

**EFFECTS OF MINDFULNESS ON THE  
EMOTIONAL INTELLIGENCE OF PROJECT TEAM MEMBERS**

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

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**January 2017**

## 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.

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**APPROVAL FOR SUBMISSION**

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Specially dedicated to  
My beloved family and girlfriend

**ABSTRACT****EFFECTS OF MINDFULNESS ON THE EMOTIONAL INTELLIGENCE OF  
PROJECT TEAM MEMBERS****Koh Chin Woon**

This study investigated the relationship between age, gender and emotional intelligence of project team members, determined the emotional intelligence of project team members with and without mindfulness practice and examined the effects of mindfulness practice on the emotional intelligence of project team members in the construction industry. The survey data was collected from 108 respondents in Malaysian construction industry. Out of these 108 respondents, 47 respondents are currently practicing mindfulness, while 61 respondents are not practicing mindfulness. Besides that, Wong and Law Emotional Intelligence Scale (WLEIS) have been applied to examine on the emotional intelligence of these 108 project team members in Malaysian construction industry. The results analyzed using the Statistical Package for Social Science (SPSS) indicated that mindfulness practice

was associated positively with the emotional intelligence of project team members based on Wong and Law Emotional Intelligence Scale. The results indicated that there is a statistically significant relationship between age and emotional intelligence of project team members ( $p = 0.000$ ). Apart from that, there is also a statistically significant relationship between mindfulness practice and emotional intelligence of project team members ( $p = 0.046$ ). In contrary, there is no statistically significant relationship between gender and emotional intelligence of project team members ( $p = 0.163$ ). This study showed that there is a relationship between age and the emotional intelligence of project team members. Furthermore, this study also showed that mindfulness practice was able to improve the emotional intelligence of project team members and positive impact to the project performance.

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**LIST OF SYMBOLS / ABBREVIATIONS**

$\mu$	mean
$s$	standard deviation
$r$	pearson correlation
$p$	significant (2-tailed)
EI	emotional intelligence
N	number
WLEIS	Wong and Law Emotional Intelligence Scale
SEA	self-emotion appraisal
OEA	others' emotion appraisal
ROE	regulation of emotion
UOE	use of emotion



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## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Background**

One of the largest industries that aid on the development of a country and the economic growth is construction industry (Rohaida & Hock, 2013). Due to the traditional way of management in construction industry, it has been resulted a slow adaption on the new management techniques compared to other industries in the globe (Loosemore, et al., 2003). However, some recent researches had showed that a possible way of facilitating the interest in the improvement of the construction project performance, planning, judgement and decision making of a project team member by enchancing the emotional intelligence of a person (Ioannis & Ioannis, 2002). According to research, by enchancing the emotional intelligence of one's can result the changes and improvements on performance of a project team member (Mayer, et al., 2003).

Furthermore, some articles published have shown that emotional intelligence may hold the key to improve the performance of a project team member (Zhang & Fan, 2013). This argues that the successful collaboration among project participants can achieve the result of effective interaction and which can help to improve the project performance. Also, this is related to the competencies of emotional awareness and emotional regulation (Songer & Walker, 2004). For instance, tasks that require more emotional processing, such as tasks involving interpersonal interactions (e.g., communication) are more likely to be related to emotional intelligence than those tasks that involve thinking ability (e.g., ordering material) or heuristics (e.g., scheduling work).

Charoensukmongkol (2014) found that mindfulness practice can help to enhance the emotional intelligence of one's. Mindfulness has been defined as paying attention at the present moment awareness with an observing and non-judging stance (Reb et al., 2014). The purpose of mindfulness practice is to train the mind to be calm and start to pay attention to the sensation of the body (Tan, 2012). By practising mindfulness meditation, it can help to develop a high resolution awareness of project team members to enhance their focuses such as ability to understand own and other team member's emotions (Darwin, 2015). Furthermore, Darwin (2015) also found that mindfulness practice can allow project team members to establish a higher emotional intelligence by understanding other's emotions more accurately. Also, mindfulness practice can associate positively on the clarity of project team member's feelings and attention to other team member's feeling (Charoensukmongkol, 2014). In another words, mindfulness practice is associated with the positive impact on the emotional intelligence of project team members (Tan, 2012).

Last but not least, this research seeks to study on the relationship between age, gender and emotional intelligence of project team members, to determine the emotional intelligence of project team members with and without mindfulness practice in construction industry and to examine the effects of mindfulness practice on the emotional intelligence of project team members in the construction industry.

## **1.2 Problem Statement**

A project team is formed by a group of professional consultants, contractors, labourers and etc. There are some solid evidences showing that increasing number of people in the project team of the construction industry can cause conflicts and disputes. Construction work is always related to the work that required proper planning, professional judgement and wise decision making from the beginning until the completion of a project. Therefore, a project team member's ability on managing their emotions is vital for the project success. If a project team does not manage their emotions mindfully, it might ruin the project success. Also, it might cause the delay of schedule and loss of profit to the project if the project team members do not make a wise decision. In addition, a low EI project team member will also create unnecessary trouble to other project team members that involved in the same project. Lastly, EI of a project team member is vital for project success because intrapersonal and interpersonal skills can cause positive and negative impact to the project. Therefore, this study attempts to study the relationship between age, gender and emotional intelligence of project team members, to determine and examine the

effects of mindfulness practice on the EI of project team members which might help to enhance the performance of project team members to achieve a better project success.

### **1.3 Research Aim**

The main aim of this research paper is to explore the effect of mindfulness practice on the emotional intelligence of project team members in the construction industry

### **1.4 Research Objectives**

The objectives of this study are:

- a. To identify the relationship between age and emotional intelligence of project team members in the construction industry.
- b. To identify the relationship between gender and emotional intelligence of project team members in the construction industry.
- c. To determine the emotional intelligence of project team members with and without mindfulness practice in the construction industry
- d. To examine the effects of mindfulness practice on the emotional intelligence of project team members in the construction industry.

## **1.5 Research Questions**

Furthermore, in line with the above aim and objectives, this study seeks to investigate on the following questions:

- a. Is there a relationship between age and emotional intelligence of project team members in the construction industry?
- b. Is there a relationship between gender and emotional intelligence of project team members in the construction industry?
- c. Is there a different in emotional intelligence of project team members with and without mindfulness practice in construction industry?
- d. Are there any effects of mindfulness practice on the emotional intelligence of project team members in the construction industry?

## **1.6 Research Hypothesis**

Some studies have reported on the positive relationship between mindfulness practice and emotional intelligence (Baer, 2003). This study aimed to study the relationship between age, gender and emotional intelligence of project team members and to determine and examine the effects of mindfulness practice which can significantly facilitate on the emotional intelligence of project team members. According to some researches, the following hypothesis can be proposed to allow for further analysis on the relationship between age, gender, mindfulness practice and emotional intelligence of project team members:

- Age and Emotional Intelligence:
  - $H_0$  = There is no statistically significant relationship between age of project team member and their emotional intelligence.
  - $H_a$  = There is statistically significant relationship between age of project team member and their emotional intelligence.
  
- Gender and Emotional Intelligence:
  - $H_0$  = There is no statistically significant relationship between gender of project team member and their emotional intelligence.
  - $H_a$  = There is statistically significant relationship between gender of project team member and their emotional intelligence.
  
- Mindfulness Practice and Emotional Intelligence:
  - $H_0$  = There is no statistically significant relationship between mindfulness practice and the emotional intelligence of project team member.
  - $H_a$  = There is statistically significant relationship between mindfulness practice and the emotional intelligence of project team member.

## **1.7 Research Scope**

The coverage of this research includes of three scopes. The first scope of this research is focus on the individuals who are from Malaysia. The second scope of this research is to gather the information of mindfulness practice in Malaysia. In addition, mindfulness related research paper from other countries will be used as the literature review for this research. Lastly, the third scope of this research is to gather the information from the professional and project team members where they worked in the construction industry.

## **1.8 Significance of Research**

This research is related to the effects of mindfulness practice on the emotional intelligence which is one of the key success criteria to enhance the performance and cooperative between project team members. By exploring mindfulness practice and emotional intelligence of project team members, it can help to minimize the conflicts that might happen in a project implementation. Besides that, project team member with higher emotional intelligence can also influence other project team members by motivate them to contribute for a better project success. As results, this study will show the effects of mindfulness practice on the emotional intelligence of project team members that lead to a better project success. Lastly, this study also highlights the importance of mindfulness practice on the emotional intelligence of project team members as the essential success criteria for a construction project.



## **1.9 Structure of Dissertation**

This dissertation is organized into five chapters, which are structured as following:

### Chapter 1 – Introduction

Chapter 1 provides the overview of this research and setting out the foundation for the following chapters. The research background, problem statement, research aim, research objectives, research hypothesis, research scope, significance of research and thesis structure will be included in this chapter.

### Chapter 2 – Literature Review

Chapter 2 will focus on the literature review. The previous studies from journals, articles, reports and books will be discussed in this chapter. Also, this chapter will provide an understanding of the effects of mindfulness practice and emotional intelligence which relate to the project team members in construction industry.

### Chapter 3 – Research Methodology

Chapter 3 discusses the research methodology employed in the present study to test the theoretical framework. A few different tests will be conducted in this report in order to achieve the desired result towards the targeted aim and objectives including the methodology for data collection and analysis.

#### Chapter 4 – Results and Discussions

Chapter 4 shows the results analysed based on the data collected from the questionnaire survey and illustrate in the appropriate format. The outcome of the research will be interpreted and discussed in this chapter.

#### Chapter 5 – Conclusions and Recommendations

Chapter 5 is about the conclusion and recommendation. This chapter will summarize and conclude the research related to the research objectives. Furthermore, limitation of the research and recommendation for future research will be discussed in this chapter.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 Overview**

This chapter presents the literature review in three sections. The first section provides brief introduction of mindfulness, historical development of mindfulness, scientific perspectives on mindfulness and lastly the mindfulness meditation.

The second section presents reviews on emotional intelligence and the competencies of emotional intelligence. In generally, emotional intelligence will be clearly defined in this section. Besides that, further reviews on the competencies of emotional intelligence also will be discussed in this section. Basically, competencies of emotional intelligence can be divided in to two groups which are intrapersonal and interpersonal. Competencies of self-awareness, self-management and motivation will be discussed in the group of intrapersonal competencies of emotional intelligence. On another hand, competencies of social awareness and relationship management will be discussed in the group of interpersonal competencies of emotional

intelligence. Also, the importance and influence of intrapersonal and interpersonal competencies will be discussed here. Moreover, the relationship between age, gender and emotional intelligence also will be discussed on in this section.

Last but not least, the last section of this chapter discusses briefly about the effects of mindfulness practice on the emotional intelligence of projects team members which might influence on the performance of a project team member and the project success.

## **2.2 Introduction of Mindfulness**

Mindfulness is a way of directing attention that originates in Eastern meditation traditions but is increasingly discussed and practiced in Western culture (Baer et al., 2004). Due to the pace of modern life style and increasing of stress in life, research interest in mindfulness have been increase in order to determine the effects of mindfulness to deal with the difficult in life events (Weinstein et al., 2009). Kabat-Zinn (1990) had defined that mindfulness is paying focus on one's attention in a non-judgemental way during the experience occurring in the present moment.

In contrary, mindlessness is defined as either not paying attention or awareness on the activities one is engaged in the internal states (e.g., emotions) of one is experiencing (Reb et al., 2014). On another hand, mindfulness allows one's learn to direct the attention to experience from moment by moment with an open-

mindful curiosity. It is a skill that can be learned by practices, akin to meditations, that focus on immediate felt experience in the breath, body and mind (Weare, 2014).

Apart from that, some researches revealed that mindfulness is positively associated with better health, well-being, and emotional intelligence. For example, mindfulness training has been found to reduce chronic pain and anxiety and increase immunity (Reb et al., 2015). Moreover, some researches also described that mindfulness can possibly associated with positive impact on one's especially increases psychological well-being (Davidson et al., 2003). Other than that, some research results revealed that mindfulness practice such as mindfulness meditation can positively lead to structural changes to the brain, which resulted a positive affect (Reb et al., 2014).

Moreover, some researchers found that mindfulness practice increased the ability of identifying and communicating emotional states with others and this have led to an improvement of relationships between people (Reb et al., 2014). Other than that, mindfulness can help an individual to develop higher emotional intelligence which can achieve higher well-being in life (Bao et al., 2015). Apart from that, some study suggests that mindfulness practice can help to increase one's ability especially on handling relationship stress. Reb et al. (2014) described that mindfulness practice helps on increasing the empathic concern and lead to a better relationship between people.

In summary, social relations serve as the vital interaction between human, and by constantly practicing mindfulness can enhancing the positive affects on the relationship. Also, this proves beneficial for the leader, supervisor and management level for maintaining and enhancing the employee well-being and performance.

### **2.2.1 Historical Development of Mindfulness**

Mindfulness meditation has been applied in human endeavours for thousands of years (Morales-Knight, 2009). Besides that, mindfulness meditation has been found of great value by different religions, different geographies and different eras (Morales-Knight, 2009). In addition, mindfulness is a term that referring to the combination of contemplative science and Eastern introspective psychological practices which made reference to the concept over 2,500 years ago (Black, 2011).

The Eastern spiritual tradition, especially Buddhism had introduced the cultivation of mindfulness practice over thousand years ago (Baer et al., 2004). The traditions suggest that regular practice of mindfulness meditation associated with the positive impact on one's such as reduces suffer, develop positive qualities, enhance compassion and etc. (Baer et al., 2004).

Furthermore, Western term of mindfulness found its origin in Pali, the language of Buddhist psychology over 2,500 years ago (Dean, 2009). The nature of mindfulness is implicit in the original Pali word for mindfulness, Sati (Weick &

Putnam, 2006). Sati in Pali's language, which referring to the components of awareness and attention corresponds to the Western idea of present moment awareness (Dean, 2009). Other than that, mindfulness also serves to emphasize that in the Eastern traditions such as reminding one's to pay attention at the present moment (Dean, 2009). This concept is similar as the Western idea of intent in that one has to live at the present moment and this can help one's to become more mindful (Dean, 2009).

Some studies revealed that constant mindfulness practice may be beneficial to Westerners who are unwilling to adopt Buddhist terminology or traditions (Baer et al., 2004). Also, some researchers describe that mindfulness is representative of Eastern Wisdom and Western Knowledge and has been adopted in the modern times (Weick & Putnam, 2006). According to Jon Kabat-Zinn (1982), mindfulness practices are sometimes conceptualized as sets of skills that can be taught independently of their spiritual origins and sometimes independently of traditional meditation (Kabat-Zinn, 1982).

Ultimately, mindfulness practices in western world have been incorporated into several interventions which in psychological, medical and mental health settings such as mindfulness-based stress reduction (MBSR; (Kabat-Zinn, 1982)), mindfulness-based cognitive therapy (MBCT; (Kabat-Zinn, 1982)), mindfulness-based emotional intelligence (MBEI; (Tan, 2012)) and etc.

### **2.2.2 Scientific Perspectives on Mindfulness**

Mindfulness practice is primarily an attention discipline designed to establish control over automatic thought patterns and negative affective responses, the physiological dimensions of the practice have received the most attention by health researchers (Neale, 2006). Some researchers reported that mindfulness practice is associated with positive effects such as psychiatric, functional somatic and stress-related symptoms (Baer, 2003). Also, mindfulness practice was proved that positively influences on one's physical health such as improved immune function (Hozel et al., 2011). Apart from that, some studies on mindfulness practice revealed the positive effects on psychological wellbeing of individual especially the emotional intelligence (Hozel et al., 2011).

On the scientific perspective, prefrontal control systems can be enhanced by practising mindfulness meditation. The prefrontal control systems are used to modulate the emotion generative systems, amygdala that responsible for the detection of affectively arousing stimuli (Ochsner & Gross, 2005). Furthermore, mindfulness practice can help to deliberately regulate affective responses, which resulted in increased activation of prefrontal cortex and decrease activation in the amygdala (Hozel et al., 2011). Other than that, some neuroimaging studies have found out that constant mindfulness practice can positively associate with improvement on prefrontal control over amygdala (Hozel et al., 2011).

Moreover, some researchers suggest that regular mindfulness practice can leads to structural changes to the dorsolateral prefrontal area of the brain. This area is



mainly associated with positive affect on an individual (Reb et al., 2014). Besides that, mindfulness meditation can affect the brain structure by increasing the cortical thickness in the hippocampus which helps to improve the emotional intelligence of an individual (Tan, 2012). On another hand, the decreasing of brain cell volume in the amygdala can help to improve the awareness, decision making and conflicts thoughts (Tan, 2012).

In summary, improvement of well-being, emotion intelligence and mental health are strongly associated with constant mindfulness practice which likely underlies the positive effects of mindfulness practice with those scientific evidences (Hozel et al., 2011).

### **2.2.3 Mindfulness Meditation**

In recent years, modern Western psychotherapists had discovered the potential psychotherapeutic techniques, most originating over thousand years ago, which are from the Eastern 'psychological literature' (Deatherage, 1975). Mindfulness meditation has rooted in Eastern cultures for long time, but research on its contributions in Eastern countries is still lacking compared to Western countries (Charoensukmongkol, 2014). Mindfulness meditation technique is a very 'client-centered' approach to psychotherapy (Deatherage, 1975). Mindfulness meditation technique is suitable for either individual or group therapy (Deatherage, 1975).

The process of mindfulness meditation starts with an intention (Tan, 2012). By creating intention, it allows for wanting to abide in mindfulness (Tan, 2012). The purpose of mindfulness meditation is to reduce stress and increase wellbeing (Tan, 2012). After that, start to pay attention to the breathing with eyes closed and aware on the inhale and exhale of the breath (Alexander, 2009). Distraction is commonly happened during mindfulness meditation (Tan, 2012). However, it is important to quickly bring the attention back and regain attentional focus (Tan, 2012). Lastly, become aware of the attitude and shift the attitude toward self-directed kindness and curiosity (Tan, 2012).

Many different meditation postures can be adopted as long as the practitioner feels comfortable while meditating (Tan, 2012). Sitting, standing, walking and lying have been defined as the four major meditation postures in Buddhism (Tan, 2012). The purpose of these postures is to help the practitioner to remain alert and relaxed at the same time (Tan, 2012). Traditional mindfulness meditation included the following seven steps (Tan, 2012).

- i. Back straight “like an arrow”
- ii. Legs crossed in “lotus position”
- iii. Shoulders relaxed, held up and back, “like a vulture”
- iv. Chin tucked in slightly, “like an iron hook”
- v. Eyes closed or gazing into space
- vi. Tongue held against the upper palate
- vii. Lips slightly apart, teeth not clenched

On another hand, Alexander (2009) has described that mindfulness practice will have different resistances subject to the individuals, but it requires more time and effort for most people to realize the changes (Alexander, 2009). More specifically, Alexander discussed that time of day is not that important for mindfulness meditation (Alexander, 2009). However, a period of 20 to 30 minutes of mindfulness meditation ideally for a person (Alexander, 2009). Moreover, Alexander (2009) suggested that meditating should perform in an environment with a closed door and no distractions. Also, Alexander has suggested the following six steps for performing mindfulness meditation (Alexander, 2009):

- i. Get the body into a comfortable posture by sitting crossed legged on a chair with firm back.
- ii. Focus on eyes by keeping both eyes closed and focus on one spot, ideally toward the tip of nose.
- iii. Paying attention to the breathing and with an awareness of the lungs and diaphragm.
- iv. Both hands should place in a relaxing and energized position, because it will affect the flow of energy throughout the body.
- v. Be aware when breathe in and out and mentally note the thoughts, feelings, smell, sounds and physical sensations (itching, temperature and discomfort).
- vi. Slowly come back into ordinary consciousness by having three long, slow deep breaths before open the eyes.

As a result mindfulness meditation can be performed in various postures, but these postures do have a common theory behind which is to be aware on the feelings, thoughts and physical sensations on the body (Alexander, 2009).

### **2.3 Introduction of Emotional Intelligence**

Emotional Intelligence (EI) has become of widespread interest to psychological research in recent years (Nikolaou & Tsaousis, 2002). EI was introduced as set of social skills and abilities akin to, but distinct from intellectual intelligence (Mayer & Salovey, 1990). In some studies, EI has been defined as the ability to monitor one's own and others' feeling and emotions, to discriminate among them and to use this information to guide one's thinking and actions (Mayer & Salovey, 1990). In generally, EI involved in the capacity to perceive emotions, assimilate emotion-related feelings, understand the information of those emotions, and manage those emotions (Nikolaou & Tsaousis, 2002).

Furthermore, EI also can be described as having four branches: the ability to accurately perceive and express emotion, assimilate emotion into thought, understand emotion, and regulate emotions in the self and others (Jackson & Segrest, 2010). This concept of EI described as a cognitive process of active social judgement (Snowden et al., 2015). For example, EI can be applied into many various field such as education, jobs, personal growth, interpersonal differences, and so on (Snowden et al., 2015). Apart from that, some researches show that EI can be divided into two

parts, which are interpersonal and intrapersonal competencies (Songer & Walker, 2004). Interpersonal competencies referring to the ability to effectively communicate with and respond to others while intrapersonal competencies referring to the ability to understand oneself and to use information to regulate one's life (Songer & Walker, 2004). These are the competencies of one's to accurately perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth (Shahhosseini et al., 2012).

Likewise, many studies reflect that EI, especially on the emotional balance and empathy can have a direct link between EI and performance in work and study (Nikolaou & Tsaousis, 2002). Particularly, the strongest connection with EI is the occupational environment (Nikolaou & Tsaousis, 2002). More specifically, some researches show that the success at work is also associated with the EI of project team members (Nikolaou & Tsaousis, 2002). Also, higher level of EI has been shown to improve performance within the workplace, amongst teams, and in leadership situation (Mischung et al., 2015).

Leaders with higher EI are the core for the organizational success. A higher EI leader will have the ability to understand the employee's feelings at work environment, to provide guidance and assistance when problems arise, to motivate them in order to gain the trust and to understand the political and social conventions within an organization (Batool, 2013). An argument has been raised on the importance of EI on the leadership behaviours (Nikolaou & Tsaousis, 2002). In addition, another study has also shown the significant correlations between EI and three aspects of

transformational leadership which are idealized influence, inspirational motivation and individualized consideration (Nikolaou & Tsaousis, 2002).

People with higher EI are proven to become more successful in their workplace. Better understand on owns emotions and behave the way that they behave can resulted in higher EI. Also, they can use their emotions as guide of what their body and mind trying to tell him. Lastly, use their EI to understand other's feelings and perspectives (MTD Training, 2010).

#### **2.4 Emotional Intelligence – Intrapersonal Competencies**

Emotional intelligence can be divided into two groups, which are intrapersonal intelligence and interpersonal intelligence (Tan, 2012). Intrapersonal intelligence is the ability to understand one's own feelings, motivation and fears (MTD Training, 2010). In the intrapersonal intelligence, the competency consists of self-awareness, self-management and motivation (Tan, 2012). These competencies also known as "self-smart", which will mainly influence on a person themselves by enhancing their awareness and focus (Behjat, 2012). Furthermore, Pishghadam (2009) described that intrapersonal competencies regards one's own feelings and emotions (Pishghadam, 2009). Apart from that, Perez and Ruz (2014) discuss that intrapersonal competencies can help individuals to make judgments and distinctions between their own thoughts, to build appropriate mental models of them and rely on those models when making decisions about their own lives (Perez & Ruz, 2014). Thus,

intrapersonal competencies are essential to the growth of an individual, which it will provide the ability to understand the internal aspect and implement self-awareness and self-management (Perez & Ruz, 2014).

#### **2.4.1 Self-Awareness**

Self-awareness is the ability to recognize one's feeling and understand the thoughts and emotions are interconnected as well as can influence other in determine one's mood (Hauksson, 2015). Furthermore, Dulewicz and Higgs (2005) described that self-awareness is the awareness of one's own feeling and capability to recognize and regulate these emotions or feeling as he or she wants (Dulewicz & Higgs, 2005). Some studies show that self-awareness have the ability to allow one's to perceive, understand and regulate their thoughts and emotions (Darwin, 2015).

Generally, self-awareness involves of three skills, which are emotional self-awareness, accurate self-assessment and self-confidence (MTD Training, 2010). The three skills are interrelated to each other and it can train an individual to have a better assessment on themselves and understanding their own emotions (MTD Training, 2010).

Tan (2012) described that emotional self-awareness is about the clarity into own emotions (Tan, 2012). Clarity is about creating awareness into a self on two dimensions, which are vividness and resolution (Tan, 2012). Vividness is an ability

that allows one's to perceive the process of emotion in high clarity (Tan, 2012). On another hand, resolution is an ability to perceive the process of emotion in subtle changes and perceive the experience of the emotion in real time as its happening (Tan, 2012). An individual with higher level of emotional self-awareness can view themselves from the third party perspective (MTD Training, 2010).

Next, Tan (2012) described that self-assessment is about honest about own strengths and weaknesses (Tan, 2012). Self-awareness is being able to accurately assess own emotions that might affecting the performance, behaviour and relationships of one's (MTD Training, 2010). Moreover, one's who can clearly understand their own priority and goal can perform better than others (Tan, 2012). Project team members need to understand their own emotions, so that can prevent to sabotage the success of the project (MTD Training, 2010).

Last but not least, self-confidence has been described as to recognize and acknowledge the feelings of one's at the very first moment (MTD Training, 2010). One's with highly developed level of self-confidence understand about their own capabilities but not an indicator of their value as a person (MTD Training, 2010). People with higher level of self-confidence will have certainty about their own values and capabilities (MTD Training, 2010). Also, highly self-confidence people can project certain value of charisma that can inspire people to work with you (Tan, 2012).



### 2.4.2 Self-Management

Self-management is also known as self-regulation in some EI studies (MTD Training, 2010). In addition, self-management is referring to the act of taking responsibility on own emotions (MTD Training, 2010). Besides that, some studies described that self-management is about staying in control on all emotions arise in one's (Batool, 2013). Tan (2012) defined that self-management is the process of managing one's internal states, impulses, and resources (Tan, 2012).

Furthermore, Tan (2012) also explained that the purpose of self-management is trying to change the situation and gain mastery on own emotions (Tan, 2012). Also, self-management is the ability that allows an individual to control their emotions instead of let the emotions controls those (Tan, 2012). People who can mastery their emotions, they can manipulate their emotions as they wanted to such as happy, sad, angry and etc. (Tan 2012)

Nevertheless, self-management is beyond self-control (Tan, 2012). There are six competencies that can relate to self-management, which are self-control, trustworthiness, conscientiousness, adaptability, achievement orientation and initiative (MTD Training, 2010). The common meaning of these competencies is about choice that can be chosen by an individual (Tan, 2012).

Lastly, self-management is about to understand the emotions arise and think before react to the emotions (Tan, 2012). Also regulation is not to avoid, deny and suppressing the feeling (Tan, 2012). A well train mind can let go the emotions

immediately once it arises (Tan, 2012). In summary, self-management is not only control the emotions and choose the emotions, but it allows people to utilize the full range of internal resources and helps to establish the confidence in life (Tan, 2012).

### **2.4.3 Motivation**

Motivation has been defined as the ability of controlling emotional tendencies that facilitate in other to reach one's goals (Mohamad & Jais, 2016). Also, motivation is referring to the abilities to set an objective and stay focus to achieve the objective (Mohamad & Jais, 2016). Apart from that, some research resulted that motivation is the competency that positively associated with the project success across all types of project (Hauksson, 2015). Motivation is highly important for the interaction between project team members (Hauksson, 2015).

Tan (2012) described that motivation can be achieved by follow the three main steps (Tan, 2012). These three steps included of alignment, envisioning and resilience (Tan, 2012). First of all, alignment is referring to align the deepest value of an individual (Tan, 2012). By align the work, the value of life and the work understanding, can helps to motivate one's from its internally (Tan, 2012). Secondly, envisioning is referred to envision the objective that wants to be achieved in the ideal future (Tan, 2012). Lastly, resilience helps to get the optimism and power to an individual to achieve the setting goal in the future (Tan, 2012).

Apart from that, motivation is also related to the happiness that can be gain in doing something (Tan, 2012). Basically, happiness can be categorized into three levels, which are pleasure, passion and purpose (Tan, 2012). Pleasure is the low level of happiness that can motivate people and it is less sustainable (Tan, 2012). Passion is the happiness that more sustainable comparing to pleasure (Tan, 2012). Lastly, purpose is the happiness that motivates people the most by doing the meaningful work (Tan, 2012).

In summary, motivation is assurances would involve in every day action which could also committed to any particular cause (Mohamad & Jais, 2016). Also, the deepest intention or values of one's, is always the best motivator for them (Tan, 2012).

## **2.5 Emotional Intelligence – Interpersonal Competencies**

Emotional intelligence can be divided into two groups, which are intrapersonal intelligence and interpersonal intelligence (Tan, 2012). Interpersonal intelligence is the ability to understand others and their desires, motivation and intentions (MTD Training, 2010). In the interpersonal intelligence, the competency consists of social awareness and relationship management (Tan, 2012). These competencies involve verbal and non-verbal communication skills, relating and collaboration skills, conflict management skills, promoting team spirit, respecting others and being respected (Petrovici & Dobrescu, 2014). Also, Interpersonal competencies can use to

ease and comfort of communication between individuals and other project team members (Sunindijo & Zou, 2013). In addition, this type of competencies can train an individual with the ability to distinguish among the various interpersonal relationships and the ability to respond efficiently to the respective situations, as well as to guess and interpret the hidden reactions of others (Petrovici & Dobrescu, 2014). Thus, interpersonal competencies are the key elements contributing to establish and maintain the positive interaction and good relationship between project team members (Petrovici & Dobrescu, 2014).

### **2.5.1 Social Awareness**

Social awareness has been defined as an ability to understand the emotional of others and using the right skills in treating people according to their emotional reactions (Joseph & Wawire, 2015). Also, some studies have described that social awareness as an ability to have understanding and sensitivity to the feelings, thoughts, and situations of others (Lunenburg, 2011). In addition, Lunenburg (2011) also explained that social awareness is about understanding another person's situation, experiencing the other person's emotions, and knowing their needs even when unstated (Lunenburg, 2011).

In generally, social awareness includes of empathy, organizational awareness, and service orientation (Scott-Halsell et al., 2008). First of all, empathy is a competency that gives people to have better awareness on others' emotions, concerns,

and needs (Goleman, 2001). Moreover, empathy is about being aware on others' feelings and needs, and able to feel others' emotions on different perspectives (Scott-Halsell et al., 2008). For example, an empathic person can read emotional currents, picking up on nonverbal cues such as tone of voice or facial expression (Goleman, 2001). Other than that, an empathic project team member with awareness of the diversity of personalities and able to accept the diversity of people can have positive impact within a project (Luca & Tarricone, 2001).

Next, organizational awareness is about being aware of the environment around oneself, including political undertones (Scott-Halsell et al., 2008). Besides that, some studies discussed that organizational awareness competency involves reading a group's emotional currents and power relationships (Suifan et al., 2015). Furthermore, Goleman (2001) suggested that networking and coalition building can be enhancing with an individual with stronger organizational awareness competencies. For instance, an aware project team member will go beyond sensing the emotions of others by showing their care (Lunenburg, 2011).

Lastly, service orientation is the competency to anticipate, recognize, and meeting other project team member's needs (Suifan et al., 2015). This competency builds upon the other social awareness skills especially when an individual have empathy for others, they will understand their influence to the organizational structure and begin to assist other project team members (MTD Training, 2010).

In summary, social awareness refers to having understanding and sensitivity on the thoughts, situations, emotions and feelings of others (Lunenburg, 2011).

Project team members with high social awareness would be able to assist a team to achieve a greater project success (Lunenburg, 2011).

### **2.5.2 Relationship Management**

Relationship management encompasses social interaction, and it has been defined as an ability to use awareness of one's emotions as well as the emotions of others to manage interactions successfully (Suifan et al., 2015). A successfully interaction comprises of clear communications between people and also effective conflict management (Suifan et al., 2015). Also, relationship management is a skill that used to manage relationships and building networks. Good management on relationship can help to achieve the desired results from others and find the common ground and build support between people (Joseph & Wawire, 2015).

Furthermore, some researches discussed that relationship management is referring to guiding other's emotions such as inspiring others, influencing other's belief and feelings, develop other's capabilities, manage change, resolving problems, supporting teamwork and leading the team (Lunenburg, 2011). The purpose of these practices are to influence other and helping other to develop positive impact onto them (Lunenburg, 2011). Besides that, relationship management is good at persuading others to share their vision and continually enlarge the social network to win more supports (Lunenburg, 2011).

Apart from that, some studies discussed that relationship management as a set of competencies includes essential social skills. Goleman (2001) identified that social skills consists of:

- i. Developing others; willingness and ability to help others (MTD Training, 2010).
- ii. Leaderships; helps others become enthusiastic and take on a leaderships role when needed (MTD Training, 2010).
- iii. Influence; ability to have an impact on others and their decision making with positive affect (MTD Training, 2010).
- iv. Communication; is an important skill that helps to resolve conflicts, help develop others and understand other person's point of view (MTD Training, 2010).
- v. Change analyst; is a skill that allows people to forward-thinking and open to change as a way of improvement (MTD Training, 2010).
- vi. Conflict management; recognize that conflict can be an opportunity and help an individual or a work group to resolve problems (MTD Training, 2010).
- vii. Buildings bonds; is a skill to build up the people skills, communication skills, and self-confidence by enhancing the social network (MTD Training, 2010).
- viii. Teamwork and collaboration; is a skill that helps to develop a view of teams as something that need nurturing (MTD Training, 2010).

Last but not least, relationship management can allow a project team member to motivate and inspire other project team members by challenging them, and create a sense of teamwork (Scott-Halsell et al., 2008). Also, relationship management can help to promote a positive climate and minimize negative emotions among project team members (Scott-Halsell et al., 2008).

## **2.6 Relationship between EI and Gender**

EI has proven to be a relevant construct in different domains of daily life, including mental and physical health, social functioning, and academic and workplace performance (Castilo et al., 2012). In the recent research on emotional intelligence, the emotional competencies are closely linked to the gender differences, childhood, adolescence and adulthood (Montanes et al., 2008). Also, several authors have analysed differences in emotional abilities as a function of social demographic variables such as gender, ethnicity, age and socioeconomic or educational level (Castilo et al., 2012).

The popular belief is that, women are more emotionally intelligent than men, but emotional intelligence does not respect the gender (Ahmad et al., 2009). An analysis of emotional intelligence was found in thousands of men and women which showed that women, on average, are more aware of their emotions, show more empathy, and are more adept interpersonally (Ahmad et al., 2009). Apart from that, some studies also claimed that males and females are different in their emotional



intelligence profile. Specifically, some empirical studies found that females have higher level of emotional intelligence in compare with males (Khalili, n.d.).

On the other hand, some findings also show that men are more self-confident, optimistic and adaptable. Apart from that, it was found that men are more capable of handling stress compared to women (Ahmad et al., 2009). However, most studies had revealed that women have higher emotional intelligence than men. Some studies described that females tend to have higher emotional intelligence and intimate in relationships as compared to males (Ahmad et al., 2009). Last but not least, the personality characteristics can be the influential to the females' emotional intelligence. In addition, some findings found out that women scored higher with regard to empathy, social responsibilities and interpersonal relationships than boys (Ahmad et al., 2009).

## **2.7 Relationship between EI and Age**

Increasing of age had proved to have a correlation on the emotional intelligence of one's (Nayak, 2014). In some studies, it shows that the emotional intelligence increases with age and experience (Nayak, 2014). Also, some findings writes that the level of emotional intelligence is not fixed genetically but it can be develop throughout the age and experience (Shiple et al., 2008). Moreover, some researchers revealed that there is a positive relationship between age and emotional intelligence (Shiple et al., 2008).

Particularly on the relationships between age and emotional intelligence, some studies stated that emotional intelligence increases with age, because emotional intelligence can be learned, cultivated and increased along with the increasing of age of one's (Nayak, 2014). Also, some findings show that EI competencies can be trained, learned and cultivated in between two to five years (Nayak, 2014). Besides that, Wong and Law's studies stated that a different group of subjects found that age is positively correlated with emotional intelligence (Wong & Law, 2002). Furthermore, Van-Rooy et al. (2005) conducted a study on EI test on 275 participants and the results indicated that emotional intelligence scores increase with age.

Apart from that, Mayer and Salovey (1990) asserted that in order for emotional intelligence to be considered a standard intelligence, it should increase with age and experience (Mayer & Salovey, 1990). A comparison had been done on compared between adolescents and adult's performance; the results showed that the adult group is having a significantly higher level of emotional intelligence than the other group. Other than that, a study stated that the students had full-time work experience had a significantly higher mean total emotional intelligence score than students that did not have full-time work experience (Shipley et al., 2008).

## **2.8 Effects of Mindfulness on EI of Project Team Members**

Some scholars have revealed a positive relationship between mindfulness practice and EI (Baer et al., 2006). Enhancement of mindfulness level has significantly facilitated the development of EI (Charoensukmongkol, 2014). Specifically, Mindfulness practice has been shown to increase awareness of internal experience, improve on self-regulation and increase self-acceptance (Baer, 2003). Also, constantly practising mindfulness meditation has been shown to correlate positively with the competencies of EI, especially, self-esteem, and self-acceptance (Weare, 2014).

Apart from that, a number of studies have explored the positive effect of mindfulness practice to the EI of project team members (Charoensukmongkol, 2014). Studies show that regular practice of mindfulness meditation can enhance the ability to understand own emotions (Darwin, 2015). Mindfulness practice requires practitioners to pay attention on their thoughts, body sensation and feelings from moment-to-moment without any judgment or interference, and this can help to develop higher tendency to be aware of their emotional change (Brown et al., 2007). Also, mindfulness practice is positively associated with the clarity of own feelings, thoughts and emotions (Darwin, 2015).

Other than that, mindfulness allows people to focus on their attention better on how other people around them are feeling (Baer et al., 2006). Also, this can help people to understand other's emotions more accurately. Moreover, regulation and control on emotions can be enhanced by practising mindfulness regularly

(Charoensukmongkol, 2014). Mindful people tended to recover quickly from emotional distress compared to others (Darwin, 2015). In addition, mindfulness meditation can allow people to effectively use their emotions (Charoensukmongkol, 2014). The quality of being mindful can allow one to pay more attention on a task that might be performed better when a specific emotion is in place; and to avoid performing a task that cannot be performed well under such emotion (Darwin, 2015).

Lastly, effects of mindfulness practice to the EI of project team members can be categorized as improved on empathy, improved on affective regulation, increased on intentional focus and ethical decision making (Hauksson, 2015). All these effects are directly and indirectly associated with the positive impact to the project performance (Hauksson, 2015).

### **2.8.1 Improved on Empathy**

Empathy is a competency that gives people better understanding on awareness of others' emotions, concerns, and needs (Goleman, 2001). A number of studies have shown that mindfulness practice promotes EI competency, particularly empathy (Hauksson, 2015). Moreover, improved on empathy can enhance the awareness on others' feelings and needs, as well as being able to see things from others' perspectives (Scott-Halsell et al., 2008). For example, an empathic person can read emotional currents, picking up on nonverbal cues such as tone of voice or facial expression (Goleman, 2001). By understanding the needs, thoughts and feelings of

other project team members can positively impact on project performance (Hauksson, 2015).

### **2.8.2 Improved on Affective Regulation**

Affective is the behavioural expression of emotion and affect regulation is a set of processes that individuals use to manage emotions and their expressions to accomplish goals (Hauksson, 2015). Lutz et al (2008) have shown that mindfulness practice can help to improve aspects of regulation on emotions (Lutz et al., 2008). Also, mindfulness meditation can help to increase control of behaviour (Darwin, 2015). In addition, negative emotions can be reduced by practising mindfulness meditation (Hauksson, 2015).

### **2.8.3 Increased on Focus**

Some studies have shown that mindfulness practice can enhance numerous cognitive functions (Hauksson, 2015). This has resulted that mindfulness practice can help to reduced mind wondering when performing tasks (Hauksson, 2015). Besides that, some researchers found that mindfulness practice helped people disengage from emotionally upsetting pictures and enabled them to focus better on a cognitive task (Ortner et al., 2007).

#### **2.8.4 Ethical Decision Making**

Many unethical decisions stem from lack of awareness. Scientific research resulted that an individual's awareness of his or hers present moment impacts ethical decision making (Hauksson, 2015). Furthermore, some studies explained that mindfulness practice may improve ability to maintain preparedness and orient attention, improve ability to process information quickly and accurately and support the development of creativity (Shapiro et al., 2008). Also, some studies show that people with higher level in mindfulness practice cheated less than those who were not (Hauksson, 2015). Therefore, the effects of mindfulness practice are clearly connected to the ethical decision-making (Hauksson, 2015).

## 2.9 Conclusion

After reading from various resources, there are many significant results and outcomes showing the effects of mindfulness practice on the emotional intelligence of an individual. Furthermore, some studies also showed the importance of emotional intelligence of one's can significantly influence on the work performance and project outcome. Specifically, emotional intelligence can allows one's to motivate themselves to cope with different kind of stress and work challenge.

Apart from that, some researchers also show that an individual with higher level of emotional intelligence will care more on other's feeling. Empathy is one of the core competencies of emotional intelligence which can allow one's to understand and feel the emotions and feeling of others. Also, some studies resulted that a good leader with empathy can lead the team with more mindfully and drive the team to achieve the objective goal with more efficient and effective.

In the nutshell, there has been very limited research done on identifying the emotional intelligence of project team members with and without mindfulness practice in the construction industry. Therefore, this research will focus to study the relationship between age, gender and EI of project team members in the construction industry and to determine and examine the effects of mindfulness practice on the emotional intelligence of project team members in the construction industry which can help to improve on the work performance and to achieve a better project success in construction industry.

## **CHAPTER 3**

### **METHODOLOGY**

#### **3.1 Overview**

This research aimed to examine the effects of mindfulness practice on the emotional intelligence of project team members in the construction industry. Apart from that, a number of studies will be conducted on studying on the relationship between age, gender and emotional intelligence of project team members in the construction industry. Moreover, this research also aimed to determine the emotional intelligence of project team members with and without mindfulness practice in the construction industry. Last but not least, this chapter will presents the research method, survey instrument, survey sample, survey questionnaire and the method use to analyse the data collected. Specifically, the Demographics of Respondents, Cronbach's Alpha Test, One-way ANOVA Test, Independent T-test and Pearson Product-Moment Correlation Test will be applied in this research.



## 3.2 Research Method

Research method is characterized as the tools and techniques applied in collecting and analysing data (Walliman, 2011). Research is a term used liberally for any kind of investigation that is intended to uncover interesting or new facts (Walliman, 2011). In generally, there are four types of research are as following (Kothari, 2004):

- i. Descriptive and Analytical Research
- ii. Applied and Fundamental Research
- iii. Quantitative and Qualitative Research
- iv. Conceptual and Empirical Research

Descriptive research is applied on circumstances that exist at present. Also, descriptive research is use to describe the phenomenon study and its characteristic. Basically, it will focus on reporting what has happened or what is happening. Therefore, this method does not further study on the causes behind the phenomenon of research. After applying the descriptive research, analytical research method can be applied to analyse a critical evaluation of the materials through facts or information available and collected (Kothari, 2004).

On another hand, applied research is focus on finding solution for an immediate problem. The researchers will see the research as a practical context to find out the most effective solution. On the contrary, fundamental research is mainly concerned with finding additional information about a phenomenon, which researchers will undertake research only to derive some increased knowledge in a

field of their inquiry. Usually, this research method mainly use to study about human behaviour carried on with a view to making generalizations about human behaviour fall in the category of fundamental or pure research. However, if the research, of human behaviour is carried out with a view to solving a problem, it is advisable to use applied research method (Kothari, 2004).

Quantitative research is applicable to a phenomenon that can be expressed in terms of quantity. The purpose of quantitative research is to develop and employ mathematical model, theories and hypothesis pertaining to the phenomenon that intended to study. Furthermore, quantitative research allows researchers to do measurement, which can helps to provide fundamental connection between empirical observation and mathematical expression of quantitative relationship. A solid example for quantitative research is by questionnaire. In contrast, qualitative research is concerned with phenomenon relating to investigating the motives behind of certain human behaviour. For example, investigate on why people think or do certain things, or opinions about, a particular subject or institution, say adultery or judiciary through interview (Kothari, 2004).

Fourthly, conceptual research is related to some abstract ideas. Generally, conceptual research is mainly used by philosophers to develop new concepts or to re-interpret the existing ones. Whereas, empirical research relies on experience or observation alone, without refer to theory. It is data-based research, coming up with conclusions that are capable of being verified by observation or experiment. Also, empirical research is also known as experimental research (Kothari, 2004).

In this research, quantitative research method will be the most suitable method to be adapted. Quantitative research is suitable for this large sample of research as it tends to save time and money while collecting data. Plus, this method is convenient for respondents to answer the questions and collect the data needed for analysis. Furthermore, due to this research is aimed to study on the relation between age, gender and emotional intelligence of project team members, to determine the emotional intelligence of project team members with and without mindfulness practice, to examine the effects of mindfulness practice on the emotional intelligence of project team members in the construction industry. Hence, the secondary data had been collected by literature review in which comprehensive reviews of relevant books, journal and newspaper articles. In addition, primary data collection will be conducted through questionnaire survey.

### **3.3 Survey Instrument**

Survey instrument is a survey, questionnaire, test, scale, rating or tool designed to measure the variables, characteristics or information of interest, often a behavioural or psychological characteristic (Fellows & Liu, 2008). Basically, question consists in two primary forms which are open-ended question and close-ended question (Reja et al., 2003). Close-ended question will limit the respondents to the set of alternatives being offered, while open-ended question allow the respondent to express their opinion without being restricted by the question itself (Reja et al., 2003). In this research, close-ended questions will be adopted in this research in

forms of questionnaire. In addition, some studies resulted that open-ended questions will produce more missing data and uncertainty than close-ended questions. In the nutshell, close-ended question is easier to be answered by respondent as well as it requires less writing and allow for straightforward analysis (Fellows & Liu, 2008).

Moreover, two-choice questions will also be adopted in this research. Two-choice question is the simplest version of close-ended question (Statistics Canada, 2010). Often it is involved the answer of yes or no and it is use to split the respondents into two distinct groups (Statistics Canada, 2010). Two-choice questions are also used as screening questions to prevent respondents from being asked a series of questions that do not apply to them (Statistics Canada, 2010). For example, most common seen two-choice question is question about the gender of respondent.

Apart from that, multiple choice questions have been adopted in this research. Usually, multiple choice questions ask the respondent to select one response on each question. However, some confusion might happen in multiple questions which respondent might pick more than one responses in a questions (Statistics Canada, 2010). Therefore, clear instruction should be included before the respondent starts to answer the survey questions (Statistics Canada, 2010).

In summary, close-ended question provides the convenient and easiness for the respondent to answer the question and allow a straightforward analysis for research.

### **3.4 Survey Sample**

Sampling is the statistical process of selecting a subset of a population of interest for purposes of making observations and statistical inferences about that population (Bhattacharjee, 2012). Basically, there are two types of sample which are probability sampling and non-probability sampling. Probability sampling is the sampling technique that every unit in the population has a chance (non-zero probability) of being selected as the sample and it can be accurately determined (Bhattacharjee, 2012). On another hand, non-probability sampling is the sampling technique that only some units of the population have (zero) chance of selection or where the probability of selection cannot be accurately determined (Bhattacharjee, 2012). In this research, random sampling based on probability sampling method will be adopted. Random sampling is the technique that allows all possible subsets of a population are given an equal probability of being selected (Bhattacharjee, 2012).

The population of this research is comprised of project team members that working in construction industry, which specifically in Malaysia. Also, this research aimed to examine the effects of mindfulness practice on the emotional intelligence of project team members in the construction industry. Therefore, the targeted population of this research are all Malaysian or Non-Malaysian who are working in the Malaysian construction industry. According to some researches, to conduct a reliable sample distribution analysis is required to have minimum of 30 respondents. In this study, 100 responses are targeted to receive for the questionnaire to ensure the reliability of test result.

### **3.5 Survey Questionnaire**

In this research, questionnaire survey will be used for collecting the data. Quantitative research method will be adapted in this study, specifically to study the relationship between age, gender and emotional intelligence of project team members in the construction industry. Also, questionnaire will be designed to determine the emotional intelligence of project team members with and without mindfulness practice in the construction industry, and to examine the effects of mindfulness practice on the emotional intelligence of project team members in the construction industry.

Furthermore, the questionnaire designed will be distributed to respondents by e-mail, Google survey link and manually by hand. In addition, the questionnaire is only targeted to those respondents who are working in the construction industry. In generally, the questionnaire designed can be divided into three sections which are individual survey, mindfulness practice survey and Wong & Law Emotional Intelligence Scale survey (WLEIS).

#### **3.5.1 Individual Survey**

In section A, individual profile survey focus on identify the background of respondent such as age, gender, academic qualification, profession in construction

industry and working experience in construction industry. Two-choice and multiple choice question method will be used in this section.

### **3.5.2 Mindfulness Practice Survey**

In section B, mindfulness survey focus on identify the mindfulness practice level of respondent such as the frequency of practising mindfulness meditation, experience in practising mindfulness meditation and duration of practising mindfulness meditation. In this section, two-choice and multiple choice question method will be used to design the questionnaire.

### **3.5.3 WLEIS Survey**

In section C, Wong & Law Emotional Intelligence Scale survey focus on identify the emotional intelligence of respondents. Wong & Law Emotional Intelligence Scale is use to assess the emotional intelligence of an individual. There are a total of 4 dimensions in the scale, namely:

- Self-Emotion Appraisal (SEA)
- Others' Emotion Appraisal (OEA)
- Regulation of Emotion (ROE)
- Use of Emotion (UOE)

SEA is relates to one's ability to understand their inner emotion and capable to express it naturally. OEA is about the ability to perceive and understand other people's emotion. ROE is relates to the ability of people to regulate their emotion by express it in a mindful way and able to get rapid recovery from any psychological impact. Lastly, UOE is about the ability of one's to make use of their emotion by directing them toward a positive direction (Wong & Law, 2002).

### **3.6 Analysis of Data**

Statistical Package for Social Science (SPSS) version 23 software will be used to analyse the data collected from the questionnaire survey. Analysis and test such as Frequency test on the demographic of respondents, Cronbach's Alpha tests, One-way ANOVA test, Independent T-test and Pearson's correlation test will be applied in analysing the data collected.

#### **3.6.1 Demographics of Respondents**

All nominal variables are to be computed such as individual background details in Section A with total numbers and percentage counts.



### **3.6.2 Cronbach's Alpha Test**

Cronbach's Alpha reliability test will be adapted to examine the internal consistencies from data have been keyed in and an index of consistencies. Cronbach's alpha is the most common measure of internal consistency. Other than that, Cronbach's Alpha is used to determine on the reliability of questionnaire with multiple Likert question. The purpose of using Cronbach's Alpha reliability analysis is to minimize the inevitable errors of measurement and thus increase reliability of result. In order to prove the data is reliable, so that the data should have to achieve a Cronbach's Alpha value of 0.700 and the closer to 1 which mean to be more reliable (Laerd Statistics, n.d.). Specifically, this analysis will be applied on the questionnaire section C.

### **3.6.3 One-way ANOVA Test**

ANOVA is an acronym for Analysis Of Variance. A one-way ANOVA is the analysis of the variance of values (of a dependent variable) by comparing them against another set of values (the independent variable). It is a test of the hypothesis that the mean of the tested variable is equal to that of the factor (Griffith, 2010). In addition, if the significant value is greater than 0.05, it can be concluded as no statistically significant. On Another hand, if the significant value is less than or equal to 0.05, it can be concluded as a statistically significant. In this study, the data collected in Section C can be converted into parametric data, therefore one-way ANOVA test will be one of the suitable tests to analyse on the data collected.

### **3.6.4 Independent T-Test**

The independent-samples T test compares the means of two sets of values from one variable (Griffith, 2010). Moreover, if the significant value is greater than 0.05, it can be concluded as no statistically significant. On Another hand, if the significant value is less than or equal to 0.05, it can be concluded as a statistically significant. In this study, the data collected in Section C can be converted into parametric data; therefore Independent T-test will be one of the suitable tests to analyse on the data collected.

### **3.6.5 Pearson's Product-Moment Correlation Test**

Pearson's Product-Moment Correlation Test was used for measuring on how variables are related. If the correlation coefficients significant at 0.05 levels are identified with single asterisk and those significant at 0.01 levels are identified with two asterisks. If the value is significantly different than zero, it can be interpreted that the correlation as indicating a consistent positive relationship between the variables, which can classified into small, medium and large effect according to the standard provided (Lund Research Ltd, 2013). In this study, the data collected in Section C can be converted into parametric data; therefore Pearson's Product-Moment Correlation test will be one of the suitable tests to analyse on the data collected.

### **3.7 Conclusion**

There are many ways to determine the emotional intelligence of project team members with and without mindfulness practice, but Wong & LAW Emotional Intelligence Scale will be used as the standard to identify the emotional intelligence of respondents in this research. Also, it is evidences from the literature review that showing mindfulness practice can scientifically influence the brain structure of an individual and helps to increase the emotional intelligence of an individual. However, there are very limited researches done on determining the emotional intelligence of project team members with and without mindfulness practice in construction industry. Besides that, study on the relationship between age, gender and emotional intelligence of project team members in the construction industry will be study in this research. Lastly, this research will also focus to determine the emotional intelligence of project team members with and without mindfulness practice, and to examine the effects of mindfulness practice on the emotional intelligence of project team members in the construction industry

In summary, this chapter will include the research methodology that served as a guideline to carry out the data collecting and data analysing in this research. All the data collected and analysed results and outcome will be further discuss on next chapter.

## CHAPTER 4

### RESULTS AND DISCUSSIONS

#### 4.1 Overview

According to some researches, to conduct a reliable sample distribution analysis is required to have minimum of 30 respondents. In this study, 100 responses are targeted to receive for the questionnaire to ensure the reliability of test result. Total of 150 sheets of questionnaire have been given out within Malaysia, which about 20 of these sheets were sent out to the respondents by hand and the rest of 130 were sent out through E-mail, Facebook Messenger and WhatsApp to the respondents. As result, a total number of 108 sheets of questionnaire have been received out of the total number of 150 sheets. A total number total of 108 responses is sufficient to provide the reliability for this study and test., Table 4.1 shows a total of 72% response rate from the respondents, and it is considerable as a satisfactory response from the project team members in construction industry.

**Table 4.1: Data Distribution and Collection**

Distributed	150 sets
Collected	108 sets
<b>Rate of return of successful survey</b>	<b>72%</b>

## 4.2 Demographics of Respondents

Frequency analysis method had been adopted to analyse on the profile of all 108 respondents that involved in the survey. In addition, all respondents will be categories into six different types of categories, which are:

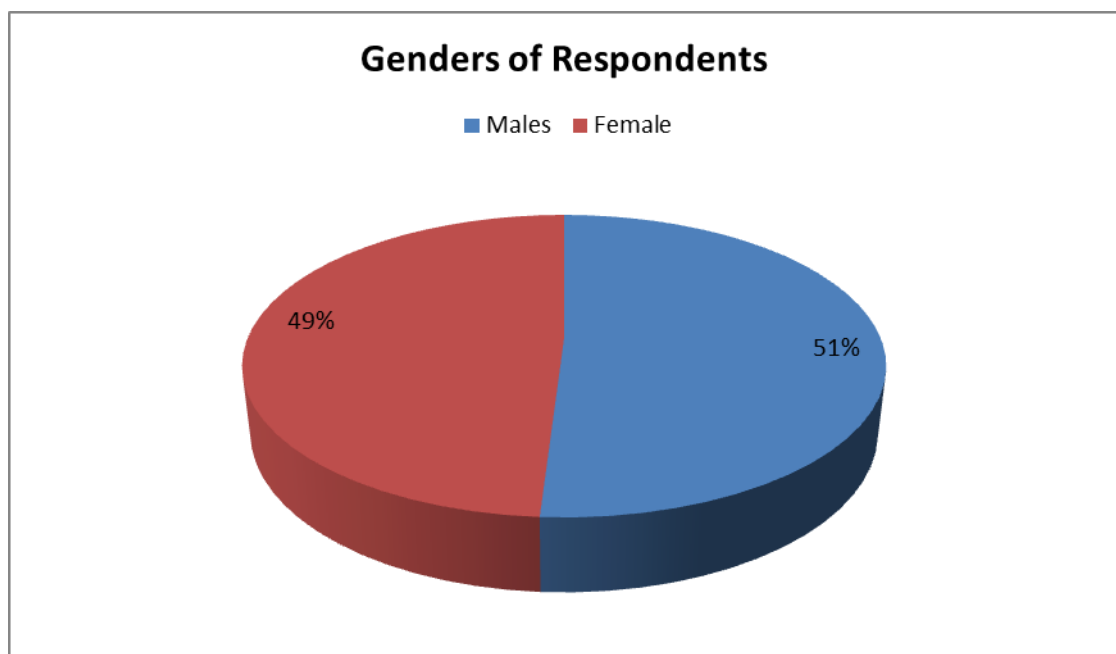
- Genders of Respondents
- Ages of Respondents
- Academic Qualifications of Respondents
- Professions of Respondents
- Working Experiences of Respondents
- Mindfulness Practices of Respondents

Apart from that, additional of three categories will be used to categories the respondents with mindfulness practice as below:

- Frequencies of Mindfulness Practice of Respondents
- Experiences of Mindfulness Practice of Respondents
- Durations of Mindfulness Practice of Respondents

Lastly, all tabulated and analysed data will be presented on the following figures in term of total number of respondents and percentage.

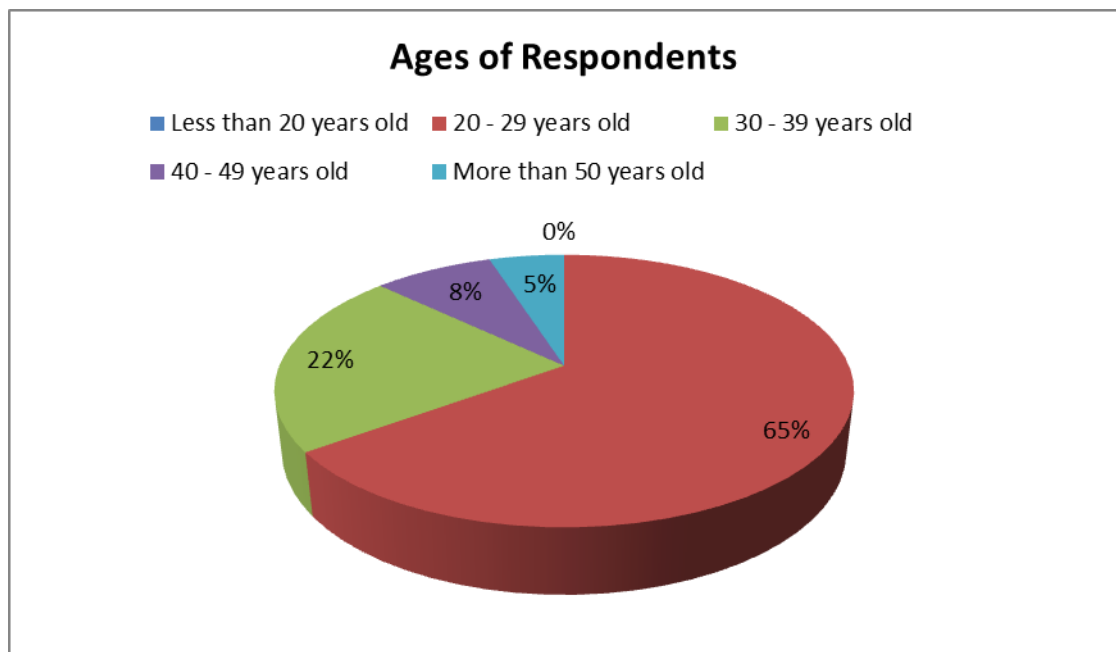
#### 4.2.1 Genders of Respondents



**Figure 4.1 Genders of Respondents**

Figure 4.1 shows the genders of respondents that involved in this study. The majority of the respondents are male, which is 51%. In contrast, there are only 49% of the respondents are the female respondents that involved in this study. As result, Figure 4.1 shows a quite balance in term of genders of respondent in this study, which are 51% male respondents versus 49% of female respondents.

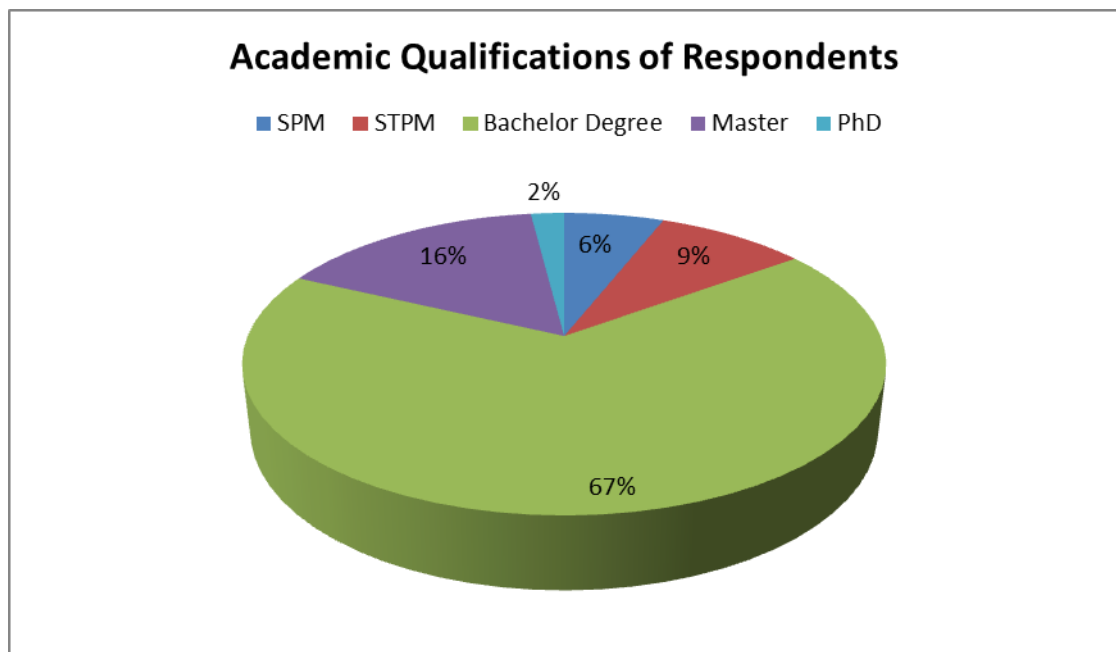
#### 4.2.2 Ages of Respondents



**Figure 4.2 Ages of Respondents**

Figure 4.2 shows the ages of respondents that involved in this study. Total of 65% of the respondents are between 20 to 29 years old. Subsequently, the respondents between 30 to 39 years consist of 22%. A total of 8% of the respondents are between 40 to 49 years. Moreover, respondents with age above 50 years is only consists of 5%. Last but not least, there are 0% of the respondents with the age below 20 years old.

### 4.2.3 Academic Qualifications of Respondents

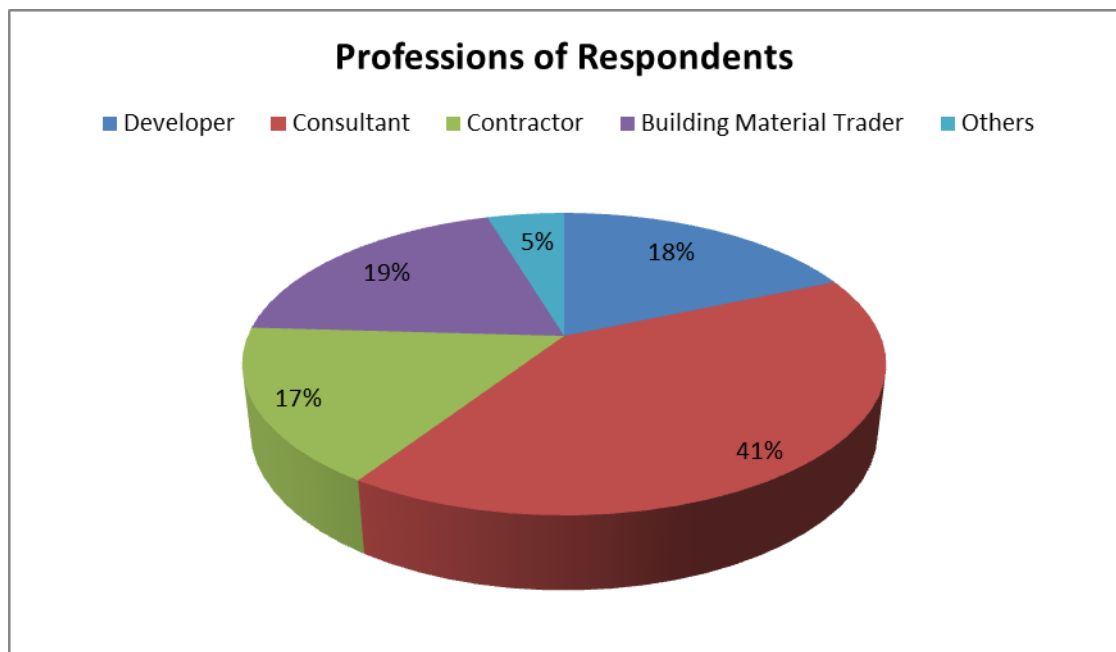


**Figure 4.3 Academic Qualifications of Respondents**

Figure 4.3 shows the academic qualifications of respondents that involved in this study. The majority of the respondents are holding a Bachelor Degree and which consists of 67%. Next, there are 16% of the respondents with the Master Degree and which is the second largest group. Thirdly, the respondents with STPM qualification (or equivalent to GCE A Level) consist of 9% only. A total of 6% of the respondents is with SPM qualification (equivalent to GCE O Level). Lastly, the minority of 2% of the respondents are holding a Doctor of Philosophy qualification.



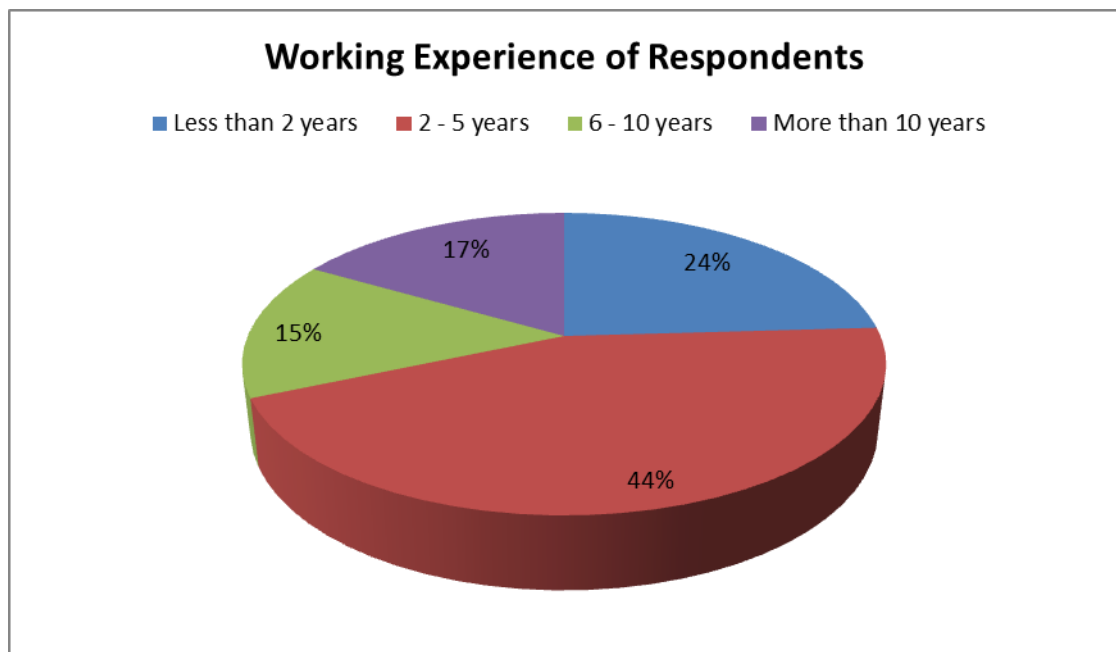
#### 4.2.4 Professions of Respondents



**Figure 4.4 Professions of Respondents**

Figure 4.4 shows the professions of respondents that involved in this study. Total of 41% of the respondents are from consultant background. Subsequently, the respondents from building material trader background consist of 19%. A total of 18% of the respondents are from developer background. Moreover, respondents from contractor background consist of 17%. Last but not least, there are only 5% of the respondents are from other backgrounds, such as Sales and Purchase Lawyer, Local Authority Officer and etc.

#### 4.2.5 Working Experiences of Respondents



**Figure 4.5 Working Experiences of Respondents**

Figure 4.5 shows the working experiences of respondents that involved in this study. The majority of the respondents have the working experience between 2 to 5 years and which consists of 44%. Next, there are 24% of the respondents with less than 2 years of working experience and which is the second largest group. Thirdly, the respondents with more than 10 years working experience consist of 17% only. Last but not least, the minority of the respondents have the working experience between 6 to 10 years is only consists of 15%.

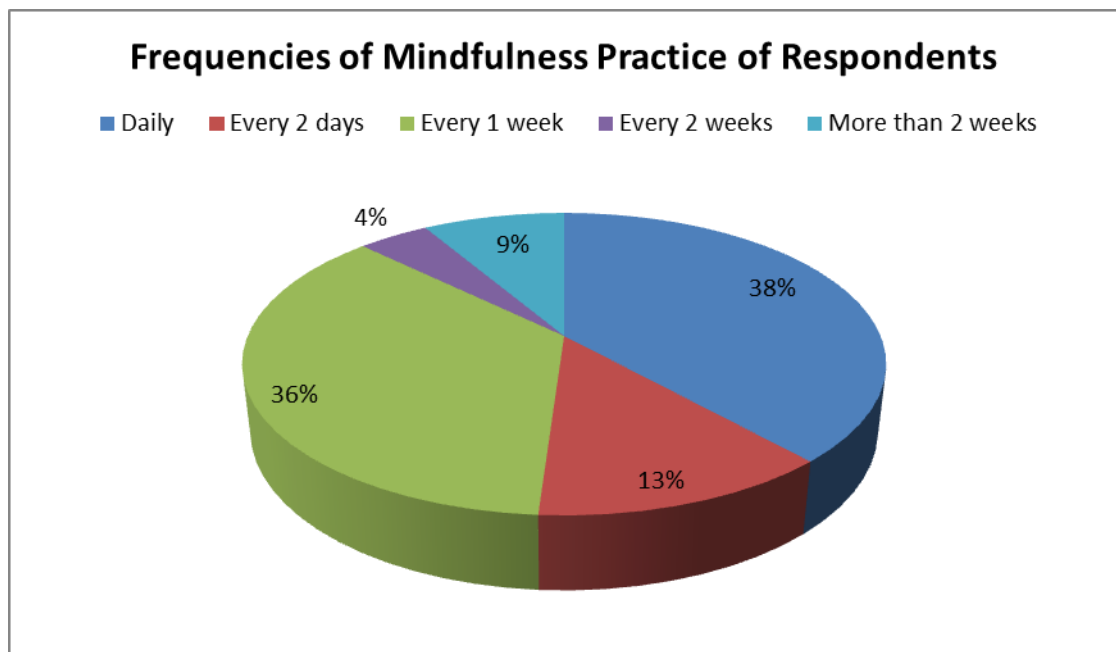
#### 4.2.6 Mindfulness Practices of Respondents



**Figure 4.6 Mindfulness Practices of Respondents**

Figure 4.6 shows the mindfulness practices of respondents that involved in this study. Total of 44% of the respondents are practicing mindfulness and which is a total of 47 respondents are practising mindfulness. In contrast, the majority of the respondents do not practice mindfulness and it consists of 56% and a total number of 61 respondents.

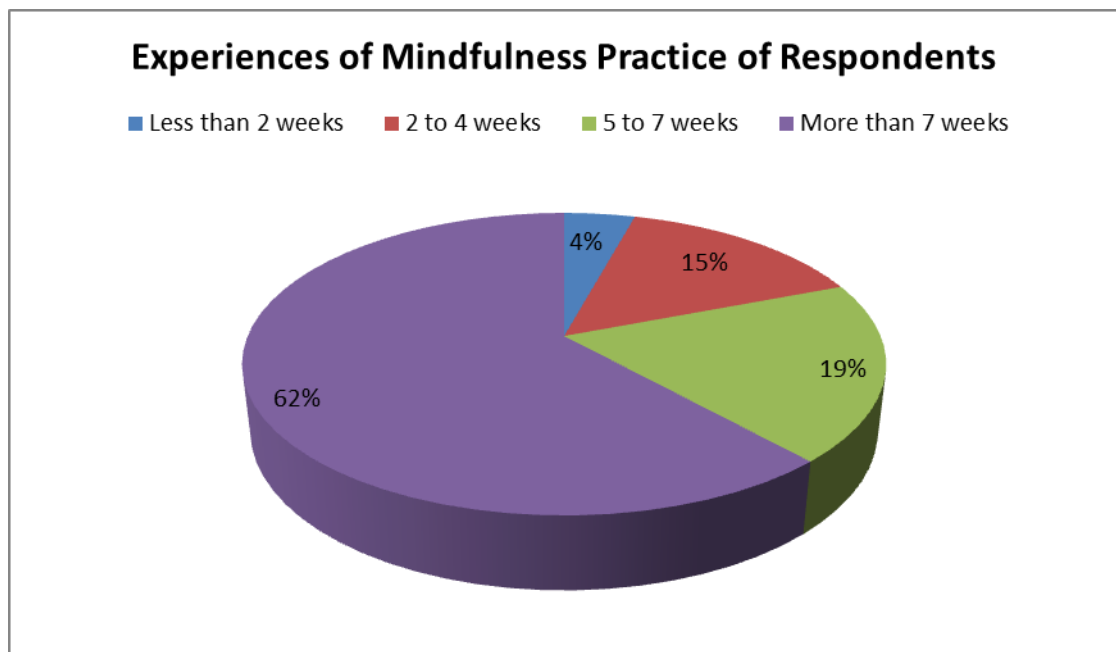
#### 4.2.7 Frequencies of Mindfulness Practice



**Figure 4.7 Frequencies of Mindfulness Practice of Respondents**

Figure 4.7 shows the frequencies of mindfulness practice of 47 respondents with mindfulness practice that involved in this study. A total of 38% of the respondents with mindfulness practice are practising mindfulness on every day. Subsequently, the respondents with mindfulness practice that practising mindfulness on every week consists of 36%. A total of 13% of respondents with mindfulness practice are practising mindfulness on every 2 days. Besides that, respondents with mindfulness practice that practising mindfulness on more than 2 weeks consists of 9%. Lastly, only 4% of the respondents with mindfulness practice are practising mindfulness on every 2 weeks.

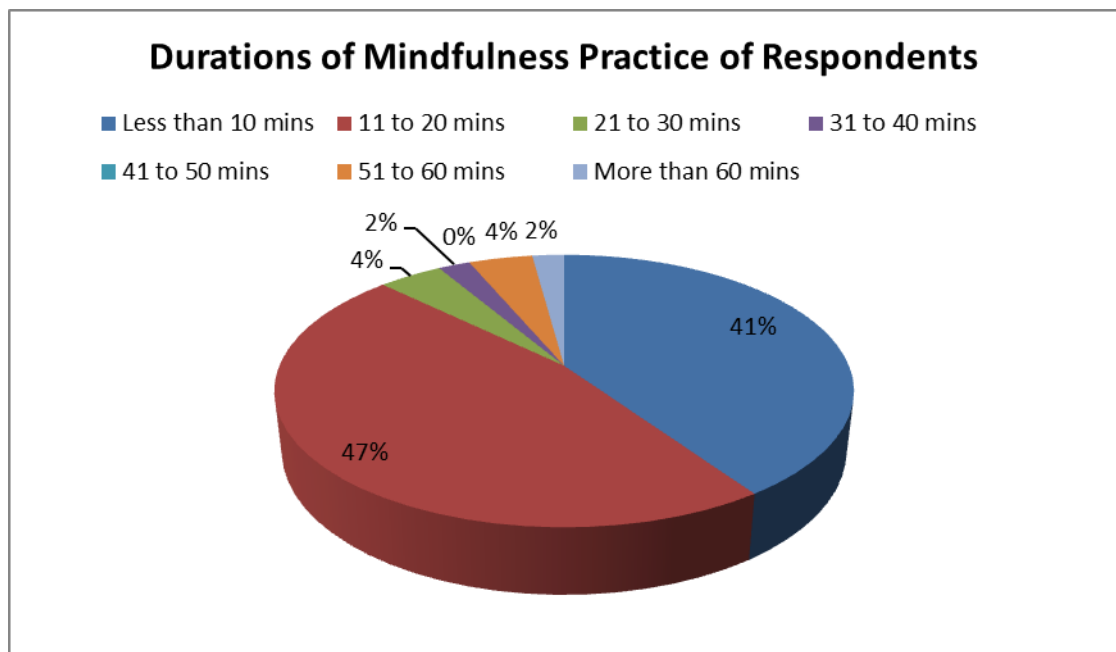
#### 4.2.8 Experiences of Mindfulness Practice



**Figure 4.8 Experiences of Mindfulness Practice of Respondents**

Figure 4.8 shows the experiences of mindfulness practice of 47 respondents with mindfulness practice that involved in this study. A total of 62% of the respondents with mindfulness practice have more than 7 weeks of mindfulness practice experience. Subsequently, the respondents with mindfulness practice in between 5 to 7 weeks consist of 19%. A total of 15% of respondents have only 2 to 4 weeks of mindfulness practice experience. Lastly, only 4% of the respondents with mindfulness practice with less than 2 weeks of mindfulness practice experience.

#### 4.2.9 Durations of Mindfulness Practice



**Figure 4.9 Durations of Mindfulness Practice of Respondents**

Figure 4.9 shows the durations of mindfulness practice of 47 respondents with mindfulness practice that involved in this study. A total of 47% of the respondents with mindfulness practice are practising mindfulness in between 11 to 20 minutes. Subsequently, the respondents with mindfulness practice that practising mindfulness in less than 10 minutes consists of 36%. A total of 4% of the respondents are practising mindfulness in between 21 to 30 minutes and 51 to 60 minutes. Also, there are a total of 2% of the respondents are practising mindfulness in between 31 to 40 minutes and more than 60 minutes. Lastly, there are 0% of the respondents with mindfulness practice are practising mindfulness in between 41 to 50 minutes. .

### 4.3 Cronbach's Alpha Test

**Table 4.2 Reliability Test of Wong and Law Emotional Intelligence Scale**

<b>Cronbach's Alpha</b>	<b>N of Items</b>
0.921	16

Table 4.2 shows the result of Cronbach's Alpha test on Wong and Law Emotional Intelligence Scale (WLEIS). Cronbach's Alpha test value in Table 4.2 was 0.921 which shown in this study had the excellent internal consistency.

**Table 4.3 Reliability Test of Self-Emotion Appraisal (SEA)**

<b>Cronbach's Alpha</b>	<b>N of Items</b>
0.834	4

Table 4.1 shows the result of Cronbach's Alpha test on the Self-Emotion Appraisal (SEA), the sub scale of Wong and Law Emotional Intelligence Scale (WLEIS). Cronbach's Alpha test value in Table 4.1 was 0.834 which shown in this study had the good internal consistency.

**Table 4.4 Reliability Test of Others' Emotion Appraisal (OEA)**

<b>Cronbach's Alpha</b>	<b>N of Items</b>
0.897	4

Table 4.2 shows the result of Cronbach's Alpha test on the Others' Emotion Appraisal (OEA), the sub scale of Wong and Law Emotional Intelligence Scale

(WLEIS). Cronbach's Alpha test value in Table 4.2 was 0.897 which shown in this study had the good internal consistency.

**Table 4.5 Reliability Test of Regulation of Emotion (ROE)**

<b>Cronbach's Alpha</b>	<b>N of Items</b>
0.840	4

Table 4.3 shows the result of Cronbach's Alpha test on the Regulation of Emotion (ROE), the sub scale of Wong and Law Emotional Intelligence Scale (WLEIS). Cronbach's Alpha test value in Table 4.3 was 0.840 which shown in this study had the good internal consistency.

**Table 4.6 Reliability Test of Use of Emotion (UOE)**

<b>Cronbach's Alpha</b>	<b>N of Items</b>
0.922	4

Table 4.4 shows the result of Cronbach's Alpha test on the Use of Emotion (UOE), the sub scale of Wong and Law Emotional Intelligence Scale (WLEIS). Cronbach's Alpha test value in Table 4.4 was 0.922 which shown in this study had the excellent internal consistency.



#### 4.4 One-way ANOVA Test

##### 4.4.1 Relationship between Age and EI of Project Team Members

**Table 4.7 Descriptive Analysis on the EI of Project Team Members and Age**

	N	Mean	Std. Deviation	Std. Error
21 – 30 years old	70	57.24	8.173	.977
31 – 40 years old	24	58.00	9.523	1.944
41 – 50 years old	9	43.22	12.921	4.307
Above 50 years old	5	62.20	4.712	2.107
Total	108	56.47	9.648	.928

Table 4.3 shows the result of descriptive analysis on the emotional intelligence of project team members and different age group. The result showed that 70 respondents between 21 to 30 years old with emotional intelligence of  $\mu = 57.24$  and  $s = 8.173$ , 24 respondents between 31 to 40 years old with emotional intelligence of  $\mu = 58.00$  and  $s = 9.523$ , 9 respondents between 41 to 50 years old with emotional intelligence of  $\mu = 43.22$  and  $s = 12.921$ , and 5 respondents above 50 years old with emotional intelligence of  $\mu = 62.20$  and  $s = 4.712$ .

**Table 4.8 ANOVA Analysis on EI of Project Team Members and Age**

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1841.690	3	613.897	7.863	.000
Within Groups	8119.227	104	78.069		
Total	9960.917	107			

**Table 4.9 Multiple Comparison on EI of Project Team Members and Age**

Age Group (I)	Age Group (J)	Mean Difference (I-J)	Std. Error	Sig.
21 – 30 years old	31 – 40 years old	-.757	2.090	.984
	41 – 50 years old	14.021*	3.129	.000
	Above 50 years old	-4.957	4.090	.621
31 – 40 years old	21 – 30 years old	.757	2.090	.984
	41 – 50 years old	14.778*	3.454	.000
	Above 50 years old	-4.200	4.344	.768
41 – 50 years old	21 – 30 years old	-14.021*	3.129	.000
	31 – 40 years old	-14.778*	3.454	.000
	Above 50 years old	-18.978*	4.928	.001
Above 50 years old	21 – 30 years old	4.957	4.090	.621
	31 – 40 years old	4.200	4.344	.768
	41 – 50 years old	18.978*	4.928	.001

Table 4.4 shows the result of ANOVA analysis on the emotional intelligence of project team members and different age group. The result showed that there was a statistically significant difference between groups as determined by one-way ANOVA ( $F(3,104) = 7.863, p = 0.000$ ). The results clearly shows that the emotional

intelligence of project team members above 50 years old had higher mean score of emotional intelligence compared to other age groups.

Apart from that, table 4.5 shows the result of multiple comparisons on the emotional intelligence of project team members and different age groups. A Tukey post hoc test revealed that the emotional intelligence of project team members were statistically significantly higher on project team members between 21 to 30 years old ( $57.2 \pm 8.17$  min,  $p = 0.00$ ), project team members between 31 to 40 years old ( $58.2 \pm 9.52$  min,  $p = 0.00$ ), project team members above 50 years old ( $62.2 \pm 4.71$  min,  $p = 0.01$ ) compared to the project team members between 41 to 50 years old ( $43.2 \pm 12.9$  min). Also, there was no statistically significant difference between the project team members within 21 to 30 years old group and 31 to 40 years old group ( $p = 0.984$ ), 21 to 30 years old group and above 50 years old group ( $p = 0.621$ ), 31 to 40 years old group and above 50 years old group ( $p = 0.768$ ).

Therefore, the result shows that the project team members with higher age and experience are having higher emotional intelligence, especially the project team members above 50 years which are  $\mu = 62.20$ . Subsequently, the project team members between 31 to 40 years old and 21 to 30 years old are slightly lower emotional intelligence compared to the project team members above 50 years old which are  $\mu = 58.00$  and  $\mu = 57.24$  respectively. However, the project team members between 41 to 50 years are having lowest emotional intelligence among the groups, which is  $\mu = 43.22$  and this could probably relate to the effects of mindfulness practice. This is because there are 108 project team members involved in this study, but only 47 project team members are practicing mindfulness. In summary, the lower

emotional intelligence of project team members between 41 to 50 years could possible because of the reason of not involving in mindfulness practice.

Moreover, Nayak (2014) research study revealed that emotional intelligence is positively associated with increase of age. Also, Shipley et al. (2008) explained that emotional intelligence is not fixed genetically, but it can be develop throughout the age and life experience. Hence, this study can be supported by other journals that showing the similar and positive result between the relationship of emotional intelligence and age.

In the nutshell, the research hypothesis  $H_0$  of age and emotional intelligence will be rejected. This is because of the strong evidence showing the statistically significant relationship between the age and emotional intelligence of project team members.

## 4.5 Independent T-Test

### 4.5.1 Relationship between Gender and EI of Project Team Members

**Table 4.10 Group Statistic Analyses on the EI of Male and Female Project Team Members**

Gender	N	Mean	Std. Deviation	Std. Error Mean
Male	55	57.75	10.827	1.460
Female	53	55.15	8.144	1.119

Table 4.6 is use to indicate the group statistical analysis on the emotional intelligence of male and female project team members. There are 55 respondents are male project team members which resulted an emotional intelligence of  $\mu = 57.75$  and  $s = 10.827$ . On another hand, 53 respondents are female project team members which resulted an emotional intelligence of  $\mu = 55.15$  and  $s = 8.144$ .

**Table 4.11 Independent T-Test Analyses on EI 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	2.814	.096	1.403	106	.163	2.595	1.849
Equal variances not assumed			1.411	100.166	.161	2.595	1.839

Table 4.7 showed that the emotional intelligence of male and female project team members had no statistically significantly, which male project team members

with emotional intelligence of  $\mu = 57.75$  and  $s = 10.827$  compared to the female project team members with emotional intelligence of  $\mu = 55.15$  and  $s = 8.144$ ,  $t(106) = 1.403$ ,  $p = 0.163$ .

Therefore, the results have clearly shows that male and female project team members had no statistically significantly mean score of emotional intelligence. These results also can be explained that there are no relationship between the gender of project team members and their emotional intelligence.

Some articles have proven that emotional intelligence is strongly associated on different aspect of daily such as mental health, physical health, work performance and etc. (Castilo et al. 2012). However, most studies could not show the significant result regarding the different in emotional intelligence between male and female. Same in this study, the analysed result is not statistically significant prove that there is a relationship between the gender and emotional intelligence of project team members.

Although the result not able to justify the different of emotional intelligence between male and female project team members, but some studies claimed that male and female are different emotional intelligence profile (Khalili, n.d.). The studies found out that females have stronger emotional intelligence skill, especially empathy, social responsibilities and interpersonal relationships while males are good in self-confident, optimistic and adaptable (Ahmad et al. 2009).

In conclusion, the research hypothesis  $H_a$  of gender and emotional intelligence will be rejected. This is because of the no evidence showing the

statistically significant relationship between the gender and emotional intelligence of project team members.

#### **4.5.2 Comparison on the EI of Project Team Members with and without Mindfulness Practice**

**Table 4.12 Group Statistic Analysis on the EI of Project Team Members with and without Mindfulness Practice**

Mindfulness Practice	N	Mean	Std. Deviation	Std. Error Mean
With Mindfulness	47	60.62	7.640	1.114
Without Mindfulness	61	53.28	9.871	1.264

Table 4.8 is use to indicate the group statistical analysis on the emotional intelligence of project team members with and without mindfulness practice. There are 47 respondents with mindfulness practice had resulted a higher emotional intelligence of  $\mu = 60.62$  and  $s = 7.640$ . On another hand, 61 respondents without mindfulness practice had resulted on a lower emotional intelligence of  $\mu = 53.28$  and  $s = 9.871$ .

**Table 4.13 Independent T-Test Analysis on EI 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 Difference
Equal variances assumed	2.164	.144	4.214	106	.000	7.338	1.741
Equal variances not assumed			4.355	105.995	.000	7.338	1.685

Table 4.9 showed that the emotional intelligence of project team members had significantly higher emotional intelligence of  $\mu = 60.62$  and  $s = 7.640$  with mindfulness practice compared to the project team members without mindfulness practice of  $\mu = 53.28$  and  $s = 9.871$ ,  $t(106) = 4.214$ ,  $p = 0.000$ .

The results have clearly shows that those project team members who practiced mindfulness had significantly higher mean score of emotional intelligence compared to those project team members who did not practice mindfulness at all. These results also provided the preliminary evidence about the benefits of mindfulness practice between the project team members with and without mindfulness practice.

Mindfulness practice has been shown to produce positive effects on the psychological well-being of individual especially the emotional intelligence (Hozel et al., 2011). According to research, with regular mindfulness practice can allow the prefrontal control systems modulate emotion generative systems and it will cause the positive impact to the psychological of human such as increasing in emotional



intelligence (Ochsner & Gross, 2005). Apart from that, some studies have revealed the evidence of mindfulness practice can aid to develop the emotional intelligence by changing the prefrontal area of the brain (Reb et al. 2004). Besides that, Tan (2012) also prove that mindfulness practice affect the brain structure by increasing the cortical thickness in the hippocampus which can helps to improve the emotional intelligence.

In summary, the research hypothesis  $H_0$  of mindfulness practice and emotional intelligence will be rejected. This is because of the strong evidence showing the statistically significant relationship between the mindfulness practice and emotional intelligence of project team members.

## 4.6 Pearson's Product-Moment Correlation Test

### 4.6.1 Effects of Mindfulness Practice and the EI of Project Team Members

**Table 4.14 Descriptive Statistics Analysis of Effects of Mindfulness Practice and the EI of Project Team Members**

	Mean	Std. Deviation	N
Mindfulness Practice	1634.26	2407.98	47
WLEIS-SEA	15.40	2.23	47
WLEIS-OEA	14.83	2.73	47
WLEIS-ROE	15.02	2.47	47
WLEIS-UOE	15.36	2.82	47
WLEIS	60.62	7.64	47

Table 4.10 is use to indicate the descriptive statistics analysis of the effects of mindfulness practice on the emotional intelligence of project team members. There are total of 47 project team members are practicing mindfulness which resulted a total minutes of mindfulness practice of  $\mu = 1634.26$  and  $s = 2407.98$ . Apart from that, this analysis also resulted an emotional intelligence of project team members of  $\mu = 60.62$  and  $s = 7.64$ . Furthermore, analyses on the WLEIS sub scales are conducted to examine the effects of mindfulness practice on the emotional intelligence of project team members. The results show that the emotional intelligence of project team members on self-emotion appraisal have mean of  $\mu = 15.40$  and  $s = 2.23$ , others' emotion appraisal have mean of  $\mu = 14.83$  and  $s = 2.72$ ,

regulation of emotion have mean of  $\mu = 15.02$  and  $s = 2.47$  and use of emotion have mean of  $\mu = 15.26$  and  $s = 2.82$ .

**Table 4.15 Pearson's Product-Moment Correlation Analysis of Effects of Mindfulness Practice and the EI of Project Team Members**

		Mindfulness Practice	WLEIS -SEA	WLEIS -OEA	WLEIS -ROE	WLEIS -UOE	WLEIS
Mindfulness Practice	Pearson Correlation	1	.104	.264	.196	.282	.293*
	Sig. (2-tailed)		.485	.073	.186	.054	.046
	N	47	47	47	47	47	47
WLEIS-SEA	Pearson Correlation	.104	1	.279	.503**	.528**	.750**
	Sig. (2-tailed)	.485		.057	.000	.000	.000
	N	47	47	47	47	47	47
WLEIS-OEA	Pearson Correlation	.264	.279	1	.436**	.333*	.703**
	Sig. (2-tailed)	.073	.057		.002	.022	.000
	N	47	47	47	47	47	47
WLEIS-ROE	Pearson Correlation	.196	.503**	.436**	1	.376**	.765**
	Sig. (2-tailed)	.186	.000	.002		.009	.000
	N	47	47	47	47	47	47
WLEIS-UOE	Pearson Correlation	.282	.528**	.333*	.376**	1	.764**
	Sig. (2-tailed)	.054	.000	.022	.009		.000
	N	47	47	47	47	47	47
WLEIS	Pearson Correlation	.293*	.750**	.703**	.765**	.764**	1
	Sig. (2-tailed)	.046	.000	.000	.000	.000	
	N	47	47	47	47	47	47

Table 4.11 showed that Pearson product-moment correlation was run to examine the effects of mindfulness practice and the emotional intelligence of project team members in the construction industry. There was a strong, positive correlation between mindfulness practice and emotional intelligence of project team members, which was statistically significant ( $r = 0.293$ ,  $n = 47$ ,  $p = 0.046$ ). However, there was a negative correlation between mindfulness practice and the self-emotion appraisal, others' emotion appraisal, regulation of emotion and use of emotion of project team members, which was not statistically significant ( $r = 0.104$ ,  $n = 47$ ,  $p = 0.485$ ), ( $r = 0.264$ ,  $n = 47$ ,  $p = 0.073$ ), ( $r = 0.196$ ,  $n = 47$ ,  $p = 0.186$ ) and ( $r = 0.282$ ,  $n = 47$ ,  $p = 0.054$ ) respectively.

The results have clearly shows that there is a statistically significant relationship between mindfulness practice and the emotional intelligence of project team members. This result provided the evidence about the emotional intelligence of project team members based on WLEIS is strongly associated with the effects of mindfulness practice. However, a further study on effects of mindfulness practice on the emotional intelligence based on WLEIS sub scale, such as self-emotion appraisal (SEA), others' emotion appraisal (OEA), regulation of emotion (ROE) and use of emotion (UOE) are not able to show a statistically significant result. This is can possibly due to the background of project team members.

The different roles of project team members in construction industry such as developer, consultant and contractor background may influence the emotional intelligence of project team members. For instance, the project team members from developer background such as project manager may have higher emotional

intelligence in others' emotion appraisal (OEA) and use of emotion (UOE). This is because an empathy project manager can understand the strengths and weaknesses of the team, so that the project manager can manage the team based on the different needs.

On another hand, the project team members from consultant background may have higher emotional intelligence in self-emotion appraisal and regulation of emotion. This is because project team members from consultant are more focus in problem solving and lesser in project coordination. Therefore, this could possibly lead to the insignificant result on examine the effects of mindfulness practice on the emotional intelligence of project team members based on WLEIS subscale.

Nevertheless, the results are still proving that the effects of mindfulness practice are strongly associated with the emotional intelligence of project team members. Likewise, Tan (2012) has proved that effects of mindfulness practice on the emotional intelligence and lead to improve the project performance and project success. Also, Snowden's study shows that emotional intelligence can be applied into many various field such as education, job, personal growth and etc. (Snowden et al., 2015). For example, project team members with higher emotional intelligence are the key to the organization and project success. Project team members with the capacity to sense other project team members feelings in their work environment, to assist other when problem arise and to manage their own emotions in order to gain the trust between project team members (Batool, 2013).

Furthermore, project team members with higher emotional intelligence are also equipped with the ability of self-awareness that can help to recognize other project team member's feeling and understand the thoughts and emotions that will affect one's mood (Tan, 2012). Self-awareness enables project team members to accurately assess own emotions that might affect the performance, behaviour and relationships. By understanding better on own emotions can prevent to jeopardize the project success (MTD Training, 2010).

Apart from that, self-management is also another competency for the project team members with higher emotional intelligence. Self-management is referring to the act of taking responsibility on own emotions (MTD Training, 2010). Some studies describe that self-management is about staying in control on all emotions arise in one's (Batool, 2013). This kind of competency is important for project team members especially when they are making decision. An irrational decision made during emotions arise might potentially create the negative impact to the project. Therefore, self-management can help project team members to judge better based on the situation and make a more rational decision for the project.

On another hand, project team members with higher emotional intelligence also have stronger sense on the social awareness. Social awareness referring as an ability to understand the emotional make up of other people and skills in treating people based on other's emotions reactions (Joseph & Wawire, 2015). Lunenburg (2011) described that social awareness skill allows project team member to understand better on others' emotions, situation, experience and needs. Project team

members with better social awareness would be able to assist the team to achieve a greater project success (Lunenburg, 2011).

Relationship management encompasses social interaction and it comes together with the project team members with higher emotional intelligence. Relationship management has been defined as an ability to use own emotions and others' emotion to manage interactions successfully (Suifan et al., 2015). Also, Lunenburg discussed that relationship management can use to guide others' emotion such as inspire others', influence others', manage change, resolved dispute and support others. A good relationship management can potential reduce the conflict and dispute in project and achieve a better quality in project management.

In the nutshell, the analysed results show a statistically significant correlation between mindfulness practice and emotional intelligence of project team members. Also, this had proved that effects of mindfulness practice are strongly and positively associated with the emotional intelligence of project team members.

#### **4.7 Conclusion**

In summary, this chapter has produced detailed analysis of all sections that inside the questionnaire. Cronbach's Alpha test for the emotional intelligence of project team members based on Wong and Law Emotional Intelligence Scale (WLEIS) was reported a result of 0.921. This has proven that the data collected from the survey was reliable.

Apart from that, frequency analysis is conducted to show the demographic of the respondent's background such as gender, age, academic qualification, profession, working experience and etc. Basically, this study involved of 108 respondents from Malaysian construction industry.

Following by one-way ANOVA test is conducted to study the relationship between age and emotional intelligence of project team members. In result, there is a statistically significant relationship between age and emotional intelligence of project team members. Also, Independent T-test had conducted to study the relationship between gender and emotional intelligence of project team members. The result shows that there is not statistically significant relationship between gender and emotional intelligence of project team members. Moreover, Independent T-test also uses to determine the emotional intelligence of project team member with and without mindfulness practice. As result, the project team members with mindfulness practice have higher emotional intelligence compared to those project team members without mindfulness practice.



Last but not least, Pearson's product-moment correlation test is conducted to examine the effects of mindfulness practice on the emotional intelligence of project team members. The results show there is a statistically significant correlation between mindfulness practice and emotional intelligence of project team members based on Wong and Law Emotional Intelligence Scale (WLEIS) which aim to identify the job satisfaction and organizational well-being of project team members.

## **CHAPTER 5**

### **CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Overview**

In generally, this chapter summarize the findings collected from this research study. Also, the conclusion will be summarized based on the research aim and research objectives. Last but not least, the problems and limitation arose during this research will be stated in this chapter.

#### **5.2 Conclusions**

In conclusion, this research shows some results that can helps to prove that the effects of mindfulness practice can strongly associate with higher emotional intelligence of project team members. By having higher emotional intelligence it can

help the project team members to perform better in the project. For instance, higher emotional intelligence associate with the competency of empathy that can gives people an astute awareness of other's emotions concern and needs. By understanding the emotions and needs of other project team members can positively impact on project performance. For example, an empathic project team member will motivate other project team member to enhance the team morale to boost up the project performance. Specifically, a good project performance can be achieved by a group of team members with mindfulness practice that associated with higher emotional intelligence.

Apart from that, age of project team members is also associated with their emotional intelligence level. Project team members with higher emotional intelligence can helps to increase their focus in the project. By paying extra focus in executing project tasks can helps to minimize the mistake, unnecessary lost and additional cost. For instance, a group of project team members with highly focus are able to minimize the wastage of project materials such tiles, formwork, steel bar and etc. As a result, it can help to improve the project performance by controlling the budget of project.

Moreover, emotional intelligence can training one's to make an ethical decision. This is because most of the unethical decisions are stem from lack of awareness. With stronger awareness, it can help the project team members to process information quickly and accurately in order to support the development of project. Also, the project team members with higher emotional intelligence cheated less than those who are lower emotional intelligence. Therefore, higher emotional intelligence

is associated with the competency of ethical decision making which can be positively impact on the project performance.

Lastly, the effects of mindfulness practice are not solely influence on the emotional intelligence of project team members, but it also indirectly creates the positive impact to the project. Specifically, team work spirit can be enhanced by project team members with the competencies of empathy and motivation. Motivation serves a powerful tool in project environment especially when some project team members are facing problems and difficulties. Also, motivation can keep the team morale and enable the project team to resolve the obstacles and problems.

### **5.3 Limitations**

#### **5.3.1 Number of Respondents**

There are total numbers of 108 respondents involved in this research and it becomes one of the limitations for this research. Originally, there are about 150 sets of questionnaire have been issued through different mediums. However, only 72% response rate received. Out of the 72% of respondents, there are only 31% of respondents with mindfulness practice while 41% of respondents are without mindfulness practice. Therefore, the imbalance respondent in between these two groups might affect the accuracy of the result obtained.

### **5.3.2 Shortage of Knowledge for the Respondent**

Mindfulness practice is still very new to Malaysian construction industry. Therefore, one of the limitations in this research is not able to get sufficient sample of respondents with mindfulness practice. Therefore, the insufficient knowledge in Mindfulness practice had affected the accuracy of the result obtained.

### **5.4 Recommendations for Further Research**

Some recommendation can be made for further research in order to get a more precise result such as the data collected must have an equal number of respondents from the group with mindfulness practice and without mindfulness practice. This is because the equal number of respondents from different group can help to generate a more precise, accurate and valid result. Apart from that, a mixed method approach can be suggested for future research as it can help to provide a better understanding on the effects of mindfulness practice on the emotional intelligence of project team members. Also, other emotional intelligence measurement scales or tools such as Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) can be used to measure the emotional intelligence of project team members from other aspects that can help to identify the emotional intelligence of project and improve the project performance. Other than that, it is recommended that to conduct this similar study on another industry such as banking, academic, hospitality and etc. This is because higher emotional intelligence is not only improving the performance in construction industry but also could positively impact on other sector. Therefore, mindfulness practice can be recommended to other industries to improve on the performance.

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## **APPENDICES**

### **APPENDIX A: Questionnaire Forms**

# **Project Team Members Emotional Intelligence and Mindfulness Survey**

## **Section A: Individual Survey**

- 1. What is your gender? Please select one.**
  - a. Male
  - b. Female
  
- 2. How old are you? Please select one.**
  - a. Below 20 years old
  - b. 20 to 29 years old
  - c. 30 to 39 years old
  - d. 40 to 49 years old
  - e. Above 50 years old
  
- 3. Which of the following best describe your highest academic qualification in construction industry? Please select one.**
  - a. SPM (Equivalent to GCE O-Level)
  - b. STPM (Equivalent to GCE A-Level)
  - c. Bachelor degree
  - d. Master degree
  - e. PhD
  - f. Others (Please specify):\_\_\_\_\_
  
- 4. Which of the following best describe your profession or area of specialization in construction industry? Please select one.**
  - a. Client / Developer
  - b. Consultant
  - c. Contractor
  - d. Building Materials Trader
  - e. Others (Please specify):\_\_\_\_\_
  
- 5. Which of the following best describe your work experience in construction industry? Please select one.**
  - a. Less than 2 years
  - b. 2 to 5 years
  - c. 6 to 10 years
  - d. More than 10 years

## **Section B: Mindfulness Meditation Practice Survey**

**1. Do you practice mindfulness? Please select one.**

- a. Yes (Please proceed to Question No.2)
- b. No (Please proceed to Section C)

**2. How often have you practice mindfulness? Please select one.**

- a. Daily
- b. Every 2 days
- c. Every 1 weeks
- d. Every 2 weeks
- e. More than 2 weeks

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

- a. Less than 2 weeks
- b. 2 to 4 weeks
- c. 5 to 7 weeks
- d. More than 7 weeks

**4. Which of the following best describe your duration in practicing mindfulness for each time? Please select one.**

- a. Less than 10 minutes
- b. 11 minutes to 20 minutes
- c. 21 minutes to 30 minutes
- d. 31 minutes to 40 minutes
- e. 41 minutes to 50 minutes
- f. 51 minutes to 60 minutes
- g. More than 60 minutes

### **Section C: Wong & Law Emotional Intelligence Scale (WLEIS) Survey**

Wong & Law Emotional Intelligence Scale (WLEIS) is used to assess the EI of an individual (Wong & Law, 2002). There are a total of 4 dimensions in the scale, namely:

- Self-Emotion Appraisal (SEA)
- Others' Emotion Appraisal (OEA)
- Regulation of Emotion (ROE)
- Use of Emotion (UOE)

SEA is relates to one's ability to understand their inner emotion and capable to express it naturally. OEA is about the ability to perceive and understand other people's emotion. ROE is relates to the ability of people to regulate their emotion by express it in a mindful way and able to get rapid recovery from any psychological impact. Lastly, UOE is about the ability of one's to make use of their emotion by directing them toward a positive direction.

## Wong & Law Emotional Intelligence Scale (WLEIS)

For each question, please select from the following alternative:

- 1 – Strongly disagree
- 2 – Disagree
- 3 – Fair
- 4 – Agree
- 5 – Strongly agree

For each question, please circle one of the answers.

### Self-Emotion Appraisal (SEA)

Survey Question	Scale				
	Strongly disagree	Disagree	Fair	Agree	Strongly Agree
I have a good sense of why I have certain feelings most of the time.	1	2	3	4	5
I have good understanding of my own emotions.	1	2	3	4	5
I really understand what I feel.	1	2	3	4	5
I always know whether or not I am happy.	1	2	3	4	5

### Others' Emotion Appraisal (OEA)

Survey Question	Scale				
	Strongly disagree	Disagree	Fair	Agree	Strongly Agree
I always know my friends' emotions from their behaviour.	1	2	3	4	5
I am good observer of others' emotions.	1	2	3	4	5
I am sensitive to the feelings and emotions of others.	1	2	3	4	5
I have good understanding of the emotions of people around me.	1	2	3	4	5

### **Regulation of Emotion (ROE)**

Survey Question	Scale				
	Strongly disagree	Disagree	Fair	Agree	Strongly Agree
I always set goals of myself and then try my best to achieve them.	1	2	3	4	5
I always tell myself I am a competent person.	1	2	3	4	5
I am a self-motivated person.	1	2	3	4	5
I would always encourage myself to try my best.	1	2	3	4	5

### **Use of Emotion (UOE)**

Survey Question	Scale				
	Strongly disagree	Disagree	Fair	Agree	Strongly Agree
I am able to control my temper and handle difficulties rationally.	1	2	3	4	5
I am quite capable of controlling my own emotions.	1	2	3	4	5
I can always calm down quickly when I am very angry.	1	2	3	4	5
I have good control of my own emotions.	1	2	3	4	5

APPENDIX B: Results of Potential Plagiarism by Turnitin

# Effects of Mindfulness on the EI of PTMs-Checking08

*by* Koh Chin Woon

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# Effects of Mindfulness on the EI of PTMs-Checking08

## ORIGINALITY REPORT

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PUBLICATIONS

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STUDENT PAPERS

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Internet Source

**2** [www.riftvalleyuniversity.net](http://www.riftvalleyuniversity.net) % **1**  
Internet Source

**3** Charoensukmongkol, Peerayuth. "Benefits of Mindfulness Meditation on Emotional Intelligence, General Self-Efficacy, and Perceived Stress: Evidence from Thailand", *Journal of Spirituality in Mental Health*, 2014. % **1**  
Publication

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Internet Source

**5** [www.martinwilks.plus.com](http://www.martinwilks.plus.com) % **1**  
Internet Source

**6** [docplayer.net](http://docplayer.net) % **1**  
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12	<a href="http://etd.uwc.ac.za">etd.uwc.ac.za</a> Internet Source	<% 1
13	<a href="http://www.ukessays.com">www.ukessays.com</a> Internet Source	<% 1
14	<a href="http://dspace.lib.ttu.edu">dspace.lib.ttu.edu</a> Internet Source	<% 1
15	"AN EXPERT FROM", Ability/10625321, 20091001 Publication	<% 1
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