

**EMOTIONAL REGULATION, MINDFULNESS AND
BURNOUT AMONG MEDICAL STUDENTS**



**A THESIS/DISSERTATION SUBMITTED TO
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THE REQUIREMENTS FOR THE DEGREE OF**

**BSC (HONORS) IN
APPLIED PSYCHOLOGY**

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All changes suggested by examiners during defense are incorporated in the final copy.



13th June, 2023

Signature of students

Dated



13th June, 2023

Signature of Supervisor

Dated



13th June, 2023

Signature of HOD

Dated

Declaration

We, Noor Anjum and Ayesham Butt, here certify that this is our original work and it has never been submitted to some other institute or any university for a degree. This research work has been compiled under the supervision of Ms. Zara Haroon (Lecturer) at the Department of Applied Psychology, Kinnaird College for Women, Lahore, Pakistan.

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RESEARCH COMPLETION CERTIFICATE

It is certified that Ms. Noor Anjum and Ms. Ayesham Butt of BSc (Hons) (session 2019 – 2023), Department of Applied Psychology have carried out research work entitled “**Emotional Regulation, Mindfulness and Burnout Among Medical Students**” under my supervision.

It is assured that research work is original and has not yet been published anywhere else.



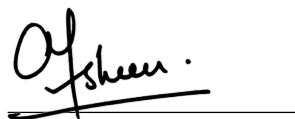
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Abstract

This correlational study was carried out to evaluate the relationship between emotional regulation, mindfulness and burnout in MBBS students who are in final year. A sample of 150 final year medical students calculated through G-Power Analysis was taken. This study was conducted on both male and female medical students, studying in their final year of MBBS. The data was gathered from government and private medical universities of Lahore city through purposive sampling. The Emotion Regulation Questionnaire ERQ (Gross & John, 2003), The Mindful Attention Awareness Scale MAAS (Brown & Ryan, 2003), and The Oldenburg burnout inventory scale (Demerouti et al, 2010) were administered. For data analysis, we used the Statistical Package for Social Sciences (SPSS). The reliability analysis of measuring instruments was analyzed that are used in the research. Pearson Product Moment Correlation Coefficient was used to look at the relationship between medical student burnout, mindfulness, and emotional control. Male and female differences were determined using the independent T test. Additionally, multiple hierarchical linear regression was used to determine the factors that predict burnout in medical students. The questionnaires were filled by participants in-person from different medical universities. Participants were given an information sheet, consent form and demographic sheet along with questionnaires. According to study, around 40.7% were male and 59.3% were female. Most of the participants i.e 90% were single. Internal consistency of the scales were checked by seeing values of cronbach alpha of the subscales of three scales. The aim of the current study was to examine the relationship between emotional regulation and mindfulness on medical students' level of burnout.

We analyzed the findings through descriptive and inferential statistics. The findings of the main study also indicated that there is a significant relationship between emotional regulation and mindfulness such that negative emotions and not having mindfulness can increase level of burnout whereas positive emotions and attentiveness can reduce the levels of exhaustion and depersonalization. The response rate was 25% in mail which increased the biasedness in the research. There should be an increase in sample size for more generalizability in future research. Future research could focus on conducting study on a large sample size. There is also a need to check conditions and at different other variables affecting burnout.

Keywords: emotional regulation, mindfulness, burnout, medical students, exhaustion, depersonalization

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CHAPTER 1

INTRODUCTION

Background

The medical field is known to be challenging and demanding, medical students face plenty of stressors. People focus on reacting to the stress unconsciously throughout their lives, mindfulness helps them in improving those stressors without reacting to them immediately. It can help medical students to manage the ability to control their stresses and deal with any conflicting situations with calmness (Abdulghani et al., 2007). In human services professions such as in medicine there are harmful factors of burnout due to the long working hours and occupational stress. In surgeons, long working hours has been a reason for burnout, on the other hand among doctors, it is seen that their common reasons are the reported heavy workload and loss of control at work. Burnout is considered to be rampant among medical students. They get training to help them face different challenges and psychosocial stressors, but if they are not managed well, they cause burnout. Emotional regulation describes the ability to self-regulate utilizing emotions to produce desired emotional effects. Though usually automatic, emotional control can be exercised by the strategies learned. Stressed individuals have a lower ability to avoid negative emotions. In Pakistan, there is lack of clinical continuity, less feedback is provided by

senior doctors and some hostile attitudes in medical schools during training which could be the leading cause of emotional dysregulation, burnout, and decreased mindfulness. According to one study, it was reported in the study that medical students had high levels (30.6%) of burnout in Lahore (Muzafar et al, 2015). In a research conducted by Pakistani medical students, a 47% rate of burnout was reported in the selected sample group. It investigated the stress of the higher education sector in Pakistan. However, by identifying them, the use of effective coping strategies and skills must be promoted so that the level of burnout is minimized.

Emotional Regulation

Emotional regulation is process oriented. It suggested that the strategies suppression and cognitive reappraisal focus arranged changing intensity in an emotional situation or experience. Suppression is a response-oriented strategy, which aims at reducing or changing behaviors that could be linked with emotional responses. Whereas on the other hand cognitive reappraisal is a cognitively oriented strategy that focuses on constructing a situation by altering emotional responses (Gross, 1998, 2015). Emotional regulation includes certain modifications in response to emotions like increasing, decreasing or maintaining the positive and negative emotions (Aldo et al., 2010). Usually, a goal of a person is to focus on increasing the level of positive emotions, while reducing the negative emotional experiences but sometimes there are exceptions to this situation (Reidiger et al., 2009).

Emotional regulation has a multi-dimensional construct which involves one to be aware of and accept emotions, also including to manage the negative emotions while experiencing impulsive behaviors, it also provides to change certain strategies in accordance to the situation (Gratz & Roemer, 2004).

According to Sroufe (1997), emotional regulation is needed to support social development as it has an impact on child's ability to interact within the environment, like in the case of a child who is unable to control his emotions would probably prefer to isolate himself from interacting with his friends which would affect his social development, while impacting in regulating his emotions effectively. Emotional regulation is not something a person is born with; a baby doesn't have any emotional regulation skills. The mood swings act like a pendulum, they are learnt with everyday scenarios (Schore, 2015).

Mindfulness

Mindfulness is defined as grabbing attention of the conscious state without thinking about the outcomes and results attached (Garnald et al., 2015). Mindfulness aims at focusing on the here and now. and helps people to identify and be aware of their negative thought patterns without any judgment. People see their thoughts as less overwhelming like "I'm a loser" or "I always do wrong things", these thoughts lose their power just by using mindfulness (Ganguly et al., 2021)

Mindfulness is explained as bringing focus to the current conscious moment without passing judgement (Kabat-Zinn, 2003). An individual's natural present capability in maintaining an intentional awareness is referred to as dispositional or trait mindfulness (Brown & Ryan, 2003). Mindfulness is a miracle that has to be mastered and restored by oneself e.g, a magician cutting his body into several parts and place one of each part in a different direction like arms in the east, hands in the south, legs facing north and then by some inner power the parts are reassembled as a whole body. Mindfulness acts like that, it can restore the dispersed mind into a whole by living in the present moment (Hanh, 1976). Mindfulness has been correlated with psychological well-being theoretically. Mindfulness is described as a psychological trait, exercise of developing mindfulness (meditation), a state of consciousness or a psychological process (Siegel & Fulton, 2005)

Burnout

There has been an increased level of stress and burnout experienced by healthcare professionals (Goodman & Schorling, 2012). Numerous students start to become exhausted and overwhelmed (Erschens et al., 2018). Burnout is a syndrome that includes exhaustion, depersonalisation and personal accomplishment (Maslach & Jackson, 1981). Many correlational studies described burnout could be linked to factors related to personal and job which includes optimism, perfectionism, motivation, Unreasonable workload requirements and a lack of resources (Epstein & Privitera, 2016). One study indicated that the likelihood of American medical

students recovering from burnout was lower. if there were chances of experiencing stress, unemployment, belonging to a minority (Dyrbye et al., 2010).

Medical students are more likely to experience increased rate of learning burnout as studies indicated that every second medical student would suffer burnout at some point of their stages of education (IsHak et al., 2013, Chunming et al., 2017). This could prove to be seriously harmful for the wellbeing of students mentally and physically as well as their future development professionally. Learning burnout could affect the future of medical professionals and could stymie their personal and professional boundaries and values like honesty, integrity, selflessness, and self-control (Dyrbye et al., 2010).

Theoretical framework

According to the Circumplex model of affect in Control theory (Remington, 2000) emotions and feelings are identified to the extent that they include underlying layers of arousal and pleasure. These states of emotions are varied on a continuum with the intensity of very positive to very negative. Sometimes people must portray their emotions appropriately according to the situation, when they portray it for their employment, it is known as emotional labor (Hochschild, 1983). In this study, medical students must show their specific set of emotions when dealing with patients or meeting with colleagues to show that they care and empathize with them,

regardless of their inner emotional state. They must assess their emotional state to compare it with display, otherwise they must start using emotional regulation strategies to decrease the discrepancy (Diefendorff & Gosserand, 2003).

There are two processes through which individuals try to regulate emotions to fulfill requirements. One is deep acting, which is the process of feeling a specific emotion while thinking of a situation in mind. The current study can be conceptualized that medical students might be feeling a certain emotion while thinking of a situation and would react in that mood with the patients. The other concept is surface acting which is just the act of pretending emotions while feeling the opposite (Holman, 2008). This could apply to the medical students in the current study that they might be regulating their emotions by pretending to empathize with patients, however feeling disturbed from inside. But, if the medical students use the continuous surface acting, this could put a huge toll on their well being resulting in burnout and emotional exhaustion (Brotheridge, 2002).

CHAPTER II

LITERATURE REVIEW

In this section, research is included related to our study variables i.e, emotional regulation, mindfulness and burnout. The research will be presented to provide sufficient support to the evidence of these variables and it would help in gaining familiarity with the relationship among them under different sample populations.

International researches:

Chalikkandy et al., (2022) assessed the relationship between burnout, social cognition and emotional dysregulation. This study was conducted among the dental students who were undergraduates at King Khaled University, Saudi Arabia. The questionnaires Copenhagen burnout inventory, emotional regulation questionnaire and interpersonal reactivity index were filled by 148 participants. The level of burnout was examined between cohorts I.e interns and undergraduates, using a Pearson correlation and no statistically significant difference was seen among both cohorts. There was a negative correlation between burnout and emotional regulation which means that the higher burnout score is related with the lower level of cognitive reappraisal and suppression. It was seen that the greater burnout is associated with

personal distress. This study presented high levels of burnout including both cohorts i.e., interns and undergraduate dental students.

Sauvain-Sabé et al., (2022) explored the relationship among mindfulness and burnout. The mediating roles of coping strategies was explored among 180 French healthcare professionals. They were given questionnaires related to mindfulness, burnout, coping strategies and emotional experience. Healthcare professionals with low levels of mindfulness resulted in higher negative affect. According to the findings, trait mindfulness also provided them protection from the two dimensions of burnout i.e., depersonalization and emotional exhaustion. It was suggested by the study that healthcare professionals could be protected by the personality trait mindfulness against three dimensions of burnout, and it could help in maintaining a higher level of personal accomplishment (subscale of burnout) through coping strategies.

Khouri, Lassri and Cohen (2022) that the current global Covid-19 pandemic is causing widespread concern and stress. Undoubtedly, the nature of the work medical workers remain particularly susceptible to burnout at this time in fact, the high prevalence of burnout in healthcare workers during this outbreak. During the pandemic, it was not well studied among health care workers. Therefore, the current research focuses on the aim to identify the threat and proactive factors that contribute to severity. Burnout in healthcare professionals exceeds current psychological levels of distress. The survey will be distributed from April 13 to April 28 in 2020. Two

months after the first confirmed case of Covid-19 in Israel. ninety-eight Healthcare workers have completed a cross managed online survey via Qualtrics. A platform that includes questionnaires that evaluate habitual emotion regulation strategies, concerns related Covid-19 and psychological distress. Analysis of Hierarchical linear regression revealed that only characteristics of concern psychological distress was an important predictor of job burnout in healthcare workers. These roles of finding highlight the maladaptive emotional regulating tendencies (Awa WL, Plaumann M, & Walter U, 2010). In particular, the worry of characteristics in work among medical professionals. These findings were the implications for both evaluations and treatment of health care professionals.

Avci et al., (2021) investigated the level of mindfulness and its potential influence on burnout. A cross sectional study was conducted on 285 medical oncology doctors using the scales of Mindfulness attention awareness scale and Maslach burnout inventory (1981). The connection among mindfulness and burnout was examined and analyzed by using Pearson correlation then bivariate regression analysis. The correlation analysis presented that as the level of mindfulness increases, emotional exhaustion and depersonalization decreases but the third subscale i.e., personal accomplishment increases. On the other hand, according to results of regression analysis regression analysis showed that there was a significant association among all the subscales of Maslach burnout. A significant higher level of

mindfulness resulting in lower levels of burnout among medical oncology doctors was seen.

Zuniga et al., (2021) investigated the high level of psychological stress faced by the medical students during the clinical training. However, the self-care wasn't taught by the medical curricula. At the time of Covid-19 pandemic the eight-week mindfulness based program which is self-care on the distress and wellbeing of the medical students are reported. In the rise of the Covid-19 in Chile in 2020, from April to May, 123 medical students of 4 years participated in this program as part of the compulsory course. Evaluating using the tests which are validated before the program and after that. This study measures different variables like burnout, mindfulness, stress, coping strategies etc. The student with burnout decreases the percentage from 48% to 24% and the dispositional mindfulness increases the percentage from 25% to 44%. Because of the decrease of the emotional exhaustion the burnout was mostly reduced. Additionally, the student reported a decreased level of stress, self-blaming and traumatic stress reactivity, along with the increased usage of proactive coping strategies and resilience once the program. Medical students' distress can be reduced and their well-being can be promoted by formal education interventions that teach self-recognition and self-adjustment abilities well being among patients in pandemic.

Kriakous, (2019) conducted a study that assessed the stress and levels of burnout challenged every day and the role of coping and mindfulness interventions on them. There were a total of 151 forensic healthcare professionals selected from

different hospitals in Wales. According to this study, there was an increase in stress. Emotional exhaustion and depersonalization had moderate levels whereas the third dimension of burnout i.e., personal accomplishment had a positive relationship that was reported by the health professionals. Results showed that when the healthcare professionals worked with elevated levels of awareness, decreased levels of emotional exhaustion and depersonalization was predicted among them. It was concluded that higher the mindfulness skills were, the lower was the stress and burnout levels among the forensic healthcare professionals. The reason for this could be because of the stressful working environments that prove to be emotionally challenging for the forensic healthcare professionals.

Kaynakci and Guneri, (2017) examined the relationship between the mediation effects of emotional dysregulation. Participants in this study were 620 university students in which Ankara State University had 429 female students and 191 male students. Data were collected using the Experiential Questionnaire, emotional regulation questionnaire, the Mindfulness five facet questionnaire, The five-facet mindfulness questionnaire, the depression anxiety and stress scale, and the emotion regulation difficulties scale (Bowlin & baer, 2012). It was revealed by the results that the data fitted by the proposed model. Eccentricity, description, Inability to regulate emotions was not directly or indirectly related to either non-judgement of internal experience or non-reactivity to internal experience. Due to the difficulties in emotional regulation, acting consciously was both directly and indirectly connected

with psychological suffering. In addition, explaining consciously, non-judgement of internal experience, non-responsiveness to internal experience and eccentricity was associated with difficulty in regulating emotions. Results were discussed considering relevant literature (Fresco et al., 2007).

Dubert et al., (2016) explored the relationship between the variables which are emotional regulation and mindfulness in nurture students. As well as the role of the possible mediators to see the nature of this relationship in working memory capacity. The scales were administered to the 80 nursing students. The tests which are performed are one-way ANOVA tests, structural equation path modeling and Pearson correlation. MAAS scores correlated significantly with ERQ. These discoveries suggest that the mindfulness may affect future nursing professionals which have a reassessment, working memory capacity explains how mindfulness has altered the employment of emotion regulation techniques. Nurse educators may refer to the other potential mechanism of how mindfulness affects in nursing students the emotional regulation. Furthermore, educators need to keep potential differences in mind and consider among nursing students, there is a complete one when the mindfulness-based interventions were implemented.

After reviewing literature, it is found that both emotional regulation and mindfulness are the leading factors in affecting the wellbeing of healthcare professionals causing burnout among them. Further, to fill the literature gap, current study would focus on examining these three variables only on medical students. Also,

to increase the generalizability of the current study in Pakistan, since there has been very few researches.

Indigenous research

Sabri, Jabeen and Iqbal (2022) aimed to clarify the relationship among two variables i.e, self conceptual emotional regulation and mental health. The problems faced by the undergraduates in their final year of medicine and dentistry were observed. It was a total of 300 medical and dental students, collected from medical schools. Non-probabilistic intentional study design Using sampling techniques, three tools – the Self-Concept Scale (SCS) – were used to collect data from the participants (Hussain & Rizvi, 2015). Depression, anxiety, and stress are measured using the and the Emotional Regulation Scale for Students (ERSS) (DASS-21; Lovibond & Lovibond 1995). As a result, despair, anxiety, and stress all significantly negatively correlate with having a good self-concept. Additionally, it was discovered that negative self-concept and emotional dysregulation were both positive predictors of mental health issues while positive self-concept and emotional regulation were found to be detrimental predictors. (Durrani & Mahmood, 2016).

Yaseen, Jamal and Qurat Ul Ain (2020) explored the relationship between two variables i.e, emotional labor and burnout among female doctors. A cross sectional study is conducted in the 200 married female doctors who have at least one child and

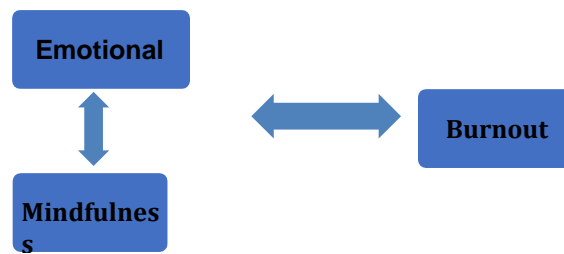
work in a public hospital. The private hospitals in Gujrat, Serm, Lahore and Sialkot. Data was collected using an emotional Dutch Questionnaire labor, a measure of work (Crounter, 1984). They also found out that the work family conflict was a significant positive predictor depersonalized. The findings show that the work family conflict partially mediates to surface relationships acting and the depersonalization. The results are being examined in light of pertinent literature, and some suggestions for further study will be made.(Chen et al., 2012).

Somroo (2017) conducted a study at Victoria hospital Bahawalpur in Punjab, that assessed the connection between mindfulness and emotional regulation. A sample of 80 doctors and nurses each was selected to fill out questionnaires of Mindfulness Attention Awareness Scale (2003) and Emotional Regulation Questionnaire (2003). Mean, standard deviation, regression and correlation was tested through SPSS, which showed the significant differences among males and females. It was seen there were significant differences in emotional regulation and suppression in both. Results concluded that mindfulness, emotional regulation, suppression, and reappraisal are higher in nurses than doctors. These variables are lower in males and significantly higher in females' doctors and nurses. Similarly, it was seen that these variables are significantly lower in rural than urban doctors and nurses. It was recommended that mindfulness and emotional regulation should be balanced out by increasing awareness for a healthy working environment.

Proposed model

The following figure 1 illustrates the theoretical framework of the following study variables.

Figure 1



2.1 Rationale

Physicians and other clinicians are more likely to experience burnout due to the whole healthcare environment including the hectic long hours duty, demanding nature, time pressures and emotional dysregulation (Rockville, 2017). The present research focuses on filling those gaps that were identified in previous researches, in order to acknowledge the level of burnout among medical students. This study aims at spreading awareness to the medical students to increase their ability in regulating emotions and to achieve mindfulness while learning. It could help medical students in reassessing their priorities. According to a study, mindfulness improved the communication between physician and patient, helped in enhancing empathy in physicians and improved the overall quality care of patients (Jaret, 2018). It is necessary in aiming the medical students to be aware of their emotions and level of exhaustion so that it could help them in dealing with the patients in future. This research centered on investigating significant differences in demographics among participants in terms of their gender (male or female) and marital status (married or unmarried). Furthermore, this study would fill the contextual literature gap in Pakistan. In comparison to previous studies, few indigenous studies have focused on testing mindfulness and emotional regulation only in medical students, it could help in increasing external validity. In comparison to international researches, there have been fewer studies on mindfulness and emotional regulation as variables, most of the studies focused on the interventions-based strategies. The present study would focus

on mindfulness and emotional regulation as predictive variables only in medical students.

2.1 Objectives

- To investigate the relationship of emotional regulation, mindfulness, and burnout among medical students.
- To investigate role of emotional regulation and mindfulness as predictors of burnout among medical students.
- To analyze emotional regulation, mindfulness, and burnout in terms of demographic differences i.e., gender and marital status of medical students.

2.2 Hypotheses

- There is likely to be a significant relationship between emotional regulation, mindfulness, and burnout among medical students.
- Emotional regulation and mindfulness will most likely predict burnout among medical students.
- There is likely to be a significant difference among emotional regulation, mindfulness, and burnout in terms of demographic differences i.e., gender of medical students.

CHAPTER III

METHODOLOGY

3.1 Research design

This study was based on correlation research design to determine the relationship between emotional regulation and mindfulness as predictors of burnout among medical students.

3.2 Participants (sample and sampling strategy)

Data was gathered through purposive sampling strategy among final year medical students. For the present research, a sample of 150 medical students (calculated through G-power analysis) was selected from various public medical universities of Lahore. The questionnaires were filled by participants in-person from different medical universities.

3.2.1 Inclusion criteria

- Final year MBBS students were selected for research.
- Both male and female medical students were included in the research.

3.2.2 Exclusion criteria

- Participants who were involved in drug induced medicines were not part of the research.
- Participants who don't understand English were excluded from study.

- Participants who are unable to understand the use of scales were not selected in research.

Table 3.1*Sociodemographic Characteristics of Medical Students (N=150)*

Sociodemographic Characteristics	f	%
Gender		
Male	61	40.7
Female	89	59.3
Marital Status		
Single	135	90
Married	15	10.0
Socio-economic Status		
Lower	2	1.3
Middle	131	87.3
Upper	17	11.3
Number of study hours per day?		
Less than 6 hours	92	61.3
6 hours	25	16.7
More than 6 hours	33	22.0
Number of patients that you get exposure to per day		
Less than 3	68	45.3
More than 3	82	54.7
Are you satisfied with your working hours?		
Yes	108	72.0
No	42	28.0
Nature/ severity of majority of the patient's illness that you deal with		
Curable	78	52
Somewhat curable	71	47.3
Incurable	1	0.7

Note: N=150 (Participants were on average 23.51 years old (SD=1.15).)

According to table no.1, around 40.7% were male and 59.3% were female.

Most of the participants i.e., 90% were single. The vast majority of participants were from the middle class. families. 61% of participants were working less than 6 hours.

Most of the participants checked in more than 3 patients per day. 72% of participants

were satisfied with their working hours. Majority of the participants were dealing with a curable illness of patients.

3.3 Conceptual and operational definitions

3.3.1 Emotional regulation

Conceptual definition:

Emotional regulation is conceptualized as how a person controls (manage and regulate) his emotions. The two aspects include emotional experience that describes what a person feels like inside. Second is the emotional expression that explains how emotions are shown in the way a person talks, gestures or behaves (Ochsner & Gross, 2005).

This includes an individual's ability to monitor and evaluate emotional experiences by seeing the demands of a specific set of goals and directions (Gratz & Roemer, 2004).

Operational definition:

Emotional regulation was operationally defined as scores of participants obtained on 2 subscales i.e., Cognitive Reappraisal and Expressive Suppression of Emotion Regulation Questionnaire (ERQ).

3.3.2 Mindfulness

Conceptual definition:

Mindfulness is conceptualized as a condition of receptivity in which a conscious state analyzes the happenings in the surrounding while being guided by a sensitive awareness of the present. In oppose to this, the generally driven method of processing a collection of experiences and events preconceived notions, cognitive assessments, beliefs, judgments, memories, and other cognitive manipulation techniques define mindfulness (Carlson & Brown, 2005).

Operational definition:

Mindfulness was operationally defined as the participants' scores obtained on Mindfulness Attention Awareness Scale (MAAS).

3.3.3 Burnout**Conceptual definition:**

Burnout is used to describe a state of becoming extremely exhausted by using high demand of energy, strength, or resources (Freudenberger, 1974).

Mental health professionals have occupational burnout but the outcome of patient is still not known (Delgadillo, 2018).

Operational definition:

Burnout was operationally defined as scores of participants obtained on 2 subscales i.e., Disengagement and Exhaustion of Oldenburg Burnout Inventory (OBI).

3.4 Measures**3.4.1 Demographic form**

Personal information of participants was gathered through a demographic sheet which included gender, age, marital experience, years of experience, working shifts and relationship with colleagues, supervisors, and patients.

3.4.2 Emotional Regulation Questionnaire (ERQ)

The Emotion Regulation Questionnaire ERQ (Gross & John, 2003) includes 10 items. It has further 2 scales which are Expressive Suppression Facet and the Cognitive Reappraisal Facet. Expressive Suppression Facet has four items, while the Cognitive Reappraisal Facet has six. They continuously score. Both are scored differently. Responses are graded on a 7-point likert-type scale, with 1 being the strongest disagreement and 7 being the strongest agreement. The more frequently that emotion regulation approach is used, the higher the score., while a lower score indicates less frequent use. The scale showed acceptable internal consistency Cronbach's α for cognitive reappraisal was 0.82 which means 0.7) and for expressive suppression 0.76 average 0.73.

3.4.3 Mindfulness Attention Awareness Scale (MAAS)

The Mindful Attention Awareness Scale MAAS (Brown & Ryan, 2003) scale consists of 15 items. It has a 6-point Likert scale which ranges from almost always to almost never. The scale has such statements such as 'I find it difficult to stay focused on what's happening in the present' and they are not aware of the situation where they are if they are at a party, so they aren't aware of what's going on. The Cronbach alpha value of Mindful Attention Awareness is $\alpha=.89$.

3.4.4 Oldenburg Burnout Inventory (OBI)

The Oldenburg Burnout Inventory scale (Demerouti et al., 2010) consists of 16 items. It has further two subscales which are exhaustion and disengagement. Exhaustion and disengagement have 8 items each. The OBI scale consists of four points which range from strongly agree to strongly disagree. It is identified as having a OLBI-D score of low, medium, or high based on a greater than or equal to 1 or less of the means standard deviation ($M=2.15$, $SD=0.52$, ≤ 1.62 =low, 1.163 to 2.67 = medium ≥ 2.68 = high). In the reliability analysis, the mean Cronbach alpha coefficient $\Sigma\alpha= 0.83$ for all items, whereas the item-total correlation ranges upto $r= 0.62$, refers to its internal consistency.

3.5 Procedure

The research was continued after taking permission and approval of the Institutional Review Board of KCW. Respective authors of the scales have given permission for using their questionnaires. Permissions were taken from different medical universities for data collection. Along with questionnaires, participants also received an information sheet, a consent form, and a demographic sheet. Participants

were informed about the nature and goals of the study. They were asked to fill out demographic sheets and questionnaires.

3.6 Ethical consideration

- Nature of study was informed to the participants.
- They were informed of how the research data will be used.
- Participants were given the option to leave the study at any time.
- Permission was obtained from the authors' earlier research projects.
- Privacy and confidentiality was maintained throughout the research.
- Participants' anonymity was maintained and their names were not mentioned anywhere in the research.

3.7 Statistical analysis

Data was analyzed by using the 22nd version of Statistical Package for Social Sciences. Descriptive statistics was used to compute mean, standard deviation, and frequencies to analyze demographic characteristics of participants. The reliability analysis of measuring instruments was analyzed that are used in the research. Pearson Product Moment Correlation Coefficient was used to look at the relationship between medical student burnout, mindfulness, and emotional control. Male and female differences were determined using the independent T test. Additionally, multiple

hierarchical linear regression was used to determine the factors that predict burnout in medical students.

CHAPTER IV

RESULTS

In this chapter, the main study's findings and their interpretation are explained. The current study investigated the relationship among burnout, mindfulness, and emotional regulation in medical students. To analyze the responses of participants, three scales were used. Different assumptions were carried out for the inferential statistical analysis like t test, ANOVA, regression analysis. These assumptions include normal distribution of data, independence of observation, outliers, homogeneity of variance, homoscedasticity and multicollinearity were checked which were found to be within the ranges of normality. Assumptions were met for the criteria to run analysis. There was one significant outlier in Oldenburg Burnout inventory item 1, found in the data set. Removal of outlier was carried out on case no 81, 140, 142, 133, 154, 144, 138. There were no missing values found in the data.

Internal consistency of scales

Internal consistency of the scales were checked by seeing values of cronbach alpha of the subscales of three scales. Table 4.1 depicts psychometric properties of the components of cognitive reappraisal, expressive suppression, Mindfulness Attention Awareness Scale (MAAS), disengagement and exhaustion.

Table 4.1*Psychometric Properties of Study Variables (N = 150)*

Variables	<i>M</i>	<i>SD</i>	<i>Actual Potential</i>	<i>a</i>	<i>Skewness</i>	<i>Kurtosis</i>
1. Cognitive Reappraisal	26.64	7.14	6 – 42	0.80	-1.77	0.41
2. Expressive Suppression	16.33	4.89	4 – 28	0.65	-0.33	-0.68
3. Mindfulness	53.96	13.67	15 – 90	0.87	1.49	-1.81
4. Disengagement	19.65	3.00	4 – 32	0.50	-1.83	1.13
5. Exhaustion	20.89	3.51	4 – 32	0.61	-0.18	2.13

Note: M = mean; SD = standard deviation.

Cronbach alpha values show reliability of questionnaires. Cronbach's alpha of cognitive reappraisal and mindfulness shows good internal consistency as alpha value of these variables is between 0.80 to 0.89 (Cronbach, 1951). However, expressive suppression, disengagement and exhaustion shows poor internal consistency because their values are below 0.69. The table shows sample distribution free of significant skewness and kurtosis value because all values fall within range of ± 1.96 , showing approximately normal distribution, however, Q.Q plot of exhaustion suggests that distribution of data is normal as all individual points lie on the line.

Testing Hypotheses

- There is likely to be a significant relationship between emotional regulation, mindfulness, and burnout among medical students.

- Emotional regulation and mindfulness will most likely predict burnout among medical students.
- There is likely to be a significant difference between emotional regulation, mindfulness, and burnout in terms of demographic difference i.e., gender.

Table 4.2

Descriptive Statistics and Pearson Product Moment Correlation Coefficient among Emotional Regulation, Mindfulness, and burnout among medical students (N = 150)

Variables	M	SD	1	2	3	4	5
1. Cognitive reappraisal	4.44	1.19	-----				
2. Expressive suppression	4.08	1.22	0.42***	-----			
3. Mindfulness	3.60	0.91	0.36***	0.09	-----		
4. Disengagement	2.46	0.38	-0.31***	-0.15	-0.37***	-----	
5. Exhaustion	2.61	0.44	-0.09	-0.17*	-0.23**	0.58***	-----

*Note: (n=150) M = mean; SD = standard deviation; n = sample *p<.05, **p<.01,*

****p<.001*

Pearson product moment correlation analysis was used to investigate the relationship between emotional regulation, mindfulness, and burnout among medical students. The results showed that cognitive reappraisal (subscale of emotional regulation) has a significant moderately positive relationship with mindfulness. This suggests that medical students are more likely to alter their thinking (cognitive reappraisal) by grabbing attention of the conscious state without thinking consequences (mindfulness). On the other hand, cognitive reappraisal has a

significant moderately negative relationship with disengagement. This implies that medical students that alter their thinking in response to emotion are less likely to show disengagement with others. However, exhaustion does not show a significant relationship with cognitive reappraisal. Expressive suppression (subscale of emotional regulation) was found to have a significant weak negative relationship with exhaustion. This postulates that medical students that attempt to inhibit the behavior of emotional expression are less likely to show exhaustion by their work. Expressive suppression did not relate significantly with mindfulness and disengagement. The results indicated that there is a significant moderately negative relationship between mindfulness and disengagement, whereas it shows a significant weak negative relationship between mindfulness and exhaustion. This depicts that medical students with mindfulness are less likely to show disengagement and exhaustion.

Table 4.3

Hierarchical Regression results for Disengagement

Predictors	B	95% CI for B		SE B	B	R ²	ΔR ²
		LL	UL				
Step I						0.10***	0.10***
Constant	2.90	2.65	3.15	0.13			
Cognitive Reappraisal	-0.09	-0.15	-0.04	0.03	-0.30***		
Expressive Suppression	-0.01	-0.06	0.05	0.03	-0.02		
Step II						0.17***	0.08***
Constant	3.21	2.92	3.50	0.15			
Cognitive Reappraisal	-0.06	-0.11	-0.00	0.03	-0.18*		
Expressive Suppression	-0.01	-0.06	0.04	0.03	-0.05		
Mindfulness	-0.13	-0.19	-0.06	0.03	-0.30***		

Table

Hierarchical Regression results for Exhaustion

Predictors	B	95% CI for B		SE B	B	R ²	ΔR ²
		LL	UL				
Step I						0.03	0.03
Constant	2.89	2.59	3.20	0.15			
Cognitive Reappraisal	-0.01	-0.07	0.06	0.03	-0.02		
Expressive Suppression	-0.06	-0.12	0.01	0.03	-0.16		
Step II						0.08**	0.05**
Constant	3.17	2.81	3.53	0.18			
Cognitive Reappraisal	0.03	-0.04	0.09	0.04	0.07		
Expressive Suppression	-0.07	-0.13	0.00	0.03	-0.18*		
Mindfulness	-0.11	-0.20	0.03	0.04	-0.24**		

Note: CI = confidence interval; LL = lower limit; UL = upper limit *p<.05, **p<.01,

***p<.001

Multiple Hierarchical Linear regression was carried out to identify the predictors of burnout (disengagement and exhaustion) among medical students. Emotional regulation and mindfulness were entered as predictor variables in the regression model (forced entry method). Two dimensions of burnout i.e., disengagement and exhaustion, were entered as an outcome variable, separately.

There were no influential cases that were observed in the data. Assumptions of regression were fulfilled. Assumption regarding the independent error also met, since the Durbin Watson's value lied in the acceptable range of 1 and 3 (Durbin & Watson, 1951). Another assumption i.e, no perfect multicollinearity was met, as all the values were greater than 0.20 tolerance values which suggest that there was no perfect relation between predictors (emotional regulation and mindfulness). The assumptions of homoscedasticity, linearity (dots are spread in scatter plot) and normally distributed errors (bell-shaped histogram and no extreme variables in P.P plot were observed) were also met approximately.

In model 1 of disengagement, two dimensions of emotional regulation i.e., cognitive reappraisal and expressive suppression, were entered as a predictor variable and the regression model was significant, the R^2 value of 0.10 revealed that predictors explained 10% of variance in the outcome variable with $F(2, 147) = 7.70, p < .01$ suggesting that subscales of emotional regulation (cognitive reappraisal and expressive suppression) are contributing 10% in causing disengagement in medical students. In model 2 of disengagement, along with dimensions of emotional regulation, mindfulness was also entered as a predictor variable. The regression model also turned to be significant, the value of R^2 0.17 revealed that there was 17% variance predicted in the outcome variables with $F(3, 146) = 10.264$ suggesting that subscales of emotional regulation (cognitive reappraisal and expressive suppression) and mindfulness are, $p < .01$,

contributing 17% in causing disengagement in medical students.

When the effect of model 1 was excluded from model 2, model 2 remained significant showing ΔR^2 value of 0.08 suggesting mindfulness explained 8% of independent variance in the disengagement with $F(1, 146) = 14.026, p < .01$. Among all predictors entered, cognitive reappraisal and mindfulness emerged as significant negative predictors of disengagement among medical students suggesting that medical students who showed cognitive reappraisal and mindfulness were less likely to show disengagement.

In model 1 of exhaustion, two subscales of emotional regulation i.e., cognitive reappraisal and expressive suppression, were entered as a predictor variable and the regression model was not significant, $R^2 = 0.03, F(2, 147) = 2.317, p > .01$, suggesting that subscales of emotional regulation (cognitive reappraisal and expressive suppression) does not significantly contribute in causing exhaustion in medical students. In model 2 of exhaustion, dimensions of emotional regulation and mindfulness, both, were entered as a predictor variable and the regression model turned out to be significant, the value of $R^2, 0.08$ revealed that 8% variance was predicted in the outcome variable with $F(3, 146) = 4.144, p < .01$, suggesting that subscales of emotional regulation (cognitive reappraisal and expressive suppression) and mindfulness are contributing 8% in causing disengagement in medical

students. When the effect of model 1 was excluded from model 2, model 2 remained significant showing ΔR^2 value of 0.05 suggesting mindfulness explained 5% of independent variance in the exhaustion with $F(1, 146) = 7.59, p < .01$. Among all predictors entered, expressive suppression and mindfulness emerged as significant negative predictors of disengagement among medical students showing that medical students who had expressive suppression and mindfulness were less likely to show exhaustion.

Table 4.4

Independent Sample t-test showing Gender Differences in Emotional Regulation, Mindfulness and Burnout among medical students

Variable	Males		Females		<i>t(df)</i>	<i>P</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
1.Cognitive Reappraisal	4.34	1.23	4.51	1.16	-0.86(148)	0.39	-0.14
2. Expressive Suppression	4.09	1.18	4.07	1.26	0.10 (148)	0.92	0.02
3.Mindfulness	3.54	0.91	3.64	0.91	-0.66 (148)	0.51	-0.11
4.Disengagement	2.53	0.37	2.41	0.37	1.91 (148)	0.06	0.32
5.Exhaustion	2.65	0.46	2.58	0.42	0.97 (148)	0.33	0.16

Note: Males = 61; Females = 89; *M* = mean; *SD* = standard deviation; CI = confidence interval; *LL* = lower limit; *UL* = upper limit **p* < .05, ***p* < .01, ****p* < .001

Results in table 3.4 indicate that there are no significant gender differences in terms of all variables observed, thus showing, no difference is seen between main variables amongst both males and females.

CHAPTER V

DISCUSSION

The total sample of N=150 of medical students, age average of 23.51 years was gathered through different medical universities of Lahore. This study suggests that there were 61 males and 89 females. Most of the participants were single (90%) with only 10% married. The sample characteristics the socio economic status of participants as the vast majority of participants were from middle-class backgrounds i.e. 131 participants, only 2 participants belonged to lower class families, while 17 to upper class families.

Results revealed that there were 61% of participants that had a number of study hours less than 6 hours and 16.7% of participants with 6 study hours per day. While only 22% participants had time to study for more than 6 hours per day. Most of the participants i.e 54% checked in on getting exposure to more than 3 patients per day, with 45% participants that had exposure with less than 3 patients per day. 72% of participants were satisfied with their working hours. While, 28% were not satisfied. Majority of the participants i.e 52% were dealing with a curable nature/ severity of the patient's illness, 47.3% were dealing with a somewhat curable nature of patient's illness and 0.7% i.e, only 1 participant was dealing with an incurable severity of patient's illness. According to literature, few causes of medical student burnout are quite known including the high academic needs and requirements,

demanding nature, workload and stress (Oró et al., 2021). Usually medical students are faced with many academic and personal stressors that affect their health such as increased workload, work life balance, financial pressures and maintaining relationships. There was a survey that highlighted points that are not discussed in previous researches like lack of assistance regarding the planning of careers and assessment related performance pressures (Hill et al., 2018). As medical students are considered to be over achievers and hold significantly higher standards to succeed, increases the performance pressure in clinical years. Achievement of becoming a physician is on a pendulum with many pitfalls and stressors, as burnout is an emotional experience which puts a toll on mental health conditions, such as suicidal ideation that has been increasing among medical students (Morcos & Awan, 2022).

The current study's objective was to explore the connection between emotional regulation and mindfulness on medical students' level of burnout. This study was conducted on both male and female medical students, studying in their final year of MBBS. It was proposed that emotional regulation, mindfulness, and exhaustion are all significantly correlated. The results of the main study also indicated that there is a significant relationship between emotional regulation and mindfulness such that negative emotions and unawareness can increase level of burnout whereas positive emotions and attentiveness can reduce the levels of exhaustion and depersonalization. The existing literature supports the findings, which suggests that the higher the composition of mindfulness i.e increased level of awareness, there was decreased levels of emotional exhaustion and depersonalization, also lower levels of

stress and burnout experienced by healthcare professionals (Kriakous, 2019). Further research supports that dispositional mindfulness is an important factor in predicting burnout in students, it could be helpful in incorporating the mindfulness training into medical students to reduce their levels of burnout, so that it is important for their wellbeing in becoming health professionals. During clinical training, medical students are the ones that face high levels of psychological stress (Zúñiga et al., 2022).

Furthermore, Gross (2014) concluded that cognitive reappraisals are promoted by mindfulness and help in accepting those events that could suppress them. Individuals having increased levels of mindfulness are vulnerable to apply strategies of cognitive reappraisal, as they could have more capacity of metacognition, including analyzing their awareness. It was seen that individuals stop easily before responding to negative feelings, if they have a more significant level of mindfulness (Bishop et al., 2004). It was observed that almost around 65% of the medical students have faced psychological distress during their study duration (Shams-Eldin et al., 2017). Medical students must show their specific set of emotions when dealing with patients or meeting with colleagues to show that they care and empathize with them, regardless of their inner emotional state. They must assess their emotional state to compare it with display, otherwise they must start using emotional regulation strategies to decrease the discrepancy (Diefendorff & Gosserand, 2003).

Similarly, Evidence from nursing has repeatedly shown a negative association between emotional regulation, its management, and burnout. (Görgens-Ekermans,

2012). It was hypothesized that emotional regulation and mindfulness acts as predictors of burnout. It is supported by literature that surface behavior was positively connected with emotional exhaustion and depersonalization, according to research on the predictive function of negative emotion presentation in burnout. (Hülshager & Schewe, 2011). Further research supports that mindfulness plays a significant role in the level of reduction in burnout (Roemer et al., 2015). Other studies also demonstrated the use of mindfulness based interventions in reducing the level of difficulties in emotional regulation. In another context of burnout, mindfulness has contributed to the improvement of a person's capacity for self-awareness, which aids in combating symptoms of burnout like depersonalization and emotional exhaustion (Chaukos et al., 2016). These research seems consistent with the present study's findings that refers to medical students facing high levels of burnout due to the pressures and burdens faced by them, affecting their emotional stability and level of awareness.

It was seen that the medical students were not able to express and acknowledge their negative feelings properly, and were suppressing their conscious feelings. Research suggests that emotional suppression is important for many people, it helps them to cope up. Most of the time, people are expected in a modern society, not to show sadness at work and suppress emotions. Whether at work or in the family, there is expected to have a lid on feelings to perform daily. Even in public spaces, acting respectfully is also expected. So, people prefer to suppress emotions to cope, conform and survive because it is too painful for them to process (Claudia,

2022). In the main study, it was observed that the students were having difficulty staying focused on the things happening in the present. They were doing most of the things on automatic. Most of the participants filled the questionnaires unconsciously while thinking about other problems like stress of exams, vivas. According to a recent systematic review, mindfulness is important for reducing stress levels faced by the medical students (Daya & Hearn, 2018).

Another literature on emotional regulation and mindfulness in nursing students showed that mindfulness may affect the role of working memory capacity and emotion regulation (Dubert et al., 2016). These findings suggest the idea that mental exhaustion, following resource exhaustion, could also impair emotion regulation needs effortful cognitive control override improper inherent or habitual reactions to effective stimuli (Hofmann et al; 2012). The option is predicted on a minimum of two presumptions. The first requirement is that executive control systems span both the cognitive and affective spheres. Despite evidence for domain general control mechanisms data suggesting different neural substrates for cognitive vs emotional regulation may cast doubt on this theory. Second, during the subsequent attempt at emotion regulation, depletion must endure beyond the initial resource intensive task. Emotional regulation (ER) describes the mechanisms through which people may control the kinds of emotions they experience, how long they last, and how strongly they feel and express them. Depending on one's regulatory goals, ER can encompass both up and down regulation of both positive and negative emotional states (McRae and Gross, 2020). Emotional regulation is not just limited to reducing

unpleasant emotions. Additionally, emotion regulation can occur on an individual level, in a group setting, and at both a conscious and intentional level as well as autonomic level.

Research conducted on Ankara State University showed that university students who were acting higher with awareness showed significantly lower scores to report on psychological distress, that is also related to less difficulties with emotional regulation (Kaynakci & Guneri, 2017). Previous literature study on medical oncology doctors show that the level of mindfulness increases, emotional exhaustion and depersonalization decreases but the third subscale i.e., personal accomplishment increases. On the other hand, regression analysis showed that there was a significant association among all the subscales of Maslach Burnout Inventory (Maslach & Jackson, 2017). A significant higher level of mindfulness resulting in lower levels of burnout among medical oncology doctors was seen (Avci et al., 2021).

Individuals may be encouraged to engage in healthy emotional activity through nonjudgmental awareness, which enables them to openly experience and express their emotions. The Mindfulness Emotion Regulation Model asserts that while mindfulness can help people actively choose and name their thoughts, feelings and emotions it doesn't cause habitual reactions or eventually get rid of the automatic appraisal of distressing emotions (Chambers et al., 2009) people ability to control their emotions can be improved with increased mindfulness, which help lessens feelings of job burnout. A significant factor in the association between mindfulness and job burnout may be emotional intelligence. Studies have demonstrated that

mindfulness- based therapies considerably reduce stress, improve all elements of burnout, and boost compassion satisfaction and self-compassion.

According to Masten et al. (2009) and Toevski et al. (2010), medical undergraduate education is a process where students deal with a variety of stressors, including typical academic overload, a lack of free time, emotional pressure to maintain good grades and the unique requirements of learning complex medical procedures while working with patients concurrently. The ensuing anxiety has a negative impact on professional advancement and might lead to medical students losing their compassion and humanitarian attitudes.

More than 200 papers were reviewed which showed that mindfulness-based interventions were considered to be highly effective for decreasing the levels of stress, anxiety and depression. The treatment for mindfulness may be helpful for those with specific problems like depression, pain, smoking, and addiction. The most promising research has been done on depressed people. College students experience a wide range of pressures.

According to the US, (US Census, 2015) there are more than 19 million students enrolled in colleges across the US. Burnout syndrome, a common problem affecting students in higher education, has been connected to college stress as having a negative impact on a student's life in a number of ways. Students who suffer from burnout syndrome may experience issues such as course stress, loneliness, unfavorable learning emotions, and others. In order to understand the connection

between gender disparities and academic burnout in higher education, this review will look at the academic burnout literature. In particular, it discusses how to recognize college students who are burnout, details the many impacts and outlines a variety of coping mechanisms.

Lastly, the hypotheses suggested that there is a significant gender difference in the study variables among medical students. There were no significant gender differences in terms of all variables, thus showing, no difference is seen between main variables amongst both males and females. For the past 20 years, research has been interested in the gender differences in burnout. According to several early researchers, burnout is more common in women (Maslach et al., 2001). Numerous studies in healthcare settings revealed significant gender differences in the prevalence of physician burnout and related factors. According to a few research, female health professionals were more likely to burnout. Literature also suggested that the year of studies for medical students of both genders was significantly linked with increased level of burnout (Fajerman et al., 2019). There was no association found between burnout and gender (Santen et al., 2010).

5.1 CONCLUSION

The current study was conducted to examine the relationship between emotional regulation, mindfulness and burnout among final year medical students while considering emotional regulation and mindfulness as predictors between the study variables. Results indicated that there is a significant relationship between the study variables i.e emotional regulation, mindfulness and burnout. Further, burnout was proven to be a significant variable as supported by analysis. The results were discussed under the description of previous literature suggesting further grounds of validation in the literature and leading to future implications of conducting training workshops and strategies to deal with burdens effectively.

5.2 STRENGTHS OF THE STUDY

- Ethical considerations are followed in this research which include confidentiality, informed consent from the participants and approval from the institutions.
- There has been limited study conducted on this research in Pakistan, as there have been few literatures found. Thus, it is an addition in the indigenous literature.
- It increases the external validity of findings for last year medical students in Pakistan.
- This present research provides the unique sense that it aims to test hypotheses only in last year medical students.

- There is an immense exposure of different government and private medical universities while collecting the data. There are also mail surveys from the participants of last year medical students which doesn't require any outlier.

5.3 LIMITATIONS AND SUGGESTIONS:

- The data is collected both in person and online. But the researcher got less than 25% response in mail which can increase the bias in the research. There should be equal representatives of both the sectors.
- This study was conducted only on last year medical students. Due to the load of work for the last year medical students in Pakistan, students are feeling difficulty to fill up the questionnaires because they have the additional tasks. There should be an increase in sample size for more generalizability in future research.
- The sample size was small which could not be generalized to the entire population.

5.4 FUTURE IMPLICATIONS

The study emphasizes the connection between emotional regulation, mindfulness and burnout. It is important to encourage medical students to develop emotional regulation and mindfulness in order to reduce burnout.

- Training workshops focusing on awareness of the individuals' emotional regulation to certain events and its connection with burnout and their life experiences should be conducted.
- Future research could focus on conducting study on a large sample size.
- Randomized Controlled Trials on the efficacy of mindfulness-based training programs should be conducted. Future studies need to check the studying conditions and look at different other variables affecting burnout. A positive environment, flexible working hours, mindfulness based strategies and counseling facilities should be provided in order to improve the emotional stability and mindfulness as well as reducing burnout.
- Future research studies should include clarifications on the positive emotions that can help medical students to cope better with their workload, occupational stress and burnout.

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APPENDICES

APPENDIX-A

Permission from the Authors to Use their Scales

Emotional regulation questionnaire (ERQ)

Please grant me permission to use Emotional Regulation Questionnaire.

External Inbox x



Noor Anjum

Thu, Aug 18, 9:54 F

Respected Sir! I am an undergraduate student of Applied psychology, currently in semester 7. I am affiliated with Kinnaird college for women, Pakistan. Me and m



James Gross

Thu, Aug 18, 10:13 PM



to me ▾



You're welcome to use the ERQ, which you may find on our website, URL below.

James J. Gross, Ph.D.
Ernest R. Hilgard Professor of Psychology
Bass University Fellow in Undergraduate Education

Department of Psychology
Stanford University
Stanford, CA 94305-2130
Tel: (650) 723-1281
Email: gross@stanford.edu
Website: <http://spl.stanford.edu>

...

Mindfulness Attention Awareness scale (MAAS)

Please grant me permission to use Mindfulness attention awareness scale. External Inbox x  



Noor Anjum

Tue, Aug 23, 12:22 A

Respected Sir! I am an undergraduate student of Applied psychology, currently in semester 7. I am affiliated with Kinnaird college for women, Pakistan. Me and m



Kirk Warren Brown

Wed, Aug 31, 1:35 AM



to me ▾

Yes you are welcome to use the MAAS for your study. You can find the scale, along with background normative and other information, on the 'Lab > Tools for Researchers' page of my Lab website, the link for which is below. The 'Publications' page has papers related to the validation of the MAAS. See especially Brown and Ryan (2003).

All the best with your research,

Kirk

Kirk Warren Brown PhD
Affiliate Professor of Psychology
Department of Psychology • Virginia Commonwealth University
T 804.687.9235

Senior Editor, *Oxford Handbook of Hypo-egpic Phenomena* (2016)
Senior Editor, *Handbook of Mindfulness* (2015)
Academic Editor, *PLoS One*
Editorial Board, *Journal of Personality*

Oldenburg Burnout Inventory (OBI)

Please grant me permission to use oldenburg burnout inventory. External Inbox x



Noor Anjum

Sat, Aug 20, 1:18 PM

Respected Sir! I am an undergraduate student of Applied psychology, currently in semester 7. I am affiliated with Kinnaird college for women, Pakistan. Me and m



Arnold Bakker

Sat, Aug 20, 1:51 PM

to me

You have my permission

Vriendelijke groet, Kind regards,
Arnold

Prof. Dr. Arnold B. Bakker
Erasmus University Rotterdam

> Op 20 aug. 2022 om 10:18 heeft Noor Anjum <f19bpsy024@kinnaird.edu.pk> het volgende geschreven:

>

>

...

APPENDIX-B

Information sheet

Information sheet

We, Noor Anjum and Ayesham Butt are the student of Bs Hons in Psychology at the Department of Applied Psychology, Kinnaird College for Women, Lahore. You have been requested to take part in our research. Before taking part, it is necessary for you to know why this research study is being conducted and how is going to be beneficial. Please read the following information carefully.

The purpose of this research is to identify the emotional regulation, mindfulness, and burnout among medical students. If you intend to participate in this research, you will be asked to sign a consent form. After consent, you will be asked to fill the questionnaire related to the research purpose. Your participation will take approximately 10-15 minutes. Your responses would be recorded in the form of codes, all the information would be kept confidential and will only be used for academic and research purposes. All the information provided by you will be kept confidential. Your participation in this research is voluntary and you are free to withdraw at any time. If you are willing and you want to ask anything about the study, feel free to ask. In case of any complaints or queries, you may contact.

Thank you for your cooperation.

APPENDIX-C

Consent form

Consent Form**Research Title:****Researchers:****Supervisors:**

Kindly read the following statements:

1. I accept the fact that I have thoroughly read and understood the provided information sheet.
2. I accept that I was given the opportunity to know about the research and obtain answers about the queries.
3. The researcher(s) has told me about the aim, duration, and nature of research
4. I am willingly participating in the research.
5. I know that I have the right to quit the research at any point.
6. I am ready to take part in the research.

Initials of the Participant _____ Date _____ Signature _____

Name of the Researcher _____ Date _____ Signature _____

APPENDIX-D

Demographic Form

Demographic Form

1. Gender: Male Female

2. Age (in years): _____

3. Marital status: Married Single _____

4. No. of study hours/day _____ Less than 8 hours _____ 8 hours _____ More than 8 hours

5. Number of patients you check per day _____

6. Are you satisfied with your working hours No Yes

7. Nature/ severity of majority of the patient's illness that you deal with
_____ Curable _____ Somewhat curable _____ Incurable

APPENDIX E

Questionnaires

EMOTION REGULATION QUESTIONNAIRE (ERQ)

Reference:

Gross, J.J., & John, O.P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, 85, 348-362.

Description of Measure:

A 10-item scale designed to measure respondents' tendency to regulate their emotions in two ways: (1) Cognitive Reappraisal and (2) Expressive Suppression. Respondents answer each item on a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree).

Note: the authors request that researchers do not change the order of the items.

1	2	3	4	5	6	7
strongly disagree			neutral			strongly agree

1. ___ When I want to feel more *positive* emotion (such as joy or amusement), I *change what I'm thinking about*.
2. ___ I keep my emotions to myself.
3. ___ When I want to feel less *negative* emotion (such as sadness or anger), I *change what I'm thinking about*.
4. ___ When I am feeling *positive* emotions, I am careful not to express them.

f Report Measures for Love and Compassion Research: *Personal Growth and Positive Emotions*



Fetzer Institute

5. ___ When I'm faced with a stressful situation, I make myself *think about it* in a way that helps me stay calm.
6. ___ I control my emotions by *not expressing them*.
7. ___ When I want to feel more *positive* emotion, I *change the way I'm thinking about the situation*.
8. ___ I control my emotions by *changing the way I think about the situation I'm in*.
9. ___ When I am feeling *negative* emotions, I make sure not to express them.
10. ___ When I want to feel less *negative* emotion, I *change the way I'm thinking about the situation*.

Scoring:

Items 1, 3, 5, 7, 8, 10 make up the Cognitive Reappraisal facet.
Items 2, 4, 6, 9 make up the Expressive Suppression facet.

Scoring is kept continuous.
Each facet's scoring is kept separate.

The Mindful Attention Awareness Scale (MAAS)

The trait MAAS is a 15-item scale designed to assess a core characteristic of mindfulness, namely, a receptive state of mind in which attention, informed by a sensitive awareness of what is occurring in the present, simply observes what is taking place.

Brown, K.W. & Ryan, R.M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, 84, 822-848.

Carlson, L.E. & Brown, K.W. (2005). Validation of the Mindful Attention Awareness Scale in a cancer population. *Journal of Psychosomatic Research*, 58, 29-33.

Instructions: Below is a collection of statements about your everyday experience. Using the 1-6 scale below, please indicate how frequently or infrequently you currently have each experience. Please answer according to what really reflects your experience rather than what you think your experience should be. Please treat each item separately from every other item.

- | 1 | 2 | 3 | 4 | 5 | 6 |
|------------------|--------------------|------------------------|--------------------------|----------------------|--------------|
| almost
always | very
frequently | somewhat
frequently | somewhat
infrequently | very
infrequently | almost never |
-
- ___ 1. I could be experiencing some emotion and not be conscious of it until some time later.
- ___ 2. I break or spill things because of carelessness, not paying attention, or thinking of something else.
- ___ 3. I find it difficult to stay focused on what's happening in the present.
- ___ 4. I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.
- ___ 5. I tend not to notice feelings of physical tension or discomfort until they really grab my attention.
- ___ 6. I forget a person's name almost as soon as I've been told it for the first time.
- ___ 7. It seems I am "running on automatic," without much awareness of what I'm doing.
- ___ 8. I rush through activities without being really attentive to them.
- ___ 9. I get so focused on the goal I want to achieve that I lose touch with what I'm doing right now to get there.
- ___ 10. I do jobs or tasks automatically, without being aware of what I'm doing.
- ___ 11. I find myself listening to someone with one ear, doing something else at the same time.
- ___ 12. I drive places on 'automatic pilot' and then wonder why I went there.
- ___ 13. I find myself preoccupied with the future or the past.
- ___ 14. I find myself doing things without paying attention.
- ___ 15. I snack without being aware that I'm eating.

Scoring: To score the scale, simply compute a mean (average) of the 15 items.

oldenburg burnout inventory

name:

date:

Instructions: Below you find a series of statements with which you may agree or disagree. Using the scale, please indicate the degree of your agreement by selecting the number that corresponds with each statement.

		<i>strongly agree</i>	<i>agree</i>	<i>disagree</i>	<i>strongly disagree</i>
1.	I always find new and interesting aspects in my work (D)	1	2	3	4
2.	There are days when I feel tired before I arrive at work (E.R.)	1	2	3	4
3.	It happens more and more often that I talk about my work in a negative way (D.R)	1	2	3	4
4.	After work, I tend to need more time than in the past in order to relax and feel better (E.R)	1	2	3	4
5.	I can tolerate the pressure of my work very well (E)	1	2	3	4
6.	Lately, I tend to think less at work and do my job almost mechanically (D.R)	1	2	3	4
7.	I find my work to be a positive challenge (D)	1	2	3	4
8.	During my work, I often feel emotionally drained (E.R.)	1	2	3	4
9.	Over time, one can become disconnected from this type of work (D.R)	1	2	3	4
10.	After working, I have enough energy for my leisure activities (E)	1	2	3	4
11.	Sometimes I feel sickened by my work tasks (D.R)	1	2	3	4
12.	After my work, I usually feel worn out and weary (E.R)	1	2	3	4
13.	This is the only type of work that I can imagine myself doing (D)	1	2	3	4
14.	Usually, I can manage the amount of my work well (E)	1	2	3	4
15.	I feel more and more engaged in my work (D)	1	2	3	4
16.	When I work, I usually feel energized (E)	1	2	3	4

Note: Disengagement items are 1, 3(R), 6(R), 7, 9(R), 11(R), 13, 15. Exhaustion items are 2(R), 4(R), 5, 8(R), 10, 12(R), 14, 16. (R) means reversed item when the scores should be such that higher scores indicate more burnout.

***disengagement
sub-total:***

***exhaustion
sub-total:***

***full scale
total:***

APPENDIX-F**Statistical Analysis Outputs**

Independent t-test:

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Mean	Equal variances assumed	.088	.767	-.862	148	.390	-.17057	.19796	-.56175	.22062
	Equal variances not assumed			-.852	124.100	.396	-.17057	.20011	-.56664	.22551
Mean	Equal variances assumed	1.022	.314	.104	148	.917	.02123	.20377	-.38145	.42391
	Equal variances not assumed			.105	134.037	.916	.02123	.20147	-.37725	.41971
Mean	Equal variances assumed	.217	.642	-.662	148	.509	-.10050	.15176	-.40039	.19940
	Equal variances not assumed			-.662	128.931	.509	-.10050	.15181	-.40086	.19987
Mean	Equal variances assumed	.067	.795	1.907	148	.059	.11793	.06186	-.00431	.24017
	Equal variances not assumed			1.903	128.223	.059	.11793	.06198	-.00470	.24056
Mean	Equal variances assumed	2.037	.156	.970	148	.334	.07082	.07300	-.07342	.21507
	Equal variances not assumed			.955	121.671	.342	.07082	.07417	-.07601	.21766

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T-Test

Group Statistics

Gender of the participant		N	Mean	Std. Deviation	Std. Error Mean
Mean	Male	61	4.3388	1.23152	.15768
	Female	89	4.5094	1.16243	.12322
Mean	Male	61	4.0943	1.18160	.15129
	Female	89	4.0730	1.25522	.13305
Mean	Male	61	3.5377	.91400	.11703
	Female	89	3.6382	.91231	.09670
Mean	Male	61	2.5266	.37438	.04794
	Female	89	2.4087	.37060	.03928
Mean	Male	61	2.6537	.46120	.05905
	Female	89	2.5829	.42345	.04489

Correlation:

Correlations

		Cognitive_Re appraisal	Expressive_S uppression	Mindfulness	Disenageme nt	Exhaustion
Cognitive_Reappraisal	Pearson Correlation	1	.424**	.360**	-.307**	-.093
	Sig. (2-tailed)		.000	.000	.000	.257
	N	150	150	150	150	150
Expressive_Suppression	Pearson Correlation	.424**	1	.092	-.149	-.173*
	Sig. (2-tailed)	.000		.264	.070	.034
	N	150	150	150	150	150
Mindfulness	Pearson Correlation	.360**	.092	1	-.371**	-.227**
	Sig. (2-tailed)	.000	.264		.000	.005
	N	150	150	150	150	150
Disengagement	Pearson Correlation	-.307**	-.149	-.371**	1	.581**
	Sig. (2-tailed)	.000	.070	.000		.000
	N	150	150	150	150	150
Exhaustion	Pearson Correlation	-.093	-.173*	-.227**	.581**	1
	Sig. (2-tailed)	.257	.034	.005	.000	
	N	150	150	150	150	150

Multiple Linear Regression:

Correlations

		Disenagement	Cognitive_Reappraisal	Expressive_Suppression	Mindfulness
Pearson Correlation	Disenagement	1.000	-.307	-.149	-.371
	Cognitive_Reappraisal	-.307	1.000	.424	.360
	Expressive_Suppression	-.149	.424	1.000	.092
	Mindfulness	-.371	.360	.092	1.000
Sig. (1-tailed)	Disenagement	.	.000	.035	.000
	Cognitive_Reappraisal	.000	.	.000	.000
	Expressive_Suppression	.035	.000	.	.132
	Mindfulness	.000	.000	.132	.
N	Disenagement	150	150	150	150
	Cognitive_Reappraisal	150	150	150	150
	Expressive_Suppression	150	150	150	150
	Mindfulness	150	150	150	150

Model Summary^c

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.308 ^a	.095	.083	.35959	.095	7.700	2	147	.001	
2	.417 ^b	.174	.157	.34465	.079	14.026	1	146	.000	1.854

a. Predictors: (Constant), Expressive_Suppression, Cognitive_Reappraisal

b. Predictors: (Constant), Expressive_Suppression, Cognitive_Reappraisal, Mindfulness

c. Dependent Variable: Disengagement

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.991	2	.996	7.700	.001 ^b
	Residual	19.008	147	.129		
	Total	21.000	149			
2	Regression	3.657	3	1.219	10.264	.000 ^c
	Residual	17.342	146	.119		
	Total	21.000	149			

a. Dependent Variable: Disengagement

b. Predictors: (Constant), Expressive_Suppression, Cognitive_Reappraisal

c. Predictors: (Constant), Expressive_Suppression, Cognitive_Reappraisal, Mindfulness

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics		
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	V	
1	(Constant)	2.890	.154		18.754	.000	2.586	3.195						
	Cognitive_Reappraisal	-.009	.033	-.024	-.264	.792	-.074	.057	-.093	-.022	-.021	.820	1	
	Expressive_Suppression	-.059	.032	-.163	-1.822	.070	-.122	.005	-.173	-.149	-.148	.820	1	
2	(Constant)	3.173	.182		17.400	.000	2.812	3.533						
	Cognitive_Reappraisal	.025	.035	.068	.727	.468	-.043	.094	-.093	.060	.058	.716	1	
	Expressive_Suppression	-.065	.032	-.181	-2.056	.042	-.127	-.003	-.173	-.168	-.163	.816	1	
	Mindfulness	-.113	.041	-.235	-2.755	.007	-.195	-.032	-.227	-.222	-.219	.866	1	

a. Dependent Variable: Exhaustion


Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.1487	2.8497	2.4567	.15667	150
Std. Predicted Value	-1.966	2.509	.000	1.000	150
Standard Error of Predicted Value	.028	.114	.053	.018	150
Adjusted Predicted Value	2.1348	2.8809	2.4581	.15782	150
Residual	-1.11674	.90569	.00000	.34116	150
Std. Residual	-3.240	2.628	.000	.990	150
Stud. Residual	-3.302	2.701	-.002	1.005	150
Deleted Residual	-1.15943	.95677	-.00145	.35191	150
Stud. Deleted Residual	-3.420	2.762	-.003	1.014	150
Mahal. Distance	.024	15.280	2.980	2.841	150
Cook's Distance	.000	.104	.008	.016	150
Centered Leverage Value	.000	.103	.020	.019	150

a. Dependent Variable: Disengagement

APPENDIX-G

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<input type="checkbox"/>	Tarab Zahra	thesis	7%		*		2085026536	05-May-2023
<input type="checkbox"/>	Noor Anjum	Noor Anjum & Ayesham Butt	8%		*		2085318989	05-May-2023
<input type="checkbox"/>	Emania Fatima	BA/BSc June Defense 2023	8%		*		2087291390	08-May-2023
<input type="checkbox"/>	Asmar Khan	BA/BSc June Defense 2023	8%		*		2087268677	08-May-2023
<input type="checkbox"/>	Serene Zahra	Serene Zahra	8%		*		2085165674	05-May-2023
<input type="checkbox"/>	Fiza Amjad	Fiza Amjad	9%		*		2085346874	05-May-2023
<input type="checkbox"/>	Alizey Mobasshar	Thesis Alizey Mobasshar	9%		*		2086321489	07-May-2023
<input type="checkbox"/>	Shahzay Shahzay	BA/BSc June Defense 2023	10%		*		2087295039	08-May-2023
<input type="checkbox"/>	Kanza Chaudhary	Negative life events, positive and negat...	11%		*		2085214806	05-May-2023
<input type="checkbox"/>	Fatima Atab	BA/BSc June Defense 2023	13%		*		2087293083	08-May-2023