

CHAPTER 7

DISCUSSION

7.1 STUDY ONE

The main aims of the study were to evaluate the effect of a yoga-based intervention on mindfulness, perceived stress, positive and negative affect, and emotion regulation in working professionals, specifically for leadership professionals and also to check the stability of the effect after three months of home practice. Most of the variables showed improvement during the 5-day interventional program, however, mindfulness, perceived stress and negative affect showed statistically significant improvement even after the follow-up period. ERQ-Reappraisal increased significantly and later it decreased during the follow-up period; ERQ-Suppression scores, however, remained almost similar.

The results show that the 5-day yoga based residential intervention was helpful in managing the stress levels. Better change in various measures after the 5 day program can be attributed to the intense residential nature of the intervention. However, except mindfulness, and positive affect and emotional suppression strategy, all other domains showed promising improvement even after the self-motivated home practice. This suggests that trait-mindfulness requires more than 3 months to bring in and sustain changes and mindfulness helps to promote reappraisal strategy more than suppression. The overall adherence rate was found to be good as in the follow-up data, 33 (32%) reported practicing at least 1-2 times a week and 26 (26%) reported practicing 3-4 times a week.

Mindfulness interventions and their effect on reducing psychological distress are known. Mindfulness is related to effective emotion regulation (Hill & Updegraff,

2012). Emotion regulation is “the process by which individuals influence which emotions they have, when they have them, and how they experience and express them” (Gross, 1998).

Cognitive reappraisal and suppression are the two major strategies of emotion regulation. Mindfulness practice appears to develop and strengthen cognitive reappraisal as it enables an individual to create an inner space and respond rather than just react to various situations and events. In our study, this aspect has been strengthened considerably especially after the residential intervention. Mindfulness practice is known to be associated with both top-down and bottom-up emotion regulation strategies (Chiesa, Serretti, & Christian, 2013). Insights regarding the unique and shared consequences of specific types of emotion regulation is a promising area for future research (Gross, 2015).

Mindfulness is known to have an inverse relationship with negative affect and a stronger positive relationship with positive affect (Giluk, 2009). Similar results are also found in our study. Reduced positive affect after the home practice in our case may indicate the presence of constant work pressure and an associated tendency of reduced positive thinking. This situation is likely to improve with longer duration of practice as higher mindfulness practice time corresponds to lower levels of negative affect and higher levels of positive affect (Jha, Stanley, Kiyonaga, Wong, & Gelfand, 2010). Similar results were also reproduced with respect to perceived stress. Overall, our results reinforce the reported idea that MBIs can be used in organizational settings for the reduction of psychological distress (Virgili, 2015).

Yoga is known to provide a unified body-mind experience. Yoga is universal, and the postures a reflection of the extraordinary range of the human body’s capacity for movement and balance and stillness (Kabat-Zinn, 2017). Yoga interventions foster

psychological wellbeing (Conboy, Wilson, & Braun, 2010; Gard et al., 2012; Hartfiel et al., 2012). Practice of yoga increases levels of trait mindfulness in a healthy population, who had no prior yoga experience (Shelov, Suchday, & Friedberg, 2009). Advanced practitioners of yoga are reported to have higher levels of mindfulness and lower levels of stress (Brisbon & Lowery, 2011). Highly involved yoga practitioners had a significant increase in levels of mindfulness and psychological wellbeing (Gaiswinkler & Unterrainer, 2016).

Testing for intervention effects at follow-up time points is an important area that needs research attention. Very few studies have reported on the follow-up daily practice that participants do in the weeks, months, and years post completion of formal mindfulness intervention programs (Creswell, 2017). The current study also tested for the intervention effect after 3 months of individual practice following the residential intervention. In the current study, following the residential program, participants were expected to continue their daily practice of 35 minutes of cyclic meditation on their own for an additional period of 3 months. Standardized guided instructions in audio format were provided to facilitate the individual practice.

A common trend that a score improves considerably after the residential intervention and later it diminishes a bit during the home practice indicates that a supervised interventional at workplace is necessary in order to harness the best interventional affect. Future studies may also focus on how proven interventions can be incorporated into the workplace practice so that wellness becomes an integral part of work-life.

7.2 STUDY TWO

The research further aimed to evaluate efficacy of the yoga-based intervention on mindfulness, perceived stress, emotion regulation, and positive and negative affect in employees involved in high-risk offshore jobs and also to evaluate how far the effects are retained after three months of home practice. There was an improvement in all the variables after the 5-day residential interventional program, as well as after three months of home practice, except for the variable ERQ-Suppression, which was not affected at any timepoints. Notably, mindfulness showed statistically significant improvement at both the time points (after the residential program and follow up) compared to the baseline, and all other variables showed statistical significance only after the 5-day residential program and not after the 3 months follow up, however the trend of results remained the same. Mediation analysis showed that mindfulness mediated 51.4% of the relationship between positive affect and perceived stress. In order to explore further the role of emotion regulation, sub analysis was done making four different styles of emotion regulation, i.e., people who use only reappraisal, only suppression, both of these, and none of these two strategies. As the results showed that people predominantly following suppression strategy to regulate their emotion tend to have least stress in high mindfulness group. This suggests that by enhancement of mindfulness, the tendency to use appraisal strategy indirectly increases and thereby stress perception is reduced. We consider mindfully being aware of suppression is akin to reappraisal, as any mindful process involves substantial degree of appraisal. Can being mindfully aware of suppression be a better emotion regulation strategy than cognitive reappraisal? At this point of time it may be difficult to conclude due to the lower sample size of this sub-analysis, and need for larger reproducible results.

These results show that the 5-day yoga based residential intervention was helpful in managing the stress levels of employees involved in high-risk jobs at offshore sites, however, self-practice at home appears to be a little less effective compared to the residential intervention. Though it is true that the exact ambiance of a residential interventional setup cannot be reproduced at workplace or home, but still a supervised yoga session at the workplace or home may yield better results as there is a personal guide to regulate the yoga regimen. The overall adherence rate was found to be 75%, which suggests that probably due to confusion in practice, they might have shown poor results and not merely due to lack of interest. A knowledge test towards the end of the 5 day residential program can help in ensuring the drop in adherence rate of practice post intervention is not due to a lack of understanding.

At any rate, having a short workplace scheduled intervention and periodic residential intervention at least once or twice year will help to sustain the positive benefits of this yoga based intervention for a longer duration.

Mindfulness based interventions were reported to be of high need and acceptance, and therefore highly feasible for primary care professionals, however, the study also reported the need for a shorter intervention and retention factor as another barrier. This suggests that customization of mindfulness based intervention, preferably with a shorter package is the expectation from workplace setups (Heckenberg et al., 2018). Mindfulness intervention has revealed to promote less paranoid cognition even in a choiceless hostile situation like workplace discrimination. Perceived discrimination in the workplace was considered to bring up more emotional exhaustion (Thoroughgood, Sawyer, & Webster, 2019). So, implementing a yoga based intervention will have a positive influence on productivity through enhancing mindfulness even in offshore working conditions of oil and natural gas companies.

Cyclic meditation (CM) involves a sequence of yoga postures done along with awareness. Quite often meditation appears to abstract and to engage with the intangible mind appears to be a big challenge. In CM being aware of all the movements being performed induced a higher degree of mindfulness, and as the focus is on the tangible body movements which is not abstract, this method of practice can easily help individuals to develop mindfulness and thereby reduce the appraisal of stress.

In a study, mindfulness was found to reduce burnout. Applying job demand-resource model in which employees are said to undergo first emotional exhaustion, and then cynicism, and finally reduced professional efficacy, when the employees perceive work pressure superseding their available resources and inherent traits to manage them. Mindfulness is shown to be an important component that cushions the impact of these three stages of burnout (Taylor & Millier, 2016).

Another study supports the idea that mindfulness training must be integrated into workspace considering the organizational framework (Rupprecht, Koole, Chaskalson, Tamdjidi, & West, 2019). Reasoned Action Approach (RAA) based analysis of an online mindfulness intervention reviewed various factors that support the implementation of online interventional programs (Laurie & Blandford, 2016).

In a survey study done in the UK on 200 offshore installation managers across 157 oil and gas installations representing 36 organizations showed that experience may not be a dominant factor in determining safety attitudes and behavior, however, those managers who were less experienced and had directive style of leadership were found to overestimate their ability to have control over the situation (Dea & Flin, 2001). Recent works have focused on enhancing the safety aspects in an organization and thereby ensuring a good work ambiance devoid of risks (Iqbal, Waheed, Haider,

Tesfamariam, & Sadiq, 2019). Integrity management program was developed and along with that practice of robust safety culture was encouraged. Integrity management program is a safety and loss management system. It is a set of policies, plans, schedules, and documentation of technical procedures. It was shown that these initiatives help manage the workplace stress. Apart from enhancing safety, it is also necessary to empower the employees to handle stressful conditions.

A three-tier strategy of stress management is recommended, the first to reduce the environmental workplace stressor, then to enable the employees to handle stressful situations, and finally offering support to those who are experiencing stress events (Cooper & Cartwright, 1997). Not only equipping employees how to reduce stress, but some researchers have also opined that the nature of stressful environment itself should be addressed in order to develop an overall good ambiance for work. They have argued that focus should be centred on the workplace culture through proper management strategies rather than providing aids to employees to handle stress effectively. Their point questions the weak workplace management practices that mar the scope of creating a good work ambiance (Tinline & Cooper, 2019). This may be partly true but there are many organizational setups where high-risk operations are routine chore and workers are involved in such situations day in and day out, so in such situations even though a good management setup may be in place but augmenting with good cope up strategies would go a long way in bringing up the overall work satisfaction and organizational productivity. The ASSET model of workplace wellbeing suggests that workplace conditions influence individual-level psychological wellbeing and productivity, and thereby it influences organizational outcome. Any weak links at workplace may detrimentally affect employee wellbeing. A support system at workplace may cushion such an adverse situation, but that

requires a highly committed management that recognizes and proactively act on the need for employee wellbeing at workplace (Robertson & Cooper, 2011).

It is also important to understand why in spite of knowing the high-risk nature of work, people take up such jobs? Unlike high-risk jobs like combat and military where there is high existential threat, an operational environment like oil and natural gas companies pose threat towards accidents if operational details are not attended carefully and therefore does not pose life threat provided that safety issues are adequately taken care. Maintaining daily chore without incurring any adverse events itself is a stressful task. In such work environments, financial prospects, utility benefits, and job security maybe some of the motivating reasons to inspire people to take up such high-risk operational jobs. However, an inability to meet the inevitable daily workplace stress may lead to long term stress and burnout, and for this, a good yoga based intervention becomes very essential. According to Tinline and Smeed (2014), an intervention can be provided at three levels, first one at the workplace itself where changes are brought in to make difference in the work demand, at the second level, for better resilience an individual is trained to cope up with the stressful situations through various workplace interventions, and once the symptoms of stress and strain start to manifest at the third level, provide treatment and rehabilitation to come out of the stressful situation. For an organization, there must be customization of workplace intervention in order to perfectly suit the need. Researchers have reported that Flexible work arrangements in which an employee gets the freedom to flexibly choose their place and time of work, most often they work at home taking care of other family and social demands. These strategies are being used by eminent companies to enhance job satisfaction and to retain high potential human resources (Smith, Gilmer, & Stockdale, 2019). Flexible work arrangements may help reduce the

stress in a demanding workplace but sometimes, such arrangements are not possible given the nature of demanding work like that of ONGC offshore workers.

In a qualitative review of mindfulness based training interventions for employees, it was reported that most of the studies used pretest-posttest design and not much with further follow-up. There was heterogeneity in program content, duration and frequency of intervention. A most important purpose for which such mindfulness based programs are conducted was stress reduction (Eby et al., 2019). In our study, we had conducted a three-month follow-up and instructed them to practice regularly with suitable materials to aid in their daily practice. It clearly revealed that the presence of a trained instructor is quite essential not only to motivate them for yoga practice, but also as an external agent of authority whose presence can dispel any practice related doubts in daily practice. This over a period of time would strengthen their confidence to independently perform yoga practices.

Mindfulness need not always be useful for all workplace situations. There are instances where mindfulness could be counterproductive as well. In a study on understanding mindfulness and task motivation and performance, it was revealed that mindfulness reduced task motivation but performance was not affected (Hafenbrack & Vohs, 2018). Psychosocial risk audit has been developed to understand stress and ill-health issues in oil and natural gas industries that has further effect on organizational productivity. These indicators put in place with regular audits have been found to help us understand and manage organizational stress and health issues of employees (Bergh, Hinna, Leka, & Zwetsloot, 2015; Vestly Bergh, Hinna, Leka, & Jain, 2014). Factors like control, social support, work-home conciliation, sports and leisure were also shown to help in stress management (Gonzalo, 2016). In an organizational study evaluating the effort-reward imbalance model and over-

commitment of employees on the immune system, it was found that higher effort reward imbalance and over commitment leads to a poor immune system. This theory proposed that an employee should feel that efforts that are put in, which includes physical, emotional, and psychology efforts made and reward provided, which includes money, position, promotion, job security, should match each other, else there will be a sort of dissatisfaction within and such a chronic dissatisfaction may lead to lower immunity, and similarly over commitment was suggested as a cognitive style according to which an employee is unable to detach from the work, and that again adversely influences immunity (Eddy et al., 2016). In our current study, even though effort-reward imbalance appears less likely, over-commitment may still remain as a potential factor which can influence poor health, and a yoga based intervention may really help in this aspect.

Sometimes institutional policies emphasizing the implementation of such stress management interventions may attract higher program adherence. In a study on implementing a medical yoga program in a work setup, it was reported that getting approval of senior managerial staff was a barrier in effective implementation of the intervention (Axén & Follin, 2017). Recently, mode or delivery of mindfulness interventions have even gone online (Jayewardene, Lohrmann, Erbe, & Torabi, 2017). Such attempts should pave way to easy implementation of mindfulness based interventions at workplace.

7.3 COMBINED DISCUSSION

Table 7.3: Summary Results - Combined

		Mindfulness	Emotion Regulation		Affect		Perceived Stress
			Reappraisal	Suppression	Positive Affect	Negative Affect	
Leadership	Residential	S ↑	S ↑	↑	S ↑	S ↓	S ↓
	Follow-up	S ↑	↓	↑	↑	S ↓	S ↓
Offshore	Residential	S ↑	S ↑	↑	S ↑	S ↓	S ↓
	Follow-up	S ↑	↑	↑	S ↑	↓	↓

NB: 'S' - highlights change is significant

All the variables, viz. mindfulness, perceived stress, positive and negative affect and emotion regulation had a significant improvement after 5 day residential intervention, except for suppression. For leadership professionals, mindfulness, negative affect and perceived stress showed significant improvement even after follow-up. For offshore professionals, mindfulness and positive affect showed significant improvement even after follow-up.

The intervention had a primary focus on mindfulness. It was found that, in both studies, viz. for both leadership and offshore professionals, mindfulness showed a significant increase post residential intervention. The effect was retained even after 3 months of individual home practice.

This shows that the yoga intervention is effective in enhancing overall wellbeing in two distinct workgroups of leadership and offshore professionals, where psychological distress is a significant challenge. Supervised guidance can help further sustain and foster the wellbeing.