Self-Efficacy, Mindfulness, and Burnout among Phd Students

Rimsha Urooj[1], Dr. Shagufta Bibi[2] & Dr. Muhammad Luqman Khan[3]

[1]MPhil Scholar, Department of Psychology, Riphah International University, Faisalabad Campus,
Email: rimshamehboob0@gmail.com
[2]Assistant Professor, Department of Psychology, Riphah International University, Faisalabad Campus,
Email: dr.shagufta@riphahfsd.edu.pk
[3]Associate Professor, Department of Psychology, Riphah International University, Faisalabad Campus,
Email: luqman.khan0078@gmail.com

ARTICLE INFO	ABSTRACT
  Corresponding Author: Rimsha Urooj **Email:** rimshamehboob0@gmail.com OPEN ACCESS	*The purpose of the present study was to measure the relationship between Self-efficacy, mindfulness, and burnout among PhD students. To examine the correlation between Self-efficacy, Burnout, and Mindfulness. There was a significant correlation between self-efficacy and mindfulness, self-efficacy and academic burnout, mindfulness and Academic burnout in PhD students. The study involved 250 students, (123 Male and 127 Female), from various government and private universities, in Pakistan. Using a cross-sectional correlation research design. The research utilized three key psychological measures: The General Self-Efficacy Scale (GSES), a 10-item measure, Mindfulness Attention Awareness Scale (MAAS), a 15-item measure; and Maslach Burnout Inventory-General Survey for Students (MBI-GSS), a 22-item measure. The findings revealed significant associations among all variables under investigation. Furthermore, multiple regression analysis identified self-efficacy, and mindfulness as significant predictors of Academic burnout. These results suggest that incorporating self-efficacy, and mindfulness support into educational programs may enhance students, mental health and overall well-being.*

Introduction

The term "burnout" refers to the state in which we are so exhausted by the demands of our jobs that we are unable to function. We could experience emotional exhaustion, lack of motivation, and inefficiency (Khoso, et al., 2024; Sultana & Imran, 2024; Ahmad, Bibi & Imran, 2023). Burnout is a gradual process that is typically brought on by an accumulation of stressful events that occur both inside and outside of the workplace. Some of the following symptoms are usually present when you reach the stage of burnout (Maslach & Leiter, 2022).

According to research, approximately 18% of people in some nations experience significant levels of burnout, and many more are in danger. Although burnout typically occurs in the workplace, it can also occur in other contexts, such as sports and education. Burnout can cause major issues if left untreated, such as issues with your career, daily functioning, and mental and physical health. If you have experienced burnout, you may be concerned that it will recur (Khan, Haq, & Naseer, 2022; Shaukat, Rehman, & ul Haq, 2021). The good news is that there are numerous approaches to dealing with burnout, whether one is working at the individual, team, or organizational level. One successful psychological treatment that can assist you in resolving this problem is cognitive behavioral therapy (Kaski & Kinnunen, 2021).

Additionally, data on overall participant attendance was not reported in 18 research. It was challenging to compare the data with reliability since participant attendance rates in the other twelve research were presented differently (Azhar, 2024; Azhar & Imran, 2024; Azhar, et al., 2022). It implies that practicing mindfulness helps lessen the signs of stress at work. However, previous research has not fully explained the relationship between mindfulness and work engagement. Numerous academics have tried to answer this topic from various angles, even though it is still unclear exactly how mindfulness lowers burnout. According to certain studies on the behavioral changes brought about by mindfulness, people can better manage stressors at work by concentrating on the present, which helps them stay focused and overcome obstacles (Leroy et al., 2013a).

Mindfulness practice, characterized by present-moment awareness, is esteemed for its capacity to cultivate resolve and inaction via intentional and nonjudgmental experiences. Dispassionate, non-evaluative, and persistent awareness of perceptible mental states and processes as they arise moment by moment is what defines mindfulness. This encompasses an ongoing, instant awareness of physical sensations, perceptions, emotional states, thoughts, and imagery (Grossman et al., 2004).

The practice of paying attention to the present moment with acceptance and without passing judgment is known as mindfulness. Which effects can practice mindfulness meditation be expected to yield? The primary objective of mindfulness meditation is to achieve mindfulness, which means that this should be its main effect; however, there may be additional effects as well. Examples of these may be enhanced well-being, improved concentration, stress relief, or the attainment of clearer or more insightful mental states (Kabat-Zinn, 2013).

Clinical research has shown that mindfulness improves mental and physical health in various patient and student types, including children and healthy adults. Research has indicated a positive correlation between psychological health and trait mindfulness, which can be developed through mindfulness-based therapies (Jaleel, & Sarmad, 2024; Jalil, Sarmad, & Shafi, 2023; Muhammad, et al., 2020). According to mindfulness appears to offer therapeutic advantages to those with psychiatric diseases, including moderate improvements for those suffering from psychosis (Semple & Burke, 2019).

One of the prerequisites for maintaining the optimal level of professional performance is mindfulness. Additionally, mindfulness is a psychological state in which one concentrates on events occurring in the present. The association is between mindfulness, work-family balance, and job performance. Upon completion of the study, it was discovered that there is a favorable Connection between Self-Efficacy and Mindfulness (Kang et al., 2020).

Self-efficacy refers to how individuals assess their ability to organize and execute the steps required to meet particular performance goals. It is the belief that one possesses the motivation,

responses, and behaviors required to meet particular demands in a given situation," states. A person's preferences for carrying out a certain work, as well as their efforts and persistence in finishing it, are influenced by their level of self-efficacy beliefs. Research indicates that students' perceived self-efficacy promotes their personal goals, which either directly or indirectly improves their academic performance (Bandura, 2003).

Specifically, discovered that PhD candidates' self-confidence in their academic abilities predicts whether they will finish or not. The frequency and duration of self-doubt episodes are decreased when PhD students comprehend and have faith in their writing and research abilities. Many PhD candidates admit to having some degree of self-doubt about their abilities; if this self-doubt persists, students may end up sabotaging themselves by putting off or failing to perform activities out of fear of failing. Nonetheless, it points out that university administration and faculty can use tactics to raise PhD students' expectations, motivation, and sense of self-efficacy (Lindsay, 2015).

According to Albert Bandura, Self-efficacy is about how individuals evaluate and perceive their abilities (Naseer, et al., 2024; Shah et al., 2023; Aurangzeb, & Haq, 2012).

Conversely, it takes into account the sense of confidence a person has in their skills and abilities in a scenario or at work. Self-efficacy is the conviction in one's capacity to handle challenging situations and complex tasks. Self-efficacy and performance in domains like sales have been strongly and consistently correlated, proactive behavior, and work-related performance and self-efficacy is positively and strongly correlated (Bandura, 2001).

Moreover, research did not provide data on overall participant attendance. Due to the differing presentation of participant attendance rates in the other twelve studies, it was difficult to compare the data reliably. This suggests that engaging in mindfulness practice can reduce the manifestations of work-related stress. Nonetheless, prior studies have not completely clarified the link between mindfulness and work engagement (Khan & Haq, 2025; Haq & Khan, 2024). Although it remains uncertain precisely how mindfulness reduces burnout, many scholars have attempted to approach this issue from different perspectives Shaukat, et al., 2020; ul Haq & ur Rehman, 2017). Certain studies regarding the behavioral changes brought about by mindfulness indicate that concentrating on the present allows individuals to manage work-related stressors more effectively, helping them maintain focus and surmount challenges (Leroy et al., 2013b).

Research conducted previously in the domain of organizational and industrial psychology has shown that burnout leads to various negative repercussions, such as heightened levels of depression, turnover rates, absenteeism, and health issues (Kayani, et al., 2023; Khan, et al., 2021; Naseer, et al., 2021; Khan & Khan, 2020). After investigating the predictors of academic engagement and burnout, it was established that stress and general self-efficacy are linked to both. By controlling for these two variables, the researchers found that emotional intelligence can also serve as a predictor of academic fatigue. Moreover, recent research has shown that there is a significant negative correlation between academic burnout and the faculty atmosphere as well as positive motivation from instructors. The most notable innovation of the study is its concurrent investigation of both internal and external contributors to academic burnout (Schwarzer & Hallum, 2008).

Keil demonstrated that there is a significant correlation between self-efficacy and mindfulness in clinical supervisors. Additionally, Keil argued that the content of supervisors is influenced positively by anxiety and self-efficacy alone and that their mindfulness level affects these elements, leading to better performance concerning their customers (Sohail-Rehan, & Ul-Haq, 2018; Haq, 2017; ul Haq, 2012). Examined how self-efficacy in counseling is affected by

mindfulness. The self-efficacy of counselors is a critical component of their professional development. According to the findings of their study, mindfulness considerably raises counselors' self-efficacy while also having an impact on their attention, empathy, and stress reduction. Additionally, the study showed a strong positive relationship between awareness, empathy, attention, and counseling self-efficacy (Greason & Cashwell, 2009).

Rationale of the Study

Pursuing a PhD is an intellectually stimulating yet highly demanding journey that requires persistent effort, resilience, and emotional stability. The rigorous academic workload, coupled with research pressure, deadlines, and the demand for originality, often leads to psychological distress among PhD students (Jaleel, Rabbani, & Sarmad, 2025; Ali, et al., 2020; Ahmad, 2018). A major element that affects PhD students' capacity to handle stress and academic challenges is self-efficacy, which is the belief that one can complete tasks and meet objectives. High self-efficacy helps students navigate complex research processes, handle setbacks effectively, and maintain motivation. Conversely, low self-efficacy can lead to increased stress, procrastination, and ultimately burnout. Similarly, mindfulness, which involves maintaining present-moment awareness without judgment, has been recognized as a crucial psychological resource in reducing stress and improving well-being (Parveen, et al., 2020; ul haq, 2019; Ali & Haq 2017).

This study aims to bridge this gap by examining how self-efficacy and mindfulness influence burnout levels among PhD students. By understanding these relationships, universities can design interventions to promote mental well-being, such as mindfulness training programs and self-efficacy-enhancing workshops. Ultimately, this research will contribute to creating a more supportive academic environment where PhD students can thrive both professionally and personally.

Research Hypothesis

1. There is a significant relationship in the levels of mindfulness, self-efficacy, and burnout among Ph.D. Students.
2. There will be a significant impact of self-efficacy, and mindfulness on burnout among PhD students.
3. There will be significant differences in the levels of self-efficacy, mindfulness, and burnout between male and female PhD students.

Literature Review

A unique psychological concept is burnout. Several characteristics distinguish burnout from work-related stress. In contrast to stress, burnout necessitates constant pressures being applied to the person. A condition of mental, bodily, and emotional exhaustion brought on by one's workplace identified depersonalization, diminished personal accomplishment, and emotional weariness as the symptoms of burnout. Since research on student burnout reveals the incidence of burnout and its contributing variables, it always advances a scientific objective. That being said, research on burnout also serves the purpose of supplying information for prevention. The current study aims to assess burnout and stress and their relationship to undergraduates and postgraduates. Postgraduate students are more likely to experience stress and burnout, according to the study's hypothesis. Professionals who experience burnout may exhibit a variety of symptoms related to their employment (Maslach & Goldberg, 1998).

According to metacentric research, burnout among doctoral students might reach 45%, while an urgent situation may be linked to burnout or a stress-related reaction, the general psychopathology

of anxiety or depression suggests a broader range of interactions involving stress vulnerability or a multifactorial cause (Iqbal, Shah & Abid, 2025; Ivascu, et al., 2022; Ghulam, et al., 2019). Students in postgraduate studies often feel very sad and drained. Over the past few decades, professionals in occupational health have become increasingly interested in burnout. The uncertainty regarding the causal relationship between job stressors and burnout is compounded by the scarcity of studies that evaluate job stressors using objective measures (Shah, Qazi & Khan, 2025; Naseer, Rehan & Shah, 2024; Malik, Hanif & Elahi, 2025). This research corroborates the discovery that therapies targeting organizations for burnout are not particularly effective. Due to the challenges of establishing dependable causal links in psychological and psychiatric research, generating causal inferences with any degree of confidence typically requires extensive careful examination. It is remarkable that the initial investigators of burnout immediately concluded what caused it (Dreison et al., 2018).

Mindfulness refers to the capacity for non-judgmental focus on the present moment. Increased mindfulness is associated with lower chronic stress and burnout levels. Mindfulness refers to the capacity for non-judgmental focus on the present moment. Greater mindfulness correlates with reduced chronic stress and burnout levels. Mindfulness training, meditation, and contemplation have been shown in other studies to be negatively correlated with chronic stress and burnout. For the implementation of MBSR and the intentional development of mindfulness or availability of mindfulness (Esch et al., 2013).

The definition of mindfulness is the awareness resulting from intentional attention in the present moment without judgment. To be non-judgmental is to be aware of the mind's tendency toward judgment, to strive to resist this tendency, to recognize when we are succumbing to it, and to refrain from exacerbating situations by judging others. To be non-judgmental is to be aware of the mind's tendency toward judgment, to strive to resist this tendency, to recognize when we are succumbing to it, and to refrain from exacerbating situations by judging others. It is at least as powerful and advantageous as the faculty that allows thought and feeling, as it offers a momentary opportunity to view those energies from another perspective or dimension of experience (a knowing that includes but also transcends the merely conceptual), thus nurturing the potential for wisdom and discernment. Part of the mindfulness practice is to acknowledge and welcome the faculty of awareness in oneself as the main dimension/abode of experience (Kabat-Zinn, 2013).

Mindfulness is the ability to be receptive, aware, and attentive to both internal and external sensations as they arise. Mindfulness training is operationally defined as the awareness that arises from purposefully focusing on the present moment without judgment, as experiences unfold from moment to moment. An individual can learn to recognize and react to the physiological and psychological mechanisms behind maladaptive feelings and behaviors by practicing mindfulness. While mindfulness dispositions may differ depending on the degree of practice and integration throughout life, everyone can develop mindfulness. Meditation, which tries to cultivate awareness, can help one become mindful. However, contends that mindfulness extends beyond the realm of meditation and encompasses situational awareness, sensitivity to environmental changes, and mental control. Accordingly, mindfulness can be cultivated daily and can also appear as a natural ability or characteristic (i.e., dispositional mindfulness) (Brown & Ryan, 2003).

Mindfulness has been suggested as a potential stress-reduction strategy the term Dispositional mindfulness, also known as trait mindfulness, describes a person's overall propensity for mindfulness as well as their emotional condition. Mindfulness is the extent to which a person experiences mindfulness at any given moment (Danish, Akhtar & Imran, 2025; Mankash, et al., 2025; Hafeez, Yaseen & Imran, 2019). Furthermore, a two-dimensional model of state

mindfulness was introduced, comprising state mindfulness of the body and state mindfulness of cognition (Crane et al., 2017).

The term "self-efficacy" to people's confidence in their capacity to carry out specific tasks, such as carrying out reliable empirical studies and sharing the results. Yet, self-efficacy is more than just a person's capacity to complete tasks; it also includes their cognitive processes such as changing their perspective to think like a scholar-researcher, behavioral decisions such as conducting research, internal and external motivations, and social-cognitive development. Research competency is one example of a characteristic that may be mastered through actions that increase self-efficacy. A graduate student's motivation in carrying out empirical research is predicted by their level of research self-efficacy (Bandura, 1986b).

Additionally, more mentorship from supervisors was found to predict higher research self-efficacy over time. Additionally, it was discovered that greater academic production was correlated with higher levels of research enthusiasm and self-efficacy. Additionally, students' research self-efficacy rises as they finish research classes, and the biggest benefits happen when research is connected to extracurricular learning opportunities for students performing empirical studies. Lastly, research self-efficacy seems to be a key ability in the training of future scholar-researchers and is a major factor in the dissertation completion process. Lastly, research self-efficacy seems to be a key ability in the training of future scholar-researchers and is a major factor in the dissertation completion process. Self-efficacy is a fundamental idea in social cognitive theory that refers to a person's confidence in their ability to do a specific activity. While people's performance suffers when they doubt their ability, confidence helps them perform better on tasks (Unrau & Beck, 2004).

Research Methodology

Research Method

Research Design

A cross-sectional correlation study design was used to investigate the current subject. Correlation research design is a type of scientific inquiry that examines a relationship between two or more variables without altering them. Using this method, researchers gather information to investigate the relationship between changes in one variable and changes in another.

Participants

The participants in this study were chosen using the convenience sampling technique. 250 understudies from universities in Lahore and Faisalabad. Furthermore, the study's findings were separated into two categories: male and female. The participants range in age from twenty-five to forty.

Sample Size

The sample size was determined using G power, a statistical technique for calculating the required sample size. A total of 250 students were chosen from different universities in Faisalabad and Lahore.

Sampling Techniques

Convenience sampling was the sample technique used in this study. Convenience sampling is the name given to the non-probability sampling method. According to the study, this tactic is very simple to employ.

Inclusion/ Exclusion Criteria

Inclusion Criteria

- Different University students were included in the study.
- The students ranged in age from 25 to older.
- Students who willingly consented to participate in the study completed the questionnaire.
- Only Ph.D. students are included in the study.
- Gender is equally divided 125 girls and 125 boys.
- Both public and private universities were represented in the study, and participants came from both urban and rural areas.
- A range of performance styles were represented among the instructors.
- Were chosen and given instructions on how to complete the questionnaires in order to maintain the confidentiality of the data collected.

Exclusion Criteria

The research does not include the following criteria.

- Students under the age of twenty-five were not accepted.
- Students were not asked to complete the questionnaire if they chose not to participate.
- The study included students from outside the university, but no data was gathered from them.

Ethical Consideration

Participants in the quantitative study will be guaranteed anonymity, confidentiality, informed consent, and prior approval in compliance with the American Psychological Association's ethical guidelines. The research will begin after the University of Riphah Faisalabad's Board of Advanced Study has given its approval to the study's materials and methodology. The board's recommendations are closely adhered to in the research methodology. There will be safeguards in place to ensure the safety and privacy of all. The students voluntarily filled out the questionnaire.

Measures

Demographic Form

Age, gender (male, female), study year (1st, 2nd, 3rd, 4th, 5th), current job status (yes, no), living status (urban, rural) and family structure (Joint, Nuclear) were all included in the demographic data.

Generalized Self-efficacy (GSES)

Self-efficacy was measured using the General Self-Efficacy Scale (GSES), which assesses each person's subjective opinion of their confidence in their abilities or capacity to perform a specific behavior. This study used three questions from the Chinese version, which was modified by (Caikang & Zhongfeng, 2001), including "I can always solve problems if I try hard enough." Each question was answered on a 4-point Likert scale, where 1 meant "not at all true," 2 meant "extremely true," 3 meant "somewhat true," and 4 meant "very true." Greater self-efficacy was indicated by higher scores. The questionnaire's Cronbach's α in the current study was 0.88, with a cutoff score of 10–40.

Mindfulness Attention Awareness Scale (MAAS)

The 15-item MAAS assesses a person's propensity to be aware of their experiences in the present. As a result, the instrument focuses on whether or not there is attention and awareness of what is happening right now. A 6-point Likert scale, ranging from 1 (almost always) to 6 (almost never), is used to ask respondents how often they have the experience outlined in each of the 15 statements. Higher scores indicate greater mindfulness. With alphas in the student and adult samples (respectively) ranging from.82 to.87, the MAAS was found to have good internal consistency (Brown & Ryan, 2003).

Maslach Burnout Inventory-General Survey for Students (MBI-GSS)

The Maslach Burnout Inventory (MBI) is a self-report burnout measure that consists of 22 statements about work-related attitudes and feelings that are thought to define psychological burnout. The statements are on a 7-point Likert-type scale, with 0 representing never and 6 representing every day. Three subscales comprise the questionnaire: Personal Accomplishment (PA, 8 items; e.g., "I have accomplished many worthwhile things in this job"); Depersonalization (DP, 7 items; e.g., "I feel I treat some recipients as if they were impersonal objects"); and Emotional Exhaustion (EE, 7 items). The internal consistency of the variables emotional exhaustion and professional effectiveness was satisfactory (0, 81, and 0, 74, respectively).Though, the third variable (disbelief) presents a moderated internal consistency index (0, 59). The Italian reliability, construct, and criterion validity of scores on the MBI have been well-established in various samples of workers (Maslach & Jackson, 1985).

Research Setting

All of the educational institutions in the Faisalabad and Lahore regions were initially examined in order to collect data for the current study.

Research Procedure

Students from different universities participated in the study, which included both male and female study specimens. Questionnaires for each of the factors under study were used to calculate the data. First, a letter of authorization for the data collection was issued by the Riphah International University department director. The higher authorities of the institutions where the students finished the paperwork were then presented with this letter of authorization. The students received a thorough explanation of the study's purpose and the procedures used to gather the data. Every student was given guarantees about the confidentiality of their data.

All of the questions were translated into plain English because the questionnaire was in English so that students could better comprehend and give the right response. Students were thanked for their time and response once the forms were put together.

Trust and rapport with participants

It was determined that before beginning data collection, it was essential to contact and gain the trust of those impacted. The analyst became acquainted with the participants in the evaluation settings in order to interpret the factors and look into the motivations behind the current study. The analyst also promised the examiners that the mental evaluation would remain confidential.

Statistical Analysis

The data was analyzed using the statistical package for social science (SPSS27) after the measurements were interpreted. Among the descriptive statistics used were the mean, standard

deviation, skewness, and kurtosis. Inferential statistics like regression analysis, one-way ANOVA, Pearson correlation, and independent sample t-test were employed to assess the hypothesis. Pearson correlation analysis was used to assess the relationship between the variables. Regression analysis was used to determine the independent components' predictive influence on the result. To assess the measure's reliability, Cronbach Alpha was computed.

Results

This chapter presents the current research findings.

Table 1: *Descriptive statistics of all variables*

Individual factors	Category	f (%)	Mean	SD
Age	25-30	136(54.4)	---	---
	31-35	45(18.0)		
	36-40	69(27.6)		
Gender	Male	123(49.2)	---	---
	Female	127(50.8)		
Study Year	1th	22(8.8)	---	---
	2nd	60(24.0)	---	---
	3rd	98(39.2)	---	---
	4th	49(19.6)	---	---
	5th	21(8.4)	---	---
Current job status	Yes	174(69.6)	---	---
	No	76(30.4)	---	---
Family Structure	Joint	143(57.2)	---	---
	Nuclear	160(42.8)	---	---
Living Status	Urban	158(63.2)		
	Rural	92(36.8)		
Self-efficacy	----	----	25.552	12.16
Mindfulness	----	----	49.780	6.16
Emotion Exhaustion	----	----	18.668	8.51
Depersonalization	----	----	18.558	8.39
Personal Accomplishment	----	----	23.804	10.82
Academic burnout	----	----	61.040	21.82

As shown in table 4.1, shows the frequencies, percentages, mean and standard deviation of study variables.

Table 2: *Reliability Analysis of Study Variables (n=250)*

Variables	Items	α Value
Self-efficacy	10	.774
Mindfulness	15	.745
Emotion Exhaustion	7	.755
Depersonalization	7	.714
Personal Accomplishment	8	.853
Academic burnout	22	.866

From the result given in table 2, we see that the values of Cronbach α for self-efficacy,

mindfulness, emotion exhaustion, depersonalization, personal accomplishment and academic burnout are 0.774, 0.755, 0.714, 0.853 and 0.866 respectively.

Table 3: *Pearson Correlation between self-efficacy, mindfulness, emotion exhaustion, depersonalization, personal accomplishment and academic burnout among PhD students*

Variables	Mean ± SD	1	2	3	4	5	6
Self-efficacy	25.552 ± 6.16	1					
Mindfulness	49.780 ± 12.16	.624**	1				
Emotion Exhaustion	18.668 ± 8.51	-.647**	-.692**	1			
Depersonalization	18.558 ± 8.39	-.633**	-.694**	.639**	1		
Personal Accomplishment	23.804 ± 10.82	-.672**	-.677**	.337**	.347**	1	
Academic burnout	61.040 ± 21.82	-.829**	-.872**	.803**	.806**	.761**	1

Table 3 indicates the correlations between self-efficacy, mindfulness, emotion exhaustion, depersonalization, personal accomplishment and academic burnout among PhD students. The findings reveal that self-efficacy is significantly and positively correlated with mindfulness (r = .624, p < .01) while significantly and negatively correlated with emotion exhaustion (r = -.647, p < .01), depersonalization (r = -.633, p < .01), personal accomplishment (r = -.672, p < .01) and academic burnout (r = -.829, p < .01). Similarly, mindfulness is significantly and negatively correlated with emotion exhaustion (r = -.692, p < .01), depersonalization (r = -.694, p < .01), personal accomplishment (r = -.677, p < .01) and academic burnout (r = -.872, p < .01). The emotion exhaustion is significantly and positively correlated with depersonalization (r = .639, p < .01), personal accomplishment (r = .337, p < .01) and academic burnout (r = .803, p < .01). Depersonalization significantly and positively correlated with personal accomplishment (r = .347, p < .01) and academic burnout (r = .806, p < .01). Furthermore, personal accomplishment and academic burnout are significantly and positively correlated with each other (r = .761, p < .01).

Table 4: *Regression analysis by using self-efficacy and mindfulness as independent variables while burnout as dependent variable*

Variables	B	SE	T	P	95%CI
Constant	155.289	2.122	73.167	.000	[151.108, 159.469]
Self-efficacy	-.835	.048	-17.496	.000	[-.929, -.741]
Mindfulness	-2.062	.094	-21.881	.000	[-2.247, -1.876]

Note CI = Confidence Interval

Table 4 shows the impact of mindfulness and self-efficacy on burnout. The R^2 value .893 the prediction 89.3% variance in the burnout due to mindfulness and self-efficacy with F (1034.568), p<.001. The finding also reveals that mindfulness (β=-.835, p<.001) and self-efficacy (β=-2.062, p<.001) negatively predicting the burnout. Furthermore, one unit change in the levels of self-efficacy and mindfulness will .835 and 2.062 negatively change in the level of burnout respectively. The 95% confidence interval for self-efficacy ranges from -.929 to -.741do not include zero also the t-statistic is -17.496 and p-value is .000 which supports the statistically significant effect on burnout. Similarly, the 95% confidence interval for mindfulness ranges from -2.247 to -1.876 do not include zero also the t-statistic is -21.881 and p-value is .000 which supports the statistically significant effect on burnout.

Table 5: *Regression analysis by using self-efficacy and mindfulness as independent variables while emotion exhaustion as dependent variable*

Variables	B	SE	T	P	95%CI
Constant	47.611	1.692	28.136	.000	[44.278, 50.944]
Self-efficacy	-.247	.038	-6.488	.000	[-.322, -.172]
Mindfulness	-.652	.075	-8.675	.000	[-.800, -.504]

Note CI = Confidence Interval

Table 5 shows the impact of mindfulness and self-efficacy on emotion exhaustion. The R^2 value .554 the prediction 55.4% variance in the burnout due to mindfulness and self-efficacy with F (153.709), $p<.001$. The finding also reveals that mindfulness ($\beta=-.247$, $p<.001$) and self-efficacy ($\beta=-.652$, $p<.001$) negatively predict emotion exhaustion. Furthermore, one unit change in the levels of self-efficacy and mindfulness will .247 and .652 negatively change in the level of emotion exhaustion respectively. The 95% confidence interval for self-efficacy ranges from -.322 to -.172do not include zero also, the t-statistic is -6.488 and p-value is .000 which supports the statistically significant effect on emotion exhaustion. Similarly, the 95% confidence interval for mindfulness ranges from -.800 to -.504 do not include zero also, the t-statistic is -8.675 and p-value is .000 which supports the statistically significant effect on emotion exhaustion.

Table 6: *Regression analysis by using self-efficacy and mindfulness as independent variables while depersonalization as dependent variable*

Variables	B	SE	T	P	95%CI
Constant	46.831	1.682	27.850	.000	[43.519, 50.143]
Self-efficacy	-.255	.038	-5.956	.000	[-.300, -.151]
Mindfulness	-.667	.075	-8.939	.000	[-.814, -.520]

Note CI = Confidence Interval

Table 6 shows the impact of mindfulness and self-efficacy on depersonalization. The R^2 value .547 the prediction 54.7% variance in the burnout due to mindfulness and self-efficacy with F (148.981), $p<.001$. The finding also reveals that mindfulness ($\beta=-.255$, $p<.001$) and self-efficacy ($\beta=-.667$, $p<.001$) negatively predicts the depersonalization. Furthermore, one-unit changes in the levels of self-efficacy and mindfulness will .255 and .667 negatively change in the level of depersonalization respectively. The 95% confidence interval for self-efficacy ranges from -.300 to -.151do not include zero also, the t-statistic is -5.956 and p-value is .000 which supports the statistically significant effect on depersonalization. Similarly, the 95% confidence interval for mindfulness ranges from -.814 to -.520 do not include zero also, the t-statistic is -8.939 and p-value is .000 which supports the statistically significant effect on depersonalization.

Table 7: *Regression analysis by using self-efficacy and mindfulness as independent variables while personal accomplishment as dependent variable*

Variables	B	SE	T	P	95%CI
Constant	60.847	2.137	28.476	.000	[56.638, 65.055]
Self-efficacy	-.363	.048	-7.553	.000	[-.458, -.268]
Mindfulness	-.743	.095	-7.829	.000	[-.930, -.556]

Note CI = Confidence Interval

Table 7 shows the impact of mindfulness and self-efficacy on burnout. The R^2 value .560 the prediction 56.0% variance in the burnout due to mindfulness and self-efficacy with F (157.419),

p<.001. The finding also reveals that mindfulness (β=-.363, p<.001) and self-efficacy (β=-.743, p<.001) negatively predict personal accomplishment. Furthermore, one unit change in the levels of self-efficacy and mindfulness will .363 and .743 negatively change in the level of personal accomplishment respectively. The 95% confidence interval for self-efficacy ranges from -.458 to -.268do not include zero also the t-statistic is -7.553 and p-value is .000 which supports the statistically significant effect on personal accomplishment. Similarly, the 95% confidence interval for mindfulness ranges from -.930 to -.556 do not include zero also, the t-statistic is -7.829 and p-value is .000 which supports the statistically significant effect on personal accomplishment.

Table 8: *The comparison of mindfulness, self-efficacy, emotion exhaustion, depersonalization, personal accomplishment and academic burnout between males and females PhD Students*

Variables	Mean ± SD		t	P	95% CI		Cohen's d
	Male (n=123)	Female (n=127)			LL	UL	
Mindfulness	51.05 ± 12.99	48.54 ± 11.20	1.640	.102	-.51	5.53	0.208
Self-efficacy	26.46 ± 6.55	24.66 ± 5.63	2.323	.021	.27	3.32	0.295
Emotion Exhaustion	17.76 ± 8.79	19.55 ± 8.17	-1.671	.096	-3.91	.31	0.212
Depersonalization	18.61 ± 8.89	18.53 ± 7.90	.077	.938	-2.01	2.18	0.010
Personal Accomplishment	22.39 ± 10.83	25.17 ± 10.67	-2.046	.042	-5.46	-.10	0.260
Academic burnout	62.34 ± 22.62	63.25 ± 20.78	-1.634	.103	-9.91	.92	0.208

Table 8 represents results for the comparison of self-efficacy, mindfulness, emotion exhaustion, depersonalization, personal accomplishment and academic burnout between male and female PhD students. It includes the mean (M) and standard deviation (SD) for each variable, the t-statistic, p-value, 95% confidence interval (lower limit - LL, upper limit - UL), and Cohen's d as a measure of effect size. Male PhD students reported a significantly higher mean self-efficacy score (26.46 ± 6.55) compared to female PhD students (24.66 ± 5.63). Male PhD students also showed a higher mean mindfulness score (51.05 ± 12.99) compared to female PhD students (48.54 ± 11.20). Female PhD students reported a higher mean emotion exhaustion score (19.55 ± 8.17) compared to male PhD students (17.76 ± 8.79). Male PhD students also showed a higher mean depersonalization score (18.61 ± 8.89) compared to female PhD students (18.53 ± 7.90). Female PhD students reported a significantly higher mean personal accomplishment score (25.17 ± 10.67) compared to male PhD students (23.39 ± 10.83). Male PhD students reported a slightly higher mean academic burnout score (62.34 ± 22.62) compared to female PhD students (59.77 ± 21.02).

Discussion

The current study aims to determine the connection between academic burnout, mindfulness, and self-efficacy among PhD students (Jaleel, Rabbani, & Sarmad, 2025; Ali, et al., 2020; Ahmad, 2018). According to the study's first hypothesis, burnout, mindfulness, and self-efficacy among PhD students are significantly correlated. The analysis shows a significant and positive correlation between self-efficacy and mindfulness (r =.624, p <.01). In the current study, self-efficacy was found to have a moderately significant positive correlation with the following traits: describing, acting with awareness, observing, and not reacting to inner experiences. However, there is a small, positive correlation between self-efficacy and the mindfulness trait of not passing judgment on one's inner feelings. These findings are consistent with previous studies that found mindfulness

and academic self-efficacy to be positively correlated. Additionally, these studies discovered a relationship between students' mindfulness levels and academic self-efficacy (Hanley et al. 2015).

There was a significant and negative correlation between self-efficacy and academic burnout, depersonalization, emotion weariness, and personal accomplishment (r = -.829, p <.01). Self-efficacy and burnout were negatively correlated, with the direction of a correlation involving the MBI personal accomplishment subscale being inverted. There was a negative correlation between professional self-efficacy and emotional weariness and depersonalization. People who with lower professional self-efficacy also had lower levels of organizational commitment and cynicism, while those with lower generalized self-efficacy had higher levels of emotional weariness. The association between stressors and burnout experience was shown to be more strongly moderated by generalized self-efficacy instead. However, it's crucial to remember that in their analysis, correlations were statistically significant despite typically being low to moderate (Brouwers & Tomic, 2000).

Academic burnout, depersonalization, emotional weariness, and personal achievement are all substantially and negatively connected with mindfulness (r = -.872, p <.01). Academic burnout, depersonalization, and personal achievement are all substantially and favorably connected with emotion exhaustion (r =.803, p <.01).

Academic burnout and personal achievement were substantially and favorably connected with depersonalization (r =.806, p <.01). Additionally, there is a strong and positive correlation between academic fatigue and personal achievement. The second hypothesis investigated whether burnout is strongly predicted by self-efficacy and mindfulness. Both self-efficacy and mindfulness were shown to be significant predictors of burnout by the regression analysis. Additionally, the results show that burnout is adversely predicted with self-efficacy and mindfulness. Burnout is directly associated with personal traits like disengagement coping and negative affectivity. Negative attitudes, feelings, and actions regarding one's job, coworkers, and actual professional role are all components of burnout. Emotional regulation improvements may mediate the relationship between resilience and mindfulness and the development of burnout by improving coping mechanisms (Ahola et al., 2010).

The third hypothesis investigated how self-efficacy, mindfulness, and burnout differed by gender. The findings indicated that, in comparison to female PhD students, male PhD students reported a considerably greater mean level of self-efficacy. These children are intellectually competent for a variety of job choices and exhibit higher perseverance in pursuing their chosen careers-demonstrated that a significant impact of pupils' level of self-efficacy on their mathematical performance. Strong self-confidence increases the likelihood that people will set difficult goals for themselves, which they typically accomplish, according to study. Self-efficacious beliefs, self-determination, intrinsic motivation, and accomplishment levels are all connected. (Zinta, 2006) found that self-efficacy and performance did not correspond, and that girls and boys with high and low self-efficacy in both rural and urban contexts performed similarly. Self-efficacy was shown to differ significantly between genders, with males demonstrating higher levels than women (Pint Rich, 1990).

Conclusion

Investigating the relationship between general self-efficacy, mindfulness, and academic burnout among Ph.D. students. The following conclusions can be drawn from pertinent research findings and literature. There is a significant and positive correlation between self-efficacy and mindfulness. Observing, describing, acting with awareness, and not reacting to inner experiences

were all found to have a moderately significant positive correlation with self-efficacy in the current study. The results showed that Male PhD students reported a significantly higher mean self-efficacy compared to female PhD students.

Recommendation

Universities should integrate mindfulness training sessions to help PhD students manage stress and stay focused. Regular mindfulness exercises such as meditation and breathing techniques can reduce academic burnout. Strong mentorship programs can boost PhD students' confidence in their research abilities. Workshops on time management, goal-setting, and resilience can strengthen self-efficacy. Universities should provide mental health resources, counseling services, and peer support groups. Flexible deadlines and workload adjustments can help prevent excessive stress. Institutions should promote policies that allow PhD students to maintain a healthy balance between research and personal life. Faculty members should encourage a positive research environment that fosters confidence and resilience.

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