



### Role of Mindfulness on Relationship Between Psychological Well-Being and Perceived Stress Among University Students

Bibi Hajra<sup>a\*</sup>, Maria Bashir<sup>b</sup>, Humma Ghalib<sup>c</sup>, Javeria Amin<sup>d</sup>

<sup>a</sup>Lecturer, Department of Psychology, University of Wah, Pakistan. <sup>b</sup>Lecturer, Department of Psychology, University of Poonch Rawalakot, Azad Jammu and Kashmir, Pakistan. <sup>c</sup>Clinical Psychologist, District Head Quarter Hospital Attock, Pakistan. <sup>d</sup>MS Scholar, International Islamic university Islamabad, Pakistan.

\*Email: [Bibi.hajra@uow.edu.pk](mailto:Bibi.hajra@uow.edu.pk)

---

**Abstract:** In the past few decades, research on mindfulness as a psychological concept and a type of therapeutic intervention has piqued attention. Mindfulness is a trait of consciousness long believed to aid well-being. With the increasing awareness on mindfulness, this study evaluated the relationship among perceived stress and psychological well-being and examined mindfulness as a moderator. Data was collected by using convenient sampling technique by the use of psychological assessment tools like Mindful Attention Awareness Scale trait version. (Carlson & Brown, 2005), the Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983) and Ryff's scales of psychological well-being (Ryff 1989b). Sample of the study included students from different universities of Rawalpindi, Islamabad and Azad Jammu & Kashmir. Hierarchical multiple regression analysis showed that mindfulness significantly moderated the relationship between perceived stress and psychological well-being, explaining 4% variance. The results imply that by enhancing mindfulness, negative effects of perceived stress can be buffered and hence psychological well-being can be improved.

**Keywords:** Mindfulness, Psychological well-being, Perceived Stress

---

#### 1. Introduction

It is a well-known idea that stress is an unavoidable part of our daily lives. Selye was one of the first ones to define the term "stress" as a state subjectively experienced by a person when he is exposed to a stimulus perceived by him as a potential threat (Selye, 1957). Perceived stress can be understood as the extent to which a person cognitively labels or considers an event as potentially threatening or stressful. 'Perceived stress is also defined as the estimation or approximation an individual has about the degree of stress he is experiencing at particular point of time or over a span of time (Phillip, 2013). Many epidemiological and clinical studies, aimed at investigating causes of physical and mental disorders which can lead to morbidity and mortality identified stress as a risk factor; in both western as well as eastern societies (Tennant, 2000; Martin and Coetzee, 2008). In general population mortality rate, is high among those with psychological distress.( Huppert and Whittington, 1995). This high rate of mortality among those with psychological distress can be due to the strong relation between psychological distress and unhealthy lifestyle (Neeleman, Wessely, Wadsworth and Mackie, 1998). Perceived distress is a multifaceted construct having many conductive and causative factors, among which are medical and physical aspects as well as psychological and psychosocial aspects dependent on social and cultural context. (Moore and Cooper,1996). Significant determining

factors having highest prevalence rates behind psychological health are the socio economic factors (Sartorius, Ustun, and Costa, 1993), important life events, monetary difficulties, occupational insecurity, conflicts at workplace, social and issues related to family life (Lepore, Palsane and Evans, 1991).

Psychological wellbeing is a state when an individual functions to his maximum and lives an effective life and experiences genuine contentment. (Seligman, 1993) psychological well-being distinguishes the difference between positive and negative affect (Ryff, 1989). Ryff has presented six dimensions of psychological well-being: (1) accepting the self (2) relation with other individuals (3) self-sufficiency/independence (4) environmental mastery (5) having a sense of purpose (6) personal development. These six areas characterize variations of psychological well-being based on different life experience (Ryff and Keyes, 1995). Psychological well-being has been found to have negative relation with perceived stress in both women and student's population (Sugaira, Shinada and Kawaguchi 2005). People who have Poor psychological well-being tends to have poor self-perception (Piko, 2000) and poor health (Heidrich, 1993). Psychological well-being was found to be the most significant predicting factor of extent to which individual perceives health in comparison to other factors such as psychosomatic symptoms (e.g. headaches, and sleeping problems), physical activity and acute illness (Piko, 2000). The mediating role of psychological well-being in the relationship among perceived health and perceived stress has also been investigated; it was found that high perceived stress is related to poor psychological well-being, which in turn is associated with poor perceived health status (Tai and Josephine 2000).

Mindfulness is defined as the phenomenon where an individual observes the continuing tributary of both internal and external stimuli as they occur, in a non-judgmental way (Baer, 2003). Considered as a basic human capacity; mindfulness, is present at variant levels in all human beings (Brown, Ryan & Creswell, 2007).and various forms of meditation can be used to further enhance this naturally occurring capacity (Kabat Zinn, 2003). Mindfulness can be considered as a excellence of awareness that is characterized by the vividness as well as clarity of momentary experiences and functioning and thus it is opposite to the mindless, less "awake" states of habitual or automatic functioning that may be chronic for many individuals (Ryan and Deci, 2000). Due to its characteristic features of comprehensiveness and directness of current occurrence, mindfulness may also lead to enhancing psychological well-being and promoting contentment directly. (Brown and Ryan, 2003). Researcher working on personality theories and psychotherapy has tried to explore the role of observant, open awareness in enhancing self-regulation and well-being. A number of personality theorists and psychotherapists have stressed the significance of state of being mentally observant, having peak awareness and attention in enhancing self-regulation and well-being (Brown, et al, 2003). A number of theories about self-regulation have discussed the role of attention in the continuation and improvement of physical and improved functioning of behavior. One such theory is self-determination theory which points out that an open awareness can be helpful in choosing those behaviors that go along with an individual's needs, ideals and interests (Deci and Ryan, 2000). In this way then, by helping to choose right behaviours for the fulfillment of the basic psychological needs, mindfulness may promote psychological well-being through self-regulation activity (Hogdin & Kirk, 2003). In other studies, Higher dispositional mindfulness was found to be positively related to positive mood and psychological well-being (Brown,et al, 2003) and negatively related to the levels of depression, anxiety, and stress (Carlson & Brown, 2005).

## **1.2 Rationale of the Study**

The main aim of this research is to identify the role of mindfulness on the Relationship of perceived stress with psychological well-being. The previous studies done about perceived stress provide useful insight about the causes and harmful effects of stress. However, its link with psychological well-being and mindfulness still remains unexplored. Thus it is deemed important that association of perceived stress with psychological well-being and mindfulness be explored.

It is a common belief that a certain degree of stress is necessary to perform better. However, researchers have found that if the perceptions of this stress exceed a certain normal level than it can affect a person's day to day life and health in irreversible ways. There are individuals who are more likely to develop certain diseases, and chronic stress can be responsible for this phenomenon. Stress has been linked to a number of conditions such as cancer, respiratory diseases, deadly accidents, suicide, feeble immune system and early signs of aging. Apart from these physical consequences stress can interrupt normal psychological functioning. Stress makes it difficult to control

emotions. This lack of control over emotions may lead to many negative consequences such as problems in relationships with others and perception of life as burdensome and thus in this way it may affect psychological well-being of a person indirectly. However it is deemed important to study this relationship between psychological well-being and stress in more direct way. And also to investigate various factors that might affect the strength of this relationship. In an effort this study will investigate whether mindfulness can play the role of moderator in the relationship among psychological well-being and perceived stress. Further, since in most of the studies done previously; mindfulness has been assessed among participant of specific interventional program or therapy; this study will aim to study mindfulness as a naturally occurring human capacity. The result of this study may benefit clinicians in developing interventions that will help in reducing the negative consequences of perceived stress on psychological well-being and general health.

### **1.3 Hypotheses**

H<sub>1</sub>: There will be a negative relationship perceived stress and psychological well-being.

H<sub>2</sub>: Mindfulness will play a role of moderator in the association between perceived stresses on psychological wellbeing.

## **2. Materials and Methods**

### **2.1 Research Design**

In the current study cross sectional research design was used.

### **2.2 Sampling Technique**

Study participants were recruited by convenient sampling technique.

### **2.3 Participants**

The sample consisted of 186 individuals (N=186).The study subjects were recruited from different universities of Islamabad.

### **2.4 Instruments**

In order to collect the information regarding demographic variables such as age, gender and qualification a self-generated questionnaire was used. Age and qualification were inquired using open-ended questions. The demographic variable of gender was asked using close-ended question. Following three standardized questionnaires were used as instruments for measuring perceived stress, mindfulness and psychological wellbeing.

### **2.5 Perceived Stress Scale (PSS)**

The variable of Perceived stress was measured with the help of Perceived Stress Scale (PSS). This scale was originally developed by Cohen, Kamarck and Mermelstein (1983). The PSS consists of 10 items determining perceptions of stressful experiences individuals had during the past month (Cohen, Kamarck, & Mermelstein, 1983). Scores can range from 0 to 40. Answers are showed on five-point likert scale ranging from 0 'never' to 4 'very often'. Previously PSS has been widely used in variety of populations. In current sample, the internal consistency of the scale was .86. Test data of current sample was normally distributed.

### **2.6 Mindful Attention Awareness Scale (MAAS), Trait Version**

The trait MAAS consists of 15 items. The basic purpose of this scale is to measure the trait of mindfulness, characterized as a receptive and attentive state of mind. It is also informed by a keen awareness of what is happening in the present moment as well as simply observing what is occurring in a totally neutral or non-judgmental way. In a large number of researches conducted since the beginning of the century the trait MAAS has shown good psychometric properties. Answers are marked on a Likert scale ranging from 1-6. The was developed and factor analyses studies were conducted with using variety of samples such as undergraduates, community and nationally sampled adults and adult cancer populations. All of these studies have confirmed that scale consists of a

single factor structure. The level of Internal consistency among items (Cronbach’s alpha) ranged from .80 to .90 (Brown & Ryan, 2003; Carlson & Brown, 2005).

**2.7 Ryff’s Scale of Psychological Well-being (RPWB)**

This scale consists of a total of 18 items. There are six dimensions of psychological functioning addressed in RPBW. These six dimensions include having a positive outlook regarding one’s present and past self (self-acceptance), high quality, enjoying healthy and gratifying relationships with others (positive relationships with others), having a quality of self-determination, independence and freedom from norms (autonomy), having a clear purpose or goal of life and a belief that life is inherently meaningful (purpose in life), the ability to handle or manage what life throws at you and overcome stressors in one’s surroundings (environmental mastery), and being receptive or open to novel experiences as well as having a desire to continuous personal growth (personal growth). Originally this scale was validated on a sample of 321 educated, socially well-connected, financially independent and physically healthy individuals, both men and women (Ryff, 1989b). In this validation study a total of 18 items were used for all the six dimensions with about an equal number of positively and negatively worded items. The coefficients for internal consistency were fairly high (between 0.86 and 0.93). In a subgroup of participants, coefficients for test-retest reliability over a period of six weeks was also found to be significantly high (between 0.81-0.88).

**2.8 Procedure**

All the subjects filled three scales. Researchers personally approached all the participants and paper pencil format was used to administer all the three scales. Before the administration of the scales participants were provided with a brief introduction of the study. A general awareness about the purpose of the research was also given. Although the questionnaires were self-explanatory, participants were given the required guideline and clear instructions to fill up the forms in order to rule out any misinterpretation on the part of the study subjects. There was not any incentive or inducement offered by the researcher to the participants for filling up the research assessment tools. However, they were thanked for their cooperation.

**2.9 Statistical Analysis**

Descriptive statistics, Correlation coefficients and Hierarchal Multiple Regression Analysis were used to calculate the results. Statistical Package for Social Sciences (SPSS) version 21, was used to analyze the data.

**3. Results**

Table 1: Descriptive statistics of variables (N=186)

Variable	N	M	SD	A	Range			
					Potential	Actual	Skewnes	Kurtosis
MAAS	186	47	12	0.80	15-90	20-80	0.99	0.75
PSS	186	18	5.76	0.71	4-40	23-56	1.97	0.98
RPWB	186	14	5.11	0.78	18-108	28-100	0.35	0.80

*Note: MAAS, PSS and RPWB stand for Mindful Attention Awareness Scale, Perceived Stress Scale and Ryff’s Scales of Psychological Well-being respectively.*

Table 1 shows the means, standard deviation, and alpha reliability values of Mindful Attention Awareness scale, perceived stress scale and Ryff’s psychological well-being scales respectively.

Table 2: Pearson correlations among variables (N=186).

	1	2	3
Perceived Stress	-		
Mindfulness	-0.62**	-	
Psychological Well-being	-0.85**	0.77**	-

Table 2 shows that perceived stress has a significantly negative correlation of -.62 and -.85 with mindfulness and psychological wellbeing respectively. Results also show a significant positive correlation of 0.773 between psychological wellbeing and mindfulness. Correlations are significant at the level of 0.01 (\*\*=  $p < 0.01$ )

Table 3: Regression Analysis for the Moderating Effect of Mindfulness on the Relationship between Psychological wellbeing and Perceived Stress (N=186)

Model	B	SE	B	T	p
<b>Step 1</b>					
Constant	-6.344	.048		1.010	0.001
Psychological well-being	-0.626	.048	-0.657	-13.998	0.001
<b>Step 2</b>					
Constant	-9.435	.039		0.000	0.001
Psychological well-being	-.770	.089	-.701	-8.571	0.000
Mindfulness	.801	.089	-.085	1.045	0.001
<b>Step 3</b>					
Constant	.330	0.47		5.778	0.000
Psychological well-being	-.322	.084	-.443	-3.878	0.001
Mindfulness	-.024	.072	-.045	-.034	0.000
Psychological well-being* Mindfulness	-.300	.021	-.489	-.458	0.000

Step 1  $R^2 = .726$  Adjusted  $R^2 = .724$   $F = 486.5$   $p < 0.01$

Step 2  $R^2 = .804$  Adjusted  $R^2 = .801$   $F = 374.2$   $p < 0.01$

Step 3  $R^2 = .839$  Adjusted  $R^2 = .836$   $F = 316.0$   $p < 0.01$

Hierarchical multiple regression was computed to determine the main and interaction effect of mindfulness and perceived stress on psychological wellbeing. Independent variables were introduced in the regression equation to observe their main effects. Then the interaction between two variables was introduced (perceived stress & mindfulness) to explore their association effect on psychological wellbeing.

The outcomes showed that perceived stress has 72% main effect on psychological well-being. The mindfulness has 80% main effect on psychological wellbeing. The interaction effect of perceived stress and mindfulness was found to be 84%, indicating that the linking effect account for a significant proportion of variance that is 4% which is

significant at the level of 0.01. The overall model is indicating that mindfulness actually plays a role of moderator on link between Perceived Stress and Psychological Well-being.

#### **4. Discussion**

In this study, we investigated whether mindfulness plays the role of moderator on the relationship between stress and psychological well-being. It was observed that mindfulness take measures as a moderator on the association between perceived stress and psychological well-being. This finding is in line with previous researches that have shown that the ability of people to be more mindful make them more aware of the present moment work which reduce the negative effect of life stress (Folkman, 2008). Another study investigating dispositional mindfulness found that effect of stress on both perceived physical health and depression was moderated by dispositional mindfulness, so that among the individuals scoring high on the level of mindfulness, there was a diminished relation between perceived stress and depression (Bränström, Duncan, and Moskowitz, 2010). Same results were found by Feldman, Hayes, Kumar, Greeson, & Laurenceau (2007). Mindfulness involves focus on being content with the present situation without thinking about future possible states and ruminating past this might give rise to a greater sense of well-being and happiness (Brown, Ryan & Creswell, 2010). Greater mindfulness is related to better regulation of emotions, it leads to an increased resilience in face of distressful times by enabling individual to perceived less stress (Bao, Xue, and Kong, 2015). A study conducted by Hanley, Warner and Garland (2014), states that higher levels of mindfulness indicate positive psychological well-being. Findings of the research by Mehta and Hicks (2018) found that mindfulness fosters positive psychological well-being and decrease the levels of stress in individuals. Leung, Lam, and Chan (2010) found that perceived health status and perceived stress are negatively correlated which in turn effects psychological well-being. Moreover inward flow of thoughts and emotions, which involves attending fully to what is occurring at the present moment, leads to enjoyment and sense of vitality (Csikszentmihalyi, 1990). Approaches targeting on enhancing mindfulness such as Mindfulness-based stress reduction (MBSR) intervention, are significantly important in reducing perceived stress ( Carmody, Baer, Lykins, & Olendzki, 2009).

#### **5. Conclusion**

Life stressors are a part of an individual's life but if dealt appropriately and in a right manner, its negative effects can be minimized and hence the psychological well-being will not suffer to greater extent. Mindfulness is one of the tactics through which it can be achieved. In the current study upon the outcomes of the findings it is concluded that mindfulness acted as a moderator in the association among psychological well-being and perceived stress, showing that the ability of people to be more mindful make them more aware of the present moment work which reduce the negative effect of life stressors.

#### **5.1 Limitations**

The results of the study can hardly be generalized to variety of populations as the study sample was almost entirely dominated by young adults or undergraduate students. Similarly data was taken from the students of only a small number of universities of Rawalpindi and Islamabad. Although the instruments utilized in current study have shown good psychometric properties, self-report measures can have limitations if the participants do not have good self-awareness. Such measures can also be subject to response biases.

#### **5.2 Implications**

The moderating role of mindfulness on the association among perceived stress and psychological well-being implies that mindfulness based approaches or interventions can prove to be helpful in order to buffer the harmful effects of perceived stress and hence improve psychological well-being.

#### **5.3 Suggestions**

Future studies conducted with these variables should gather data from other diverse populations and age groups. The sample size of the study was limited it is suggested to increase the sample in future so that more significant and generalized results could be catered. The variables of current study should be explored with multiple other variables

of different domains of psychology namely, health psychology, clinical psychology or social psychology. The association among these variables should also be investigated using different methodologies such as longitudinal methods and experimental procedures involving behavioral tasks or physiological measures.

## References

- Bao, X., Xue, S., & Kong, F. (2015). Dispositional mindfulness and perceived stress: The role of emotional intelligence. *Personality and Individual Differences, 78*, 48-52.
- 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*-848
- Brown, K.W., Ryan, R.M., & Creswell, J.D. (2007). Mindfulness: Theoretical foundations and evidence for its salutary effects. *Psychological Inquiry; 18*:211–237
- Baer, R.A.,(2003) Mindfulness training as a clinical intervention; a conceptual and empirical review. *Science and Practise,10*; 125-143
- Brazier, D. (1995). *Zen therapy: Transcending the sorrows of the human mind*. John Wiley & Sons.
- Bränström, R., Duncan, L. G., & Moskowitz, J. T. (2011). The association between dispositional mindfulness, psychological well-being, and perceived health in a Swedish population-based sample. *British journal of health psychology, 16*(2), 300-316.
- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: HarperCollins.
- Cohen, S., Kamarck, T., and Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior. 24*(4):385–396.
- Deci, E. L., & Ryan, R. M. (1980). Self-determination theory: When mind mediates behavior. *The Journal of Mind and Behavior, 1*, 33–43.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum Press.
- Feldman, G., Hayes, A., Kumar, S., Greeson, J., & Laurenceau, J. P. (2007). Mindfulness and emotion regulation: The development and initial validation of the Cognitive and Affective Mindfulness Scale-Revised (CAMS-R). *Journal of psychopathology and Behavioral Assessment, 29*, 177-190.
- Folkman, S. (2008). The case for positive emotions in the stress process. *Anxiety, stress, and coping, 21*(1), 3-14.
- Hanley, A., Warner, A., & Garland, E. L. (2015). Associations between mindfulness, psychological well-being, and subjective well-being with respect to contemplative practice. *Journal of Happiness Studies, 16*, 1423-1436.
- Huppert, F. A., & Whittington, J. E. (1995). Symptoms of psychological distress predict 7-year mortality. *Psychological medicine, 25*(5), 1073-1086.
- Heidrich, S. M. (1993). The relationship between physical health and psychological well-being in elderly women: A developmental perspective. *Research in nursing & health, 16*(2), 123-130.
- Hodgins, H. S., & Knee, C. R. (2002). The integrating self and conscious experience. *Handbook of self-determination research, 87*(100), 86-98.
- Kouzis, A., Eaton, W.W., and Leaf, P. J.(2008). Psychopathology and mortality in the general population. *Social Psychiatry and Psychiatric Epidemiology, 30*, 4, 165–170.
- Kabat-Zinn J.(2003) Mindfulness-based interventions in context: Past, present, and future. *Clinical Psychology: Science and Practice. 10*.144–156
- Lepore, S. J., Palsane, M. N., & Evans, G. W. (1991). Daily hassles and chronic strains: a hierarchy of stressors?. *Social Science & Medicine, 33*(9), 1029-1036.
- Leung, D. Y., Lam, T. H., & Chan, S. S. (2010). Three versions of Perceived Stress Scale: validation in a sample of Chinese cardiac patients who smoke. *BMC public health, 10*, 1-7.

- LeBel, J. L., & Dube, L. (2001, June). The impact of sensory knowledge and attentional focus on pleasure and on behavioral responses to hedonic stimuli. In *13th annual American Psychological Society Convention, Toronto, Ontario, Canada*.
- Mehta, Y., & Hicks, R. (2020). The big five, mindfulness, and psychological well-being. *GSTF Journal of Psychology (JPsych)*, 4(1).
- Moore, K. A., & Cooper, C. L. (1996). Stress in mental health professionals: A theoretical overview. *International journal of social psychiatry*, 42(2), 82-89.
- Martins, N., & Coetzee, M. (2007). Organisational culture, employee satisfaction, perceived leader emotional competency and personality type: An exploratory study in a South African engineering company. *SA Journal of Human Resource Management*, 5(2), 20-32.
- Piko, B. (2000). Health-related predictors of self-perceived health in a student population: the importance of physical activity. *Journal of Community Health*, 25(2), 125-137.
- Phillip, C.A., (2013). Perceived Stress. *Encyclopedia of medicines*, 1453-1454
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68–78.
- Ryan, R. M., and Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, 52, 141–166
- Ryff, C. D. (1989). Beyond Ponce De Leon and Life Satisfaction: New Directions in the Quest of Successful Aging. *International Journal of Development* 12:35-55
- Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, 69(4), 719.
- Sartorius, N., Üstün, T. B., e Silva, J. A. C., Goldberg, D., Lecrubier, Y., Ormel, J., ... & Wittchen, H. U. (1993). An international study of psychological problems in primary care: preliminary report from the World Health Organization Collaborative Project on 'Psychological Problems in General Health Care'. *Archives of general psychiatry*, 50(10), 819-824.
- Seligman, M. E. P. (1993). Authentic happiness. *New York, NY: The Free Press*
- Sugiura, G., Shinada, K., & Kawaguchi, Y. (2005). Psychological well-being and perceptions of stress amongst Japanese dental students. *European Journal of Dental Education*, 9(1), 17-25.
- Selye, H. (1976). The stress of life. (2nd ed.). *New York: McGraw-Hill*
- Tennant, C. (2000). Work stress and coronary heart disease, *Journal of Cardiovascular Risk*, 7, 4, 273–276.
- Teh, H. C., Archer, J. A., Chang, W., & Chen, S. A. (2015). Mental well-being mediates the relationship between perceived stress and perceived health. *Stress and Health*, 31(1), 71-77.