

**EFFECTS OF MINDFULNESS ON THE SELF-LEADERSHIP OF PROJECT
TEAM MEMBERS**

YAU KIAN MIN

**A project report submitted in partial fulfilment of the requirements for the
award of Master of Project Management**

**Lee Kong Chian Faculty of Engineering and Science
Universiti Tunku Abdul Rahman**

March 2019

DECLARATION

I hereby declare that this project report is based on my original work except for citations and quotations which have been duly acknowledged. I also declare that it has not been previously and concurrently submitted for any other degree or award at UTAR or other institutions.

Signature : _____

Name : Yau Kian Min

ID No. : 15UEM05904

Date :

APPROVAL FOR SUBMISSION

I certify that this project report entitled “**EFFECTS OF MINDFULNESS ON THE SELF-LEADERSHIP OF PROJECT TEAM MEMBERS**” was prepared by **YAU KIAN MIN** has met the required standard for submission in partial fulfilment of the requirements for the award of Bachelor of Master of Project Management at Universiti Tunku Abdul Rahman.

Approved by,

Signature	:	<hr/>
Supervisor	:	<hr/>
		Ir. Dr. Lee Wah Peng
Date	:	<hr/>

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Specially dedicated to
my beloved parents, family, friends, lecturers and classmates

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ABSTRACT

EFFECTS OF MINDFULNESS ON THE SELF-LEADERSHIP OF PROJECT TEAM MEMBERS

The increase of today's project management complexity environment requires capable project team members to be competent in self-leadership skills besides the necessary knowledge and experiences to execute the project as planned. Project team members with mindful self-leadership skills would have a better sense of who they are, what they can do, where they are going and take purposeful action to become a better team member. The aim of this study is to investigate the effects of the practice of mindfulness on the self-leadership skills of the project team members in various industries in Malaysia context. The study also to investigate the relationship between age, gender, mindfulness, and self-leadership of the project team members. The sample consists of 186 respondents which covers 83 mindfulness practitioners and 103 non-practitioners. The bi-language validated Mindfulness Attention Awareness Scale and Modified Revised Self-Leadership Questionnaire in Chinese and English were used to measure the mindfulness traits and self-leadership skills of project team members. From the ANOVA test, it showed that age is statistically significant with mindfulness traits and no significant relationship with self-leadership skills. Independent T-Test showed that gender has no statistically significant relationship with both mindfulness traits and self-leadership skills. Pearson's Product-Moment Correlation Test results showed the respondents with mindfulness practice demonstrated higher mindfulness traits and self-leadership skills as compared to project team members without mindfulness practice. Mindful project team members will have better personal capabilities to cope with project challenges and lead to a better success rate of project implementation and improve team members morale, productivity, and job satisfaction. The management of various industry in Malaysia shall recognise and explore the positive effects of mindfulness to enhance project team members mental capability to manage the increasing complexity of project challenges.

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LIST OF SYMBOLS / ABBREVIATIONS

μ	Mean
s	Standard deviation
r	Pearson correlation
p	Significant (2-tailed)
N	Number
F	Distribution
PMI	Project Management Institute
GDP	Gross Domestic Product
H_0	Null Hypothesis
H_a	Alternative Hypothesis
MGH	Massachusetts General Hospital
MBSR	Mindfulness-Based Stress Reduction
UTM	University Technology Malaysia
CCL	Center for Creative Leadership
ANOVA	Analysis of Variance
OECD	Economic Co-operation and Development
MAAS	Mindfulness Attention Awareness Scale
CMAAS	Chinese Mindfulness Attention Awareness Scale
RSLQ	Revised Self-leadership Questionnaire
MRSLQ	Modified Revised Self-Leadership Questionnaire
SPSS	Statistical Package for Social Science
SPM	Sijil Pelajaran Malaysia
STPM	Sijil Tinggi Pelajaran Malaysia
GCE	General Certification of Education
Ph.D	Doctor of Philosophy

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CHAPTER 1

INTRODUCTION

1.1 Background

The increased complexity of today's project management environment requires a change from traditional management to more effective approaches and to have more competent project team members. Successful project development from initiation, planning, execution, monitoring, and closure stage requires project team members to couple with a competent skill in specific industry knowledge, communication, conflict resolution, negotiation, relationship management etc. Project team members who have personal characteristics such as the need for autonomy, self-awareness, and self-efficacy may be more likely to take responsibility and work effectively in complex project environments.

Project team members are essential for a successful project and always require competent interpersonal interaction skills to implement project plans. Bad project management practices can cause a huge loss of revenue. Statistics showed bad project management implementation slow down the production and cost businesses millions of dollar. According to the report in 2017 by Project Management Institute (PMI), 87.7 million individual working in project management needed by 2027. Incompetent team members pose a great risk and could result in a potential loss of approximately US 207.9 billion in Gross Domestic Product (GDP) through 2027 for the 11 countries analysed (PMI, 2017).

Each project team members self-leadership skill is crucial to ensure project implementation as the target, proper communication in place, good practice of conflict resolution, and increase overall performance. Recent research showed that mindfulness practice might have a positive influence on self-leadership (Furtner, Tutzer, and Sachse, 2018). Mindfulness is non-judgemental of every present moment, awareness of thoughts, emotions, sensations, actions, and surroundings. Jon- Kabat Zinn, mindfulness expert defined mindfulness as "the awareness that arise through paying attention on purpose, in the present moment, and non-judgementally to the unfolding of experience moment by moment" (Kabat-Zinn, 2003, p. 143).

Mindfulness practice is a mental exercise which may improve skills in observing and acting with awareness, the concentration at work, and better interpersonal relationships (Mellor, et al. 2016). There is increasing evidence that mindfulness practice might improve the regulation of attention, emotion, and self-awareness with changes in brain areas and neuroplastic structure which influence the regulation of attention, emotion, and self-awareness (Tang, Holzel and Posner, 2015). With these changes, especially change in self-awareness, people are more aware of internal and external processes, exhibit positive mental health, behaviour, and improve job performance (Furtner, Rauthmann, and Sachse, 2015).

Elliot's (2003) research showed mindfulness intervention enhances practitioner's cognitive processes which include paying attention, ability to focus, problem-solving, planning, and self-management. Jha, et al.'s (2010) research supports Elliot's finding, mindfulness interventions can sustain attention, improve working and visual-spatial memory. Based on mindfulness effects research and study, project team members self-leadership may be enhanced through mindfulness practice as a mindful self-leader with the capability of continuously monitoring an internal and external process, aware of current thoughts, emotion, and behaviour.

1.2 Problem Statement

Most project team members are equipped with professional knowledge and competent technical experience to plan, execute, monitor and control until the closure of the project. The project team members' leadership skills do not start when they have completed a leadership program course or when they have been assigned as a leader in an organisation. Project team members often are not knowledgeable about soft skills to solve the messy and complicated people problems that can jeopardize the project's success (Cantin and McGinnis, 2019). Those soft skills included resolving conflict, interpersonal communication skills, motivation, addressing performance problems and "Know Thyself". If these skills were absent in a project team, by only enough technical knowledge and resources, the project may end up with complex conflict, poor communication, low morale of work, low performance of project team members and lead to a destructive project environment, and the increased tendency of project failure.

The impact of project failure may cause costs to overrun, failure to meet business requirement and unsatisfied stakeholders (Ling, 2015). These will destabilize an organisation and the consequences can be irreversible if continuously failed to manage. Project team mindful approaches are crucial to driving the project to meet the targeted scopes, quality, and cost. Many western types of research found mindfulness practice increases self-awareness, self-observation, and enhance self-leadership. Project team members who possess mindful self-leadership skill would have a better sense of who they are, what they can do, where they are going and will be motivated to take purposeful action to become better team members.

However, in the Malaysian context, the research on the mindfulness effects on self-leadership is relatively less. Most of the mindfulness research in Malaysia are concentrated on well-being, stress management, reducing depression or anxiety (Phang, et al. 2014). Hence, this research attempts to investigate the effects of mindfulness on self-leadership of project team members in Malaysia. The study will determine and investigate the relationship between age, gender, mindfulness, and self-leadership of the project team members.

1.3 Research Aim

The aim of this study is to investigate the effects of the practice of mindfulness on the self-leadership skills of the project team members in various industries in Malaysia.

1.4 Research Objectives

The objectives of this study are as follows;

- I. To investigate the relationship between mindfulness and age and gender of project team members.
- II. To investigate the relationship between self-leadership and age of project team members.
- III. To investigate the relationship between mindfulness and gender of project team members.
- IV. To investigate the relationship between self-leadership and gender of project team members.
- V. To compare the self-leadership trait of project team members with and without mindfulness practice.

- VI. To examine the effects of mindfulness practice on self-leadership of project team members.

1.5 Research Questions

The research questions are parallel with the research aim and objectives. The following questions attempt to investigate the effects of mindfulness on the self-leadership of project team members.

- I. Is there a relationship between age and mindfulness of project team members in Malaysia?
- II. Is there a relationship between age and self-leadership of project team members in Malaysia?
- III. Is there a relationship between gender and mindfulness of project team members in Malaysia?
- IV. Is there a relationship between gender and self-leadership of project team members in Malaysia?
- V. Is there a difference of mindfulness traits of project team members with and without mindfulness practice in Malaysia?
- VI. Is there a difference in self-leadership skills of project team members with and without mindfulness practice in Malaysia?

1.6 Research Hypothesis

Empirical researchers have found that there is a positive relationship between mindfulness practice and self-leadership (Neck and Manz 1996; Khusid, Vythingam, 2016). This study aims to investigate the mindfulness practice relationship related to age, gender and self-leadership skills of project team members. Subsequently, to examine and evaluate the impacts of mindfulness practice of project team members self-leadership. Based on empirical studies, the following hypothesis can be considered to measure the relationship between mindfulness practice and self-leadership relate to age and gender of project team members:

- I. Age and Mindfulness Traits

- Ho = There is no statistically significant relationship between age and mindfulness traits of project team members.
- Ha = There is a statistically significant relationship between age and mindfulness traits of project team members.

II. Gender and Mindfulness Traits

- Ho = There is no statistically significant relationship between gender and mindfulness traits of project team members.
- Ha = There is a statistically significant relationship between gender and mindfulness traits of project team members.

III. Age and Self-Leadership Skills

- Ho = There is no statistically significant relationship between age and self-leadership skills of project team members.
- Ha = There is a statistically significant relationship between age and self-leadership of project team members.

IV. Gender and Self-Leadership Skills

- Ho = There is no statistically significant relationship between gender and self-leadership skills of project team members.
- Ha = There is a statistically significant relationship between gender and self-leadership skills of project team members.

V. Mindfulness Practice and Mindfulness Traits

- Ho = There is no statistically significant relationship between mindfulness practice and mindfulness traits of project team members.
- Ha = There is a statistically significant relationship between mindfulness practice and mindfulness traits of project team members.

VI. Mindfulness Practice and Self-Leadership Skills

- Ho = There is no statistically significant relationship between mindfulness practice and self-leadership skills of project team members.

- Ha = There is a statistically significant relationship between mindfulness practice and self-leadership skills of project team members.

1.7 Research Scopes

The main research scope of this study focuses on Malaysian, individual male and female, with and without mindfulness practice, able to understand English or Chinese, and with the age of twenty (20) years and above. The questionnaires will be used to gather mindfulness practice data from respondents who work in various industries in Malaysia. The questionnaire items for mindfulness and self-leadership traits are validated bi-language questionnaire in English and Chinese. A Bahasa Malaysia version was not applied as validated questionnaire was not available. The research paper related to mindfulness and self-leadership from various sources, both from local and overseas will be used as a literature review.

1.8 Significant of Research

This research studies the effects of mindfulness practice on self-leadership. The study will investigate and analyse the mindfulness practice impact on the self-leadership of project team members which can help to minimise the project failure chances and yet satisfies stakeholders' expectations. Project team members with mindful self-leadership traits may deliver better performance, avoid bad project management practice, enhance project success rate, and add value to an organisation. However, the study of mindfulness effects on the project team members self-leadership is rare in Malaysia. Through this study, the research outcome aims to contribute to the existing literature on whether mindfulness practice influenced self-leadership at different ages and genders in Malaysia. The finding of this research may provide essential information for an organisation in any industry in Malaysia to have a clearer understanding of the relationship between mindfulness practice effects and self-leadership traits.

1.9 Structure of Dissertation

This dissertation is structured into five chapters. The following are the dissertation structure:

Chapter 1 – Introduction

Chapter 1 provides information on the research background and elaborates the overview structure of this research and thesis. The structure serves as a foundation and framework of the study. The frameworks are research background, problem statement, research aim, research objective, research scope, the significance of the research.

Chapter 2 – Literature Review

Chapter 2 provides a review of the literature from several disciplines regarding research mindfulness and self-leadership. The literature review will be based on previous studies which including journals, books, and reports from printed or internet copy. Previous studies will be discussed and elaborated to provide an understanding of the relationship between effects mindfulness practice and self-leadership in previous studies.

Chapter 3 – Research Methodology

Chapter 3 establishes the research methodology applied in the present study to evaluate the theoretical framework. To obtain the relevant result in line with the targeted aim and objectives, different tests which including the methodology for data collection and analysis will be performed in this report.

Chapter 4 – Results and Discussions

Chapter 4 presents the analysed outcome according to the data composed of the questionnaire survey. The analysed data will be explained in the proper structure in this chapter with appropriate interpretations and discussions.

Chapter 5 – Conclusion and Recommendations

Chapter 5 shows the conclusions and recommendations of the research. In this chapter, the research will summarize and, conclude related to the research objectives together with the limitation and, the recommendation of future research.

CHAPTER 2

LITERATURE REVIEW

2.1 Overview

The literature reviews of this study cover four sections. The first section begins with the reviews of project team members, roles, effective team and challenges. The second section presents the reviews of mindfulness which include introduction of mindfulness, mindfulness development, mindfulness practices, research on mindfulness, benefits of mindfulness and will ended with the discussion of relationship between age, gender, and mindfulness. The third section provides self-leadership reviews starting with the self-leadership introduction, the competencies of self-leaders, and self-leadership theory. In general, self-leadership consists of three main strategy domains comprising of behaviour focus strategies, natural reward strategies, and constructive thought pattern strategies. Further review of these strategies will be clearly elaborated in this section. The discussion of the relationship between age, gender, and self-leadership will be included in this section.

The fourth section will present the reviews on the effects of mindfulness practice on the self-leadership. A mindful self-leader is supposed to have high self-leadership capabilities, aware of current thought, emotions, and behaviour. Additional reviews on the effects of the mindfulness practice on self-leadership qualities will be further defined in this section.

2.2 Project Definition and Team Members

A project is a unique and temporary activity with defined beginning and end in time, scopes, and resources. It is not a routine operation, but a specific activity to meet the goal. According to the *PMBOK® Guide in 2017* by Project Management Institute, a project is a temporary task to develop a specific product, service, or result to achieve desired objective within the defined time, cost, and quality. A project team often includes members who may not have worked together before and could be from other departments, organisations, industries, and across multiple geographies. Project team members are selected from different specialist in business or technical disciplines, or an outside supplier subjected to a specific project scope, resources, and particular skills

that are required to complete the project tasks. The structure of the project team includes the project manager and the members who work as a team in a project to achieve a common goal. It consists of other team members who may not be directly involved with management but perform the work related to the project.

Project team member's role is to successfully implement the tasks that have been assigned and to keep the project manager informed of the task's progress as well as any issues that may arise. Project teams are a group of codependent individuals who share responsibility for specific task for an organisation and share a similar general information with all working teams (Sundstrom, 1999). Each project team member requires to work with their own initiative in the areas where they have been assigned according to their expertise. The project team members are responsible to manage their own day to day work, accept the authority of the Project Manager and report to the Project Manager as appropriate. According to the article in 2016 by Harvard Business Review, team member is the heart of any project. It is extremely important to have the right people in the right function. The team may consist of people from different team with competent in respective subject master knowledge or skill to carry out the work of the project (Thuerbach, 2013).

In summary, effective project team members development is important for project team members integration to promote higher level of teamwork, better communication, reduction of conflicts, and improve overall project performance. Failure to have these positive traits, the project will have high chances to fail delivering the desired product or services on time, cost, and within set time line.

2.3 Project Team Members Challenges

A responsible project team member will have a clear understanding on the purpose and objective of a project and working to timescales and with cost constraint. A-long the project implementation, identify issues and risk associate with the project, working together as a team, contributing towards successful communication and positive motivation, and project deliverables. In any case, project team members would always face some challenges to accomplish the task (Flint, 2016);

I. Lack of Trust

Trust is important to teamwork and it starts with people getting to know and familiarising with each member profession and personality. Lack of trust prevents team members from connecting to each other. Team members will not have proper communication and will not understand each other, and they will not want to engage and share information.

II. Conflict and Tension

Conflict and tension are not always negative. If both are well managed, difference in opinions may prompt useful debates and can be positive. It encourages team members to think differently, expand knowledge, innovation can happen and turn into good results.

III. Not sharing Information

Project team members are equipped with specific set of skills, knowledge, and experience. Effective project teams promote regular knowledge sharing for the benefit of project team members and project's success. By sharing, the process will increase the team's communication, trust and capability to become an effective team.

IV. Lack of Engagement

Team member engagement level has a high impact on the project's success. The key to engagement is involvement. Engaged team members will trust each other, enjoy the given task, will be interested in what they do, committed to the project's objective and willing to work harder.

V. Lack of Transparency

Transparency is important in project and program management. It begins from the top management; the top management will have the highest responsibility to demonstrate high level of transparency. Consequences of low transparency would result in low trust as well. In this situation, both the project team and end client will suffer.

VI. No Long-Term Thinking

Long-term thinking is crucial for long-term success of the project. Project managers must think of overall project issues, potential risks and failure with the mitigation plan in place. Team members should be able to think beyond their own role, think how to contribute extra miles, and more capable in change project.

VII. Badly Perceived, Not Delivering

A successful project team is driven by the commitment as promised and aims to deliver the results as expected or beyond. Each team member is required to have clear understanding of their responsibilities and roles. The team member needs to understand the task delivery methods and be committed to the target given.

VIII. Poor Change Management

Change is constant in project implementation, it can be detrimental to teamwork if failed to manage appropriately. Change always starts and ends with communication. Team member needs to be more interactive by participating, listening, communicating more and managing change effectively.

IX. Individual Team Member

The existence of individual team members or lone-rangers are a reality for many project teams where there are team members prefer to work in Silo situation and not integrate with the team. Silo team member may be close to each other; however, the team spirit may be absent. As a team, team member shall eliminate lone-ranger attitude and utilize the time to engage with each other to work as a team.

X. Lack of Team Work

Poor team spirit will deter the team members from working toward the same objective. To move a team toward the same objective, a team needs to know what the team objective is and have an understanding of the goal direction including why, how, and what needs to be achieved.

To mitigate the challenges and problems faced by project team members, mindfulness practice may facilitate to mindful project team members and contribute to better self-leadership (Bishop, et al., 2004). The self-leadership skills of each member are essential to determine a project meeting the goal as desired. Self-leadership and mindfulness, both emphasize on the importance of self-focused observation processes to reach the goals (Brown, Ryan and Creswell, 2007). Project team members with mindful self-leadership are committed to making changes, understand team objectives, share information, express their ideas, respect each other, held accountable and recognized the accomplishment (Furtner, Tutzer and Sachse, 2018).

2.4 Introduction to Mindfulness

Mindfulness has been defined as the ability to pay attention, aware of the moment, and non-judgemental of the sensations. Individuals who are significant and popular in mindfulness disciplines include Thich Nhat Hanh, Herbert Benson, Jon Kabat-Zinn, and Richard J. Davidson (Buchholz, 2015). In the past decades, mindfulness has become popular disciplines either in the popular press or in the psychotherapy literature (Shapiro and Carlson, 2017). The word *mindfulness* originally comes from the Pali term *sati* which is significant element of Buddhist traditions (William, et al, 2015). According to the Digital Dictionaries of South Asia, *sati* means having awareness, attention, and remembering. The success of mindfulness-based stress reduction (MBSR) program, acceptance and commitment therapy has transformed Buddhist based mindfulness concept to mainstream of psychotherapy practice (Davis and Hayes, 2011).

There is no universal definition of mindfulness. Mindfulness could be explained as a practice with intention and regular activity to cultivate qualities of mindfulness and capacity of mindful through formal meditation, or informal mindful actions (Hanh, 1987). Spencer (2013) viewed mindfulness as a state of awareness with the qualities which include intentional, present, friendly, open, caring, and curious. From human trait or capacity point of view, mindfulness is the tendency or ability to be in a mindful state. These traits are the basic of human ability to be awake and aware of what we are doing, where we are doing, and when we are doing it and those traits can be cultivated through mindfulness practice (Mesmer-Magnus, et al., 2017).

In general, mindfulness is defined as a psychological cognitive process with non-judgemental awareness of the present moment, allows for acknowledgement and acceptance of feelings, thoughts and sensations on what is happening. (Bishop, 2004; William, 2010; Kabat-Zinn, 2013; Creswell, 2017). The awareness of the present moment including external stimuli likes external and external events or objects which include the stimuli likes emotion, sensations, perception, and cognition patterns (Weick and Putnam, 2006). Boyatzis and Annie (1995) defined mindfulness as a living condition where people have full conscious of awareness of self, other people, and the environment where we live and work.

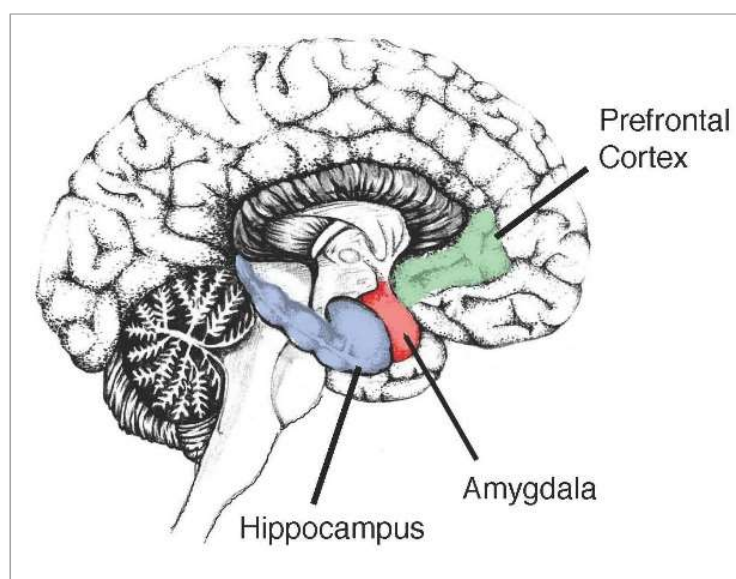
They are many types of mindfulness practices to cultivate mindful quality which include yoga, tai chi, and qigong (Siegel, 2007), body scanning and meditation (Lutz, et al, 2011; Kabat-Zinn 2013). Hanh (1987) one of the Guru of mindfulness described mindfulness practices include those activities conducted with the intent to remain present, such as meditation, body scanning, listening to sounds in the environment mindfully. Even though, there are many practices of mindfulness, this study will focus on mindfulness meditation review as it has the most evidence for mental health and well-being. This is supported by empirical research on mindfulness were focused on the meditation practice as psychological mental exercise training (Brown and Ryan, 2003; Khusid and Vythilingam, 2016; Tang, Holzer, and Posner 2015). Meditation refers to:

“A family of self-regulation practices that focus on training attention and awareness in order to bring mental processes under greater voluntary control and thereby foster general mental well-being and development and/or specific capacities such as calm, clarity, and concentration (Walsh and Shapiro, 2006)”.

Mindfulness meditation practice is safe, easy to learn, affordable, and is associated with a growing evidence base (Khusid and Vythilingam, 2016). Meditation training aims to cultivate people to be more open-hearted and pay attention to objects in the external and internal environment from moment by moment. Although mindfulness meditation practitioner may differ slightly from the physical posture, they generally observing people own breath from moment to moment (Kabat-Zinn, 1994). These practices are focusing on the breathing and sensation of the body without

expending attention on worrying or ruminating about other parts of their lives. Acknowledge the mind wander away, non-elaborative and gently return the wander mind to breathing attention (Kabat-Zinn, 1994). The process of continuously returning one's attention to breathing could train the mind to stay in the moment and reacts to stress, disturbing thoughts, and undesirable emotions.

Through this exercise, practitioners are trained to resist of mind wandering, aware of internal and external experiences, and “to be here now” (Killingsworth and Gilbert, 2010). Through the mindfulness meditation, it allows our mind to enter into a state that is calmer, clearer and focus on demand (Vago and Zeidan, 2016). This kind of mental exercise processes also foster general mental well-being and development of specific capacities which include calm, clarity and concentration (Walsh and Shapiro, 2006).



Source: Buttimer-Associates (2018)

Figure 2.1: Brain Structure

Neuroscientists defined mindfulness meditation as a combination of emotional training and attentional exercise developed to cultivate well-being and improve emotional regulation (Lutz, et al., 2008). According to Hozel (2011) study conducted in Massachusetts General Hospital (MGH) showed after eight-week of mindfulness meditation program, the participants appears to have quantifiable changes in brain regions associated with memory, sense of self, empathy, and stress.

The study found participants have increased cortical thickness in hippocampus as illustrated in Figure 2.1 which control learning and memory. The participants also found measurable decrease in amygdala which governs anxiety and stress. The reduction of this area contributes to the reductions in stress which is correlated with the decrease of grey-matter density in the amygdala.

2.4.1 The Benefits of Mindfulness

There is significant empirical research which supports benefits of mindfulness. Among the benefits are psychical and psychological health (Holzel, 2011), self-control (Bishop et al., 2004), improved awareness, insight, compassion, equanimity, and wisdom (Goldstein, 2002), objectivity (Brown, Ryan, and Creswell, 2007), and the capability to relate to others and one's self with kind-heartedness, acceptance, and compassion and affect tolerance (Fulton, 2005). Others benefits of mindfulness include enhanced flexibility (Adele and Feldman, 2004), improved concentration and mental clarity (Tan, 2018), emotional intelligence (Walsh and Shapiro, 2006), improve negative emotions and feelings (Eifert and Heffner, 2003), bring improvements in well-being, physical health, and mental health (Mellor, et al., 2016), and positive impact on working memory and creativity (Mindful.org, 2017).

Overall mindfulness is related to substantial positive effects which lead to reduction in stress and depression, physical health, sleep quality, improvement of intelligence emotion as well as interpersonal quality (Brown et al. 2007). In view of the benefits of mindfulness, there is an increasing trend of number of multinational companies promoting mindfulness meditation to their employee to cope with workplace stress, depression, and anxiety. According to the article in 2017 by Sonorrari GmbH (Sonorrari), some companies even provide on-site meditation to enable employees to be more relaxed, happier and calmer at work to stimulate employee productivity and yet more sense of responsibility.

The awareness of the mindfulness meditation practice benefits trend is on increasing track and recognized by global organisations and multinational companies. The companies which encourage mindfulness meditation practice and provide on-site meditation in the workplace includes Apple, Google, Nike, Yahoo, McKinsey & Co, Deutsche Bank etc. By strengthening employee psychological health, it helps to improve individual adaptivity, self-leadership, task proficiency, improve team member

role relationship and overall team member performance (Hauschildt and Konradt, 2012).

In summary, mindfulness practice is a mental exercise to improve practitioner's ability to pay attention and aware of the moment. Mindfulness practice begin to receive good acceptance from the success of mindfulness-based stress reduction (MBSR) program and become a mainstream of psychotherapy. The benefits of mindfulness practice based on scientific finding encourage several multinational companies to promote employee's psychological health, improve self-awareness and well-being and lead to the increase of work performance.

2.4.2 Mindfulness and Age

The age may play an important influence factor which contribute to the differences in individual capability to focus and be aware of the moment. As the age increases, people may develop the quality of awareness and manage better the emotions. However, the relationship between age-differences in mindfulness study was not a popular topic in the past to examine the influence of age in mindfulness traits. (Shapiro, Brown, and Biegel, 2007; Gauntlett-Gilbert and Vowles, 2007; Alispahic and Anica, 2017).

In general, past research showed that older people tend to be more focused and aware of the present moment (Sturgess, 2012). Baer, et al. (2008) research showed that the mindfulness meditation was significant related to age which has influence in the mental qualities to judge and focus better. The finding was consistent with Lykins and Baer's (2009) study on the relationship between meditators and non-meditators where age has significantly relationship with mindfulness traits. Scheibe and Zacher (2013) study also showed that age has distinct consequences on individual emotional functioning and affective experiences. Mogilner, Kamvar, and Aaker (2011) study also found a positive relationship between age and the participants ability to focus on the present. Based on Alispahic and Anica (2017) study the results showed that individual with higher age tend to have higher scores in all aspects of mindfulness than younger generation.

In the Malaysian context, the study on the relationship between the age and mindfulness quality is very rare. A research conducted by University Technology Malaysia (UTM) undergraduate found there was no significant relationship between the age and mindfulness quality. The possible reason of this finding may be due to the

range of age is too small. 85% of research participant range from 17 to 21 years old (Atefeh, et al, 2014).

2.4.3 Mindfulness and Gender

Gender could be another factor which affects individual capability on concentration and mindfulness at the moment. Gender may have differences in cognitive function, where females tend to have better observation, more detail oriented and able to multi-task, while males tend to concentrate on a single task at a time and focus to complete the task (Stoet, O'Connor and Laws, 2013). Gender also have difference in emotion which lead to the method of managing the positive and negative emotion vary as well (Diener, Sandvik and Larsen, 1985). However, the study on the relationship between gender-differences in mindfulness study is little as well by past researcher to examine the influence of gender in mindfulness traits (Brown and Ryan, 2003).

Limited research on the relationship between mindfulness and gender showed that gender has different implications on mindfulness (Sturgess, 2012; Mogilner, Kamvar and Aaker, 2011). According to the Shill and Lumley's (2002) survey, females are more psychological minded than males. Males mindfulness practitioners reported to have greater mindfulness. Pico-Alfonso, et al. (2007) study showed women have lower level of mindfulness traits than men leading to differences in adaptability and stress responsiveness. In another research, in term of mindful-observing skill, women obtained higher scores than men. For mindful-acting skill, men obtained higher scores than women (Alispahic and Anica, 2017). This study was supported by Stoet, O'Connor, Conner and Laws (2013) where the men in general tend to have better focus and aware of doing one task at the time.

Past empirical research exhibits that females have higher levels of mindfulness than males and are more psychological (Tamres, Helgeson and Janicki, 2002; Bryant, 2003). However, there is rare study on the relationship between mindfulness and gender in Malaysia context too. Afeteh, et al. (2014) conducted a research in the Malaysian context which showed the level of mindfulness traits has no significant relationship with gender. The finding is in line with the Cresswell, et al. (2007) study which reported there is insignificant association between gender and mindfulness.

2.5 Introduction to Leadership

From literature reviews perspective, there is not universal agreed definition of leader or leadership. Burns (1978) comments that there are more than hundreds of definitions and classifications of leader and leadership. These classifications and descriptions have exceeded leadership theories. The leadership theories development has devoted over the time which began with the Great Man Theory focused on those who were already great leaders, such as Gandhi, Jesus and Mohammad. Thereafter, the categories of leadership theories have developed to include trait, skills, style, situational, contingency, transformational, team and psychodynamic approaches to leadership (Northouse, 2011).

The existing literature and definitions on leadership focus on influencing people to achieve the goals. The new form of leadership definitions are more focused on the concepts of collaboration, coordination, sharing information, and power. These definitions and concepts are linked to the participatory, people-oriented leadership, shared values, focus on people (Drucker, 1999); developing relational skills and emotional intelligence (Goleman, 2013).

From project management point of view, the world is experiencing rapid change and facing tougher challenges. Strong leadership skills are important for a successful project in all the phases of the project life cycle (Thuerbach, 2013). Without good leadership skills, project team members will not have energized spirit, inspire goal and, improve their performance. Today, the project management is much more complex and required higher leadership skill, knowledge, and capabilities as compared to previous time (Berg and Karlsen, 2007). Project team members competencies is interrelated with project performance. Hauschildt, Keim and Medcof (2000) emphasized that the success of a project is very much related to human influence which include leadership of a project team members as compared to technical factors.

There is extensive information on leadership types, characteristic, and trait of leadership. Bennis and Nanus (1985), conclude that despite numerous definitions of leadership which have been analysed by researchers and thousands of empirical investigations which have been conducted on leaders, no clear understanding exists on what really distinguishes leaders and suggested the distinguishes among leaders perhaps only effective or in-effective leaders. To be an effective leader, according to

the Center for Creative Leadership (2016) there are 5 levels of leaderships development roadmap as below sequence;

- I. Leading Self- shall function as professional staff, able to contribute to the team and developing leaders.
- II. Leading Others- leaders of individual contributors.
- III. Leading Managers- capable leaders who lead managers level and senior staff.
- IV. Leading the Function- organisation function and division senior leaders.
- V. Leading the Organisation- Top executive leading the institution.

The leadership development roadmap by Center for Creative Leadership (CCL) has significant similarity to the concept of development leaders from good to great concept by Collins (2001). It also consists of 5 levels of leaders' hierarchy as below;

- I. Highly capable individual- productive contribution through talent, knowledge, skills, and good work habit.
- II. Contributing team member- Contribute individual capabilities to the project objectives and demonstrate effective teamwork.
- III. Competent managers- capable to manage people and resources towards project objectives.
- IV. Effective leader- full commitment to and vigorous pursuit of a clear vision and generate higher performance standard.
- V. Executive- Build enduring greatness through incredible ambitious for the institution.

Level 5 leaders are able to lead and to create value for an organisation to achieve higher heights and is highly respected by the organisation (Collins, 2001). However, the leadership starts with leading self and becoming a highly capable individual. Self-leadership is the fundamental level for each project team members to achieve a higher level and become greater leaders in the future (Bryant, 2016). With the self-leadership competent, team members are more capable to see the problems,

contribute their ideas for changes required, support innovation suggestions for the project and continually improve organisations performance (Choi, et al., 2015).

In summary, the theories of leadership have evolved over time. The leadership theory began with the Great Man Theory which emphasized on great leaders' trait, skills, style, transformation and many more qualities. Today, leadership focuses more on influencing people to achieve the goals with more people-oriented approach, shared values, relational skills and emotional intelligence. In general, there are 5 Levels of leadership and self-leadership is the fundamental skills for project team members to become a higher-level leader, to lead the others and organisation.

2.6 Introduction to Self-Leadership

Over the past 30 years, there is wide-range of empirical study focus on understanding the leadership. Most of the focus is concentrated on exploring how supervisors and leaders influence follower to achieve the goals (Manz and Sim, 1980). Manz and Sim (1980) take a different approach by looking at how people manage and lead themselves. Leadership shall begin with self-leadership at the individual level before leading a team or an organisation and this is fundamental to any leadership development before leading others. Self-leadership is the process that one influences one's own self to achieve the goal. Silva (2016) defined leadership as "the process of interactive influence that occurs when, in a given context, some people accept someone as their leader to achieve common goals. Manz and Neck (2004) defined self-leadership with wider self-influence process scope which include communication, emotions and behaviour which is necessary to perform the task and plays an important role in the today organisation (Manz and Sims 1980).

Leadership starts from within. According to psychology and human management research, the concept of self-leadership permits one to redesign both physical behaviour and internal thoughts (Mans, 1983). Knowing the self and how the self is influenced is part of the feminist perspective (Ambrose, 1995; Erkut, 2001). Self-leading is a process of pursuing a goal, a vision or a dream. Before leading others, leader must be a leader of him or herself Manz (1983). Self-leaders are continue to develop self-awareness, self-confident and self-efficacy. Ambrose (1995) mentioned that the leadership starts from within, knowing the self and how the self is influenced.

From empirical research, self-leading is a concept surrounding on the thoughts, self-leading, self-awareness, self-confident etc. Manz (1986) the founder of self-leadership theory defined self-leadership as “leading oneself toward the performance of naturally motivating tasks as well as oneself to do work must be done but is not naturally motivating”. According to Manz and Neck (1999), self-leadership theory is built on Social Learning Theory and the Intrinsic Motivation Theory. These two theories are the foundation of self-leadership. Bandura (1977) developed Social Learning Theory which emphasizes on the importance of observing and modelling which is continuous through social interaction. Manz (1983) supported this theory and recognizes that human behaviour is complex. People may have self-influences as well as being influenced by the world in which they live, and everyone has the ability to manage or control him or herself.

In summary, self-leadership is a fundamental skill for project team members before leading others or an organisation. Self-leaders attempt to influence self through self-awareness, self-management, self-efficacy, and others self-cognitive approach to achieve the goal. It is vital for project team members to be competent at this basis level and have self-influence to have good self-monitoring and generate better interaction with other team members for stronger project team members integration which is crucial for a successful project implementation.

2.6.1 Self-Leadership Theoretical Framework

Manz (1986) described the self-leadership as a self-influence process and set of strategies that emphasize on what is to be done, why and how it is to perform. Houghton and Neck (2002) defined self-leadership is a process by utilizing self-direction, and self-motivation for require behaviour to achieve require goals. The theory emphasizes on behavioural and cognitive strategies. Both are associated to self-influence strategies, which include self-regulation, self-control, self-management, intrinsic motivation, social cognition, and cognitive psychology. Based on Manz self-leadership theory, there are three main self-leadership strategies, i.e. behaviour focused, natural rewards and constructive thought patterns (Stewart, Courtright and Manz, 2011).

I. Behaviour Focused Strategies

These strategies build on discipline-oriented application and focuses on self-influence strategies (Stewart, Courtright and Manz, 2011). These strategies use to promote self-effective behaviour and discourage ineffective behaviour (Manz and Neck, 2004). For instance, to reduce undesired behaviour such as smoking or drinking and increase alternative desired behaviour such as exercise or reading. Behaviour focused strategies include self-goal setting, self-reward, self-punishment, self-observation, and self-cueing (Houghton, Dawley, and DiLiello, 2012).

A. Self-Goal Setting

Goals setting is the main criteria for self-leadership (Bryant and Kazan, 2012). Self-goal setting is important as it provides direction, shapes our dream, and envision our future. It motivates us to take exact action to perform toward the goals. The goals need to be realistic, measure able, clear and achievable. The goals can be set based on short-term and long-term basis with the specific deadline (Rohn, 2017). Houghton and Neck (2002) emphasized that the setting of challenging personal goal can motivate one effectively to perform better.

B. Self-Reward

With self-leadership, we may motivate ourselves by plan reward ourselves in advance for the effort that lead us to the target. There are two (2) types of self-rewards, i.e. mental and physical. ‘Good job’ or ‘well done’ could be powerful mental rewards to motivate people to continue with positive behaviour. ‘Go on holiday’ could be physical rewards for me when I finish this paper. In long run, self-rewards could increase individual confident level, promote productive behaviour and, turn into a self-fulfilling approach for future achievement (Bryant, 2017).

C. Self-Punishment

Self-punishment is a common reaction impose by own choice or decision due to self-awareness of wrong doing, not doing well, failed to meet the goal, and other negative emotions which make individual felt sad, embarrassed, shamed

or guilt. From positive point of view these punishments can be used to shape desirable behaviour, making people feel better or motivate people to improve (Winch, 2014). Bryant (2017) discouraged self-punishment and suggested to replace self-awareness of not meeting requirements to positive behaviour which can increase our confidence and improve our ability in the future.

D. Self-Observation

Self-observation is the capability to perceive own behaviour which may help to understand why one does specific behaviour, and lead to elimination of unwanted behaviour (Houghton and Neck, 2002). This could be a helpful mind to monitor one behaviours, words, emotions, and attitudes. The capability to observing all these egos enable one to change and improve for betterment. By increasing self-observation capability, it will increase self-awareness capability as well and enable us to become more aware of the present moment in term of emotion, thought, and behaviour (Gale, 2018). Townsend (2013) described self-observation is the main path to self-knowledge, it encourages necessary knowledge acquisition and transfer for problem solving.

E. Self-Cueing

Cueing is a process of giving a signal to start with specific action besides helping a person to stop and think before doing. Self-cueing is planning or making arrangements for a task prior to the implementation (Manz, 1983). This process produces a guideline with desired actions before implementation (Houghton and Neck, 2002). With progressive self-cueing, it encourages advance actions of what and when need to be done, how to do or serve as periodical reminder. The research showed by using written or language cueing practice proven for maintaining task objectives (Cragg and Nation, 2010).

II. Natural Rewards Strategies

Natural reward is an important internal force for self-leadership. It emphasizes on the individual thought on natural intrinsic enjoyable rewards derived from performing

effective activities themselves (Manz, 1986). Natural rewards strategies include focusing thought, task-based and relationship-based natural rewards for an activity which they have completed successfully to motivate themselves (Houghton, Dawley and DiLiello, 2012). There is one sub-scale associated with this dimension developed by Manz and Neck (2004) and additional two sub-scales developed by Ho and Nesbit (2009) applied to non-western context.

A. Focusing Thought on Natural Rewards (Manz and Neck, 2004)

It refers to an enjoyable natural intrinsic reward made for the task or self-rewards for the task completed. These natural rewards give individuals self-control and improve competency. Activities such as making the work environment more pleasurable and enjoyable with a plant, flower or attractive decoration may encourage more appreciation on work and improve performance (Manz and Neck, 2004).

B. Task-Based Natural Rewards (Ho and Nesbit, 2009)

Task-based natural rewards reflect on the external rewards or recognitions received upon successful completion a task which include awards, commission or bonus. These rewards system can generate additional motivation and encourage people to seek for the solution to achieve the desire results. Yeatts and Hyten (1998), argued that motivation approach shall not solely by intrinsic rewards, extrinsic rewards is equally important to encourage people and retain talent.

C. Relationship-Based Natural Rewards (Ho and Nesbit, 2009)

In the non-western context, culture play an important to influence an individual in self-leadership strategies. According to cross-cultural theory, there is differences between people with cultural and these shapes the individual leadership behaviour (Hofstede and Bond, 1984). This theory supported by Blunt and Jones (1997) who mentioned that western leadership model may not be appropriate to East Asian as non-western people could have different interpretation on authority, loyalty, and interpersonal relations. Eastern people culture is more collectivist and have strong relatedness needs.

These values shape Eastern countries leadership strategies tending seek enjoyment through maintain group harmony, social relations, and belongingness as compared to western context where self-determination is the major influence on leadership choice (Ho and Nesbit, 2009).

III. **Constructive Thought Patterns Strategies**

Constructive thought pattern, the third self-leadership strategy is about being reflective, built, and maintain function thinking in positive way (Norris, 2000). It focuses on how people manage their own thinking and thought patterns. Constructive thoughts such as visualizing successful performance, constructive self-talk and identification of alternative beliefs to current held dysfunctional beliefs can improve self-efficacy, set challenging goals, and work persistently (Stajkovic and Luthans, 1998). Through this type of self-analysis process, people can identify and replace those negative behaviour with more positive beliefs to increase self-efficacy. By having this kind of positive thought behaviour can significantly motivate people and deliver positive impact on individual performance (Houghton and Neck, 2002).

Constructive thought pattern strategies originally consist of three factors which include visualizing successful performance, self-talk, and evaluation beliefs and assumption by Manz and Neck (2004). Ho and Nesbit (2009) elaborated further evaluation beliefs and assumption from individual-oriented and social-oriented perspectives which are more reflected to Asian countries.

A. **Visualising Successful Performance**

Visualizing is a process of mental imagination of successful future performance. For an instant, you must complete a difficult task in short lead time, envisioning yourself successfully performing the challenging work, how the management reacts and how you feel afterwards. By replacing negative thoughts by constructive thoughts, it can enhance work effectiveness (Houghton and Neck, 2002).

B. **Self-Talking**

Self-talking or self-conversation is an effective method for self to interpret and evaluate daily performance. Self-talk is an important of emotion nature

of self-assessment for self-reinforcement. If used in the positive way, it could generate positive effects and bolstering self-confidence. In reverse, as human nature tends to negative self-talk, it could hurt and be harmful if extremely used for self-punishment and results in self-demotivation (Whitbourne, 2018).

C. **Evaluation Beliefs and Assumptions**

Houghton and Neck (2002) described evaluating belief and assumptions as an assessing process of personal beliefs, value, and assumptions. Ho and Nesbit (2009) argued that its nature of people intention to identify self-own beliefs and assumptions whether it conflicts with other groups, norm or authority agencies by dividing this strategy into individual-oriented and social-oriented evaluation beliefs and assumptions perspectives.

Individual oriented tend to evaluate individual beliefs and assumptions to help one recognize self-dysfunctional mindset, negative beliefs, and take effort to challenge and improve the situation, and ultimately replace them with more constructive thoughts. People tend to keep good relationship and evaluate how well he/she can work and adjust themselves to meet the expectation of the team members and society. Social-oriented strategy enables one to identify any difference in thinking, beliefs, and assumptions as compared to others. Any differences in thinking, beliefs, and assumptions will prone one to adjust their mind and try to fit with other opinion to avoid conflict and maintain peace (Ho and Nesbit, 2009)

2.6.2 Self-Leadership and Age

Young leaders are more aggressive, energetic, and preferred change as compared to older leaders who are more experienced and prefer stability (Spisak, et al., 2014). Effective leadership is an important factor for team and organisational success. Cagle (1988) argued that leadership is considered as an inherent emotional phenomenon, it may influence and vary upon age. Cagle argument was supported by Kotur and Anbazhagan (1998), and Derue, et al. (2011) study showed the age has relationship with leadership and experiences. According to Walter and Scheibe (2013) emotional

aging research, emotional experience showed there is relationship between age and leadership behaviour.

In contrast, Zacher, Rosing and Frese (2011) research showed insignificant relationship between age and leadership. This finding is parallel with Boerrigter (2015) research on how leader's age is related to effective leadership. The research showed no direct and indirect relationship between leaders' age and leader effectiveness. However, Kazan (1999) study found that the age showed inconsistency with self-leadership. Younger people reported tend to have better self-leadership as compared to the older people, the finding displayed that self-leadership is contrary to time. His finding was supported by Ugurluoglu, et al. (2015) research, the younger people are more aim-focused than older people during the progress of creating their career and personal lives as compared to older people who may have achieved their personal goal.

2.6.3 Self-Leadership and Gender

Manz (1983) believes that in order to be a leader of others in life, one must be a leader of him or herself first. Female and male leadership behaviour and strategy has difference in method of approach, leadership style. The effectiveness of female leadership has raised interest to researchers and policy-makers to investigate whether there is differentiation between male and female leadership (Tuncdogan, Acar, and Stam, 2017). Van Vugt and Spisak (2008) stated that, there is difference in male and female leadership behaviour, e.g., male leaders are more preferred during intergroup competition, whereas female leaders prefer competition during intragroup. Empirical study showed perception on female is warmer and kinder than men, despite these leaders having similar performance evaluations (Bono, et al., 2016).

According to meta-analysis study by Eagly and Johnson (1990), gender influence in leadership style where females generally tend to be democratic in the leadership while male is more autocratic. This meta-analysis matched the van Engen and Willemssen (2004) study where female leadership tend to democratic-participative and transformational as compared to male tend to apply autocratic-directive leadership style. However, Brescoll (2016) research found females are too emotional and perceived as lacking leading skills to be a good leader.

In term of application of three main self-leadership strategies, i.e. behaviour focused, natural rewards and constructive thought pattern, both males and females do

not have significance in applying natural rewards strategies. However, female showed better application of behaviour-focused and constructive thought pattern strategy than male (Ugurluoglu, et al., 2015). Eagly and Carli's (2003) study showed significant gender difference self-leadership strategies adoptions where female demonstrated better self-leadership. Their study showed that females are not only better in behaviour focused and constructive thought pattern strategies but also better in natural rewards strategies.

2.7 Mindfulness and Self-Leadership

An important task of leadership is to direct attention and maintain a clear focus on a task (Goleman, 2013). Everyone can be a leader; self-leader does not demand exceptional qualities to become as leader. As a self-leader, every day is leading with self-leadership style which have a potential to improve, grow, and become a more effective leader by observing and examine self-behaviour (Shek, et al., 2015). Bryant and Kazan (2012) described that the most important skill of self-leadership is the ability to control own our emotion and not react emotionally. The second skill is the intention, by being intentional people can determine the choice. Mindful self-leaders are aware of their thinking, feeling and take purposeful actions to achieve the objectives.

Mindfulness meditation believed to promote self-regulation, self-examination, the ability to have sense of harmony, and foster compassion capacity (Shapiro, 1992). Mindful leaders would have a higher level of self-awareness, self-goal setting, self-motivation, self-confident, positive self-talk, effective communication and the capability to respond to feedback (Bryant and Kazan, 2012). Boyatzis and Annie, (1995) mindfulness is an extremely important element to be a resonant leader. With mindfulness meditation, it enables practitioner to explore full potential as an individual and has a potential to become more engaged with people. Through the benefit of mindfulness, mindful leader able to improve self-regulation, enhanced attentiveness and pay attention to what is happening in the surrounding and to stop the Sacrifice Syndrome due to heavy responsibilities and the pressure to get performance (Brown and Ryan, 2003).

Mindfulness meditation foster the mindful ability in general daily life and improve self-leadership. Keris (2003) viewed mindfulness as a tool to cultivate one to

be more awake, aware, and attending to ourselves and to the world. Mindfulness practice promote self-awareness and improve in self-regulation which lead to the ability to adapt while distressed (Gratz and Roemer, 2004). Kabat-Zinn (1982) support this idea and his research showed mindfulness practice improve self-observation which lead to recognition and understanding of self-internal state, impact of behaviour, and enhanced the ability to use proper skills to manage the situation. These ideas are also supported by Baer et al. (2006) where mindfulness practitioner reported demonstrate higher level of mindful skills and capable to cope with targeted goal even in the stress or upset situation.

2.8 Conclusion

Project team members comprise of specialists of various disciplines and particular skills to complete the project tasks. Today, with the increase of project complexity project team members are facing complex challenges and are mostly related to interpersonal and intrapersonal issues. Hence, effective approaches and more competent project team members is vital to achieve the project goals. Project team members with good self-awareness, self-efficacy and others personal traits will have a calmer mindset, clear project objectives understanding and work more effectively to face the challenges and complete the tasks.

Based on the literature's reviews, empirical research has found mindfulness practice influence individual personal traits quality, lead to the enhancement of self-leadership skills and contribute to the project's success. Nevertheless, these researches were mostly conducted in Western countries and are very rare in Asian countries especially in Malaysia. Western researchers also attempt to examine the relationship between the mindfulness and self-leadership with other variables which include age and gender. Similar research in Malaysia on mindfulness is relatively limited and more limited to the research to study on the relationship between mindfulness and self-leadership.

Hence, this research will apply systematic research methodology approach and adopt validated survey instruments to explore the mindfulness and self-leadership in the Malaysian context.

CHAPTER 3

METHODOLOGY

3.1 Overview

The aim of this research is to investigate the effects of mindfulness practice on the self-leadership of project team members in the various industries in Malaysia. The research will further study the effects of mindfulness practice on project team members with relation to the age, gender, and self-leadership skills. Besides that, this research also aimed to study project team members self-leadership skills with and without mindfulness practice.

This chapter will define the research methodology for this dissertation. In detail, this chapter will describe the research framework which includes the research method, the method of data collection which include survey tools, survey sample coverage, the survey questionnaire, and the method will be used to study the data collected. Followed by the description of demographics of respondents, One-way ANOVA Test, Cronbach's Alpha Test, Independent T-test, and Pearson Product-Moment Correlation Test will be applying in this research.

3.2 Research Methods

According to Frascati Manual in 2015 by Organisation for Economic Co-operation and Development (OECD), research is a logical and systematic scientific approach of knowledge creation which include information of human, culture and society. Research method is the process of information for collected data, data analysis or interpretation of the research topic (Creswell, 2009). Research method is a tool or techniques used in conducting the research. Type of research methods can be divided into four main classifications viz General Classification, Nature of the Study, Purpose of the Study and Research Design (Herbst and Coldwell, 2004).

3.2.1 General Classification

General classification comprises of three methods of research, either qualitative or quantitative or mixed. Quantitative research is an objective method which defines, concludes, and makes recommendation for problems solving through data or number.

The main characteristic of this type of research is emphasis on the collection of numeric data, analysis, and derives the summary from data interpretation (Herbst and Coldwell, 2004). In order for the collected data to be analysed, a statistical tool will be used to examine the relationship among the measurable variables. The data analysed can be presented by using graphs and tables. The final report has a structured format comprising of introduction, literature reviews, research methodology, results, and discussion (Creswell, 2009).

Qualitative research is a subjective method which defines, concludes and make recommendation for problems solving according to the words, feeling, sounds, other non-numerical, and non-measurable elements (Herbst and Coldwell, 2004). The information gathered from individuals or groups can not analysed by using scientific tool or mathematical technique. This type of research requires a form and questions are set to collect the data from participants, conduct inductive analysis, interpretation of the data, and conclude in a flexible report writing (Creswell, 2009). Mixed method comprises of quantitative and qualitative methods which define, conclude, and make recommendations for problems solving based on measurable and non-measurable data collected.

3.2.2 Nature of the Study

Research method according to the Nature of Research comprises of two methods of research; descriptive and analytical. Descriptive research emphasizes on the description of the existing activities and has less control over the research variable. This type of the research normally requires surveys and studies with the objective to identify the facts (Kumar, 2011). In contrast, the Analytical Research requires facts or information available as a fundamental for the research base and critical evaluation required (Kumar, 2011).

3.2.3 Purpose of the Study

Research method according to the Purpose of the Study comprises of two methods of research; applied research and fundamental research. The applied research is referred to as action research which emphasises on the generalisation and forecasting approach and tries to eliminate the theory by adding to the basic discipline with the assumption there is no change in other variable. This type of research required to compile the report

in technical language of the discipline. The fundamental research is referred to as basic or pure research which combine several disciplines to solve the problem on the specific individual research case. The research tries to describe how the incident occurred and how it can change. This research method assumes that the other variable is constantly changing. This type of research report is compiled in a common language (Kumar, 2011).

3.2.4 Research Design

Research method according to Research Design comprises of two methods of research; exploratory and conclusive. Exploratory research aims to explore the research area but may not have final conclusive answer to the research questions. The exploratory research has loosely structured design, flexible investigation methodology, does not require a hypothesis test and the finding might not be topic specific which might have not relevance to the outside research finding. In contrast, Conclusive Research will provide the final and conclusive answer to the research questions. The conclusive research has a good structured and systematic design, formal and definitive methodology; require hypothesis test and the findings are significant based on theoretical and applied implication (Chawla and Sodhi, 2011).

3.3 Survey Instrument

The objective of this study is to investigate the effects of mindfulness on self-leadership of the project team members and further investigation on the relationship between age, gender and self-leadership skills. The research also aims to study the self-leadership skill of project team members with and without mindfulness practice. For this research, primary data will be collected through a questionnaire designed in line with the research objectives. The comprehensive literature reviews from relevant sources which include books, journals, thesis, magazine article etc are essential for secondary data collection.

Survey instrument refers to devices use to collect data which include interview, survey, questionnaire, test or rating developed for obtaining data from respondents. Collected data is the information obtained during the investigation of a research. In this study, the data will be collected from the samples through a questionnaire, analysed by using a statistical tool and the summary will be derived

from data interpretation. Generally, a questionnaire is a common instrument used for research which consists of questions that address the specific objective of the survey (Fellows and Liu, 2008). In order to meet the objective of this research, a quantitative method will be applied as the most adaptable method.

The quantitative method is the most appropriate for a large sample size and the quantified outcomes are measurable where qualitative method is only suitable for a small sample size. In addition, quantitative method is the most efficient way to analyse and summarise the large data to test the hypotheses in a shorter time (Green and Hall, 1984). Hence, this method is suitable for large sample to answer the questionnaire and to perform hypotheses test based on data collected in scientific way in a shorter time.

The basic questionnaire used in survey research comprises closed-ended questions, open-ended questions, matrix questions and contingency questions (Sincero, 2012). Closed-ended questions limit the respondent's answers to the question in options form in the questionnaire. This type of question is ideal for quantitative survey as it is easy to interpret and time-efficient. Open-ended questions do not consist of predefined options or categories. The participant is required to supply their own answer and respond exactly to the question. This type of question is ideal for qualitative survey for researcher to obtain and investigate the answer from participants (Sincero, 2012).

A part of closed-ended questions, a lot of survey use matrix questions (SurveyMethods, 2017). Matrix questions are blocks of question which consists of a matrix or table which has the answers arranged side-by-side. For example, as illustrated in Table 3.1:

Table 3.1 Matrix Questions

Scale	1	2	3	4	5	6			
	Almost Always	Very Frequently	Somewhat Frequently	Somewhat Infrequently	Very Infrequently	Almost Never			
1	I can experience emotion.			1	2	3	4	5	6
2	I break things due to carelessness.			1	2	3	4	5	6

Contingency questions are the questions which require respondents to continue the answer if the respondent has responded to a question before them. This type of question to avoid respondents to continue answer on non-relevant questions (Sincero, 2012). Example of contingency question:

1. Do you practice mindfulness?
 - a. Yes
 - b. No

2. If Yes, how often do you practice mindfulness?
 - a. Every day
 - b. Every 2 days
 - c. Every week
 - d. Every 2 weeks
 - e. More than 2 weeks

The second question consider as contingency question if the respondent has response to a question 1.

This research will use close-ended questions comprising of matrix and contingency questions. The questions require less articulation or less literate and less thinking for respondents to answer the questions in a simple and fast manner as compared to open-ended questions.

3.4 Survey Sample

A survey sample refers to a survey conducted only on a portion of total population by using sampling method according to the statistical process (OECD, 2015). The sampling is a process of selecting a representative group from target population under study. Sample survey selection comprise two main types (Brick, 2011);

I. Probability-based sample

Probability-based samples select sample based on a known probability. The sampling selection could be simple random sampling or systematic sampling.

II. Non-probability samples

Non-probability-based samples select sample based on an unknown probability or cannot be calculated. The sampling selection is non-random approach and subject to researcher judgment and proximity of subjects.

In this research, convenient sampling is considered most suitable and will be used to select the sample. With the identified sample group, it is the most simple and convenient method for data collection and the finding can be applied to the entire population. The population of this research is the project team members with and without mindfulness practice who work in various industries in Malaysia. In order to obtain acceptable data, the convenient sampling sample size is important and require adequate size for validity. The results from small size is questionable and if too large considered wasting money and time. Some researchers say minimum sample size is 30 researchers follow this statistical formula for the study. However, difficult to find any statistical book to support this formula (Chakrapani, 2011).

According to the Raosoft (2004) sample size calculator, with the assumptions 10% margin of errors, 95% of confidence level, estimation of 20,000 population size, and 50% of responses distribution, the required survey sample size is 96 (Raosoft, 2004). However, this research aims to have approximately 150 sample size to improve the margin of error. Chong, Lin and Huang (2010) conducted a research to validate Mindfulness Attention Awareness Scale (MAAS) in Chinese version, with 116 survey sample size the study was able to conclude that the new established Chinese version of the MAAS is reliable and have good internal consistency (Chong, Lin and Huang, 2010). For this research the same MAAS in Chinese version will be used to determine project team members mindfulness traits.

3.5 Survey Questionnaire

In this research, quantitative research method is considered as an appropriate method to collect the data from a large sample to investigate the relationship between age, gender, mindfulness and self-leadership of project team members. The questionnaire survey form will be bi-language i.e. English and Chinese version to collect the data from project team members with and without mindfulness practice who work in the

various industries in Malaysia. The Chinese version is helpful for the data collection from those non-English educated or non- English proficiency respondents.

The questionnaire will be divided into four sections comprising of Section A- Individual survey, Section B - Mindfulness Practice survey, Section C - Mindfulness Attention Awareness Scale (MAAS) survey, and Section D – Modified Revised Self-Leadership Questionnaire (MRSLQ) survey. The main channel for the distribution of questionnaires to the respondents with and without mindfulness practice in the various industries in Malaysia will be using e-mail through Google survey link and partly manually by hand.

3.5.1 Individual Survey (Section A)

In section A, closed-ended demographic questions with multiple choice questions will be used for individual survey. Demographics is defined as the characteristic of a population which describes the background of the respondents, the example of the characteristic include race, gender, education income level, marital status etc (DeFranzo, 2012). In this section, the demographic questions include gender, age, academic qualification, industry of work, position of work and year of working experiences to determine the respondents background.

3.5.2 Mindfulness Practice Survey (Section B)

In section B, contingency question and closed-ended questions with multiple options will be used for mindfulness practice survey. The questionnaire of this section is aimed to collect the data from the project team members who practice mindfulness. Non-mindfulness practitioners are not required to answer the remaining questions in this section if the answer is ‘No’. Mindfulness practitioners will continue to answer the remaining questions which includes how often practitioners practice mindfulness, each time of mindfulness practice duration and how long practitioners have been practicing mindfulness to determine the practitioner mindfulness experiences.

3.5.3 Mindfulness Awareness Attention Scale Survey (Section C)

In section C, matrix questions will be used for Mindfulness Awareness Attention Scale (MAAS) survey in bi-language i.e. English and Chinese version. The questionnaire of this section is aimed to determine the mindfulness trait which is associated with the

self-awareness of the project team members who practice mindfulness. MAAS measures quality of consciousness which is related to a variety of well-being concepts as compared to the mindfulness and non-mindfulness practitioners, and that is associated with enhanced self-awareness (Brown and Ryan, 2003).

The English version used is according to the original validated version developed by Brown and Ryan (2003). The Chinese version of the MAAS (CMAAS) used in this research has been validated by National University of Taiwan researchers on Psychometric Properties of the Chinese Translation of Mindful Attention Awareness Scale (Chong, Lin and Huang, CL., 2010). The MAAS consists of 15 items with Likert-type scale from 1 to 6. One of the question sample items is “I find myself doing things without paying attention” (1 = almost always to 6 = almost never). The higher score showed greater mindfulness (Brown and Ryan, 2003).

3.5.4 Modified Revised Self-Leadership Questionnaire Survey (Section D)

In section D, matrix questions will be used for Modified Revised Self-Leadership Questionnaire (MRSLQ) survey in bi-language i.e. English and Chinese version. The questionnaire of this section is aimed to determine the self-leadership trait of the project team members. MRSLQ is a modified version of original Revised Self-leadership Questionnaire (RSLQ) which is a validated self-leadership measurement scale and useful for researchers to measure self-leadership (Houghton and Neck, 2002). The modified version has been validated through a research title of *A refinement and extension of Self-leadership scale for the Chinese* by researchers from Hong Kong Polytechnic University and Macquarie University Sydney (Ho and Nesbit, 2008).

The MRSLQ consists of 38 items with Likert-type scale from 1 to 5. One of the question sample items is “I work toward specific goals I have set for myself” (1 = Not at all accurate to 5 = Completely accurate). The higher score showed greater self-leadership (Houghton and Neck, 2002). MRSLQ comprises 38 items to measure three main self-leadership strategies, i.e. behaviour focused, natural rewards and constructive thought patterns (Ho and Nesbit, 2008).

- I. Behaviour focused strategies consists of 17 items to measure self-influence strategies which include self-goal setting, self-reward, self-punishment, self-observation, and self-cueing.

- II. Natural reward strategies consist of 8 items to measure internal self-rewards. It measures individual thought on natural intrinsic enjoyable rewards derived from performing effective activities themselves.
- III. Constructive thought pattern strategies consist of 13 items to measure self-reflective, built, and maintain function thinking in positive way.

3.6 Data Analysis

Data analysis is a scientific process of data inspection, cleaning, transforming, and modelling data to discover useful information, suggesting conclusion, and supporting of decision making (Bihani and Patil, 2014). In this study, Statistical Package for Social Science (SPSS) version 23 software will be used to analyse the data collected from the questionnaire. The analysis of the data will comprise of a series of tests which include demographic of respondents, Cronbach's Alpha test, One-way ANOVA test, Independent T-test and Person's correlation test.

3.6.1 Demographics of Respondents

All basic demographic information of respondents comprised in Section A will be analysed in total number and percentage counted by respective categories.

3.6.2 Cronbach's Alpha Test

Cronbach's Alpha is a coefficient of reliability test to measure the internal data consistency of a set of items in a group. Cronbach's Alpha is commonly used to determine matrix/multiple questions scale reliability, the Cronbach's Alpha normally will increase parallel with test items intercorrelation increase. The theoretical alpha value ranging from 0 to 1, the higher value means higher reliability. A reliable coefficient value of 0.700 or higher is considered valid reliable value in most of the social science research (Statistics Solutions, 2018).

Nevertheless, a high coefficient alpha does not certainly mean a high reliability of internal consistency as the alpha is affected by the length of the test. If the test length is too short, the value of alpha is reduced. Hence, to increase alpha, more related items testing the same concept should be added to the test (Streiner, 2003).

In this study, it will be used to measure the scale reliability of matrix questions with Likert scale in Section C and D.

3.6.3 One-way ANOVA Test

The one-way analysis of variance (ANOVA) is a statistical procedure used to compare whether there are statistically significant differences between means of two or more independent group in one or more characteristic. This test is useful to analyse particular experimental information to determine the influence of other factors. P-value is an ANOVA measurement unit which shows the probability of a means difference between the groups. A reliable statistically significant value is less or equal to 0.05, value greater than 0.05 considered as not statistically significant (Ostertagova and Ostertag, 2013). In this study, Section C and Section D will use one-way ANOVA by converting collected data into parametric data to investigate the relationship of project team members mindfulness traits and self-leadership skills with age difference.

3.6.4 Independent Sample T-Test

The independent-sample t-test or independent t-test compares the difference between two unrelated groups or sets of measurements. The two analysis of independent t-test consist of independent and dependent variable, the score of dependent variables may differ as it is subject to the independent variable. Common applications compare the means of two group, two interventions or two change scores to determine whether the means of the groups is significantly different from each other. A reliable statistically significant alpha value from performing t-test is less or equal to 0.05, value greater than 0.05 considered as not statistically significant (Samuels, 2014). In this study, Section C and Section D will use Independent t-test to compare the means of project team members mindfulness traits and self-leadership skills in term of gender different.

3.6.5 Pearson's Product-Moment Correlation Test

Person's product moment correlation coefficient or Person's r to measure variables association. It attempts to draw a best line between two interval or ration variables and indicate all data points distribution. (Chee, 2015). The Person correlation coefficient have value between -1 to 1. A value of 0 indicate that there is no association between two interval or ration variables. Value greater than 0 to 1 indicates that there is an

increasing positive association between the two variables. In contrast, if the values between 0 to -1, indicating that there is an increasing negative association between the two variables (Chee, 2015)

In this study, Person's correlation coefficient will be used for Section-C and Section D to examine where there is an association between mindfulness traits and self-leadership skills amongst the project team members with mindfulness practice.

3.7 Conclusion

There are empirical studies to examine the effects of mindfulness and many validated research methods has been conducted in western countries. The research in non-western context is still rare. This study will benchmark scientific approach with previous researchers and focus on project team members with and without mindfulness practice in Malaysia. The validated bi-language of Mindfulness Awareness Attention and Modified Revised Self-Leadership Questionnaire as a tool to collect the data from wider respondents.

The statistical tools and test will be performed to analyse the data collected from project team members self-leadership with and without mindfulness. The analysis will begin with the basis information of the respondents followed by Cronbach's Alpha test to determine matrix or multiple questions scale reliability. The ANOVA statistical procedure to evaluate the means of the independent's variable. The independent t-test will be conducted to compare the difference between the age and gender influences in mindfulness and self-leadership. Lastly, the study attempts to analyse the mindfulness and self-leadership relationship pattern amongst project team members with and without mindfulness in term of mindfulness by using the Person's product moment test.

In short conclusion, this chapter will carry out systematic research methodology to study the effects on mindfulness on the self-leadership of the project team members by validated questionnaires for primary data collection. Systematic data analysis process which include data checking, cleaning and transforming are essential to discover useful information, outcomes, and support the hypotheses decision making. The further discussion and finding will be continued in the next chapter.

CHAPTER 4

RESULTS AND DISCUSSIONS

4.1 Overview

This chapter will tabulate the results derived from the analysis of data by using the systematic research methods followed by the discussions of the research findings. The findings will be used to determine the hypothesis on the effects of mindfulness practice on the self-leadership of project team members comprising of age and gender factors. The data was collected from Google Forms online free survey. The online questionnaire survey form's link with web address was sent to the respondents through Email, WhatsApp, Facebook Messenger, and WeChat.

A total of 188 respondents were received and 2 respondents at the age of 19 years old was removed as they did not meet the criteria of 20 years old and above. Final number of respondents of 186 is above the aimed target of 150 respondents, meet the sample size condition, and adequate to conduct the study tests on the effects of mindfulness practice on the self-leadership of project team members.

4.2 Demographics of Respondents

Statistics of Demographic of respondent will be described by using frequency analysis method for total of 186 respondents in the nine difference categories as below:

- i. Genders of Respondents
- ii. Ages of Respondents
- iii. Academic Qualifications of Respondents
- iv. Professions of Respondents
- v. Working Experiences of Respondents
- vi. Mindfulness Practices of Respondents
- vii. Frequencies of Mindfulness Practice of Respondents
- viii. Experiences of Mindfulness Practice of Respondents
- ix. Durations of Mindfulness Practice of Respondents

The results of the analysis data will be presented in term of total number and percentage as below figures:

4.2.1 Genders of Respondents

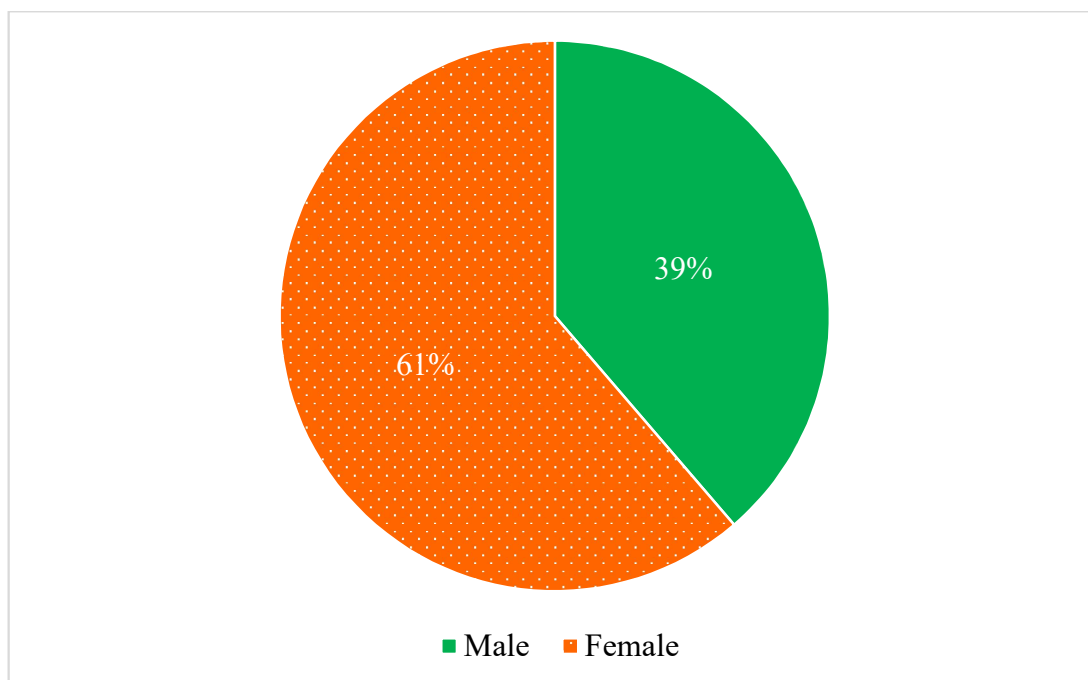


Figure 4.1: Genders of Respondents

Figure 4.1 illustrates the genders of respondents who participated in the online survey comprising of 72 male and 114 female respondents with respective percentage of 39% and 61%. Female respondents are more than male by 23% with additional respondents of 42. The results indicate that the genders respondents are not close to the equal number but can be considered an acceptable number for this study. Survey data from each gender will be analysed to investigate the gender effects on the mindfulness traits and self-leadership skills.

4.2.2 Ages of Respondents

Figure 4.2 illustrates the ages of respondents who participated in the online survey comprising of 13% of respondents between the age from 20 – 29 years old, 28% from 30 – 39 years old, 44% from 40- 49 years old, and 15% above 50 years old. The results indicate that the majority of respondent's ages are between 40 to 49 years old. These group of people demonstrate the characteristics of hardworking, capable, efficient organise, punctual, and tempered as well (Gruhn, et. Al., 2011). Survey data from each group of ages will be analysed to investigate the age effects on the mindfulness traits and self-leadership skills.

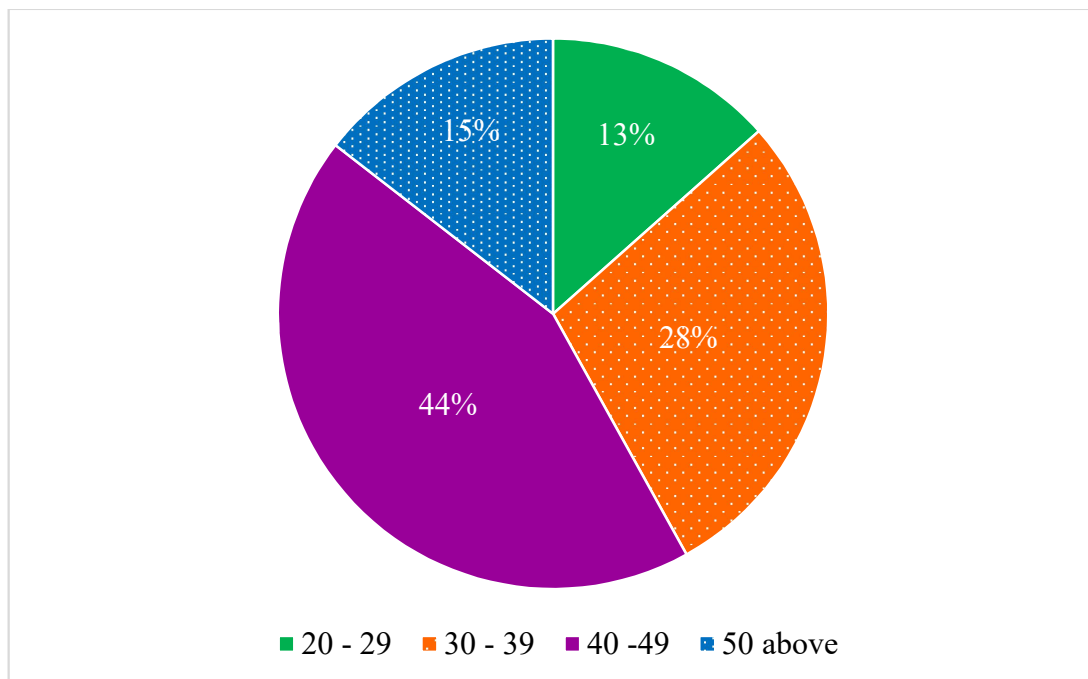


Figure 4.2: Ages of Respondents

4.2.3 Academic Qualifications of Respondents

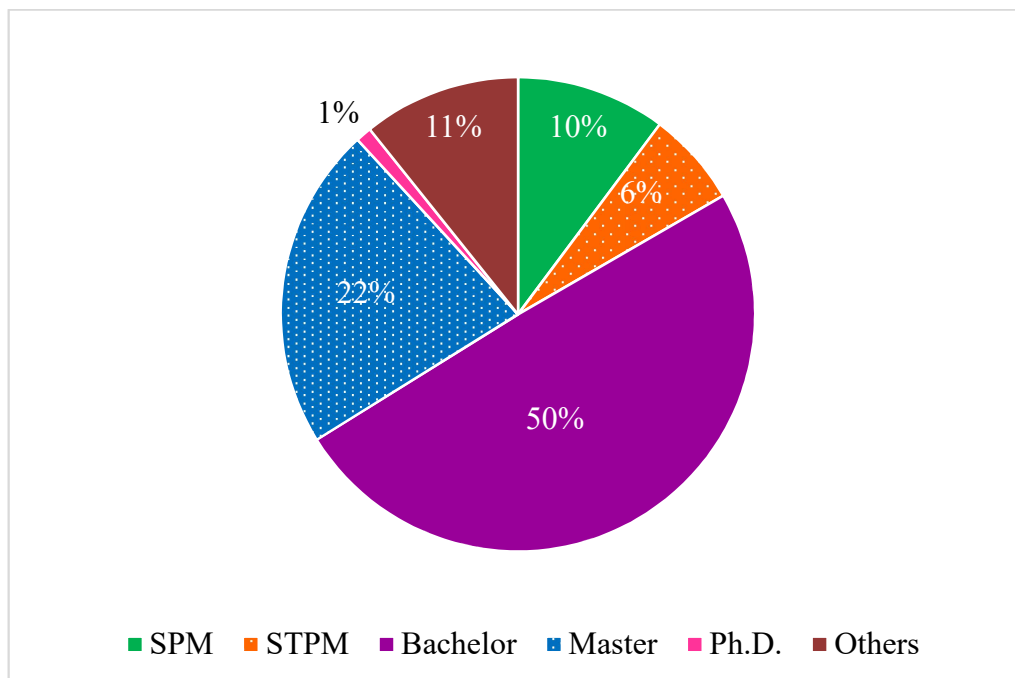


Figure 4.3: Academic Qualifications of Respondents

Figure 4.3 illustrates the academic qualifications of respondents who participated in the online survey comprise of 10% of respondents with SPM qualification (equivalent to GCE O Level), 6% with STPM qualification (or equivalent to GCE A Level), 50% holding a Bachelor Degree, 22% holding a Master Degree, 1% holding a Doctor of Philosophy, and 11 % of other qualifications. The results indicate that the academic qualification of respondent's majorities is holding a Bachelor Degree followed by respondents holding a Master Degree with the percentage of 50% and 22% respectively.

4.2.4 Work Industry of Respondents

Figure 4.4 illustrates the work industry of respondents who participated in the online survey comprises 1% of respondents work in agriculture industry, 14% in the construction industry, 5% in the government sector, 21% in the manufacturing industry, 33% in the service sector, and 26 % of other industries. The results indicate that the majority of respondents are from the service sector followed by other industries with the of percentage 33% and 26% respectively. The service sector comprises of education, medical, finance and other industries include consultation, trading, energy, etc.

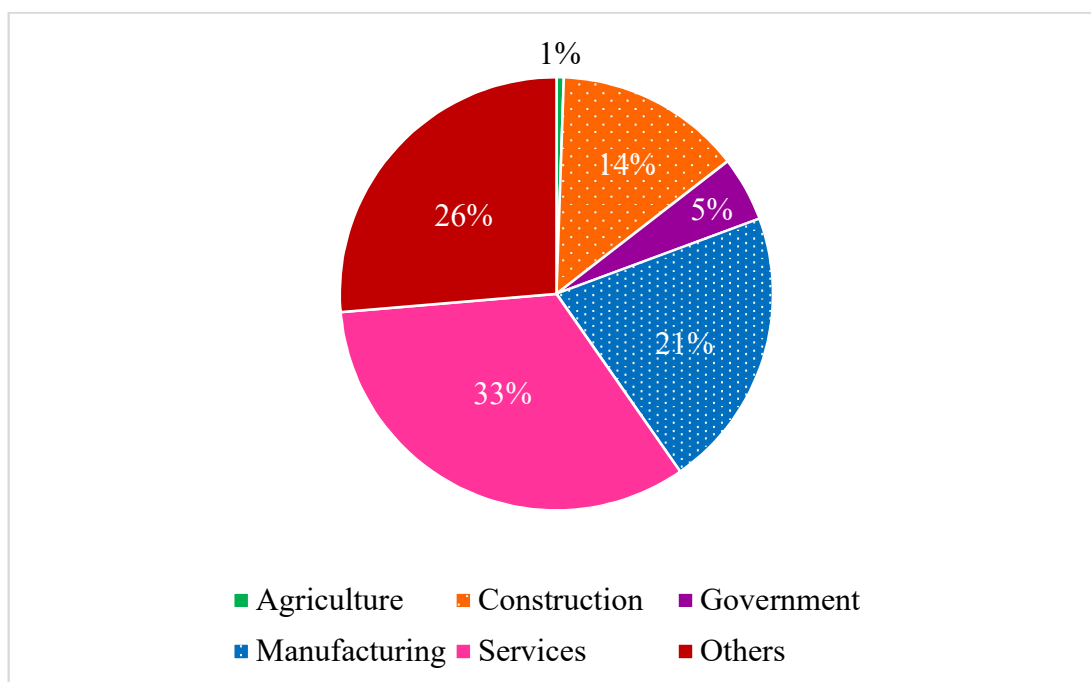


Figure 4.4: Work Industry of Respondents

4.2.5 Profession Title of Respondents

Figure 4.5 illustrates the profession title of respondents who participated in the online survey. The respondents from various profession position is less than 10% variances as compared to each position comprises 13% of Director level, 9% of Senior Manager, 17% of Manager, 9% of Assistant Manager, 18% of Executive, 16% of self-employed, and 18 % of others position. The results indicate that most of the respondents are in an Executive and others position with 18% each and followed by Senior Manager with the of percentage 17%.

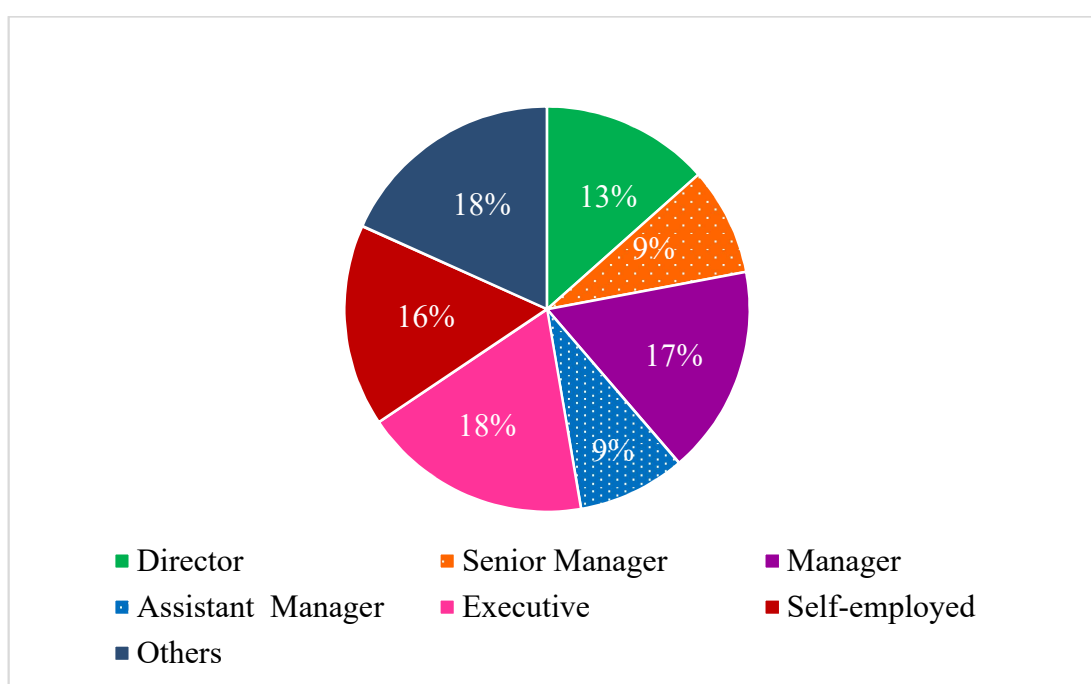


Figure 4.5: Profession of Respondents

4.2.6 Working Experiences of Respondents

Figure 4.6 illustrates the years of working experience of respondents who participated in the online survey comprising of 14% respondents have working experience of less than 5 years, 11% of respondents between 5 to 9 years, 19% of respondents between 10 to 15 years, 17% of respondents between 16 to 20 years, 39% of respondents between 21 to 25 years, and 1% of respondents above 25 years. The results indicate that the majority of respondents are with years of 21 to 25 years of working experience. More than 70% of respondents have exceeded working experience of 10 years and

may provide more reliable feedback on the survey based on years in the working environment.

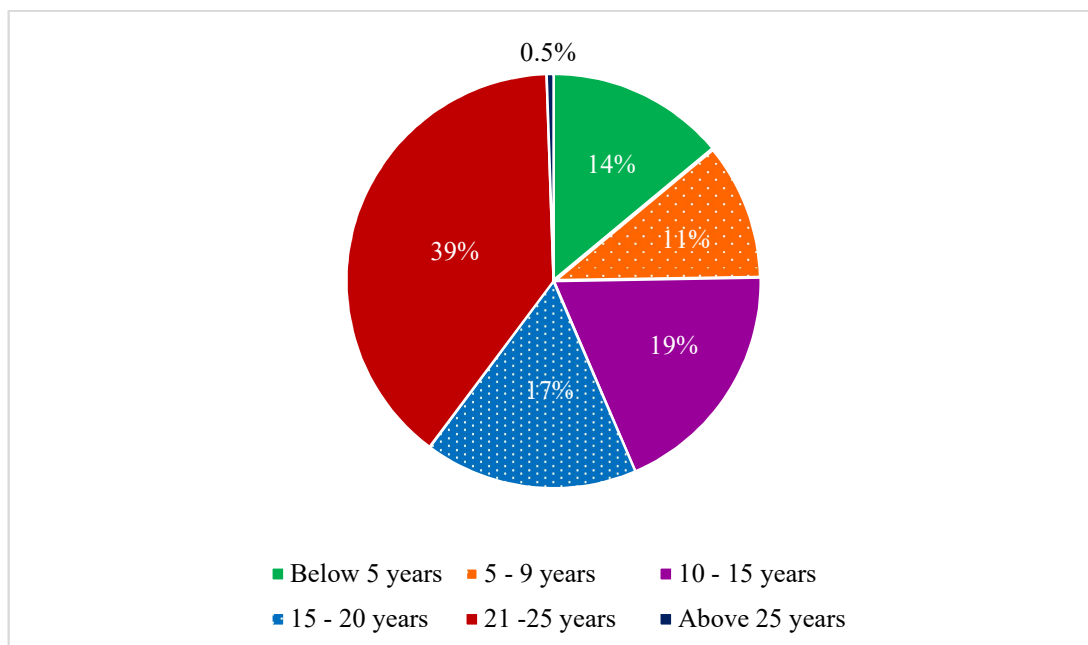


Figure 4.6: Working Experiences of Respondents

4.2.7 Mindfulness Practices of Respondents

Figure 4.7 illustrates the with and without mindfulness practice of respondents who participated in the online survey comprising of 83 mindfulness practitioners and 103 non-mindfulness practitioners' respondents with respective percentage of 45% and 55%. Non-mindfulness practitioners' respondents are more than mindfulness practitioner by 10% with additional respondents of 20. The results indicate that the mindfulness practitioners and non-mindfulness practitioners are close to the equal number and can be considered is an acceptable number for this study. Survey data from each group will be analysed to investigate the effects on the mindfulness practice on the self-leadership of the project team members.

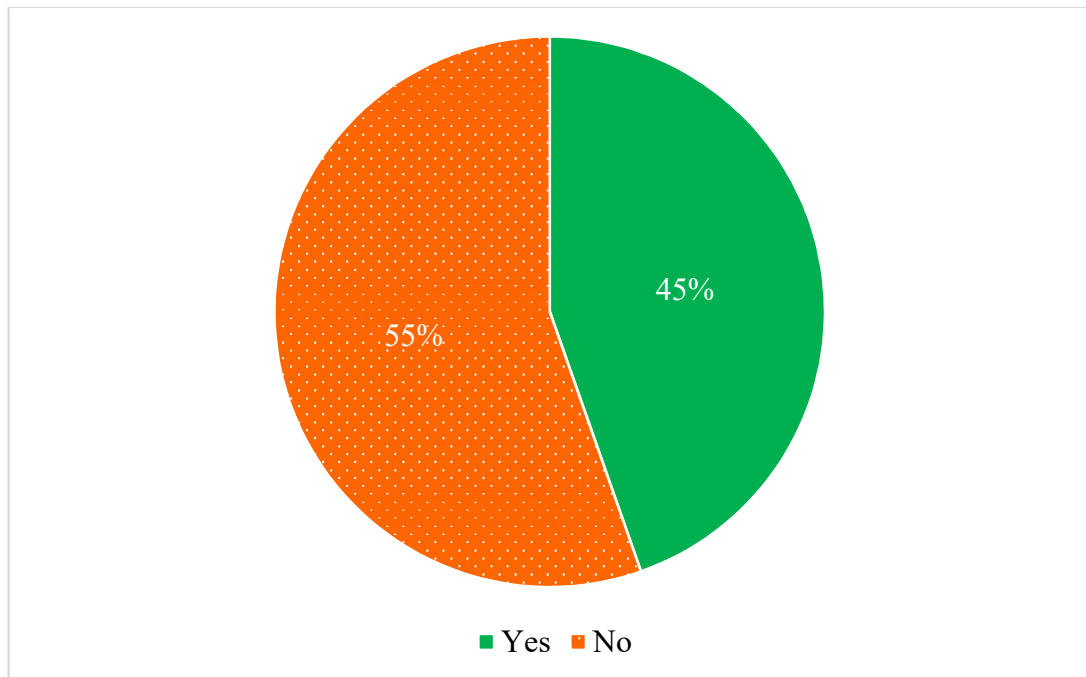


Figure 4.7: Mindfulness Practices of Respondents

4.2.8 Frequencies of Mindfulness Practice

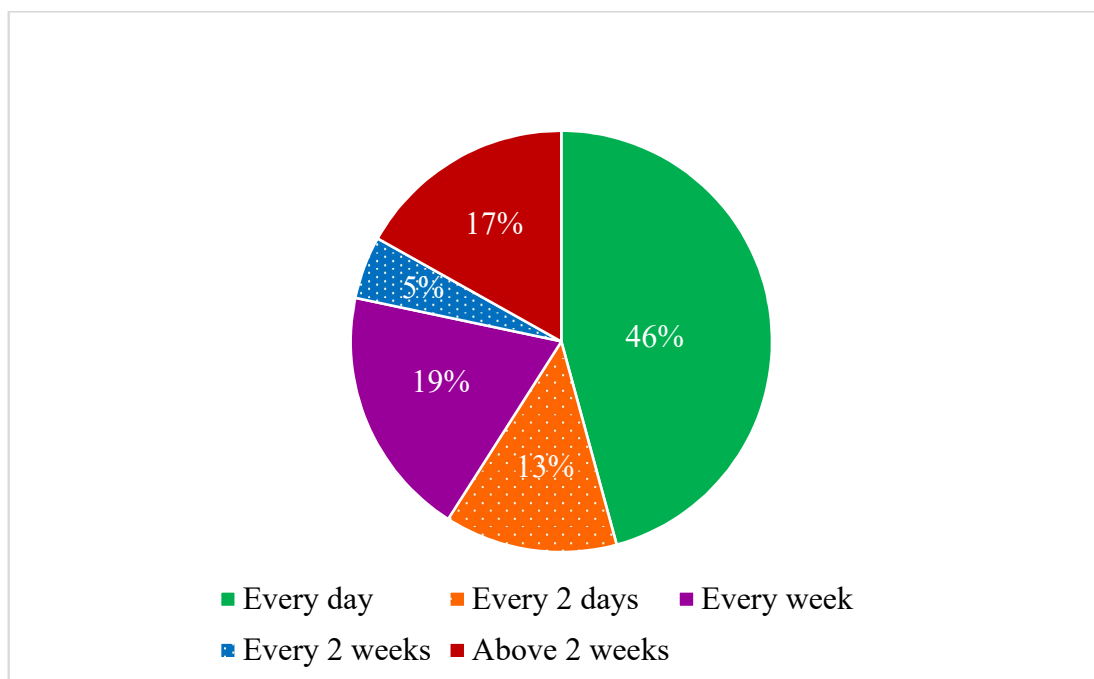


Figure 4.8: Frequencies of Mindfulness Practice of Respondents

Figure 4.8 illustrates the frequency mindfulness practice of 83 respondents who participated in the online survey comprising of 46% respondents practice mindfulness every day, 13% of respondents every 2 days, 19% of respondents every week, 5% of every 2 weeks, and 17% of respondents above 2 weeks. The results indicate that the majority of respondents are practicing mindfulness every day with the percentage of 46% and more than 75% of respondents are practicing every week.

4.2.9 Experiences of Mindfulness Practice

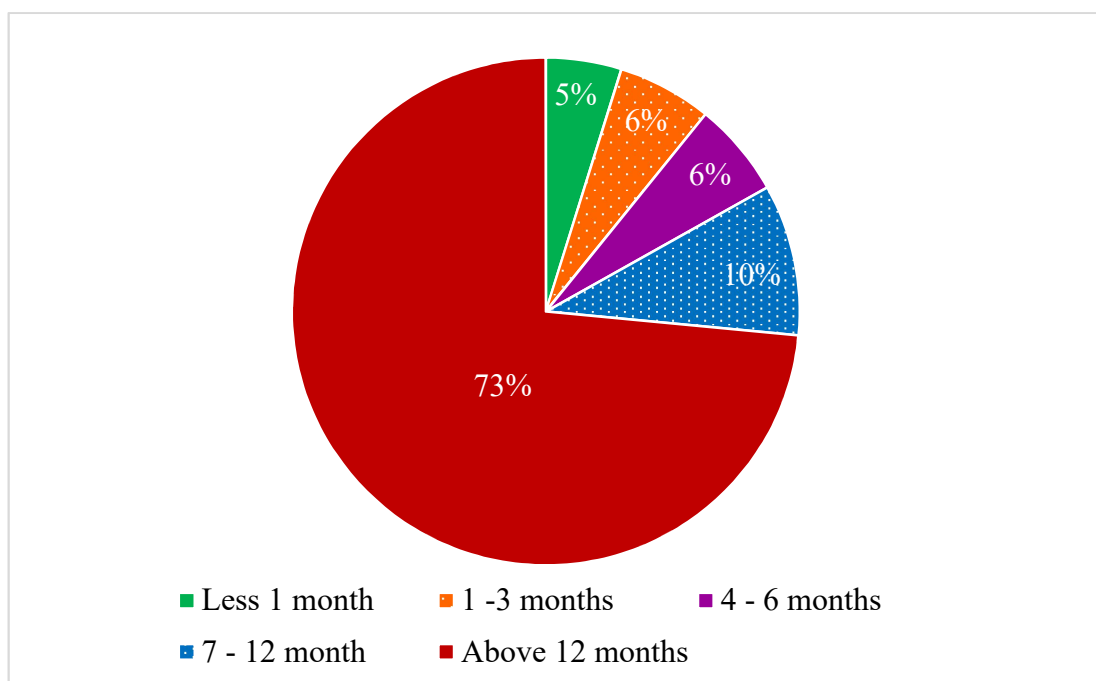


Figure 4.9: Experiences of Mindfulness Practice of Respondents

Figure 4.9 illustrates the experiences of mindfulness practice of respondents who participated in the online survey comprising of 5% respondents have experiences of mindfulness practice less than 1 month, 6% of respondents between 1 to 3 and 4 to 6 months each, 10% of respondents between 7 to 12 months, and 73% of respondents above 12 months. The results indicate that the majority of respondents have experiences of mindfulness practice more than 12 months viz 73% of total 83 respondents and may provide more reliable feedback on the survey based on the experiences of mindfulness.

4.2.10 Durations of Mindfulness Practice

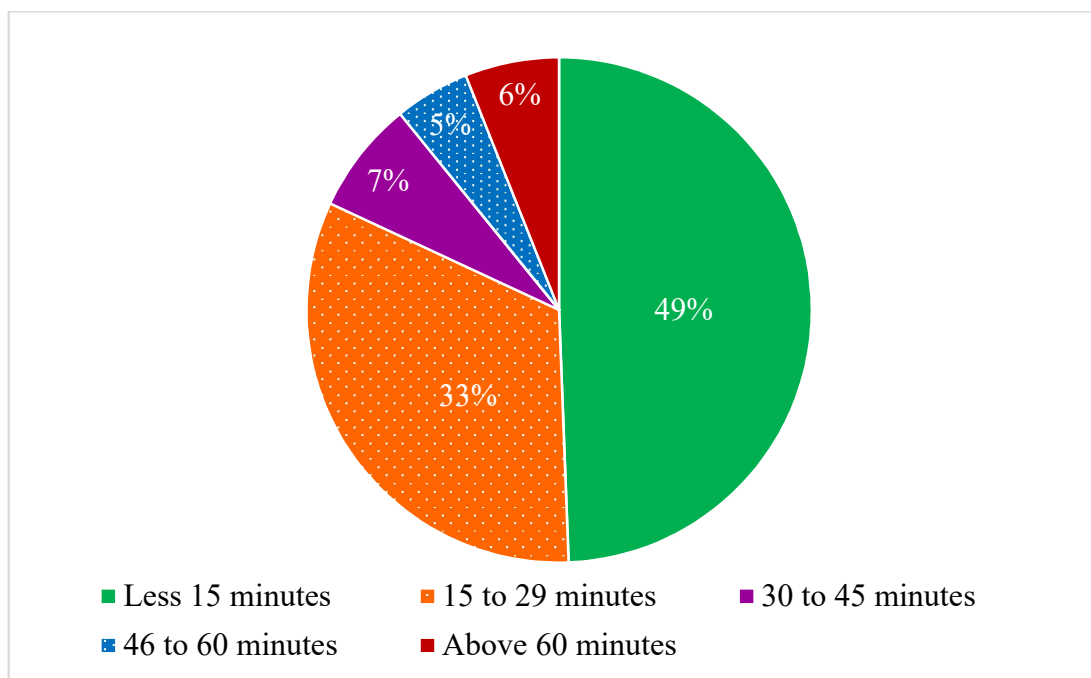


Figure 4.10: Durations of Mindfulness Practice of Respondents

Figure 4.10 illustrates durations of mindfulness practice of respondents who participated in the online survey comprising of 49% respondents have mindfulness practice less than 15 minutes, 33% of respondents between 15 to 29 minutes, 7% of respondents between 30 to 45 minutes, 5% of respondents between 46 to 60 minutes, and 6% of respondents above 60 minutes. The results indicate that almost half of the mindfulness practitioners' respondents have mindfulness practice less than 15 minutes which equal to 49% followed by 33% mindfulness practitioners' respondents between 15 to 29 minutes. 18% of mindfulness practitioners respondents have mindfulness practice more than 30 minutes.

4.3 Cronbach's Alpha Test

Table 4.1 illustrate the result of Cronbach's Alpha test for Mindfulness Awareness Attention Scale which consists of 15 items. Cronbach's Alpha for MAAS test items were 0.889. At the reliable coefficient Cronbach's Alpha test value of 0.700, the MAAS found to be highly reliable and good internal consistency.

Table 4.1: Reliability Test of Mindfulness Awareness Attention Scale (MAAS)

Cronbach's Alpha	N of Items
0.889	15

Table 4.2: Reliability Test of Modified Revised Self-Leadership Questionnaire (MRSLQ)

Cronbach's Alpha	N of Items
0.931	38

Table 4.2 illustrates the result of Cronbach's Alpha test for Revised Self-Leadership Questionnaire which consists of 38 items. Cronbach's Alpha for MRSLQ test items were 0.931. At the reliable coefficient Cronbach's Alpha test value of 0.700, the MRSLQ found to be highly reliable and excellent internal consistency.

Table 4.3: Reliability Test of MRSLQ Subscale: Behaviour Focusses Strategies

Cronbach's Alpha	N of Items
0.877	17

Table 4.3 illustrates the result of Cronbach's Alpha test for MRSLQ Subscale: Behaviour Focusses Strategies which consists of 17 items. Cronbach's Alpha for MRSLQ Subscale: Behaviour Focusses Strategies test items were 0.877. At the reliable coefficient Cronbach's Alpha test value of 0.700, the MRSLQ Subscale: Behaviour Focusses Strategies found to be highly reliable and good internal consistency.

**Table 4.4: Reliability Test of MRSLQ Subscale:
Constructive Thought Pattern Strategies**

Cronbach's Alpha	N of Items
0.862	13

Table 4.4 illustrates the result of Cronbach's Alpha test for MRSLQ Subscale: Constructive Thought Pattern Strategies which consists of 13 items. Cronbach's Alpha for MRSLQ Subscale: Constructive Thought Pattern Strategies test items were 0.862. At the reliable coefficient Cronbach's Alpha test value of 0.700, the MRSLQ Subscale: Constructive Thought Pattern Strategies found to be highly reliable and good internal consistency.

**Table 4.5: Reliability Test of MRSLQ Subscale:
Natural Rewards Strategies**

Cronbach's Alpha	N of Items
0.861	8

Table 4.5 illustrates the result of Cronbach's Alpha test for MRSLQ Subscale: Natural Rewards Strategies which consists of 8 items. Cronbach's Alpha for MRSLQ Subscale: Natural Rewards Strategies test items were 0.861. At the reliable coefficient Cronbach's Alpha test value of 0.700, the MRSLQ Subscale: Natural Rewards Strategies found to be highly reliable and good internal consistency.

4.4 One-way ANOVA Test

The one-way analysis of variance (ANOVA) tests were conducted to compare whether there are statistically significant differences between means of mindfulness traits and self-leadership skills compared to age difference.

4.4.1 Relationship between Age and Mindfulness Traits of Project Team Members

Table 4.6: Descriptive Analysis on the Mindfulness Traits of Project Team Members and Age

Age	N	Mean	Std. Deviation	Std. Error
20 to 29 years old	25	51.60	12.386	2.477
30 to 39 years old	53	60.26	10.627	1.460
40 to 49 years old	81	59.74	10.985	1.221
Above 50 years old	27	60.70	10.908	2.099
Total	186	58.94	11.361	0.833

Table 4.6 illustrates the results of descriptive analysis on the mindfulness traits of project team members with the different age groups. The results exhibited 25 respondents between the ages of 20 to 29 years old with mindfulness traits of $\mu = 51.60$ and $s = 12.386$, 53 respondents between 30 to 39 years old with mindfulness traits of $\mu = 60.26$ and $s = 10.627$, 81 respondents between 40 to 49 years old with mindfulness traits of $\mu = 59.74$ and $s = 10.985$, and 27 respondents above 50 years old with mindfulness traits of $\mu = 60.70$ and $s = 10.908$. Total mindfulness traits of 186 respondents produced $\mu = 58.94$ and $s = 11.361$.

Table 4.7: ANOVA Analysis on Mindfulness Traits of Project Team Members and Age

Mindfulness Traits	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1575.739	3	525.246	4.286	0.006
Within Groups	22301.487	182	122.536		
Total	23877.226	185			

Table 4.7 illustrates the results of ANOVA analysis on the mindfulness traits of project team members with the different age group. The results reported there was statistically significant difference between groups as determined by one-way ANOVA $F(3, 182) = 4.286$, $p = 0.006$). The results presented that the mindfulness traits of project team member above 50 years old had higher mindfulness trait score of $\mu 60.70$ as compared to other age groups. In the opposite end, the age group of 20 to 29 years respondent presented lower mindfulness trait score of $\mu 51.60$ as compared to other age groups.

Table 4.8 illustrates the results of multiple comparison on the mindfulness traits of project team members with the different age groups. A Turkey post hoc test revealed that the mindfulness traits of project team members were statistically significantly lower on project team members 20 to 29 years old (51.6 ± 12.4 min, $p = 0.008$) compared to the project team members between age 30 to 39 (60.3 ± 10.6 min, $p = 0.008$), 40 to 49 (59.7 ± 10.9 , min, $p = 0.008$) and above 50 years old (60.7 ± 10.9 min, $p = 0.018$). There were no statistically significant different between the project team members within age of 30 to 39 years old group and 40 to 49 years old group ($p = 0.933$), and above 50 years old group ($p = 0.998$).

Table 4.8 Multiple Comparison on Mindfulness Traits of Project Team Members and Age

Age Group (i)	Age Group (J)	Mean Difference (I-J)	Std. Error	Sig.
20 - 29	30 - 39	-8.664*	2.686	0.008
	40 - 49	-8.141*	2.533	0.008
	Above 50	-9.104*	3.072	0.018
30 - 39	20 - 29	8.664*	2.686	0.008
	40 - 49	0.523	1.956	0.993
	Above 50	-0.440	2.617	0.998
40 - 49	20 - 29	8.141*	2.533	0.008
	30 - 39	-0.523	1.956	0.993
	Above 50	-0.963	2.460	0.980
Above 50	20 - 29	9.104*	3.072	0.018
	30 - 39	0.440	2.617	0.998
	40 - 49	0.963	2.460	0.980

*. The mean difference is significant at the 0.05 level.

The overall results show that the project team members with lower age group demonstrated lower mindfulness traits as compared to the elder groups. The mean of the lowest age group between 20 to 29 years old group was 51.60 versus the eldest group above 50 years old of 60.70 with the difference of ratio of 15%.

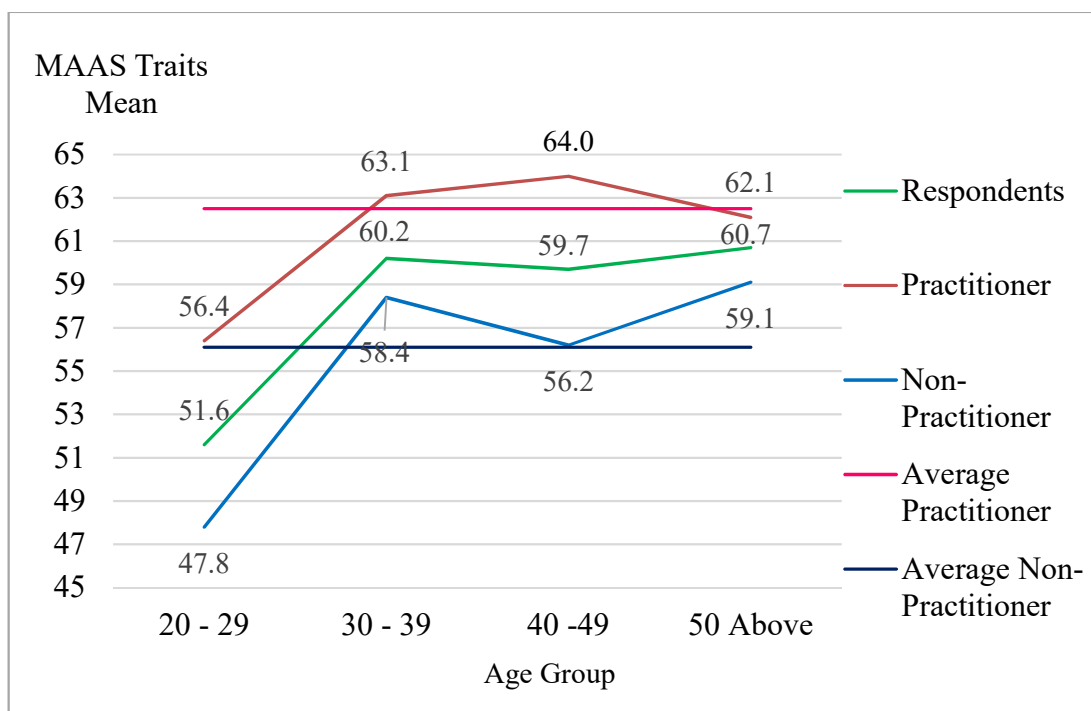


Figure 4.11: Mindfulness Traits Mean with and without Mindfulness Practice of Project Team Members by Age Group

Figure 4.11 illustrates the mean of mindfulness traits for total respondents, project team members with mindfulness practice (practitioner), and without mindfulness practice (non-practitioner) by age group. The mindfulness trait of respondents was increased with the increase in age. The mean of respondents between 40 to 49 years old was 59.7 and it was slightly lower than the younger group age of 30 to 39 at 60.2 by 0.8%. The slight decline was due to the lower mindfulness traits score from non-practitioner of mindfulness traits in the age group.

The results showed that the quality of attention was improved as the age increased. Younger respondents tend to have less focus as compared to older respondents who have more focus and aware of the present moment. This scenario is aligned with Sturges (2012) study where age had an influence on mindfulness. The result was opposite with a study conducted by Atefeh, et al. (2014) in Malaysia where there was no significant relationship between mindfulness and age. The possible reason of different results may be due to the Atefeh research's respondents age range was small and 85% respondents from 17 to 21 years as compared to this study, the respondents age range were wider from various age group as illustrated in Figure 4.11.

In summary, the test results of the relationship between age and mindfulness traits of project team members in Malaysia showed $p = 0.006$, therefore research hypothesis H_0 i.e. “There is no statistically significant relationship between age and mindfulness traits of project team members” was rejected. The result showed p value was below 0.05 and there was a statistically significant relationship between age and mindfulness of project team member.

4.4.2 Relationship between Age and Self-leadership Skills of Project Team Members

Table 4.9 illustrates the results of descriptive analysis on the self-leadership skills of project team members with the different age group. The results exhibited 25 respondents at the age between 20 to 29 years old with self-leadership skills of $\mu = 120.00$ and $s = 15.708$, 53 respondents between 30 to 39 years old with self-leadership skills of $\mu = 127.51$ and $s = 20.396$, 81 respondents between 40 to 49 years old with self-leadership skills of $\mu = 127.30$ and $s = 21.713$, and 27 respondents above 50 years old with self-leadership skills of $\mu = 125.67$ and $s = 19.580$. Total self-leadership skills of 186 respondents produced $\mu = 126.14$ and $s = 20.321$. The project team members age group between 30 to 39 have the highest self-leadership skill of $\mu = 127.51$.

Table 4.9: Descriptive Analysis on the Self-Leadership Skills of Project Team Members and Age

Age	N	Mean	Std. Deviation	Std. Error
20 to 29	25	120.00	15.708	3.142
30 to 39	53	127.51	20.396	2.802
40 to 49	81	127.30	21.713	2.413
Above 50	27	125.67	19.580	3.768
Total	186	126.14	20.321	1.490

Table 4.10: ANOVA Analysis on Self-leadership Skills of Project Team Members and Age

Self-Leadership Skills	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1156.231	3	385.410	0.932	0.426
Within Groups	75238.134	182	413.396		
Total	76394.366	185			

Table 4.10 illustrate the results of ANOVA analysis on the self-leadership skills of project team members with the different age group. The results reported there was no statistically significant difference between groups as determined by one-way ANOVA $F(3, 182) = 0.932, p = 0.426$..

Table 4.11 illustrates the results of multiple comparison on the self-leadership skills of project team members with the different age groups. A Turkey post hoc test revealed that the self-leadership skills of project team members had no statistically significant difference between the project team members by age. There was no statistically significant difference between the project team of 20 to 39 years old group as compared to 30 to 39 years old group ($p = .426$), 39 to 40 years old group ($p = 0.399$), and above 50 years old group ($p = 0.747$)

The results show that the youngest age groups respondents slightly lack self-leadership skills as compared to the older age groups. The age groups range from 30 to 49 were more capable in self-leadership skills, the respondents in this age groups may be more matured, self-disciplined, more committed to self, family and career. The self-leadership skills were reduced at the age group of 50 above, the older respondents may have lower dominance and aggressiveness compared to the younger groups. This could be due to the changes in the personality and experiences obtained over the times, and cognitive patterns (Martin, Long and Poon, 2002).

Table 4.11: Multiple Comparison on Self-leadership Skills of Project Team Members and Age

Age Group (i)	Age Group (J)	Mean Difference (I-J)	Std. Error	Sig.
20 - 29	30 - 39	-7.509	4.933	0.426
	40 - 49	-7.296	4.652	0.399
	Above 50	-5.667	5.643	0.747
30 - 39	20 - 29	7.509	4.933	0.426
	40 - 49	0.213	3.592	1.000
	Above 50	1.843	4.807	0.981
40 - 49	20 - 29	7.296	4.652	0.399
	30 - 39	-0.213	3.592	1.000
	Above 50	1.630	4.518	0.984
Above 50	20 - 29	5.667	5.643	0.747
	30 - 39	-1.843	4.807	0.981
	40 - 49	-1.630	4.518	0.984

Nevertheless, the self-leadership relationship with age was not significant and this was supported by (Zacher, Rosing and Frese (2011) research which showed insignificant relationship between age and leadership. Respondents below 50 years old tend to have better self-leadership skills, the group of respondents in this group may have more aim-focus during the progress of creating their career and personal lives as compared to elder people who may have achieved their personal goals.

In summary, the test results of the relationship between age and self-leadership skills of project team members in Malaysia showed $p = 0.426$, therefore research hypothesis H_a i.e. "There is a statistically significant relationship between age and self-leadership skills of project team members" was rejected. The result

showed p value larger than 0.05 and there was not statistically significant relationship between age and self-leadership skills of project team members.

4.5 Independent T-Test

The independent t-test was conducted to compare the means of project team members mindfulness traits and self-leadership skills with gender different. A reliable statistically significant alpha value from performing t-test is less or equal to 0.05 (Samuels, 2014).

4.5.1 Relationship between Gender and Mindfulness Traits of Project Team Members

Table 4.12: Group Statistic Analyses on the Mindfulness Traits of Male and Female Project Team Members

Gender	N	Mean	Std. Deviation	Std. Error Mean
Male	72	60.01	11.814	1.392
Female	114	58.25	11.064	1.036

Table 4.12 illustrates the results of group statistical analysis on the mindfulness traits of male and female project team members. Male project team members consist of 72 respondents with mean of mindfulness traits $\mu = 60.01$ and $s = 11.814$. Female project team members consist of 114 respondents with mean of mindfulness traits $\mu = 58.25$ and $s = 11.064$.

Table 4.13 illustrates the results of mindfulness traits of male and female project team which had no statistically significant difference. Male project team members with mean of mindfulness traits $\mu = 60.01$ and $s = 11.814$ compare to female project team members mean of mindfulness traits $\mu = 58.25$ and $s = 11.064$, $t(184) = 1.029$, $p = 0.305$.

Table 4.13: Independent T-Test Analyses on Mindfulness Traits of Male and Female Project Team Members

	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
Equal variances assumed	0.042	0.838	1.029	184	0.305	1.760	1.710
Equal variances not assumed			1.014	143. 733	0.312	1.760	1.736

The results showed that there was no relationship between gender and mindfulness traits, but the male respondents exhibited slightly higher mindfulness traits score. The finding was against Pico-Alfonso, et al. (2007) where females were more psychologically minded than males but parallel with Pico-Alfonso, et al. (2007) finding where female have less mindfulness traits than man. The results of this study supported Afeteh, et al. (2014) study in Malaysia where it showed the level of mindfulness traits has no significant relationship with gender. This insignificance in gender and mindfulness traits could be due to the other possible mindfulness influences factors which comprise personal factors and environmental factors.

In summary, the test results of the relationship between gender and mindfulness traits of project team members in Malaysia showed $p = 0.305$, therefore research hypothesis H_a i.e. “There is a statistically significant relationship between gender and mindfulness traits of project team members” was rejected. The result showed p value larger than 0.05 and there was not statistically significant relationship between gender and mindfulness traits of project team members.

4.5.2 Relationship between Gender and Self-Leadership Skills of Project Team Members

Table 4.14: Group Statistic Analyses on the Self-Leadership Skills of Male and Female Project Team Members

Gender	N	Mean	Std. Deviation	Std. Error Mean
Male	72	123.88	21.216	2.500
Female	114	127.57	19.695	1.845

Table 4.14 illustrates the results of group statistical analysis on the self-leadership skills of male and female project team members. Male project team members consist of 72 respondents with mean of self-leadership skills $\mu = 123.88$ and $s = 21.216$. Female project team members consist of 114 respondents with mean of self-leadership skills $\mu = 127.57$ and $s = 19.695$.

Table 4.15 Independent T-Test Analyses on Self-Leadership Skills of Male and Female Project Team Members

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	
Equal variances assumed	0.562	0.454	-1.209	184	0.228	-3.695	3.055
Equal variances not assumed			-1.189	142.753	0.236	-3.695	3.107

Table 4.15 illustrates the results of self-leadership skills of male and female project team had no statistically significant difference. Male project team members with mean of self-leadership skills $\mu = 123.88$ and $s = 21.216$ compare to female project team members mean of self-leadership skills $\mu = 127.57$ and $s = 19.695$, $t(184) = -1.209$, $p = 0.228$.

Although the results showed that there is no different in self-leadership skills between male and female respondents. Nevertheless, females scored was higher than males according to this study. This is in line with Eagly and Carli (2003) study where females demonstrated better self-leadership skills. This finding was supported by Zenger and Folkman (2012) where females are excelling at development competencies which comprise of self-development and relationships.

Table 4.16 illustrated Zenger and Folkman (2012) study on the overall leadership effectiveness by Gender by Position in percentage which exhibited that females are more effective in all positions.

Table 4.16: Overall Leadership Effectiveness by Gender by Position (%)

Position	Male	Female
Top management	57.7	67.7
Middle management	48.9	56.2
Manager	49.9	52.7
Assistant manager	52.5	52.6

Source: Adopted from Zenger and Folkman (2012)

Nevertheless, in summary, the test results of the relationship between the gender and self-leadership skills of project team members in Malaysia showed $p = 0.228$, therefore research hypothesis H_a i.e. “There is a statistically significant relationship between gender and self-leadership skills of project team members” was rejected. The result showed p value larger than 0.05 and there was not statistically significant relationship between gender and self-leadership skills of project team members.

4.5.3 Comparison on the Mindfulness Traits of Project Team Members with and without Mindfulness Practice

Table 4.17: Group Statistic Analyses on the Mindfulness Traits of Project Team Members with and without Mindfulness Practice

Mindfulness Practice	N	Mean	Std. Deviation	Std. Error Mean
Yes	83	62.47	10.546	1.158
No	103	56.09	11.239	1.107

Table 4.17 illustrates the results of group statistical analysis on the mindfulness traits of project team members with and without mindfulness practice. Project team members with mindfulness practice consist of 83 respondents with mean of mindfulness traits $\mu = 62.47$ and $s = 10.546$. Project team members without mindfulness practice consist of 103 respondents with mean of mindfulness traits $\mu = 56.09$ and $s = 11.239$.

Table 4.18 illustrate the results of mindfulness traits of project team members with and without mindfulness practice had statistically significant difference. Project team members with mindfulness practice with mean of mindfulness traits $\mu = 62.47$ and $s = 10.546$ compared to project team members without mindfulness practice mean of mindfulness traits $\mu = 56.09$ and $s = 11.239$, $t(184) = 3.957$, $p = 0.000$.

The results indicated that the project team members with mindfulness practice had significantly higher mean score for mindfulness traits as compared to the project team members without mindfulness practice. Through mindfulness practice, project team members are trained to resist mind wandering, aware of internal and external experiences, and “to be here now” (Killingsworth and Gilbert 2010). The results are in line with past mindfulness research where mindfulness practice improved individual self-control (Bishop et al., 2004), self-awareness, compassion, and wisdom (Goldstein, 2002) which lead to a mindful project team member.

Table 4.18: Independent T-Test Analyses on the Mindfulness Traits of Project Team Members with and without Mindfulness Practice

	Levene's Test for Equality of Variances		t-test for Equality of Means				
	F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Differ ence
Equal variances assumed	0.470	0.494	3.957	184	0.000	6.383	1.613
Equal variances not assumed			3.984	179. 742	0.000	6.383	1.602

In summary, the test results of the mindfulness traits of project team members with and without mindfulness practice in Malaysia showed $p = 0.000$, therefore research hypothesis H_0 i.e. “There is no statistically significant relationship between mindfulness practice and mindfulness traits of project team members” was rejected. The result showed p value significantly lower than 0.05 and there was statistically significant relationship between mindfulness practice and mindfulness traits of project team members.

4.5.4 Comparison on the Self-Leadership Skills of Project Team Members with and without Mindfulness Practice

Table 4.19: Group Statistic Analyses on the Self-Leadership Skills of Project Team Members with and without Mindfulness Practice

Mindfulness Practice	N	Mean	Std. Deviation	Std. Error Mean
Yes	83	136.36	15.089	1.656
No	103	117.90	20.308	2.001

Table 4.19 illustrates the results of group statistical analysis on the self-leadership skills of project team members with and without mindfulness practice. Project team members with mindfulness practice consist of 83 respondents with mean of self-leadership skills $\mu = 136.36$ and $s = 15.089$. Project team members without mindfulness practice consist of 103 respondents with mean of self-leadership skills $\mu = 117.90$ and $s = 20.308$.

Table 4.20 illustrates the results of self-leadership skills of project team members with and without mindfulness practice had statistically significant different. Project team members with mindfulness practice with mean of self-leadership skills $\mu = 136.36$ and $s = 15.089$ compare to project team members without mindfulness practice mean of self-leadership skills $\mu = 117.90$ and $s = 20.308$, $t(184) = 6.888$, $p = 0.000$.

The results indicated that the project team members with mindfulness practice had significantly higher mean score for self-leadership skills as compared the project team members without mindfulness practice. The results support past mindfulness practice research viz mindfulness practice proven can be improved individual self-leadership skills and lead to a self-efficacy project team member. Through mindfulness practice project team members improve attention and maintain a clear focus on a task (Goleman, 2013) the ability to control own emotion, aware of their thinking, feeling and take purposeful actions to achieve the objectives (Bryant and Kazan, 2012).

Table 4.20: Independent T-Test Analyses on the Self-Leadership Skills of Project Team Members with and without Mindfulness Practice

	Levene's Test for Equality of Variances		t-test for Equality of Means				
	F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Differen ce
Equal variances assumed	6.014	0.015	6.888	184	0.000	18.459	2.680
Equal variances not assumed			7.106	182. 869	0.000	18.459	2.597

The findings also support mindfulness meditation promote self-awareness, self-goal setting, self-motivation, self-confident, positive self-talk, effective communication and the capability to respond to feedback (Bryant and Kazan, 2012), self-regulation, self-examination and foster compassion capacity (Shapiro, 1992). In general, project team members with mindfulness practice reported higher level of mindful traits and may assist them to cope with the stress or upset situation in achieving targeted goal.

In summary, the test results of the self-leadership skills of project team members with and without mindfulness practice in Malaysia showed $p = 0.000$, therefore research hypothesis H_0 i.e. “There is no statistically significant relationship between mindfulness practice and self-leadership skills of project team members” was rejected. The result showed p value significantly lower than 0.05 and there was statistically significant relationship between mindfulness practice and self-leadership skills of project team members.

4.6 Pearson's Product-Moment Correlation Test

4.6.1 Effects of Mindfulness Practice and the Self-Leadership Skills of Project Team Members

Table 4.21: Descriptive Statistics Analysis of Effects of Mindfulness Practice and the Self-Leadership of Project Team Members

	Mean	Std. Deviation	N
Mindfulness Traits	62.47	10.546	83
Overall Self-Leadership Skills	136.36	15.089	83
Behaviour Focused Skills (Self-Leadership's Sub-Skills)	61.90	8.946	83
Constructive Thought Pattern (Self-Leadership's Sub-Skills)	45.05	6.192	83
Natural Reward Skills (Self-Leadership's Sub-Skills)	29.41	4.551	83

Table 4.21 illustrates the results of descriptive statistics analysis of the effects of mindfulness practice on the self-leadership skills of project team members. The results of 83 project team members with mindfulness practice $\mu = 62.74$ and $s = 10.546$. The results of overall project team members with mindfulness practice $\mu = 136.36$ and $s = 15.089$. An analysis was conducted on the self-leadership sub-scales to investigate the effects of mindfulness practice on each self-leadership scales. The results showed the Behaviour Focus sub-skills have $\mu = 61.90$ and $s = 8.946$, Constructive Thought Pattern sub-skills have $\mu = 45.95$ and $s = 6.192$, and Natural Rewards sub-skills have $\mu = 29.41$ and $s = 4.55$.

Table 4.22 illustrates the results of Pearson product-moment correlation was analysed to investigate the effects of mindfulness practice and the project team members self-leadership in various industries of Malaysia. There results showed there was a significant positive correlation between mindfulness practice and self-leadership ($r = 0.249$, $n = 83$, $p = 0.023$) and natural rewards skills ($r = 0.308$, $n = 83$, $p = 0.005$)

of project team members. There was insignificant positive correlation between mindfulness practice with behaviour focus skills ($r = .145$, $n = 83$, $p = .191$) and constructive thought pattern skills ($r = .172$, $n = 83$, $p = .121$). The results indicated that there is a statistically significant relationship between mindfulness practice and the self-leadership skills of project team members.

Table 4.22: Pearson's Product-Moment Correlation Analysis of Effects of Mindfulness Practice and the Self-Leadership of Project Team Members

		Mindfulness Practice	Self- Leadership	Behaviour Focus	Constructive Thought Pattern	Natural Rewards
Mindfulness Practice	Pearson Correlation	1	0.249*	0.145	0.172	0.308**
	Sig. (2-tailed)		0.023	0.191	0.120	0.005
	N	83	83	83	83	83
Self- leadership Skills	Pearson Correlation	0.249*	1	0.823**	0.807**	0.600**
	Sig. (2-tailed)	0.023		0.000	0.000	0.000
	N	83	83	83	83	83
Behaviour Focus	Pearson Correlation	0.145	0.823**	1	0.430**	0.178
	Sig. (2-tailed)	0.191	0.000		0.000	0.1074
	N	83	83	83	83	83
Constructive Thought Pattern	Pearson Correlation	0.172	0.807**	0.430**	1	0.470**
	Sig. (2-tailed)	0.120	0.000	0.000		0.000
	N	83	83	83	83	83
Natural Rewards	Pearson Correlation	0.308**	0.600**	0.178	0.470**	1
	Sig. (2-tailed)	0.005	0.000	0.107	0.000	
	N	83	83	83	83	83

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

The results support past mindfulness practice research where mindfulness practice lead to mindful team members, awake, aware, and attuned to themselves, to others, and to the world around them to lead them self well before lead the others. The finding is in line with Shapiro's (1992) and Bryant and Kazan's (2012) reports where mindfulness meditation promotes self-regulation, self-examination, have a higher level of self-awareness, self-goal setting, self-motivation, self-confident, positive self-talk, effective communication and the capability to respond to feedback. Kabat-Zinn (1982) and Gratz and Roemer (2004) reported mindfulness lead to the ability to adapt while distressed, improve self-observation which lead to recognition and understanding of self-internal state, impact of behaviour, and enhanced the ability to use proper skills to manage the situation.

Nevertheless, the research showed behaviour focus skills and natural reward skills were not able to display significant relationship with mindfulness practice, this may possibly due to the culturally difference of the project team members as compared to project team members in Western countries. Markus and Kitayama (1991) defined western culture are more independent and individualistic as compare to Asia culture are more collectivist. These culturally different affects individual values viz self-concept, influences cognitive, affective, and motivational processes. These values also influence behaviour focus, natural reward and constructive thought pattern skills adoption.

Asia countries people generally are collectivist and have less self-reward to motivate own-self as compared to western countries people. Malaysia, which is an Asia country, may have similar culture and project team member are more emphasise on the self-behaviour which meet the group's expectations and less emphasis on the self-reward. Therefore, this may explain why in the Malaysian context behaviour focus skills and natural reward skills were not able to display significant relationship with these 2 sub self-leadership sub-skills.

In summary, the test results of mindfulness practice and the self-leadership of project team members in Malaysia showed $p = 0.023$, therefore research hypothesis H_0 i.e. "There is no statistically significant relationship between mindfulness practice and self-leadership skills of project team members." was rejected. The result showed

p value significantly lower than 0.05 and there was statistically significant mindfulness practice and the self-leadership skills of project team members.

4.7 Conclusion

The objective of this research is to investigate the effects of mindfulness on the self-leadership of project team members which include age and gender study in Malaysia context. Total respondents of 186 meet the sample size condition, and frequencies of analysis showed appropriate ratio for each category in term of age, gender, respondents with and without mindfulness practice for data collection to analysis the research questions. Cronbach's Alpha test exceeded 0.7 for both Mindfulness Attention Awareness Scale Revised Self-Leadership questionnaires. Through the appropriate survey instrument and analysis of collected quantitative data by using Statistical Package for the Social Sciences of One-way ANOVA Test, Independent Sample T-Test, and Pearson's Product-Moment Correlation Test has generated the detailed findings on the research hypothesis.

- I. One-way ANOVA test results showed there is statistically significant relationship between age and mindfulness traits and was no statistically significant relationship between age and self-leadership skills of project team members.
- II. Independent T-test results showed there was no statistically significant relationship between gender and both mindfulness traits and self-leadership skills of project team members.
- III. Pearson's Product-Moment Correlation Test showed that the project team members with mindfulness practice was significantly higher for both mindfulness traits and self-leadership as compared to the project team members without mindfulness practice.

In summary, mindfulness traits were related to the increase of age of respondents and gender which has no relationship with both mindfulness traits and self-leadership skills. Project team members with mindfulness practice demonstrated

higher mindfulness traits and self-leadership skills as compared to project team members without mindfulness practice. The finding supports past research where mindfulness practice had significant relationship between mindfulness traits and self-leadership.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 Overview

In this chapter, the conclusions were derived from the findings of data analysis on the effects of mindfulness on the self-leadership of project team members study based on the research objectives and questions. The problems and limitation of these study will be described and followed by the recommendations according to the conclusion and objective of the study.

5.2 Conclusions

The findings of this study explicated that project team members with mindfulness practice experienced higher mindfulness traits and self-leadership skills. Project team members with higher mindfulness traits have higher emotional intelligence, concentration, awareness and are more open would be able to manage project challenges in more appropriate ways. Mindful project team members would have higher team spirit, share information, and more transparent. These may help to promote trust amongst the project team member, reduce team conflict, and work towards common project objective. These qualities are important for effective project team development to increase team morale, productivity, performance and achieve the project goal on time with lower cost, higher quality and profits.

Self-leadership skills are the fundamental of leadership skill for project team members to lead and influence themselves to achieve the project goal before leading others. Project team members with higher self-leadership comprising of higher self-awareness, self-regulation, self-management, self-cognitive, and self-efficacy would have higher self-influence to meet project tasks. These skills are essential for team members to be certain about their roles and expectations from their organisation. Project team member with mindfulness practice may consistently assess self-performance against the roles, make necessary self-enhancement through behaviour improvement, constructive thought and are motivated by rewards. These skills are

important for the project team members to participate as effective project team members and become a competent and effective leader to lead an organisation.

The mindfulness traits were associated with age of project team members but have no association to gender. In general, older project team members showed higher mindfulness traits. Older group project team members have experienced younger group project team members desire stage of achieving better personal goal, career advancement, and family lifestyle. Thus, older project team member will be more focused on the present moment instead of thinking about the future. Their wise experiences are vital for other project team members through lesson learnt, sharing of implicit knowledge, problem solving methods, conflict solutions, and avoid reinventing the wheel.

The findings showed that the self-leadership skills have no association with age and gender of project team members. The ages are just a number and the gender are just a category. Syed Saddiq becomes the youngest Minister of Youth and Sports of Malaysia at 25 years old, Mahathir Mohamad is the world oldest Prime Minister of Malaysia of 92 years old, Jacinda Addern is the world youngest female Prime Minister of New Zealand at 37 years old. Elizabeth II 92 years old is the Queen of the United Kingdom. Effective self-leadership skills of project team members may be associated with the individual personality, living environment, and individual needs. A project team member with the needs for self-efficacy or needs of power would tend to improve self-leadership skills aggressively as compared to those just “going-along-to-get-along”.

This study concluded that the mindfulness practice has positive effects on the mindfulness traits and self-leadership skills of project team members. Mindfulness practice is a practical mental training to develop project team members soft skills. Mindful project team members will have better personal capabilities to cope with project challenges and lead to a better success rate of project implementation and improve team members morale, productivity, and job satisfaction. The senior management of the various industries in Malaysia should recognise the benefits of mindfulness practice and benchmark global multinational companies to provide project team members mindfulness awareness and training to enhance project team

members mental capability, and confidence to manage the increasing complexity of project environment challenges.

5.3 Limitations

5.3.1 Research Questionnaire

There are 15 questions for Mindfulness Attention Awareness (MAAS) and 38 questions for Modified Revised Self-Leadership Questionnaire (MRSLQ), these 53 items required considerable time to complete the survey form. Although both questionnaires are proven as an effective measure of mindfulness traits and self-leadership skills, some respondents commented the questionnaires were too lengthy and becomes challenging to answer all the questions patiently, this may lead to the inaccuracy and unreliable survey. Specifically, for MRSLQ (Ho and Nesbit, 2008) which comprises of 38 items and few items question seen similar. For instance, item 37 and item 38 as below;

Item 37. I use written notes to remind myself of what I need to accomplish

Item 38. I use concrete reminders (e.g. notes and lists) to help me focus on the things I need to accomplish.

5.3.2 Research Survey Sample

The research survey sample comprised of respondents from various industries in Malaysia, therefore, the finding of this study may not represent a specific industry. The findings may be different if the similar was study conducted on a specific industry such as academic or construction. Respondents from the academic industry may have higher exposure on mindfulness knowledge whereas respondents from the construction industry may apply better self-leadership skills.

5.3.3 Research Variables

This research studies mindfulness practice effects on mindfulness traits and self-leadership skills, it should be noted that high likely there are others variable influence project team members mindfulness traits and self-leadership skills. Other variables

may include non-mentality exercise such as education background, influence of superior, organisation system, monetary incentive etc.

5.4 Recommendations for Further Research

Survey questionnaire reliability is vital for research findings, data collection, data analysis and derive a research conclusion. Number of MRSLQ questions shall benchmark MAAS questions quantity. This study applied the complete Manz self-leadership theory comprising of behaviour focused, natural rewards and constructive thought patterns sub-scales. Further research may consider studying to reduce the number of MRSLQ questions with the exploratory factor analysis and confirmatory factor analysis. For brief overall self-leadership skills, researchers may use existing available validated The Abbreviated Self-Leadership Questionnaire (ASLQ) consists of 9 short questionnaires. Nevertheless, for researchers who intend to study comprehensive self-leadership skills in non-western countries context, MRSLQ is recommended.

Further research may focus on a specific survey sample group on the effects of mindfulness practice in a specific industry and gain specific insights of the group. In addition, the survey sample size is recommended to be larger than this study to reduce the margin of errors to obtain more reliable findings. Further research may adopt mix method for implicit information and include others variable effecting the mindfulness traits and self-leadership skills. The research finding may increase the academic knowledge of these discipline. These further research findings are essential to support organisation decision maker to judge the effects of mindfulness training and the benefits of the practice to the employee capital development and organisation performance.

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APPENDICES

APPENDIX A: Questionnaire Forms

Project Team Members Mindfulness and Self-leadership Survey

(项目团队成员正念和自我领导力调查)

Section A: Individual Survey (A 部分: 个人调查)

1. **What is your gender? Please choose one.** 你的性别是什么? 请选择一个.
 - a. Male (男)
 - b. Female (女)

2. **Please write how old are you? _____ years old (Please write).**
请写下你几岁了? _____ 岁(请写出).

3. **Which of the following best describe your highest academic qualification? Please choose one.**
以下哪项最能说明您的最高学历? 请选择一个.
 - a. SPM (Equivalent to GCE O-Level)
马来西亚教育证书 (相当于普通等级教育证书)
 - b. STPM (Equivalent to GCE A-Level)
马来西亚高中证书 (相当于高等级教育证书)
 - c. Bachelor degree 学士学位
 - d. Master degree 硕士学位
 - e. PhD 博士学位
 - f. Other: Please specify 其他:请明确注明): _____

4. **Which of the following best describe your profession sector? Please choose one.** 以下哪项最能描述您的专业领域? 请选择一个
 - a. Agriculture 农业
 - b. Construction 建筑业
 - c. Government 政府部门

- d. Manufacturing 制造业
- e. Services (e.g. education, medical, finance, etc) 服务业（例如教育，医疗，金融等）
- f. Other: Please specify 其他:请明确注明): _____

5. Which of the following best describe your role in your profession? Please choose one. 以下哪项最能描述您在职业中的角色？请选择一个。

- a. Director 董事
- b. Senior Manager 高级经理
- c. Manager 经理
- d. Assistant Manager 副经理
- e. Executive 行政人员
- f. Self-employed 自雇
- g. Other: Please specify 其他:请明确注明 _____

6. Please write your years of working experience? _____ years (Please write).

请写下你多年的工作经验？ _____ 年(请写出).

Section B: Mindfulness Practice Survey (B 部分: 正念练习调查)

1. Do you practice mindfulness? Please choose one.

你是否有练习正念吗？ 请选择一个.

- a. Yes 是
- b. No (Please continue to Section C and D) 否(请继续 C 和 D 部分)

2. How often do you practice mindfulness? Please choose one.

你多久练习一次正念？ 请选择一个.

- a. Every day 每一天

- b. Every 2 days 每 2 天一次
- c. Every week 每一周
- d. Every 2 weeks 每两周一次
- e. More than 2 weeks 超过 2 周

3. **How long have you practiced mindfulness? Please choose one.**

你练习正念有多久了？ 请选择一个。

- a. Less than 1 month 少于 1 个月
- b. 1 to 3 months 1 至 3 个月
- c. 4 to 6 months 4 至 6 个月
- d. 7 to 12 months 7 至 12 个月
- e. More than 1 year 超过 1 年

4. **How long do you practice mindfulness each time? Please choose one.** 你每

次练习正念用了多少时间？ 请选择一个。

- a. Less than 15 minutes 不到 15 分钟
- b. 15 to 29 minutes 15 至 29 分钟
- c. 30 to 45 minutes 30 至 45 分钟
- d. 46 to 60 minutes 46 至 60 分钟
- e. More than 60 minutes 超过 60 分钟

Section C: Day-to-Day Experience (Mindfulness Attention Awareness Scale)

Survey

(C 部分：日常体验（正念注意意识量表）调查

Below are statements related to your daily experiences. Using the 1 – 6 scale below, please indicate how frequently or infrequently experience you currently have for each experience. For each statement please circle your answers according to what really

reflects your current experience rather than what you think your experience shall be.

Please treat each question separately from other question.

下列叙述与您的日常生活经验有关。请依据右方一至六分的量尺作答，表示在各项经验里，经常发生的程度，或是不常发生的程度（请您注意：1 分代表几乎总是在发生，6 分代表几乎没有发生过。）请圈出您的答案依照您真实的经验回答，而非您认为应该发生的经验。

	1	2	3	4	5	6
量尺 Scale	Almost Always 几乎总是	Very Frequently 常常发生	Somewhat Frequently 偶尔发生	Somewhat Infrequently 比较少没有	Very Infrequently 常常没有	Almost Never 几乎没有

1	I could be experiencing some emotion and not be conscious of it until some time later. 有些情绪可能早已发生，但我却过了一段时间后才觉察到它们。	1	2	3	4	5	6
2	I break or spill things because of carelessness, not paying attention, or thinking of something else. 我会因为粗心大意，不专心或心不在焉，而打破或打翻东西。	1	2	3	4	5	6
3	I find it difficult to stay focused on what's happening in the present. 我觉得持续专注于当下发生的事情是很困难的。	1	2	3	4	5	6
4	I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.	1	2	3	4	5	6

	我通常一路直奔到目的地，而没有注意一路上的种种景物.						
5	I tend not to notice feeling of physical tension or discomfort until they are really grab my attention. 我不容易注意到身体上的紧绷或不舒适的感觉，除非这种感觉严重影响到我.	1	2	3	4	5	6
6	I forget person's name as soon as I've been told it first time. 别人才告诉我某人的名字，我马上就把它忘记了.	1	2	3	4	5	6
7	It seems I am "running on automatic", without awareness of what I'm doing. 我做事情常像反射动作一样，而没有意识到自己到正在做什么.	1	2	3	4	5	6
8	I rush through activities without being attention to them. 我仓促完成许多活动，但却没有真正关注它们.	1	2	3	4	5	6
9	I get so focused to the goal I want to achieve that I lose touch with what I'm doing right now to get there. 我太专注于想要达到的目标，因而没完整考虑自己正用什么作法来达成目标.	1	2	3	4	5	6
10	I do jobs or tasks automatically, without being aware of what I'm doing. 我会不自觉地做着事，而没有注意自己正在做什么.	1	2	3	4	5	6

11	I find myself listening to someone with one ear, doing something else at the same time. 我会边听别人话，同时边做其他事。	1	2	3	4	5	6
12	I drive place on “automatic pilot” and then wonder why I went there. 我会不自觉地骑车前往某处，然后才去想自己为何前来。	1	2	3	4	5	6
13	I find myself preoccupied with the future or the past. 我常被过去跟未来占据心思。	1	2	3	4	5	6
14	I find myself doing things without paying attention. 我发觉自己会做事心不在焉。	1	2	3	4	5	6
15	I snack without being aware that I’m eating. 我会不自觉地吃着零食。	1	2	3	4	5	6

Section D: Self-leadership survey (Revised Self-leadership Questionnaire)

(D 部分：自我领导力调查（修订自我领导力调查问卷）

Below are statements about self-leadership practices. Using the 1 – 5 scale below, please indicate how **true** the statement best describing you. For each statement please circle your answers according and treat each statement separately from other statements.

以下是关于自我领导实践的陈述。請依據右方一至五分的量尺作答, 请说明最能描述您的声明的真实性。对于每个陈述，请根据您的答案圈出来，并将每个陈述与其他陈述分开处理。

	1	2	3	4	5
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Scale 量尺	Not at all accurate 一点也不准确	Somewhat accurate 还算准确	A little accurate 有点准确	Mostly accurate 非常准确	Completely accurate 完全准确
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1	I use my imagination to picture myself performing well on all important tasks. 我会想像自己把重要的工作做好的情景.	1	2	3	4	5
2	I visualize myself successfully performing a task before I do it. 在开始工作前，我会想像自己把它成功做好.	1	2	3	4	5
3	I consciously have goals in mind for my work efforts. 我特意为工作订下目标.	1	2	3	4	5
4	I work toward specific goals I have set for myself. 我朝着自己所订立的特定目标而工作.	1	2	3	4	5
5	I write specific goals for my own performance. 我为自己的工作表现写下特定的目标.	1	2	3	4	5
6	I think about goals that I intend to achieve in the future. 我会想及将来要完成的目标.	1	2	3	4	5
7	Sometimes I find I'm talking to myself (out loud or in my head) to help me deal with difficult problems I face. 有时候，我发觉跟自己说话（说出口或心中默念）能帮我解决难题.	1	2	3	4	5
8	When I'm in difficult situations I will sometimes talk to myself (out load or in my head) to help me get through it. 面对困境时，我有时会通过“自己同自己说话”来解决困难.	1	2	3	4	5
9	Sometimes I talk to myself (out loud or in my head) to	1	2	3	4	5

	work through difficult situation. 我有时会籍着“自己同自己说话”来克服困难.					
10	When I do an assignment especially well, I like to treat myself to some thing or activity I especially enjoy. 当我把工作做得特别好的时候，我以特别喜爱做的事情/东西来慰劳自己.	1	2	3	4	5
11	When I do something well, I reward myself with a special event such as a good dinner, movie, shopping trip, etc. 当我做好某些事情，我会借着特别的事情（如吃一顿丰富的晚餐，看电影，到外地购物等等）来奖励自己.	1	2	3	4	5
12	When I have successfully completed a task, I often reward myself with something I like. 当我成功完成任务时，我常常以自己喜爱的东西来奖赏自己.	1	2	3	4	5
13	I tend to get down on myself in my mind when I have performed poorly. 当我表现差劲时，我内心感到沮丧.	1	2	3	4	5
14	I tend to blame myself when I have not done well on a task. 当我不能好好地完成任务，我会责怪自己.	1	2	3	4	5
15	I feel guilty when I perform a task poorly. 我工作表现差劲时，我感到内疚.	1	2	3	4	5
16	I sometimes feel displeasure with myself when I have not done well. 我工作表现不佳时，我有时会感到不安.	1	2	3	4	5
17	My thinking focuses more on the things I like about	1	2	3	4	5

	actually doing my work than on benefits I expect to receive. 我专注于从工作中找到乐趣多于预期得益.					
18	I think that the enjoyment gained from work is more important than external rewards. 我认为工作中的乐趣比物质回报更重要.	1	2	3	4	5
19	I try to get enjoyment in the work process rather than in the benefit I plan to gain. 在工作中, 我尝试从过程中找到乐趣, 多于预计的利益.	1	2	3	4	5
20	I seek out activities in my work that I enjoy doing. 我于工作中找出自己喜爱的活动.	1	2	3	4	5
21	I pay attention to the enjoyment I gain from working in harmony with my colleagues /team members. 我能注意到与同事/团队成员协调工作中所得到的乐趣.	1	2	3	4	5
22	I value the good feeling I gain by working harmoniously with the colleagues /team members. 我重视与同事/团队成员和谐共处的感觉.	1	2	3	4	5
23	I follow my own favourite ways to meet my team members' needs. 我以自己最喜爱的方法来满足同事/团队成员的需要.	1	2	3	4	5
24	I could get the enjoyment from helping colleagues/team members reach their goals. 我能从帮助同事/团队成员达成他们的目标中找到乐趣.	1	2	3	4	5
25	I usually examine how well I'm doing at work. 我经常评估自己的工作表现.	1	2	3	4	5

26	I am usually aware of how well I'm doing as I perform an activity. 在执行任务时，我经常意识到自己的工作表现。	1	2	3	4	5
27	I always examine whether or not my performance fulfils the expectation of my supervisor/ team members. 我经常检视自己的工作表现是否达到上司/团体组员的期望。	1	2	3	4	5
28	When I perform an activity, I am usually aware whether my performance meets the expectation of my supervisor/team members. 当执行任务时，我通常意识到自己能否达致上司/团体组员的期望。	1	2	3	4	5
29	I evaluate whether I have any dysfunctional thinking whenever I encounter a difficult situation. 当我面对困难时，我会评估是否有阻碍自己向前的思想。	1	2	3	4	5
30	I will evaluate my ways of thinking to see if it exerts any negative impacts on my jobs. 我会检视自己的思想模式是否会对我的工作构成负面的影响。	1	2	3	4	5
31	I try to evaluate the consequences of my negative thinking. 我尝试评估自己负面想法的后果。	1	2	3	4	5
32	I review whether my judgment has been too negative when facing problems. 面对问题时，我反思自己是否有过份负面的判断。	1	2	3	4	5
33	I try to mentally evaluate the accuracy of my own beliefs about situations I am having problems with.	1	2	3	4	5

	面对问题时，我尝试评估自己想法的准确度.					
34	When I differ from others' opinions, I try to modify my thinking to avoid conflicts so as to maintain harmony. 当我与其他人意见有分歧时，为了避免冲突，保持和谐，我会修改自己的想法.	1	2	3	4	5
35	I will review my thinking when it conflicts with my colleagues/team members. 当我跟同事/团体组员有冲突，我会检讨自己的想法有何不妥之处.	1	2	3	4	5
36	I examine whether my thinking can fit in with the opinions of my colleagues and team members. 我会检讨自己的想法是否能配合其他同事/团体组员的意见.	1	2	3	4	5
37	I use written notes to remind myself of what I need to accomplish. 我用笔记来提醒自己要完成的事情.	1	2	3	4	5
38	I use concrete reminders (e.g. notes and lists) to help me focus on the things I need to accomplish. 我用一些实在的提示（如：笔记，清单）来帮助自己专注于要完成的事情.	1	2	3	4	5