Dispositional Mindfulness and Perceived Stress as Predictors of Cognitive Failure

*Anjali Malik**

Abstract

Mindfulness is paying attention purposefully and non judgmentally to the present moment. The present study was aimed to investigate the relationship between dispositional mindfulness, perceived stress and cognitive failure. The study was conducted a sample of 200 adults of age range 19-30 using mindfulness attention awareness scale, perceived stress scale and cognitive failure questionnaire. The results revealed that dispositional mindfulness was negatively related to cognitive failure and its dimensions, and perceived stress. Perceived stress was positively related to cognitive failure and its dimensions and mindfulness and perceived stress independently predicted cognitive failure.

Keywords: *Dispositional mindfulness, perceived stress, cognitive failure.*

About Author: **PG Scholar, IIS University, Jaipur*

Introduction

More often than not, we operate automatically. The pervasiveness of everyday mindlessness is specially visible when we enquire into what really matters in our lives. People find that the moments they value most are the ones in which they're fully present, these are moments of mindfulness. Mindfulness is "the awareness that emerges through paying attention on purpose, in the present moment, and non judgmentally to the unfolding of experience moment to moment" (Kabat-Zinn 2003, p. 145). Mindfulness is the awareness of present experience with acceptance. It involves training the mind to be aware of what it is doing (Snyder, & Lopez, 2007). Mindfulness is about bringing focus back to the present so it does not come as a surprise that meditation practice has been related to higher executive control (Teper, & Inzlicht, 2013) and the ability to sustain attention (Zeidan, Johnson, Diamond, David, & Goolkasian, 2010). Meditation intervention is advantageous for people as it improves well being (Beshai, et al. 2016), is associated with emotional regulation (Lutz, J. et al. 2013) and has been observed to be effective at reducing negative mood, depression, fatigue, confusion, heart rate (Zeidan, Johnson, Gordon, & Goolkasian, 2010), anxiety (Hoge, E. A. et al, 2014), stress (Burger, & Lockhart, 2017), burnout (Martín-Asuero, Queraltó, Pujol-Ribera, Berenguera, Rodriguez-Blanco, & Epstein, 2013) and blood pressure.(Chen, Yang, Wang, & Zhang, 2013). Such positive effects of mindfulness training led to the exploration of mindfulness as an inherent human capacity or trait, also known as dispositional mindfulness. Research has characterized dispositional mindfulness to be a desirable trait as dispositional mindfulness is associated with life satisfaction (Kong, Wang, & Zhao, 2014), psychological well being (Bajaj, Gupta, & Pande, 2016), and negatively related to anxiety (Hou, Ng, & Wan, 2015) and stress (Brown Weinstein, & Creswell, 2012)

Stress refers to a situation of frustration, conflict and threat that influences the psychological and physiological abilities of the individual. Stress is any challenge to homeostasis, or to the body's internal sense of balance (Bansal & Bhave, 2006). It is an inevitable concomitant of daily life. Stress can be categorized as eustress and distress. So, stress is not always maladaptive, as in the case

of eustress which denotes the positive aspect of stress and may actually enhance one's performance, whereas distress can be maladaptive as it denotes the negative aspect of stress which may create anxiety and negatively influence performance. Infact stress has claimed to put people at a high risk for heart disease, type 2 diabetes and has a suppressing effect on immune system, stress also makes it difficult for body to fight cancerous growth in adults because it depresses the release of natural killer cells (Ciccarelli & White, p.423). Stress has also been shown to influence memory, cause functional and structural changes in the hippocampus and influence cognition both acutely and chronically (Yaribeygi, Panahi, Sahraei, Johnston & Sahebkar, 2017). In a study by Boals & Banks (2011) perceived stress and PTSD symptoms predicted cognitive failures and participants with low scores on both measures of stress reported the fewest occurrences of everyday cognitive failures.

According to Broadbent, Cooper, FitzGerald, & Parkes (1982) cognitive failure refers to minor slips that cause the normally smooth flow of intended action (physical or mental) to be disrupted. Cognitive failure Questionnaire has three factors that are forgetfulness, distractibility and false triggering. Forgetfulness is a tendency to let go from one's mind something known or planned, for example, names, intentions, appointments, and words. Distractibility is being absentminded or easily disturbed in one's focused attention and false triggering means interrupted processing of sequences of cognitive and motor actions.

In light of the present literature it can be observed that there is no dearth of research on mindfulness training but very few studies have focused on dispositional mindfulness and the relationship between dispositional mindfulness, perceived stress and cognitive failure, so the present study focuses on investigating their relationship as well as the extent to which dispositional mindfulness and perceived stress independently predict cognitive failure as this can have important implication for people working in finance and banks where even one instance of cognitive failure can cause harm.

Methodology

Objective

To examine the relationship between dispositional mindfulness, cognitive failure and perceived stress.

Hypotheses

In light of existing literature, the following hypotheses were proposed:

H1: There will be a significant relationship between dispositional mindfulness, cognitive failure and perceived stress.

H2: here will be a significant relationship between cognitive failure and perceived stress.

H3: Mindfulness and Perceived stress will significantly predict cognitive failure.

Sample

In order to achieve the objectives, present study was conducted on a sample of 200 young adults. The sample consisted of males and females of age range 19 to 30 years and was collected through convenience sampling. A total of 480 questionnaires were distributed out of which 229 were obtained back. 29 questionnaires did not meet the age criteria so the usable final targeted sample was 200. The exclusion criteria included any chronic physical illness or disability, history of drug or alcohol abuse, or past psychiatric history.

Tools:

1. Mindfulness attention awareness scale (Brown & Ryan, 2003): The MAAS is a 15-item scale designed to assess a core characteristic of dispositional mindfulness, namely, open or receptive awareness of and attention to what is taking place in the present. The scale shows strong psychometric properties and has been validated with college, community, and cancer patient samples. Correlational, quasi-experimental, and laboratory studies have shown that the MAAS

taps a unique quality of consciousness that is related to, and predictive of, a variety of self-regulation and well-being constructs. The measure takes 10 minutes or less to complete.

2 . Cognitive failure questionnaire (Broadbent, Fitz Gerald & Parkes, 1982): The 25-item CFQ uses a 5-point Likert-type scale (1=Never, 5=Very often) to evaluate self- reported cognitive problems. It has three factors forgetfulness, distractibility and false triggering. CFQ has high reliability, possessing an internal consistency (Cronbach's A) ranging from .85 to .89 (Broadbent et al., 1982).

3 . Perceived stress scale (Cohen & Williamson, 1983): The Perceived Stress Scale (PSS) is the most widely used psychological instrument for measuring the perception of stress. It is a measure of the degree to which situations in one's life are appraised as stressful. Items were designed to tap how unpredictable, uncontrollable, and overloaded respondents find their lives. Higher PSS scores were associated with (for example): failure to quit smoking, failure among diabetics to control blood sugar levels, greater vulnerability to stressful life-event-elicited depressive symptoms, more colds. Cohen et al. (1988) show correlations with PSS and: Stress Measures, Self Reported Health and Health Services Measures, Health Behavior Measures, Smoking Status, Help Seeking Behavior.

Results

Table 1 Correlation

	Mindfulness	Cognitive failure	Forgetfulness	Distractibility	False triggering	Perceived stress
Mindfulness	1	-0.684**	-0.656**	-0.631**	-0.550**	-0.351**
Cognitive failure		1	0.900**	0.881**	0.894**	0.374**
Forgetfulness			1	0.699**	0.819**	0.277**
Distractibility				1	0.684**	0.386**
False triggering					1	0.282**
Perceived stress						1
Mean	3.92	42.5	13.77	16.02	10.54	19.35
Standard Deviation	0.90	15.52	5.60	5.53	5.25	6.03

Two tailed test: ** denotes significance at 0.01 level

Pearson's coefficient of correlation was computed to measure the relationship between dispositional mindfulness, cognitive failure and perceived stress among young adults. There is a negative correlation at 0.01 level of (r = -0.684) between mindfulness (M= 3.92, SD= 0.90) and cognitive failure (M= 42.5, SD= 15.52). There is a negative correlation at 0.01 level of (r =-0.656) between mindfulness (M= 3.92, SD= 0.90) and forgetfulness (M= 13.77, SD= 5.60). There is a negative correlation at 0.01 level of (r =-0.63) between mindfulness (M= 3.92, SD= 0.90) and distractibility (M= 16.02, SD= 5.53). There is a negative correlation at 0.01 level of (r =-0.550) between mindfulness (M= 3.92, SD= 0.90) and false triggering (M= 10.54, SD= 5.25). There is a negative correlation at 0.01 level of (r =-0.351) between mindfulness (M= 3.92, SD= 0.90) and

perceived stress (M= 19.35, SD= 6.03). There is a positive correlation at 0.01 level of (r= 0.374) between cognitive failure (M= 42.5, SD= 15.52) and perceived stress (M= 19.35, SD= 6.03). There is a positive correlation at 0.01 level of (r= 0.277) between forgetfulness (M= 13.77, SD= 5.60) and perceived stress (M= 19.35, SD= 6.03). There is a positive correlation at 0.01 level of (r= 0.386) between distractibility (M= 16.02, SD= 5.53) and perceived stress (M= 19.35, SD= 6.03). There is a positive correlation at 0.01 level of (r= 0.282) between false triggering (M= 10.54, SD= 5.25) and perceived stress (M= 19.35, SD= 6.03).

Table 2 Linear regression analysis

Model	Adjusted R square	Standard Error	Standardized Coefficient Beta	T	Significant Value
Mindfulness	0.466	11.344	-.684	-13.218	0.000**
Perceived stress	0.135	14.431	.374	5.683	0.000**

Table 2 showed that linear regression reveals 46% variance in cognitive failure is explained by dispositional mindfulness and 13% variance in cognitive failure is explained by perceived stress.

Discussion

The aim of this study was to examine the relationship between dispositional mindfulness, perceived stress and cognitive failure. The study showed that there was a significant negative relationship between mindfulness and cognitive failure, and its dimensions: forgetfulness, distractibility and false triggering. Mindfulness also significantly predicted cognitive failure. The results indicate that enhancing one's level of mindfulness will lower cognitive failure. These results support the research by Klockner and Hicks where mindfulness was found to be negatively related to cognitive failure. Furthermore mindfulness has been observed to be linked to subjective memory problems (Brisbon & Lachman, 2017) and the ability to sustain attention (Zeidan, et al, 2010).

Mindfulness training is observed to reduce anxiety (Hoge, E. A. et al, 2014) and burnout (Martin Asuero, A. et al. 2013) which is reflected in present finding as there was a significant negative relationship between dispositional mindfulness and perceived stress. This research supports the study by Brown and Ryan (2003) where increases in mindfulness over time was related to decline in stress. Prakash, Hussain, and Schirda (2015) posited that the relationship between mindfulness disposition and perceived stress is mediated by emotion regulation.

The study further revealed that there was a significant positive relationship between perceived stress and cognitive failure, and its dimensions: forgetfulness, distractibility and false triggering. Perceived stress also significantly predicted cognitive failure, which implies that a reduction in perceived stress will lead to lowered cognitive failure. The present study supports the research by Boals & Banks (2011) in which perceived stress and PTSD symptoms predicted cognitive failures and participants with low scores on both measures of stress reported the fewest occurrences of everyday cognitive failures.

So, the study has important implications for people with high risk jobs like doctors, nurses, bankers etc where a single incident of cognitive failure can have far reaching consequences and for students or people operating in a stressful environment as cognitive failure can increase their mistakes.

Conclusion

od to examine the relationship between dispositional mindfulness, perceived stress and cognitive failure. It was concluded that dispositional mindfulness is negatively related to cognitive failure and its dimensions, and perceived stress. Perceived stress is positively related to cognitive failure and its dimensions and dispositional mindfulness and perceived stress independently predict cognitive failure.

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