated with mental health and a lack of organisational support also discourage people from seeking help (Grover et al., 2019). High patient reliance and the combined effects of infrastructural constraints in Odisha produce a distinct stress ecology that calls for focused empirical research. Evidence-based psychological dimensions combined with cultural sensitivity research can help shape training and policy models specific to local healthcare systems.

Research Gap and Objectives

Although research on burnout and resilience is expanding, few studies in India have looked at mindfulness and psychological flexibility together as predictors of burnout subscales. Rarely have prior studies examined the combined predictive power of ACT-based flexibility programs and mindfulness-based therapies. Additionally, research frequently treats burnout as a one-dimensional concept rather than examining its constituent elements—personal accomplishment, depersonalization, and emotional exhaustion—individually. The current study intends to close this gap by figuring out how psychological flexibility and mindfulness work together to predict these burnout-related factors in Odisha's healthcare workforce. It is anticipated that the results will offer empirical recommendations for incorporating psychological education programs into medical facilities and creating wellness plans with a cultural foundation.

Objectives

1. To examine the relationship between mindfulness, psychological flexibility, and burnout.
2. To determine whether mindfulness and psychological flexibility predict burnout levels.
3. To explore gender differences in burnout and its predictors.

Hypotheses

H1: Mindfulness will negatively correlate with burnout.

H2: Psychological flexibility will negatively correlate with burnout.

H3: Mindfulness and psychological flexibility will significantly predict burnout levels.

H4: Gender will moderate the relationship between psychological flexibility and burnout.

Methodology

Research Design

This study used a cross-sectional correlational research approach to investigate how psychological flexibility and mindfulness influence burnout in healthcare workers in Odisha, India. Furthermore, gender differences and the impact of interactions between gender and psychological factors were investigated using a comparative methodology. The cross-sectional approach made it possible to gather data all at once, which is useful when looking at correlations between factors in work environments.

Participants

The study involved 160 medical professionals from public and private institutions in Odisha, India, 80 of whom were men and 80 of whom were women. Participants ranged in age from 25 to 55 ($M = 38.4$, $SD = 8.6$). A minimum of two years of clinical experience, ongoing employment in a direct patient care role, and voluntary participation were requirements for inclusion. Although efforts were made to balance gender and hospital representation, convenience sampling was used because of practical limitations and the necessity to provide ethical access to healthcare professionals.

Measures

Three standardised measures were used in this study.

- The Five Facet Mindfulness Questionnaire (FFMQ) -The 39-item self-report Five Facet Mindfulness Questionnaire (FFMQ), created by Baer et al. (2006), evaluates five aspects of mindfulness: describing, acting with awareness, observing, nonjudging, and nonreactivity. Higher scores indicate greater mindfulness. Participants rate items on a 5-point Likert scale, with 1 denoting never or very rarely true and 5 denoting very often or always true. Strong internal consistency is shown by the instrument ($\alpha = 0.89$).
- The Acceptance and Action Questionnaire-II (AAQ-II) - Bond et al. (2011) developed the seven-item AAQ-II to assess experiential avoidance and psychological flexibility. A 7-point Likert scale, with 1 denoting "never true" and 7 denoting "always true," is used to record responses; lower scores indicate greater psychological flexibility. With a Cronbach's alpha of 0.84, this scale has good reliability.
- The Maslach Burnout Inventory – Human Services Survey (MBI-HSS) - Emotional exhaustion (EE), depersonalization (DP), and personal accomplishment (PA) are the three dimensions of burnout that are measured by the Maslach Burnout Inventory – Human Services Survey (MBI-HSS; Maslach & Jackson, 1981). The 22-item scale employs a 7-point frequency rating system, with 0 representing never and 6 representing every day. Higher scores on EE and DP indicate higher levels of burnout, while higher scores on PA indicate lower levels. The reliability coefficients for total burnout are $\alpha = 0.88$, with subscale reliabilities above 0.80.

Procedure

The Institutional Ethics Committee granted ethical approval. Access to medical professionals was made easier by hospital managers, who informed them of the goals and methods of the study. Prior to filling out the questions, participants gave their informed consent. Depending on participant availability and hospital policies, the questionnaires were either delivered in person or over a secure online platform (Google Forms). Participants were

reminded of their choice to discontinue participation at any moment, and confidentiality and anonymity were guaranteed. Six weeks were allotted for data gathering in order to guarantee participation from several Odisha hospitals. The Declaration of Helsinki's guidelines were followed in this investigation. Anonymity was ensured by not collecting participant personal identifiers, and all data were safely maintained for use solely in research.

Statistical Analysis

SPSS version 26 was used to examine the data. In addition to mindfulness and psychological flexibility, descriptive statistics (mean, standard deviation) were calculated for total burnout and its subscales (EE, DP, and PA). Bivariate relationships were examined using Pearson's correlation. To find out if psychological flexibility and mindfulness predicted overall burnout, multiple regression analysis was used. For each burnout subscale, gender differences and the relationship between gender and psychological flexibility were examined using a two-way ANOVA. All tests were performed at p <.05, and the assumptions of multicollinearity, homoscedasticity, linearity, and normality were verified.

Results

Descriptive Statistics

Descriptive statistics for mindfulness, psychological flexibility, and burnout subscales are presented in Table 1.

Table 1

Descriptive Statistics of Study Variables (N = 160)

Variable	Total (*n=160*)	Male (*n=80*)	Female (*n=80*)
Mindfulness (FFMQ)	120.8 (18.6)	122.4 (17.9)	119.2 (19.2)
Psychological Flexibility (AAQ-II)	26.4 (6.1)	26.8 (5.9)	26.0 (6.3)
Emotional Exhaustion (EE)	23.6 (6.2)	22.1 (5.8)	25.1 (6.4)
Depersonalization (DP)	12.3 (4.7)	13.2 (4.5)	11.4 (4.8)
Personal Accomplishment (PA)	23.4 (5.9)	23.1 (5.7)	23.7 (6.1)

Note: Values are M (SD).

Females reported higher emotional exhaustion, while males had slightly higher depersonalization. Scores for mindfulness, psychological flexibility, and personal accomplishment were comparable across genders.

Correlational Analysis

Pearson's correlations among mindfulness, psychological flexibility, and burnout subscales are presented in Table 2.

Both mindfulness and psychological flexibility were negatively correlated with EE and DP, and positively correlated with PA, indicating that higher mindfulness and flexibility are associated with lower burnout.

Multiple Regression Analysis

A multiple regression was conducted to examine whether mindfulness and psychological flexibility predicted total burnout.

Table 3

Multiple Regression Analysis Predicting Burnout from Mindfulness and Psychological Flexibility

Predictor	*B*	*SE B*	*β*	*t*	*p*
Mindfulness (FFMQ)	-0.48	0.07	-0.41	-6.78	< .001
Psychological Flexibility (AAQ-II)	-0.64	0.11	-0.36	-5.79	< .001

R^2 = 0.48, F (2, 157) = 72.3, p < .001. Unstandardized coefficients are reported for B; β represents standardised coefficients. *p*-values are two-tailed.

Both predictors were significant, suggesting that higher mindfulness and psychological flexibility are associated with lower overall burnout.

Gender Differences (Two-Way ANOVA)

Two-way ANOVA examined gender differences and the interaction effect of gender and psychological flexibility on burnout subscales.

Table 4

Two-Way ANOVA: Burnout Subscales by Gender and Psychological Flexibility

Source	*SS*	*df*	*MS*	*F*	*p*
Gender (EE)	316.4	1	316.4	6.84	.01
Gender (DP)	112.7	1	112.7	5.92	.02
Gender × Psychological Flexibility (EE)	221.8	1	221.8	4.77	.03
Error (EE)	7304.2	156	46.8		

Females showed higher Emotional Exhaustion (p = .01).

Males reported higher Depersonalization (p = .02).

The interaction effect between gender and psychological flexibility on EE was significant *(p = .03)*, indicating differential buffering effects across genders. The results are interpreted and discussed in the following section.

Discussion

With an emphasis on the subscales of emotional exhaustion (EE), depersonalization (DP), and personal accomplishment (PA), the current study examined the predictive effects of psychological flexibility and mindfulness on burnout among healthcare practitioners in Odisha, India. Mindfulness had a positive correlation with PA (r = 0.44) and a negative correlation with EE (r = -0.56) and DP (r = -0.47). Its significant predictive role in lowering overall burnout was confirmed by regression analysis (B = −0.48, β = −0.41, t = −6.78, p <.001), indicating that healthcare workers who practice mindfulness feel less emotionally strained, interact with patients more sympathetically, and maintain a sense of personal efficacy (Cohen-Katz et al., 2005; Shapiro et al., 2005). These findings are consistent with theoretical frameworks that suggest mindfulness enhances resilience in high-stress healthcare settings by fostering present-moment awareness, nonjudgmental acceptance, and emotional regulation.

With negative associations with EE (r = -0.49) and DP (r = -0.41) and positive correlations with PA (r = 0.37), psychological flexibility also emerged as a significant predictor of decreased burnout. Regression analysis validated this prediction function (B = -0.64, β = -0.36, t = -5.71, p <.001). More psychologically flexible healthcare workers can modify their actions to support desired outcomes even in high-stress situations, reducing the negative effects of work-related stressors and fostering wellbeing. Acceptance and Commitment Therapy (ACT) emphasise psychological flexibility,the capacity to fully experience negative emotions while pursuing meaningful goals as essential to coping and resilience in work environments, and this finding aligns with its tenets (Bond et al., 2011; Hayes et al., 2006).

Inferential analysis and descriptive statistics showed that burnout differed slightly by gender. In line with previous research suggesting that female healthcare workers may be more vulnerable to emotional exhaustion because of juggling professional and social obligations, while males may turn to

depersonalization as a coping strategy, females reported higher EE while males reported slightly higher DP (Purvanova & Muros, 2010). Crucially, a Two-Way ANOVA that looked at how Gender × Psychological Flexibility affected EE revealed a significant interaction ($F(1,156) = 4.77$, $p = .03$), suggesting that psychological flexibility had a different impact on emotional exhaustion in each gender. In particular, EE was stronger in females with lower psychological flexibility than in males, but EE was attenuated in both genders by higher psychological flexibility. This research emphasises how crucial it is to consider both gender-specific patterns and personal psychological resources when developing burnout remedies.

These results have significant practical ramifications. Incorporating psychological flexibility training informed by ACT and mindfulness-based stress reduction programs into healthcare organisations may reduce burnout, increase job satisfaction, and improve patient care. Value-based goal-setting activities, mindfulness classes, guided meditation sessions, and reflective techniques to improve adaptive coping are a few examples of such interventions. Workplace rules that encourage wellness initiatives, flexible scheduling, and frequent mental health check-ins may also help to create a friendly atmosphere.

The study has limitations in spite of these contributions. Reliance on self-report measures introduces possible response biases, the cross-sectional design prohibits causal inference, and convenience sampling may restrict generalisability. Future studies should use experimental and longitudinal designs, incorporate larger and more varied samples from various geographical areas, and look at organisational elements including workload distribution, team dynamics, and leadership style. It is highly advised that intervention studies be conducted to assess the effectiveness of psychological flexibility and mindfulness-based programs in lowering burnout and improving the well-being of medical workers.

Conclusion

This study demonstrates that psychological flexibility and mindfulness are important preventative measures against burnout in medical personnel. Reflecting the advantages of present-moment awareness, nonjudgmental attention, and emotional regulation, mindfulness helps to improve personal success while reducing emotional exhaustion and depersonalization. Psychological flexibility further protects against the detrimental effects of professional strain by enabling people to pursue meaningful objectives and respond to stress in an adaptive manner. Notably, the study found a substantial interaction between gender and psychological flexibility on emotional exhaustion, with males exhibiting slightly stronger depersonalization and females feeling higher emotional exhaustion. These results highlight the value of customised interventions that consider each person's unique psychological resources as well as stressors unique to their gender.

All of the findings point to the need for healthcare organisations to incorporate structured interventions that focus on psychological flexibility and mindfulness in order to improve staff wellbeing and patient care. This study offers a strong basis for creating evidence-based mental health solutions. Future studies should focus on interventional and longitudinal designs, look at other organisational characteristics, and assess how mindfulness and flexibility-based programs affect burnout over the long run. In the end, these results add to the expanding corpus of research supporting proactive mental health care and resilience-building techniques in the Indian healthcare system.

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Conflict of Interest

The author declares that there is no conflict of interest regarding the conduct, authorship, or publication of this research.

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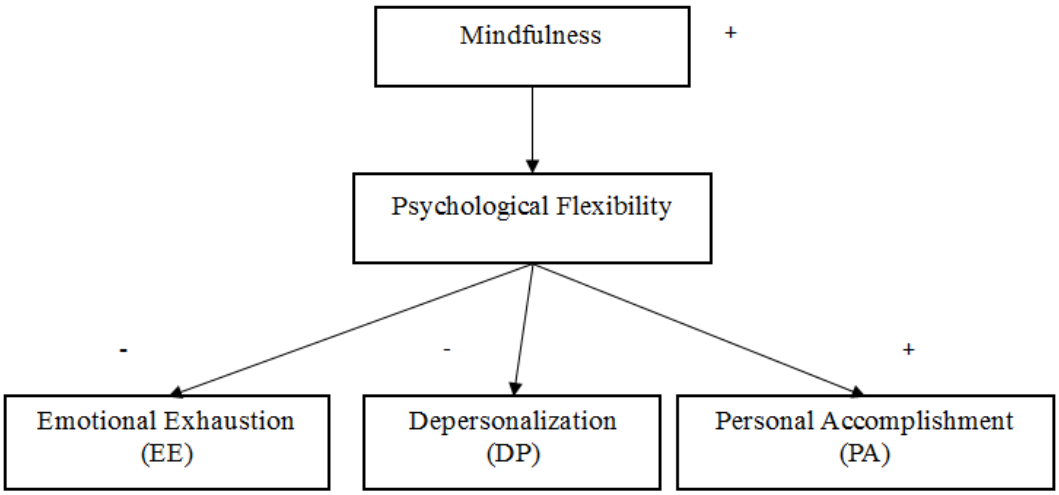

Figure 1

Conceptual model showing hypothesised relationships between mindfulness, psychological flexibility, and burnout dimensions (emotional exhaustion, depersonalization, and personal accomplishment) among healthcare professionals.

Note. "–" indicates hypothesized negative associations; "+" indicates hypothesized positive associations. EE = Emotional Exhaustion; DP = Depersonalization; PA = Personal Accomplishment.

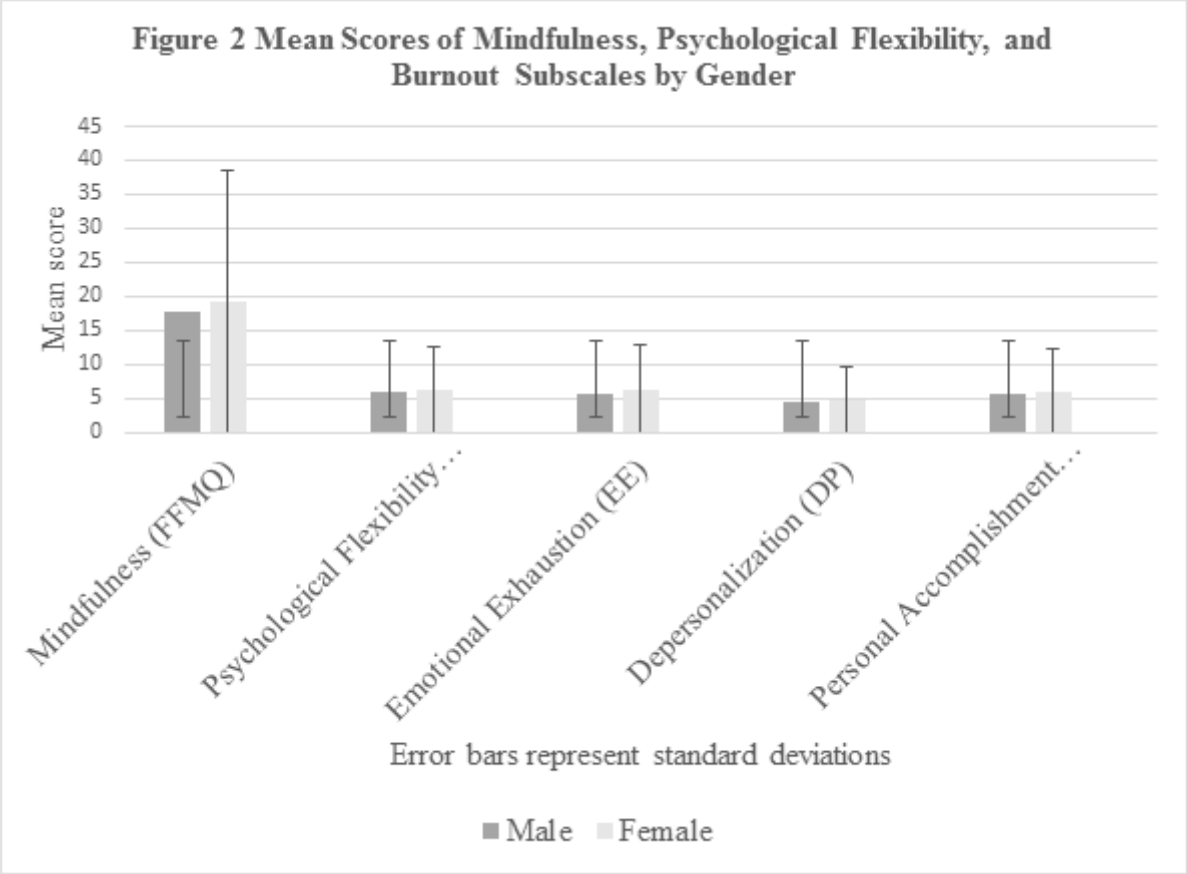

Figure 2
Mean Scores of Mindfulness, Psychological Flexibility and Burnout Subscales by Gender
Note. Error bars represent standard deviations. Male (n = 80), Female (n = 80).

Table 2
Pearson's Correlations Between MBI Subscales, Mindfulness, and Psychological Flexibility

Variable	1 (EE)	2(DP)	3 (PA)	4 (Mindfulness)	5 (Psychological Flexibility)
1. Emotional Exhaustion (EE)	1				
2. Depersonalization (DP)	0.49**	1			
3. Personal Accomplishment (PA)	-0.42**	-0.35**	1		
4. Mindfulness (FFMQ)	-0.56**	-0.47**	0.44**	1	
5. Psychological Flexibility (AAQ-II)	-0.49**	-0.41**	0.37**	0.42**	1

Note: $p < .01$. (two-tailed). EE = Emotional Exhaustion; DP = Depersonalization; PA = Personal Accomplishment.

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