EFFECTS OF MINDFULNESS ON PERCEIVED STRESS OF PROJECT TEAM MEMBERS

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DECLARATION

I, HUE SOOK JING hereby declare that this dissertation 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

I certify that this project report entitled "**EFFECTS OF MINDFULNESS ON PERCEIVED STRESS OF PROJECT TEAM MEMBERS**" was prepared by **HUE SOOK JING** has met the required standard for submission in partial fulfilment of the requirements for the award of Master of Project Management at Universiti Tunku Abdul Rahman

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Date : 21/12/2016

Specially dedicated to

My beloved grandmother, father, mother and brother

ABSTRACT

THE EFFECTS OF MINDFULNESS SKILL ON PERCEIVED STRESS OF PROJECT TEAM MEMBERS

HUE SOOK JING

In the modern world, most people lead a stressful life. Stress is a characteristic of modern life, and no one can escape the effects of stress. The same is also applicable to those who are working in the construction industry. Stresses are known to have an adverse impact on the worker's mood, sense of well-being, behaviour, and health. Therefore, a high level of stress will affect the performance of project team members. This study investigates the mindfulness training as a possible way to help alleviate the stress of the project team members. There are two primary objectives of this study, which are (1) to identify the stress experienced by project team members in the construction industry, and (2) to establish the effects of mindfulness on perceived stress of project team members in the construction industry. The first part of the study concerns the amount of stress that the project team members are currently facing. The second part of this study investigated the effects of mindfulness skill on perceived stress of project team members. For this study, perceived stress scale (PSS) and mindful attention awareness scale (MAAS) use in the questionnaire. To confirm the data is correct, a systematical procedure of study was created. Firstly, a preliminary study in conducting to confirm the completeness of the questionnaire in capturing the data. Secondly, questionnaires were distributed, and 100 of feedbacks were collected from the individual who works with the construction companies. The

results were analysed using the SPSS software and the data were tabulated. The results analysed using Cronbach's Alpha test which indicated the Likert scale score for the PSS and MAAS. Besides that, the result analysed also using a dependent t-test to test the relationship between PSS before practice mindfulness and PSS after practice mindfulness. Lastly, the results analysed using the chi-square test to indicate the relationship between gender and mindfulness, age and mindfulness. Among the 100 respondents, there were only 65 respondents who are currently practicing mindfulness. The result shows the respondents believed that by practicing mindfulness, their stress level would reduce. In the dependent t-test for PSS, it indicates that there was a statically significant improvement in perceived stress from 24.86 ±4.19 to 17.94 ±3.302 ($p < 0.0005$); an improvement of 6.92 ±6.92 after practicing mindfulness. As for the dependent t-test for MAAS, the results is $t(64) = -17.271$, $p < 0.0005$. According to the results, by comparing the means of MAAS before and after practice mindfulness, it shows that there was a statistically significant improvement in mindfulness level, from 2.54 ±0.47 to 4.12 ±0.61 ($p < 0.0005$); an improvement of 1.58±1.58. The result showed an overall increase in mindfulness level after mindfulness training. On the other hand, the Chi-Square was used to study the relationship between the respondent's gender and mindfulness level. The result showed that there is no significant between gender and mindfulness level, $\chi(1) = 2.032$, $p = 0.154$. The strength of association between the variables is weak. For the relationship between respondent's age and mindfulness level, there is no significant association between age and practice mindfulness, $\chi(3) = 3.716$, $p = 0.294$. The strength of association between the variables is weak. For the relationship between respondent's area of specialisation and mindfulness, there is no significant association between the area of specialization and mindfulness level, $\chi(5) = 3.731$, p

= 0.589. The strength of association between the variables is weak. These findings provide promising evidence of the mindfulness training for reducing the stress level of project team members.

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I would like to thank everyone who had contributed to the successful completion of this project. I would like to express my gratitude to my research supervisor, Dr. Lee Wah Peng for his valuable advice, guidance and his enormous patience throughout the development of the research.

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Last but not least, I would also like to thanks to all my friends and course mates who had helped in my survey form and given me encouragement such as comments for the improvement of this research.

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PSS	Perceived Stress Scale
MAAS	Mindful Attention Awareness Scale
UK	United Kingdom

Chapter 1

INTRODUCTION

1.1 Background of Studies

Over the past decades, construction industry had noticed significant institutional and organisational transformations across the world. The continuous conversions of building process, pace and the complication of work and the increasing demand for higher productivity have become an ordinary element of the industry. Therefore, there is a response to the globalisation of economy and markets, technological advancement, and the changing consumer preferences. Indeed, the productive and complicated essence of construction work and different background are also believed to be committing greatly to accelerate the changes which had taken place within the building industry in general (Ibem, 2011). Therefore, stress at work for the project team members is increasing regard as an inevitable part of modern life.

The construction industry, in particular, is considered as one of the most challenging, labor-intensive, and dangerous working environments (Wong Johnny, 2010). Construction companies typically operate in a highly competitive market with relatively low-profit margins, a limited period, and a restrictive budget. To ensure the project completion within the stipulated time, respecting the restrictive budget and adhering closely to the job specifications, the construction professionals and practitioners have a heavy workload and longer working hours to carry out the projects. Hence, many construction professionals and practitioners had suffered much stress, and some of them are unable to distress.

However, how can an organisation better prepare their project team members to perceive their stresses? Coping with stress will appear to be one of the greatest challenges currently faced by the project team members not only for the construction industry but also for other industry. In the modern world, many professionals face a large variety of problems every day, such as family issues, work issues, finance problems. The inability to successfully cope with the enormous demands of construction industry may lead to a cascade of consequences at both a personal and professional level, affecting the project team members' intrapersonal and interpersonal life, and ultimately jeopardise the progress or even completion of the project. Stress has been shown to have a deleterious effect on one's physical and mental well-being (Shauna L., 1998). Those extreme stress levels can be inherent in a project which put the project team members in the risk of both physical and psychological problems. Most of the people who worked in the construction industry, their potential effects

of stress are alcohol or drug abuse, interpersonal relationship, depression, anxiety, and suicide (Shauna L.,1998).

Mindfulness has received much research interest over the past decades, particularly in the Western countries. Various attempts have been made to define what mindfulness is in modern psychological terms. Kabat-Zinn (1990) defined mindfulness as "paying attention in a particular way; on purpose, in the present moment, and non-judgementally'. The contrast of mindfulness is mindlessness. In contrast to being mindless, which means neither paying attention to nor having an awareness of, mindfulness is engaged in or of the internal states and processes (e.g., emotions) one is experiencing. The characteristic of mindlessness is, for example, performing tasks on autopilot, daydreaming, worrying about the future, or ruminating about the past (Brown and Ryan, 2003). Goenka (1987) expounded that mindfulness consists of two aspects: awareness of the present moment and equanimity. Equanimity has not been reviewed much in the circumstances of the Western psychological theory. Equanimity means (1) a balanced mind, (2) a mind without craving and aversion, and (3) a mind that does not want pleasant sensation to continue for preventing craving mind and does not want unpleasant sensation to cease for preventing aversion mind.

Well organised mindfulness interventions have shown to be able to perform of addressing the problems of young people. These interventions improve their well-being, sleep, self-esteem, calmness, relaxation, self-regulation, and awareness. It also reduces worries, anxiety, distress, reactivity,

and bad behaviour. The youngster who are mindful, either through personality or training, tend to happen greater well-being; mindfulness interacts positively with positive emotion, popularity, and friendship-extensiveness, and negatively with negative emotion and anxiety (Miners, 2008). Bogels et al. (2008) evaluated the impact of mindfulness on a group of adolescents diagnosed with attention and behaviour control deficits. They reported that there are seriously increases in personal goals, sustained attention, happiness, and mindful awareness. However, the study on the effects of mindfulness in reducing stress among project team members is under-explored

1.2 Problem Statement

Project team members had experienced a high level of stress, especially the construction professionals. Workplace stress leads to sociological, psychological, and physiological tensions. Under these circumstances, the sufferers will implement different managing mechanisms in the hopes of reducing their suffering. In today's world, the construction industry is imperative to any country or nation's economy as it commits to the process of development. It also carries equally elements which had set itself separate from other industries that emphasise the demand for professional commitment. The team for each project is the compilation from different groups of practitioners, subcontractors, labourers, and suppliers inside and outside the industry. There is an adequate prove show that there are an increasing number of people who are associate in the activities of the industry. Construction refers to the assembling or installing structures. It is in a known usage, most

commonly enforced to such main works as buildings, and public works. For instance, the public works like roads, dams, and bridges also known as construction. Hence, construction work is a constitutionally hazardous occupation and is highly expose to stressful environments.

There is research that made people understand that spending hours on work or work-related issues will not only leave them prone to work pressures, but also a reduction in productivity and increment in the proportion of their finance expended in keeping health. Modern day life can be especially stressful and can establish high physical demands in human bodies as well as emotional on their style of life. Therefore, workplace stress is risk to the physical and emotional reactions. The workplace stress also can happen when there is a fight between career demand on the employee and the control an employee has in meeting these requirements. A stress reaction is an individual response to a given stress which can be behavioural, perceptual, physiological, emotional, and cognitive or signs and symptoms of illness or any disorders. For example, the stress reaction includes headaches, alcohol abuse, obesity, cardiovascular disease, hypertension, insomnia, and much more. Moreover, people who always complain about their stress will also affect their functioning systems. Therefore, it will reduce their concentration ability, problem-solving ability, decision-making capacity and productiveness capacity. On the other hand, the most obvious stressors in the construction industry for labourers are physical, such as working with heavy equipment, noise, vibration, and so on. For professionals such as architects and quantity surveyors, the most obvious health difficulties are minor aches and pains, like

backaches, headaches, or skin rashes. Stress among those professionals in construction industry worth what to manage because the cost of the materials in construction works covers at least half of the expenses of the whole project. In conclusion, stress can be either good or bad depending on the behaviour and perception of the individual.

Stress had played a major role in how successful are in the productivity work activity and the completed project. Hence, mindfulness skill can reduce people's stress. It can enhance the human's concentration ability, decision-making capacity, and so on. In the present-day construction industry, not many organisations are aware of the benefits of mindfulness, with some even being ignorant the meaning of mindfulness; they thought that mindfulness is equivalent to meditation. In fact, they are two distinct skills. In other countries such as the UK, there is an initiative of providing mindfulness programmes to their employees. The mindfulness programme proved to be effective for them; their staff had increased their decision-making ability and concentration ability. Therefore, Malaysia's construction industry should try to adapt the programme to their project team members to complete the project within time strain and budget.

1.3 Aim and Objectives

The aim of this study is to determine the stress level that the project team member had experienced and to investigate if mindfulness can reduce the

stress for the project team members. In turn, to achieve the aim of the study, the author has set up two objectives as follows:

i. To identify the stress experienced by project team members in the construction industry.
ii. To establish the effect of mindfulness on perceived stress of project team members in the construction industry.

1.4 Hypothesis

There are a few hypotheses in this research:

1. Ho: Mindfulness training has no effect on perceived stress

   Ha: Mindfulness training has positive effect on perceived stress
2. Ho: Mindfulness training has no effect on mindfulness level

   Ha: Mindfulness training has positive effect on mindfulness level
3. Ho: Gender has no effect on practiced mindfulness

   Ha: Gender has positive effect on practiced mindfulness
4. Ho: Age has no effect on practiced mindfulness

   Ha: Age has positive effect on practiced mindfulness
5. Ho: Area of Specialisation has no effect on practiced mindfulness

   Ha: Area of Specialisation has positive effect on practiced mindfulness
6. Ho: Company position has no effect on perceived stress

   Ha: Company position has positive effect on perceived stress

1.5 Scope of Study

In this subsection, the research covers a three scope of study. The first scope of study is the individual's research sections are in Kuala Lumpur and Selangor area. The second scope of study is the author gather the information for mindfulness in located in Malaysia. Other countries research paper such as Hong Kong, Singapore, United Kingdom will use as references in the literature review. Last but not least, the information gather from the professional and project team members where they worked in the construction industry.

1.6 Organisational Structure of the Study

The research classify in a consistent way to accomplish the objectives.

Chapter 1 designates the element parts of the research. The first sub-section introduces the study, problem statement, aims and objectives, brief outline research methodology, the scope and limitations of the study, and the organisational structure of this investigation. The basic purpose of Chapter 1 is to determine the research crisis and the area of proposed study by preparing the study aims and objectives. The details of the survey and a brief outline of the research methodology are discuss in this chapter; therefore it will provide a better picture of the study.

Chapter 2 includes the literature, investigation, and critical reviews on the ideas of stress and mindfulness. Besides that, the author also elaborates more on the mindfulness skills.

Chapter 3 presents the research methodology. In this chapter, the author establishes the research methodology and the data collection method used in the study.

Chapter 4 discusses the analysis of the respondents. It presents the organisational profile of the respondents and elaborates the statistical method used in the research.

Chapter 5 presents the conclusion of the research. Besides that, in this chapter, recommendations for future studies are proposed.

Chapter 2

LITERATURE REVIEW

2.1 History of Stress

The word stress is borrowed from the field of physics by one of the researchers. He is one of the fathers of stress, and his name is Hans Selye. In physics, stress is understood as the force that generates pressure and tension on a physical body. For example, the bending or breaking off pieces of metal depends on the force or stress to which the metal is subjected. Hence, this researcher, Hans Selye had begun to use the term stress to describe the phenomenon we all identify as stress after completing his medical training at the University of Montreal. He observed that regardless of the source of illness of his different patients, they all shared a common trait. The common thing is that all of them looked ill. From his point of view, all the patients were under physical stress. Hence, he suggested that stress was a non-specific tension on the body caused by the unevenness in the normal body functions. This stress appeared in the release of stress hormones. He called it as the “General Adaptation Syndrome” (GAS). Selye stated that in response to some external stressor (K.Jerry, 2008), the external stressor would first respond by

assembling their physical resources to compromise with or outbreak from the stressor. Thus, Selye called this the ‘alarm’ state, and it is the first stage. Then, the second stage term is ‘resistance’. Resistance stage includes the way of managing with the alarm stage by trying to reversal back. The last stage will be the ‘exhaustion’. Exhaustion happens if the individual is frequently exposed to the stressor and is unable to break out the stress (Jerry K, 2008).

2.2 Introduction to Stress in Construction Industry

In the contemporary industrialised and commercialised world, construction industry has authenticated huge institutional and organisational revolution across the world. The continued alteration or modification of the building development pace, the complication of work, and the growing demand for higher productivity of economy and markets, technology improvement and the changing consumer desires. Besides that, construction industry can also categorise as competitive, dynamic, and challenging. A project is an extraordinary human effort which syndicates the difference of aims and objectives between the different stakeholders. They need to organise numerous resources to overcome and adapt to the changes and uncertainties, aiming to complete the work within a limited time, restrictive budget and also specific scope. Construction project personnel needs to work with different team members beyond the various projects at different stages. Hence, they will inescapably encounter stress while implementation period and inflicted with physical and mental stress. These stresses will manifest itself through symptoms like depression, anxiety, poor physical health and much more.

Stress is common in the construction industry. The Chartered Institute of Building (CIOB) had research that studied the primary causes of occupational stress by investigating the behaviour of different employees within the organisation, spanning various classes of roles in the company. This has included the physical work environment, the organisation, and other possible construction specific stressors such as site safety and the industry image. The results had shown that more than two-thirds of the respondents (68%) had suffered from stress, anxiety, or depression (Mike B., 2006). According to New Strait Times, stress is very common in the workplace because of the demands of the modern work environment.

Nevertheless, enormous and uncontrollable stress can be injurious to an employee's health as it affects employee's mental and physical health. Work stress is now one of the most challenging problems in the world. Work stress has inflicted significant, mostly negative, impacts on the health of employees. This increases the number of people having anxiety and depression around the world, inflicting harm to the work rate of organisations and the nation's economy. There are studies which show that time, cost, and other people are the primary sources of stress for construction personnel (Leung M.Y, 2015). For example, managing changes from projects require high-quality team performance and develop in increased the stress because of the need to complete the project on time. Besides that, long working hours also causes the high level of stress and the inadequate physical working environment in the construction industry also affect the employees and their safety problems (Lingard, 2004). Also, for the project team members to complete their tasks, they have to cooperate with each other. Establishing trust,

cooperation, respect, and disagreement management is the duties of all the team members. They also need to locate the problems that are linked to work-related stress and the psychological and physical health of construction personnel (Cotton and Hart, 2003).

2.2.1 Stress in Construction Organizations

In the nowadays world, many organisations are commit in the construction industry, including governments, developers, consultants, contractors, subcontractors, and suppliers. The framework and arrangement of the project team tend to transforms over the period of the project. Some of the team members might only have a very short time involvement, preserve specialist knowledge, or provide specialist elements at a very specific time phase while others such as clients, project managers, or consultants might be committed to the project for a few years. It is vital that the project team members be formed perfectly from the outset, and the team members are chosen cautiously in order to deliver the project successfully. Nonetheless, there are always some difficulties about whether a project will carry on normally during the beginning phase of the feasibility studies, an appropriate consideration is always not given to structure a good project team members.

Furthermore, clients will demand the information about how the main contractor will structure the project staff and how those staff will disclose themselves to other parties that will commit to the project. A chart is convenient for communicating the relationships between the project team

members. Besides that, team charts usually indicate who the prominent project leaders will be. For instance, the main project leaders who are in charge of the project will be the project manager and architect, even though there are many position titles for architects. The first determination of the team chart is to designate the hierarchy of the architect team, indicating who will be in charge of each task and showing the dominant relationships among the members of the project team.

Figure 2.1 shows the outline of a typical structure for project team members, which are also known as the stakeholders (Designing Building Wiki, 2016). However, for this research, it is based on the project team members who worked as the contractor firms, subcontractor firms, and suppliers. For example, people who work in the subcontractor firms will be electrical engineers, plumbers, mechanical engineer and quantity surveyors. In the construction industry, builders usually refer to contractors who produce a building product for a specified cost at a given moment. Commonly, contractors divide into two categories, namely, the main contractors and the sub-contractors.

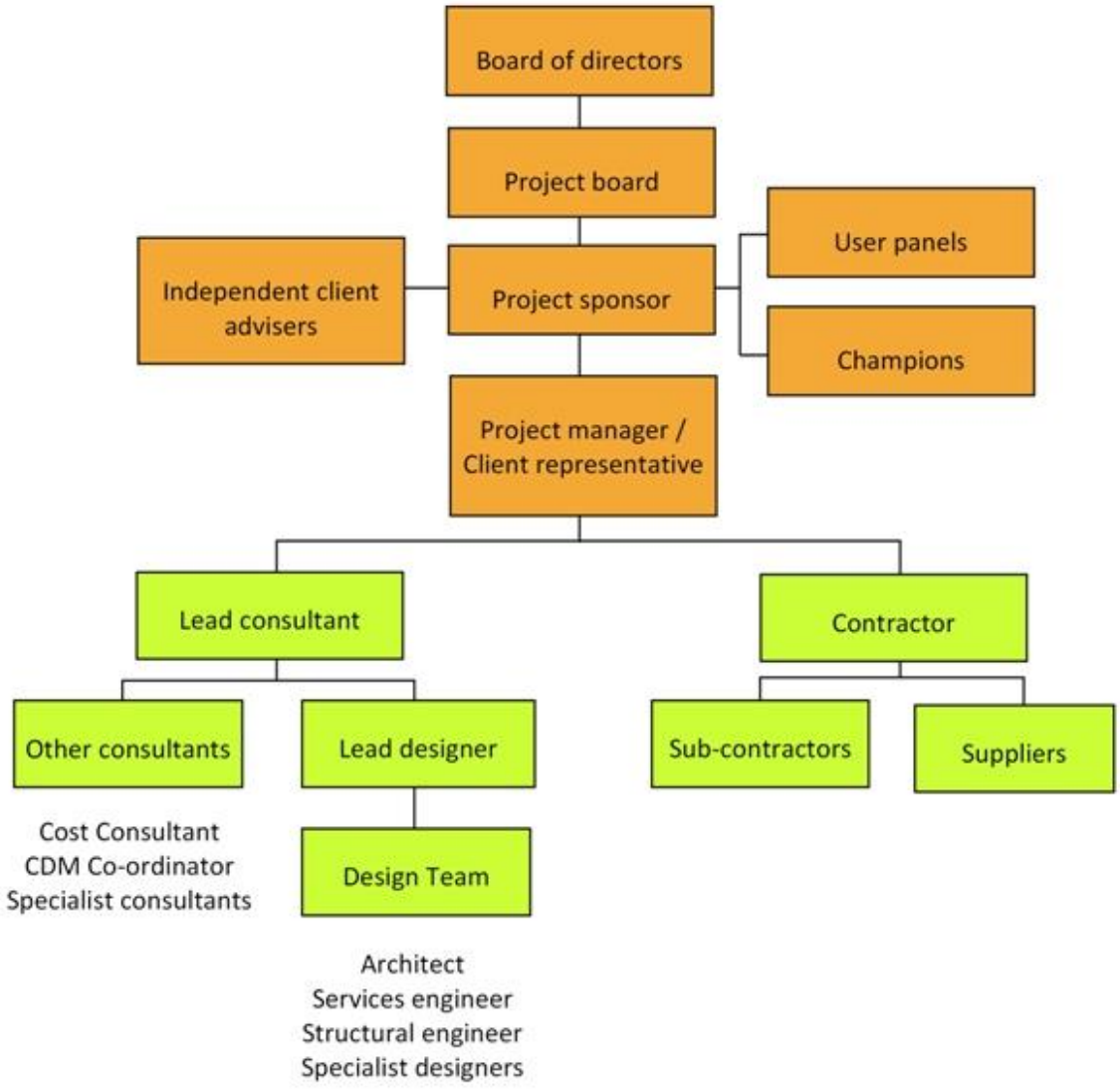

Figure 2.1 Organisational chart for project team members (Designing Building Wiki, 2016).

Main contractors engage in a procedure to reconstruct the input such as labour, equipment, material, and financial assets into outputs such as buildings. At the pre-construction phase, the main contractors have to compete with their opponents just to secure the contract. Factor which includes the price, experience, reputation of the organisation and the professional qualification

are a few of the many considered relevant selection precedents. Nonetheless, main contractors always commit themselves in furious competition in order not to abort on the market opportunities (Leung M.Y, 2015). During the construction development, main contractors need to conscientiously plan and accomplish all the mandatory resources for constructing a building, which includes an enormous amount of work. The planning that main contractors have to plan carefully is the construction phases and sequences while the resources for constructing a building need to confine within a budget. However, improper management can lead to the failure of building projects, bringing terrible consequences to the main contractors. For example, if the main contractors do not have a proper management of the projects, the contractors might exceed the budget, construct poor quality buildings, have safety accidents, or delay the projects. This will lead to serious problems to the client. Furthermore, many stakeholders are involved in the project. For instance, the stakeholders include clients, architects, engineers, quantity surveyor, project managers, suppliers, and end users. Main contractors have to communicate, coordinate, and handle all the parties involved in the project in an efficient manner to ensure the project is delivered successfully. Therefore, main contractors will suffer a higher level of stress due to the heavy responsibilities and workloads (Leung M.Y, 2015).

Sub-contractor refers to the construction organisation that is responsible for endeavouring part of the work on behalf of the main contractors (Leung M.Y, 2015). Usually, sub-contractors divide into two different categories; domestic sub-contractors and nominated sub-contractors. Domestic sub-contractors are selected and engaged directly by the main

contractors via tender interviews, while domestic sub-contractors will not have any contractual relationship with the clients. Besides that, domestic sub-contractors are always deliberated to be part of the human resources of the main contractors (Leung M.Y, 2015). Domestic sub-contractors have relatively less insurance from the client and cannot enjoy the advantages of fluctuation requirement in the contract between the main contractor and client which causes financial pressure and, along with it, immense stress to the sub-contractors. (Leung M.Y, 2015). On the other hand, nominated sub-contractors are selected and engaged by the client or architect. After the client or architect has selected the sub-contractor, the client will instruct the main contractor to get into a contract with the nominated sub-contractor. Nominated Sub-contractors also face their range of problems like a disagreement over the release of retention fund and shared conflict with the main contractor during the construction phases. Further, main contractors might be aware of the enormous cost savings by restraining the budget from the sub-contractor, developing the predominance of the wrong method. Therefore, nominated sub-contractor are in a stressful position.

Other than main contractors and sub-contractors, suppliers are also one of the positions which proved to be extremely stressful. In the construction industry, the supplier is a very common term which refers to organisations contracted as part of the delivery of the building assets. On the other hand, it can also define as a supply chain that should be set up to ensure in which resources, including material, labour, and equipment, are systematised and utilised for the delivery of construction products. However, the construction

becomes more complicated; the suppliers also become more specialised, and so the supply chain has to be extended. Nonetheless, the suppliers play an important role in the construction projects when the requirements and the quality of materials and equipment essentially affect the accomplishment of a project. Suppliers are also divided into two groups. The two groups are material suppliers and equipment suppliers. The material suppliers normally provide the raw materials for the delivery of projects. For instance, suppliers may be required to deliver the pipe fittings to the site on a particular date. Hence, the pipe fittings are considered as a material. On the other hand, equipment suppliers need to make sure that the necessities and contractual specifications are met, normally providing onsite installation, frequent inspection, and carrying out onsite maintenance. Equipment includes crane, excavators, compactors, and others.

Notwithstanding, to accomplish a project successfully, it is inevitable to select appropriate suppliers for both materials and equipment. In the public sector, completeness and fairness are considered to be important (Leung M.Y, 2015).

In this research, project team members from the main contractor organisation to the supplier, which includes the project managers, quantity surveyor, engineers, site supervisors, site quantity surveyors, managers, suppliers will face many challenges in the highly competing work environments. They will face the challenges in characterised by the

inadequacy of time, more unmanageable aspects, background aberrations, the inadequacy of space, common unpredictable events, and more compared to the team members.

2.2.2 Stresses for Project Team Members in Construction Industry.

The project team members are thought as constituting of the clients, architects, engineers, consultants, and contractors. Normally, architects, engineers, or consultants will generate the construction documents for the clients. Nevertheless, the client can be in a private or public sector which determines the project requirements and funding for the projects. Last but not least, the contractor is commonly required to build specially designed buildings in an aggressive or competitive environment. Furthermore, these project team members share the common goal of establishing the project. However, because of the conflicts, challenges, and competing interests in the project, they might experience difficulties arising from poor teamwork. Notwithstanding, the construction process is a very competitive for the client, design team, and contractor (J.B. Willian, 2002). The client always wants the best value and the highest quality for their funding. As for the design teams, they aim to complete the requirement for the client and are under the restriction to perform successful projects. Lastly, contractors work in a very competitive environment where the profit margins are low, and risk is high. The competitive nature of these participants can cause a breakdown of teamwork crucial to a highly successful project (J.B. Willian, 2002). The breakdowns may cause improper information flow, distrust, disproportionate

documents, delays, reduction in quality, and eventually bring forth negative impacts on the cost and schedule of a project. Therefore, each and every role in the construction industry will be subjected to a lot of pressure and this, in turn, generates a stress to them. Figure 2.2 shows the project team members for the main contractor in the construction industry. For the client, it is similar to Figure 2.2 as the client needs project managers, architects, and quantity surveyors. However, clients also need a town planner; but the client will not need to deal with suppliers as suppliers only deal with consultants, main contractors, or sub-contractor. Figure 2.3 shows the project team members for sub-contractors in the construction industry.

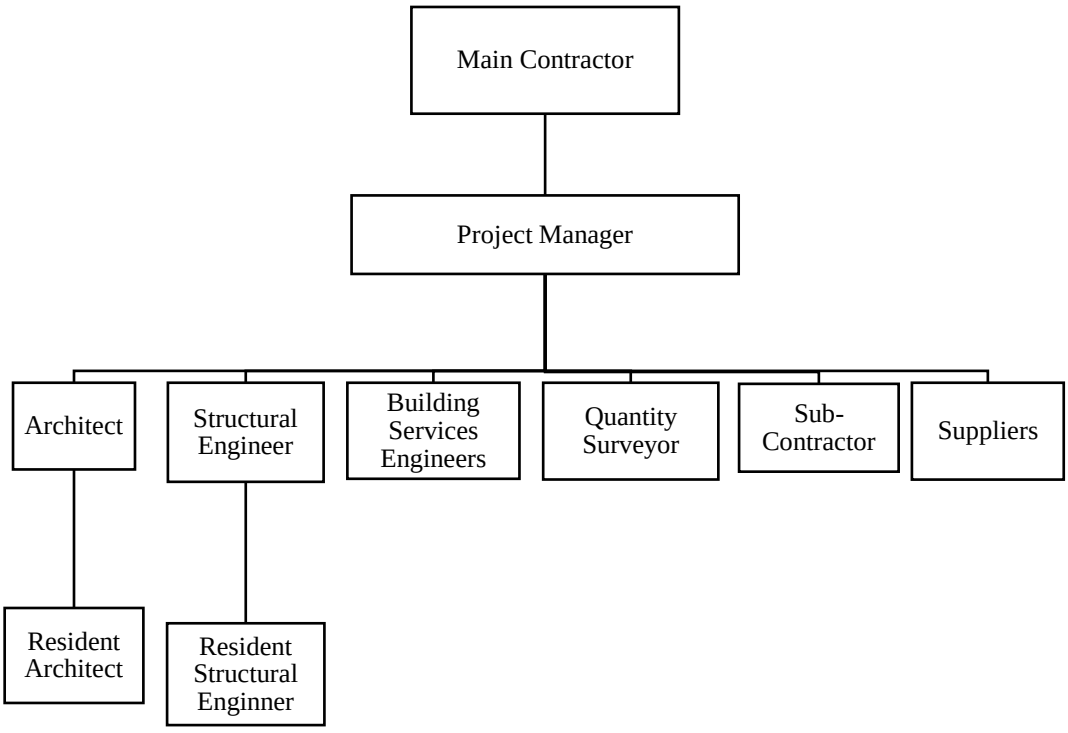

Figure 2.2 Project Team Members for Main Contractor in Construction Industry

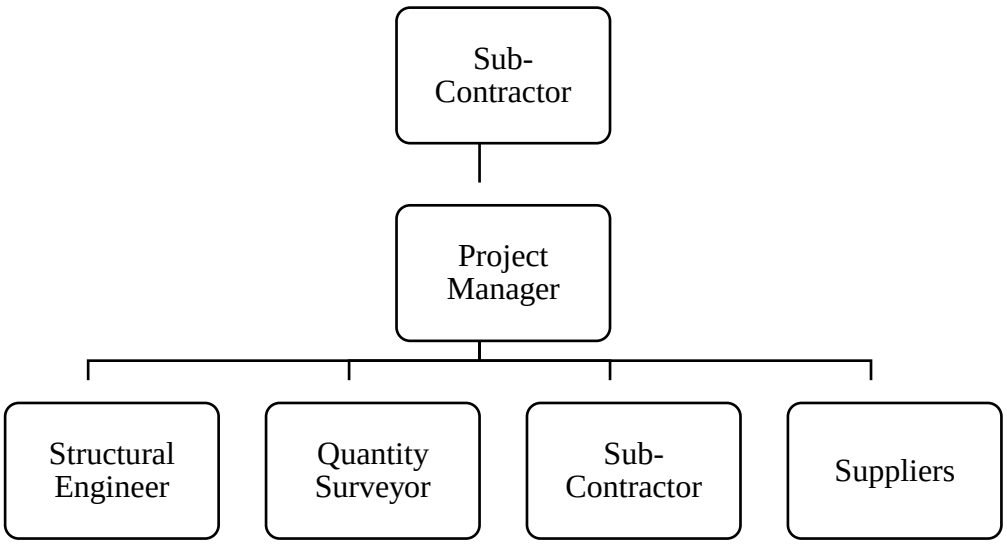

Figure 2.3 Project Team Members for Sub-Contractor in Construction Industry

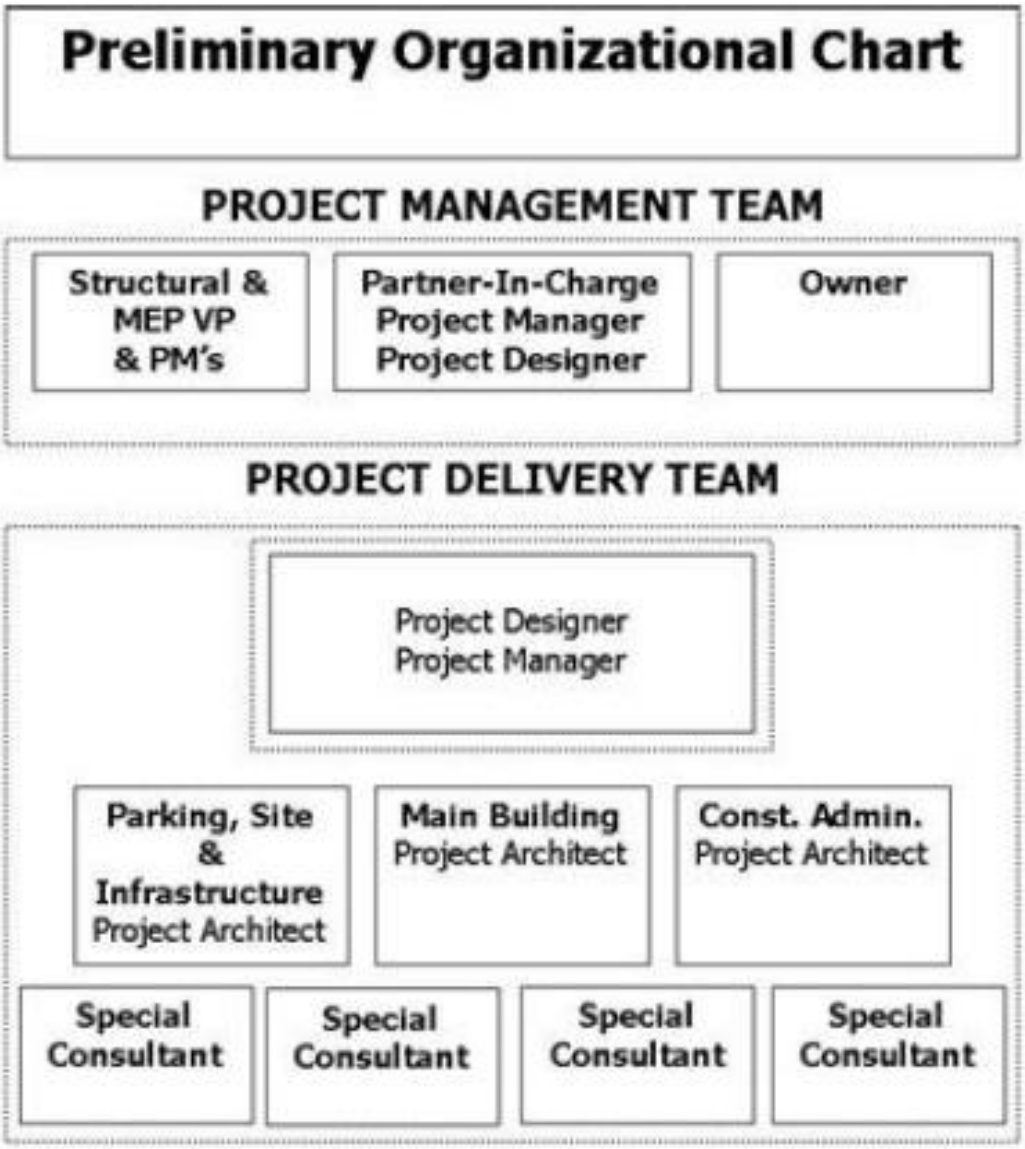

Figure 2.4 Preliminary Organisational Charts for Project Team Members (J.B. Willian, 2002).

2.4 Work Stress Experienced

Work stress is well-known to have an adverse impact on the production and job satisfaction among the workers in different professions. It is presumed to be the significant contributor to absenteeism, low employee morale, high accident and turnover rates, as well as high medical costs in many organisations (Eziyi, E O, et al., 2011). Therefore, researchers related to work stress have increased in recent years. Particularly, many past researchers have shown that work stress can be physically and mentally harmful to the employees and it is correlated with the physical condition, organisational structure, interpersonal conflict, personal characteristics, and the nature of works (Eziyi, E O, et al., 2011). There are also some proves in the literature indicating that work stress has proved itself in a hazardous working practice, a decrease in quantity and quality of the accomplishment at work, and contraction in performance efficiency. Hence, there is a general agreement that acute, continuous, and repeated work stress are harmful to the person and organisational output and competing in job performance. Therefore work stress garnered more research attention. Stress is not confined to professionals only; anyone can have his or her sources of stress. Nevertheless, construction work is the third most stressful profession after police and mining work. There is research which found out that in the United Kingdom, there is a growing trend for construction professionals to view their jobs as stressful and dangerous. The research had suggested that job stress poses as an extensive risk to the achievement of sustainable growth in the construction, in the specific, and economic development of any nation in general. Since stress

awareness is highly abstract and fluctuates from one individual and circumstance to another, there is bound to be discrepancies among professionals in the construction industry based on their understanding of stress factors. This leads to different conclusions of stress management strategies in the construction sector.

There are a few work stresses experienced by the professionals who work in the construction industry. The first work stress experienced is overload. In construction industry, most of the project team members will need to work until late night because they have to meet the deadlines of the projects. Besides that, project team members or professional will feel stress on the workload because of the unmanageable workloads and also technology overload. The second work stress experienced is work-life balance. Working in construction industry does not have enough time to relax or rest. This is because professionals or project team members will have long working hours. It being expected to or having work additional hours at home or office, and it affect the relationship between partners, family and friends. Besides that, over-demanding and inflexible working schedules also affect the team members or professionals work-life balance because they will have not much time to social. Nevertheless, pay and benefits is the most important stress experienced by the professionals or project team members. The financial rewards will associate with the job is significant in terms of lifestyle. They will always perceive to be in indication of a personal worth and value to the organizations. Although financial rewards is not the main motivator, but it will become a factor is there is other negative aspects of the job. Many organizations will not pay any

incentives or rewards to their employees even they have performed well in their job tasks, therefore, most of the employees feel stress on their works. Lastly, the working environment is also one of the stresses experienced by the professionals. This means the lack of work security and work changes are also one of the sources of stress. Working in a construction industry is very dangerous. Most of the professionals feel work environment insecurity because of the hazardous in construction site.

2.5 Introduction of Mindfulness

Experimental studies have been investigating the construct of mindfulness for approximately 40 years, and over this period, the technical definition of mindfulness has constantly been amended, improved, and explained. What the present researcher's term as mindfulness in the field of thoughtful science, and the comparable techniques of its sophistication, come from the Eastern contemplative psychological practices, especially Buddhist psychology which had made a reference to the concept over 2,500 years ago (D.S Black,2011). As the idea of mindfulness was deliberately introduced into the field of Western science, most of the people thought that mindfulness was correlated to, or even interchangeable with, meditation practices. Meditation is one of the methods that allows the practitioner to establish mindfulness. It was mysterious, obliged to religious belief, and the ability was said to be obtainable only by a specific few. Nonetheless, a few decades of research methodology and scientific findings have settled these myths. Mindfulness is

now widely considered to be a constitutional quality of human awareness. In other words, it is an ability of attention and awareness adapted to the current moment that changes the strength within and between individuals, and it can be determined analytically and self-reliant of religious, spiritual, or even cultural beliefs.

Mindfulness can be defined as a process of paying attention to what is happening in that moment for both internal and external stimuli. Internal stimuli refer to a human's thoughts, body sensations, and more, while external stimuli refer to a human's physical and social environment. Besides that, mindfulness also includes the observing of stimuli without judgment or evaluation, without assigning meaning to them. For example, there are always "right" or "wrong" ways to think or to feel in a particular moment. When we are practicing mindfulness, our thoughts tune into what we are sensing in the current moment rather than restating the past or imagining the future. According to Jon Kabat-Zinn, mindfulness means paying attention in a particular way, on purpose, in the present moment, and non-judgmentally. On the other hand, according to the Buddha, it says "Mindfulness is useful everywhere". In harmony with this concept, the idea of mindfulness has come out in each of the coachings that make up the way to freedom. At its most basic, mindfulness is vital for the sense of conscience on which proper management is founded. Therefore, drugs and alcohol will spoil mindfulness and the basis for a moral life (Santipada, 2012). According to Santipada, mindfulness in its older sense of memory, remembers and recollects the teachings, forming the basis for the rational understanding of the Dhamma,

and endure them in mind, ready to apply right at the critical stage. According to Steven F. Hick, mindfulness practice involves both formal and informal meditation practices and non-meditation-based practices. For formal mindfulness, it is the exercise of maintaining the attention on body, breath, sensations, or anything that derive in each moment. Also, informal mindfulness is the operation of mindful attention in daily routine. Non-meditation-based practices are particularly used in Dialectical behaviour therapy and acceptance and commitment therapy. Besides that, by practicing mindfulness, there are many benefits to the individual. According to the American Psychological Association, the term "mindfulness" has been used to refer to psychological state of awareness, the practices that promote this awareness, a mode of processing information and a character trait. Besides that, to be rational with most of the studies, mindfulness can be defined as a moment-to-moment awareness of one's experience without any hesitation or judgment. In this definition, mindfulness is a state and not a feature. The state of mindfulness may be advocated by numerous exercises or activities, such as meditation, but it is definitely not equal or equivalent to each other. Some of the disciplines and exercises can manage mindfulness, such as tai-chi or yoga, but most of the articles or journals have aim their attention to mindfulness that is established through mindfulness meditation. Those who have self-regulated practices should focus on training awareness or attention in order to bring the emotional processes under an outstanding voluntary control, and by that, support the general mental well-being and build-up and particular capacities such as consolidation, patience, or accuracy. The researchers speculate that mindfulness meditation provides benefits to metacognitive awareness, reduce

the rumination through disconnection from unflagging cognitive activities, and improve the attention capacities through gains in working memory. These emotional gains, consequently, devote to effective emotion-regulation strategies.

There is a lot of anecdotal, spoken evidence for the effectiveness of mindfulness meditation practice (Karl D, 2011). Even from the author own experience, it can say that most people who are practicing mindfulness will feel the benefits of practice mindfulness. Some people might having a sensation of greater calm to the participants who always says that by practicing mindfulness, it can help them to change their lifestyle. There are a few studies regarding about mindfulness programmes to some specific conditions like working stress, anxiety, ability to focus and fear. From time to time, there are many researches which focus on how mindfulness works and most of the research paper have come up with a theoretical framework which can be explained (Karl D, 2011). According to the Britta Holzel from Justus Liebig Univeristy, it had done some studies on the effects of meditation on the brain. The study had suggested the most comprehensive framework to date for the different aspects of an individual that are impacted upon through ongoing mindfulness meditation (Britta H, 2011).

2.5.1 Benefits of Mindfulness

Many people have found excuses for not practicing mindfulness. There are a few common excuses that people employ to avoid mindfulness practices. First

and foremost is the claim that mindfulness practices are boring. Most of us would think that mindfulness is boring because it has nothing to do with technology. The second will be the people who practice mindfulness are not able to sit still. Several people cannot stand still because they are impatient and want to finish the mindfulness training faster so that they can do their things. Besides that, the lack of time to practice mindfulness is also one of the common excuses given by the meditators. Time crunches are stressing us all out. Other than that, the fear of being alone while meditating is one of the prevalent excuses. The reason that some of them are scared of being alone during meditation may be due to self-inflicted hypnosis, a brain that inherently rejects the idea of change, of meditation. Last but not least, some complaints that the fast-moving brain is one of the reasons that deters them from practicing meditation. In fact, a rapid-moving mind, whenever we sit down and start practicing the mindfulness, is caused by our incessant mind, having the tendency to think of other stuff like work-related matters, personal matters, or any other issues. This will bother our mind, disabling our minds from concentrating in practicing mindfulness. As a consequence, after the practitioner ended their mindfulness exercise, the meditators feel dizzy or sometimes even headache. However, the practitioner needs to realize that this is perfectly normal and the rite of passage when meditating. In conclusion, there are a lot of existing excuses for people to refrain from practicing mindfulness, some being legitimate worries, while others are causing from ignorance and resistance to change. In order to persuade the meditators to continue the beneficial practice of mindfulness, the meditators need to realize the advantages of mindfulness.

One of the most attractive benefits arising from practicing mindfulness is the boost in working memory. Enhancements to working memory come out to be another benefit of mindfulness. For example, there is a research documenting the benefits of mindfulness meditation. The study was conducted on three different categories of subjects: among an armed forces group who participated in an eight-week mindfulness training, a non-meditating group in the armed force, and a control group consisting of non-meditating people not in the armed forces. Both armed force groups were in a highly stressful duration before categorization. The studies had found out that non-meditating armed forced group had a reduced working memory capacity over time while working memory capacity among the non-meditating participants, not in armed forces was stable. In said period, for the meditating armed forces group, however, their working memory capacity is increased due to the practice of mindfulness. Also, meditation exercises were positively correlated to self-reported positive effects and negatively correlated to self-reported negative affect.

On the other hand, another benefit of mindfulness is the improvement of focus. There is a research investigating about how mindfulness meditation affects the participants' capability to focus their attention and overcome distracting information. The studies compared a group of experienced mindfulness meditators with a group that had no experience in meditation. The researchers had found out that the group of meditators had a critically better performance in attention span and had higher self-reported mindfulness.

Besides that, mindfulness meditation exercises and self-reported mindfulness were precisely correlated with emotional flexibility and attention functioning.

Moreover, higher emotional and mental flexibility is one of the benefits of mindfulness. Yet another research proposed that in addition to helping people to become less responsive, mindfulness meditation may offer them a greater emotional compliance. One of the studies has found that individuals who exercise the mindfulness meditation emerge to develop the skill of self-observation, which neurology disconnect to the automatic pathways that created by prior learning and implement the present-moment input to be combined with a new action. Mindfulness also stimulates the brain district assistant with more adaptive responses to stressful and negative situations. Provocations of this district correlate with faster recovery to baseline after being variously provoked.

Next, the reduction of rumination is also one of the benefits of mindfulness. Several studies show mindfulness decreases rumination. For example, 20 newcomers meditate to engage in a 10-day complete mindfulness meditation evacuation. After the evacuation, the meditators had a critically higher self-reported mindfulness and a negative contraction effect compared to a group that has no exercise in mindfulness. They also had occurrence less depressive and less rumination. In addition, the group which practiced meditation had a critically better working memory capacity and have better

focus during job performance as compared with the other group which has no mindfulness practice.

There are a few articles that have been published, and they did some experiments on mindfulness. One of the articles claimed that through practicing mindfulness, the cancer patient would not feel pain when they undergo cancer treatment. There are a few programs of mindfulness; they are Mindfulness-Based Stress Reduction (MBSR), Mindfulness-Based Therapeutic Intervention (MBCT), Dialectical Behavior Therapy (DBT) and Acceptance and commitment therapy (ACT). The author of the article had stated that implementing the mindfulness-based stress reduction (MBSR) in the treatment of physical disease has significant benefits. There are several researchers that provide the empirical evidence that by implementing mindfulness-based approaches in the treatment of diseases, including chronic pain, heart disease or cancer, the patients forgot about the pain. Other than that, Dr Jon Kabat Zinc had developed MBSR where it was meant to treat the patients who did not react to the medical treatment quickly. The majority of the sufferer from the chronic pain and had disabled to their medical treatments options without benefit. He had also shown that those patients were capable of finding comfort from their pain through some dissimilar mechanisms. One of the key mechanisms is exposure. By exposure, patients will be more capable of tolerating their pain beyond their emotional reaction to the pain. Therefore, by practicing mindfulness, it also can help the cancer patient to relieve their stress, and they can control their emotions after their treatment. The statistics

stated that there was a bunch of cancer patients who has successfully recovered from the disease after they have practice mindfulness.

Other than that, some articles had conducted their research in school. They had recruited a group of volunteer students to undergo an experiment. Half of the students participated in the practice of mindfulness, some of the students participated in an outdoor curriculum, while the rest did not participate in any activities and mindfulness exercise. After two months, there was a result between these groups of students. Half of the students that participate in the outdoor curriculum had improved their efficiency on homework within two months (M.W. Elizabeth, 2012). They had also improved their attitude towards their studies. They had improved their happiness. They felt jubilant after they participated in the curriculum. However, the amount of time that took them to change was two months, and two months is quite a long period for them to change. On the other hand, the groups that did not participate in any activities had a very stressful life, and they did not feel happy at all. This is because they need to complete their homework and face challenges when it comes to exams. They cannot manage or control their emotions. Lastly, for the group that participated in the mindfulness practices, they have changed their attitude within one month, which is a significantly shorter period of time as compared to the previous groups. Within a short period, they had become more focused on their studies and their happiness was improved too. It is an excellent sign.

2.5.2 Stress Reduction by Practicing Mindfulness

One of the most significant benefits of mindfulness is stress reduction. Stress is speedily making their way to the top of most common complaints by the employees in an organisation. Depression, annoyance, anger, and anxiety symptoms rise together with other health problems. Continued stress is simply unendurable. According to Dr Chantal Hofstee, mindfulness is the genius, and it is a very low-cost solution to stress. By simple implementation of mindfulness techniques to the organisation, the employee will learn to manage their stress levels all the time. This will tremendously reduce the adverse effects of stress, although this involves some changes to the working environment and the realities thereof. For example, Googles and Apple had offer mindfulness training to their staff.

Many researches show that by exercising mindfulness, it can reduce stress. In 2010 (Hoffman et al.), researchers had conducted a meta-analysis of 39 studies that investigated the use of mindfulness-based stress reduction and mindfulness-based cognitive therapy and their effects. The research had concluded that mindfulness-based therapy might be beneficial in modifying the effective and emotional processes that determine the multiple clinical issues. Those data are rational with the evidence that mindfulness meditation had developed a positive effect and reduces the nervousness and adverse consequences. In one of the study, participants randomly appointed to an eight-week mindfulness-based stress reduction group were compared with controls the depressions, nervousness, and mental conditions after watching

sad films. (Farb et al., 2010) The researchers found that participants who practice mindfulness-based stress reduction had less nervous, depression, and natural distress compared with the control group. In addition, the study had illustrated that mindfulness group had less sensation reactivity when they were exposed to the films than the control group, and they showed precisely different neural responses while watching the films than they did before their mindfulness training (D.M. Daphne, 2012). These data propose that mindfulness meditation changes people's ability to use emotions in managing the approaches in a way that facilitate them to experience emotion selectively and the emotions that peoples are experience can be developed differently in the brain. So by practicing mindfulness, it can reduce our stress, and it will improve our happiness. It also increases our efficiency towards our working.

2.5.3 Programs for Practicing Mindfulness

Mindfulness offers tools to examine human physical mental in its entire assortment. There are several of ways to learn basic mindfulness. People who are interested can find a program that aims towards an exact problem like depression, anxiety, stress, nervousness, or addiction or needs like childbirth, leadership, working environment, and family issues. There are a few programs available to practice for mindfulness. The programs for mindfulness are Mindfulness-Based Stress Reduction (MBSR), Mindfulness-Based Cognitive Therapy (MBCT), Dialectical Behavior Therapy (DBT), and Acceptance and Commitment Therapy (ACT). One of the most effective programs which can reduce stress is MBSR programs.

2.5.3.1 Mindfulness-Based Stress Reduction (MBSR)

Mindfulness-Based Stress Reduction (MBSR) is a program that develops mindfulness to help people with pain and a range of conditions and life problems that were originally hard to treat in a hospital setting. MBSR was developed by Dr Jon Kabat-Zinc at University of Massachusetts Medical Center in the 1970s. MBSR is a combination of mindfulness, body sensation, and yoga to assist people in becoming more mindful. Since its advent, MBSR has been developed into an ordinary form of completing medicine addressing some health problems. According to Steve Flowers (Mindful Living Programs Team), the National Institutes of Health's National Center for Complementary and Alternative Medicine has specified the number of allowances to research the effectiveness of the MBSR program in advocating healing. MBSR programs have been recommended for a broad variety of conditions, which includes stress reduction. There are some completed studies which show that pain-related drug application was decreased and activity levels and the awareness of self-esteem had also increased for most of the participants. Besides that, clinical research studies have recorded different physical and mental health helps in various patient categories same to the healthy adults and children. Although MBSR has its origin in divine teachings, the program is neither spiritual nor religious to anyone.

MBSR had been explained as a program that focuses on the time of enlightened acquisition of mindful awareness. MBSR program is an 8-week program that is taught by a certified trainer who is involved in a weekly group

meeting, one day retreat between session six and seven, homework and instruction in formal techniques. The weekly group meeting is a class that lasts for around two hours; the one-day retreat will be a six-hour mindfulness practice; homework will be given by the trainer, which is the participants have to practice mindfulness daily for 45 minutes. The instructions include the three formal techniques; they are mindfulness meditation, body scanning, and simple yoga posture. First of all, body scanning is the first extended formal mindfulness technique coached within the first four weeks of the programs, and requires the practitioner to lie quietly on one's back and focus one's attention on many regions of the body, starting from the top of head then slowing moving down to the toes. According to Dr Jon Kabat-Zinc, he had emphasised that mindfulness can be deliberated a comprehensive human ability that can support clear thinking and open-heartedness. He also emphasised that the objective of mindfulness be to retain the awareness from time to time, disconnect oneself from a strong attachment to beliefs, thoughts, or emotions by establishing a greater sense of emotional balance and well-being (F. Steve, 2011). By engaging in mindfulness, it will avoid one from self-criticism, thinking about the past, or be pessimistic about the future.

Besides that, there is research regarding the relationship between mindfulness and stress for construction professionals. This study was conducted because stress can result in significant negative consequences for the individual, family, organisation, and society. Hence, there are many methods and programs which the organisations start to implement to reduce their employee's stress. One of the programs is MBSR, and a conceptual

model has been determining to indicate the hypothesised relationship between mindfulness and stress (M.Y. Leung, 2010). According to M. Y. Leung, MBSR is aimed at the progressive acquisition of mindful and non-evaluative awareness in different conditions of individual lives which includes own physical sensations, understanding, thoughts, imaginary, and etc. Therefore, by practicing MBSR, construction professionals are expected to relieve own physical and psychological disorders.

2.5.3.2 Mindfulness-Based Cognitive Therapy (MBCT)

Mindfulness-Based Cognitive Therapy (MBCT) is developed to assist human who suffers from depression and constant unhappiness. It incorporates the concept of cognitive therapy with meditative methods and attitudes based on the cultivation of mindfulness. The heart of this work depends on becoming aware of the approach of mind that always characterise mood disorders while at the same time learning to establish a new relationship with them. MBCT was developed by Zindel Segal, Mark Williams, and John Teasdale in the beginning derivative from the earlier work of Teasdale, Jon Kabat-Zinn, and Philip Barnard (GoodTherapy.org, 2016). The MBCT is almost new, where the first clinical preliminary was announced in the year 2000. They had included the principles of Jon Kabat Zinn's MBSR method, an 8-week program created to assist people to manage the mental and physical effects of health concerns and implement Bernard and Teasdale's interactive cognitive subsystems (ICS) mode. ICS depends on the presumption that human mind acquires different modes for receiving and processing dates. The two main

modes are “being” mode and “doing” mode. Besides that, ICS also recommends that mental health may be vulnerable to an individual’s capability to dissociate from one mode and move between other modes depending on the current environment. For MBCT programs, it is the “being” mode because “being” mode is believed to advocate lasting emotional changes, in particular for the individual experience recurrent depressive episodes (GoodTherapy.org, 2016).

2.5.3.3 Dialectical Behaviour Therapy (DBT)

Dialectical behaviour therapy (DBT) is a program created to assist people to change the patterns of behaviour that are not beneficial to them, like self-harm, suicide ideation, and substance abuse. Hence, these methods performed towards helping people to boost their emotional and psychological regulation by learning about the causes that guide physical to responsive states. It helps to evaluate which go through the skills to apply in the arrangement of events, thoughts, feelings, and behaviours to help prevent undesired reactions (Psych Central Staff, 2016). Notwithstanding, people who occasionally identify problem with borderline personality disorder (BPD) experience extreme fluctuations in their emotional, notice the world in black and white shades, and sound always be jumping from one critical situation to another. This appears because most of their family and childhood that indicate abolishment stated that they do not know how to confront these problems, causing powerful surges of emotion. Therefore, DBT will coach them to manage their own emotional.

2.5.3.4 Acceptance and Commitment Therapy (ACT)

Acceptance and commitment therapy (ACT) is different from cognitive behavioural therapy (CBT) in that ACT challenges distressing thought by looking for proof and arise with more realistic response than CBT. However, in ACT, the thought is to accept it. For example, if an individual thought that the boat is going to sink, he must believe that the boat is going to sink, and then alleviate it using different types of techniques, which may include mindfulness, metaphors, and language. ACT uses these three wide categories of techniques to accept and commit to the reality of living. Figure 2.5 shows the three categories that will be used in ACT. However, ACT splits mindfulness skills into 3 types. The first type is values which will let the distance from and let go of the disobliging thoughts, beliefs, and memories. The following type is acceptance, which will make some range for painful feelings, strong desires, and sensations and tolerate them to come and go without endeavour. Last but not least, the mindfulness which is contact with the present moment will usefully with the here-and-now experience with an approach of openness and curiosity. Therefore, these 3 skills need to use a condition which is indescribable in common everyday language. It is part of the adequate awareness and attention. The 3 skills of ACT will also help to reduce stress.

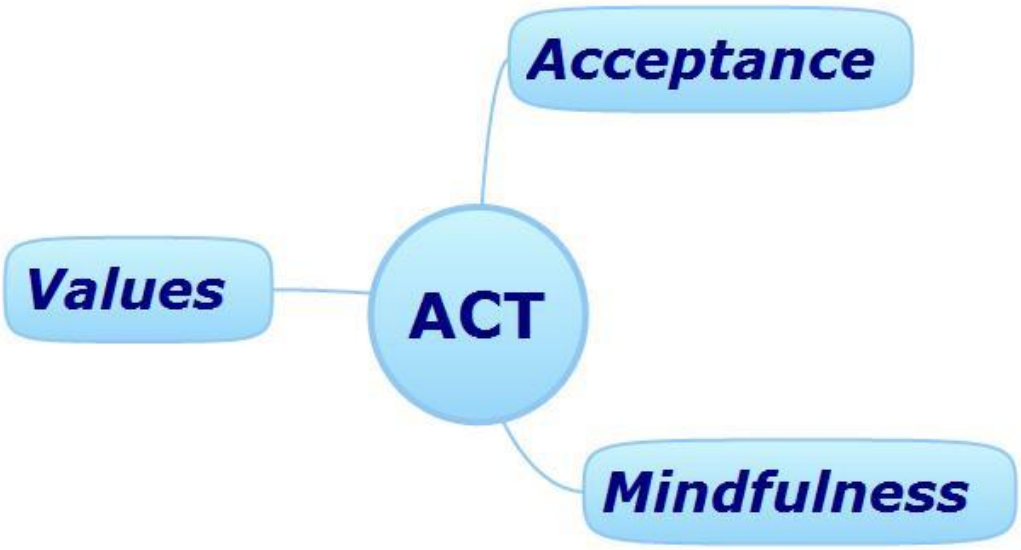

Figure 2.5 ACT Three Categories of Techniques.

2.6 Conclusion

Stress is a common part of life. From another perspective, stress is good as it can prompt human and help people to be more productive. Nonetheless, excessive stress is harmful to the human's health. It can establish poor health, like particular physical or psychological illness such as heart disease, anxiety, depression, and so forth. Enduring and endless stress always lead to tension and unhealthy behaviours like inflecting injury to oneself, verbally attacking other people, drug abuse, alcohol abuse and so on. Just like the causes of stress differ from person to person, the effectiveness of stress alleviation methods is not the same for every individual. Ordinarily, making undoubtedly lifestyles diversity may help discover a healthy, enjoyable way to handle the stress.

There are hundreds of thousands of people out there who feel devastated and comprehensively out of control. That is why mindfulness is introduced. Whenever a person feels overwhelmed or stress, just relax and breathe through it, then the stress will diminish gradually. Then the person who feels stressed will feel fresh and have a clear mind. This is what mindfulness is about.

Mindfulness helps to establish a secure and consists of intrapersonal and interpersonal relationships that further the unification of disconnected parts and the alteration of awesome memories. The important skills of mindfulness when applied with experience, attempt with access to working genuinely with their problems. By practicing mindfulness, the project team members or other related parties will understand and analyze their stress, and they will cope with the stress. This is why the company should allow their employees to practice mindfulness during working hours because employees work in a stressful environment, and depriving them the opportunity to practice mindfulness will lead to disappointing productivity throughout the whole working day.

Chapter 3

RESEARCH METHODOLOGY

3.1 Introduction

In this chapter, research methodology is an imperative part for the researcher to understand the principle methodologies in sequence to encounter the aim and objectives of the research. Furthermore, it is to ensure the helpfulness and ease of the research practice; it should have a systematic and appropriate research methodology. There are several research methodologies and method is being used by the researcher.

3.2 Research Method

Research methodology is a crucial part for the researcher to understand the principle methodologies in sequence to encounter the aim and objectives of the research. Furthermore, to ensure the helpfulness and ease of the research practice, it should have a systematic and appropriate research methodology. The researchers are using several research methods. Data can be the category into the primary data and secondary data. There are few types of data collection, for example, case study; mail survey, personal interview and so on. That can be used by the researchers to gather the primary data. Furthermore, the objectives of the research method are to construct recent information or intensify the knowledge of a subject or an issue. This approach had three first types which is exploratory research, valuable research and empirical research. The exploratory research helps to recognising and identifying a question. On the other hands, constructive research is to investigate the presumption and the reason of the explanation to questions or the crisis. Lastly is the empirical research which to analysis the practicability of a result by using the empirical evidence. Notwithstanding, there are two main types of the research design which are the qualitative research and quantitative research. According to the characteristic of the research issue or topic, the researcher will choose either qualitative or quantitative methods to examine or the research query they aim to answer. In this research, the questionnaire method will be used to collect data related to mindfulness and stress.

3.2.1 Quantitative Research

According to Dr S.G. Naoum, quantitative research is an objective in nature. The quantitative research defined as an inquiry into a social or human problem, based on testing a hypothesis or a theory composed of variables, measured with numbers and analysed with statistical procedures, to determine whether the hypothesis or the theory holds true (Creswell,1994). Also, quantitative research can also compose via a structured questionnaire that includes closed-ended questions. The benefits of quantitative research are not as much of dull and are straightforward to comprehend when examining quantitative information. Besides that, when the study engages an expediency sample, the information can be gathered and evaluated quickly. In this research, the survey form had used quantitative research.

3.3 Data collection

In commonly, the information can be the category into the primary data and secondary data. Primary data is meaning that the information which gathers from the area under the organisation and the regulation of an investigator. There are few types of data collection, in the example, case study, mail survey, personal interview and so forth also can be used by the researchers to gather

the primary data. In this study, the authors had constructed a survey form and distributed to the respondents to collect the data.

Moreover, the secondary method attains from the existing records, journal and so on. The secondary method can define as the method that gathers from the sources which previously generated or the principle of first use or future use. The resources of a secondary method for marketing purpose are cost information, customer feedback and so on. Besides that, in the literature review, the author had used most of the journal and research papers as a reference and also to support the objectives.

3.3.1Questionnaire

The most important source of data acquire for the information analysis in this study is using via questionnaire method. Table 3.1 is the pros and cons of the questionnaire in the main information (Panneerselvam, 2009).

Table 3.1: Pros and Cons for Questionnaire Method

Pros	Cons
1. Less cost of data collection 2. Less time of data collection 3. Wider coverage of population 4. Better accuracy of data 5. Absence of interviewer's bias	1. The identity of the respondents is not known to the interviewers 2. The questionnaire may be filled in by the assistant. 3. Source respondents may not return filled in the questionnaire. 4. Delay in returning the filled in questionnaires by respondents.

Additionally, there are two main types of questions will carry out in this questionnaire survey which are open-ended questions. The author will set some fixed question to make the respondents answer. So, the respondents can supply their own do so without being constrained by a fixed set of possible responses (Richard & Anita, 2008). In this research, the respondents are chosen to those who are currently practicing mindfulness and they are still working in the construction industry. This is because one of the objectives for this research is to establish the effect of mindfulness on perceived stress of project team members in the construction industry. Therefore, the author chooses the respondents who are working in the construction industry.

3.3.2 Questionnaire Design

The design of a questionnaire will rely upon whether the researcher desire to collect exploratory information. For instance, the qualitative information is for the function of better understanding or the formation of hypotheses on an issue or quantitative information to examine a particular hypothesis that has formerly been developed. There are two elements of questionnaire design. The first elements of questionnaire design are exploratory questionnaires. Assuming that the data to be collected is qualitative, it can be no formal questionnaires are required. For example, in an interviewing, a researcher need to find out that how many decisions that a housewife should make for her family when purchasing groceries, a formal questionnaire will confine the discussion and avoid a full examination of a women's perspective. Alternatively, it might develop a brief guide, list out few open-ended questions with suitable investigation listed under each. The second elements will be the formal standardised questionnaire. In this formal standardised questionnaire, the researchers are looking to test and measure the hypothesis and the data is to be evaluating analytically. To generate such questionnaires, it should have the characteristic:

1. Recommended wording and structure of questions, this is to make sure that each respondent received the same stimulation.

2. Recommended definitions or explanations for each question, to make sure that the respondent handles the questions frequently and can answer respondent's requests for interpretation if they happen.
3. Recommended feedback format, to implement expeditious completion of the questionnaire during the interview or answering questionnaire process.

In this research, the survey form had been split into four parts. The first part of the survey form is personal details. Second part of the survey form is to determine whether the respondents are currently practicing mindfulness or not. For those who are not practicing mindfulness, they will not be able to continue answer the survey form. The third part of the survey form is using PSS to measure whether the respondents are stressful or not. In this part, the respondents have to answer the PSS before they practice mindfulness and after they practice mindfulness. This will help the author to determine whether after practicing mindfulness, the respondents stress will decrease or not. Last but not least, part four, this part will use MAAS to test the respondents mindfulness level. Same goes to PSS, the respondents also have to answer before and after they practice mindfulness. The author had construct the questionnaire for the respondents to answer before and after they practice mindfulness due to the author need to know whether before and after the respondent practice mindfulness, their stress level and their mindfulness level are low or high. This is significant because the author will able to determine whether by practicing mindfulness, it will bring any positive effect or negative effect to the respondents.

3.3.3 Perceived Stress Scale (PSS)

PSS will use for measuring the perception of stress. It is a measure of the degree to which situations in one's life appraised as stressful. Items were designed to tap how unpredictable, uncontrollable, and overloaded respondents find their lives. The scale also includes some direct queries about current levels of experienced stress (Cohen and Williamson, 1988).

3.3.4 Mindful Attention Awareness Scale (MAAS; Brown and Ryan,2003)

The Mindful Attention Awareness Scale (MAAS; Brown and Ryan, 2003) was used to assess dispositional mindfulness of university undergraduates. It consists of 15 brief statements. It includes items such as, ''I tend to walk quickly to get where I'm going without paying attention to what I experience along the way'' and ''I get so focused on the goal I want to achieve that I lose touch with what I'm doing right now to get there''. Respondents are asked to rate their agreement on a 6-point Likert-type scale (1 = almost always, 6 = almost never). The mean rating across all items is computed. Higher scores reflect higher levels of mindfulness. The MAAS has good reliability and validity (e.g., Brown and Ryan, 2003; Kong, Wang, and Zhao, 2014). In this study, the scale was internally consistent and had a Cronbach alpha coefficient of .86.

3.4 Data Analysis

After collecting the information, there is some technique that used to examine the survey data.

3.4.1 Statistical Package for the Social Science (SPSS) Software

SPSS is a software package used for statistical analysis, and it uses in the social science. It normally used by market researchers, health researcher, survey companies, education researchers, data miners and others. Besides that, SPSS can carry out highly complicated data manipulation and analysis with simple instructions. It designs for the interactive and non-interactive users (University of Windsor Consulting Support,2016).SPSS include the descriptive statistic, prediction for binary outcomes, prediction for identifying groups and others.

3.4.1.1 Cronbach's Alpha (a)

The Cronbach's alpha is the most common measure on internal constancy. It is used when the researchers have multiple Likert questions in a survey form and to find out if the scale is decisive. If the researchers are worried about the inter-rate reliability, Cohen's kappa also might useful in this situation.

3.4.1.2 Dependent T-Test

The dependent t-test also is known as paired t-test in SPSS statistics. It is to compare the means between two related groups on the same continuous, dependent variable. For instance, by using a dependent t-test, it is to figure out whether it is different in minimising stress before and after practicing mindfulness for at least one week.

3.4.1.3 Chi-Square Test

The chi-square tests for independence and it is also known as Pearson's chi-square test. It also called chi-square test of association. The chi-square test is used to determine if there is a relationship between two categorical variables. For example, in this research, the author would like to know whether gender associated with the stress.

3.4.1.4 Spearman's Rank Order Correlation Test

The Spearman's rank order correlation is a statistical measure of the strength of a monotonic relationship between paired data (Laerd, 2016). In an example, it is designate by and is by formed constrained as: $-1 \leq rs \geq 1$. Generally, it explanation is very much alike to Pearsons. For instance, the closer is to 1, the stronger the monotonic relationship. Correlation is an impact on size and can orally define the strength of the correlation using the following information:

1. 0.00 – 0.19 = “very weak”
2. 0.20 – 0.39 = “weak”
3. 0.40 – 0.59 = “moderate”
4. 0.60 – 0.79 = “strong”
5. 0.80 – 1.00 = “very strong”

The computation of Spearman’s correlation test of the data presumption is the interval or ratio level or ordinal and the monotonic relationship. It is different to Pearson’s correlation because for Spearman’s correlation, there is no condition of ordinary and it is also a nonparametric statistic (Statstutor, 2016).

3.5 Conclusion

In conclusion, PSS and MAAS will apply in the questionnaire. The respondent need to answer PSS and MAAS before and after they practice mindfulness. By answering it, the author uses the data to do some test to prove that there will have a significant improvement for practicing mindfulness. Therefore, there will have several data analysis to calculate the data. The data analysis which uses in this study is Cronbach’s Alpha, Chi-Square and Dependent T-test use in these studies. The data analysis will be calculated by using computer software which is SPSS software.

Chapter 4

RESULTS AND DISCUSSION

4.1 Introduction

In this chapter, the results collected from the survey questionnaire will be analysed, explained and summarised. The grand totals of 100 replies are from construction industry background. 100 responses from the construction industry background are collect out of 465 questionnaires. The purpose of the questionnaire is to explore the stress experienced by project team members and the effectiveness of mindfulness to perceived stress from project team members.

4.2 Respondent is demographic

This research is open to all the people who are working in the construction industry. Thus, all the questionnaires are a target at contractor companies,

consultants firm, suppliers businesses and Developers Company in Malaysia. All these questionnaires are straightforward to every position for the respondents. Hence, this is meaning that each of their replies will be gathered to compute the results.

4.2.1 Gender of the Respondent

In the first part of the questionnaire, the respondent's gender has ask in the survey. This is to determine the number of respondent’s gender. Out of 100 of respondents that had replied the questionnaire, there are 62 respondents who are male while 38 respondents are female. Hence, the results have shown that most of the gender that had replied the questionnaire is male. Figure 4.1 shows the gender of the respondents.

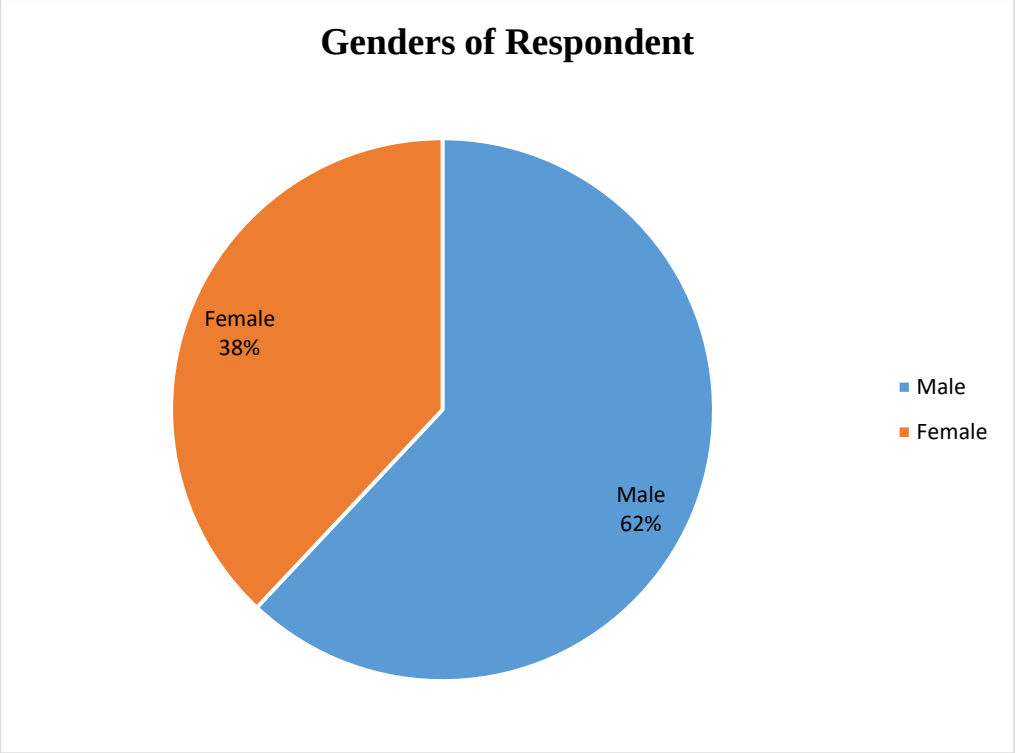

Figure 4.1 Genders of Respondents.

4.2.2 Age Group of the Respondent

In part 1 of the questionnaire, respondent's age also has been asked, and it is important for this research because the author needs to know whether there is any relationship between age and mindfulness. In this section, the author had divided four categories of the age group of the respondents. The four category are age 20 to 30, age 31 to 40, age 41 to 50 and age 50 and above. The results have shown that majority respondent's age from the construction industry are between age 21 to age 30 and there are 35 respondents in this category. For a respondent who is fall under age 50 and above category, there are 23 respondents. However, in this section, there are only a 14 respondents are in

between age 41 to 50. The result is shown in Figure 4.2 Age Groups of Respondents.

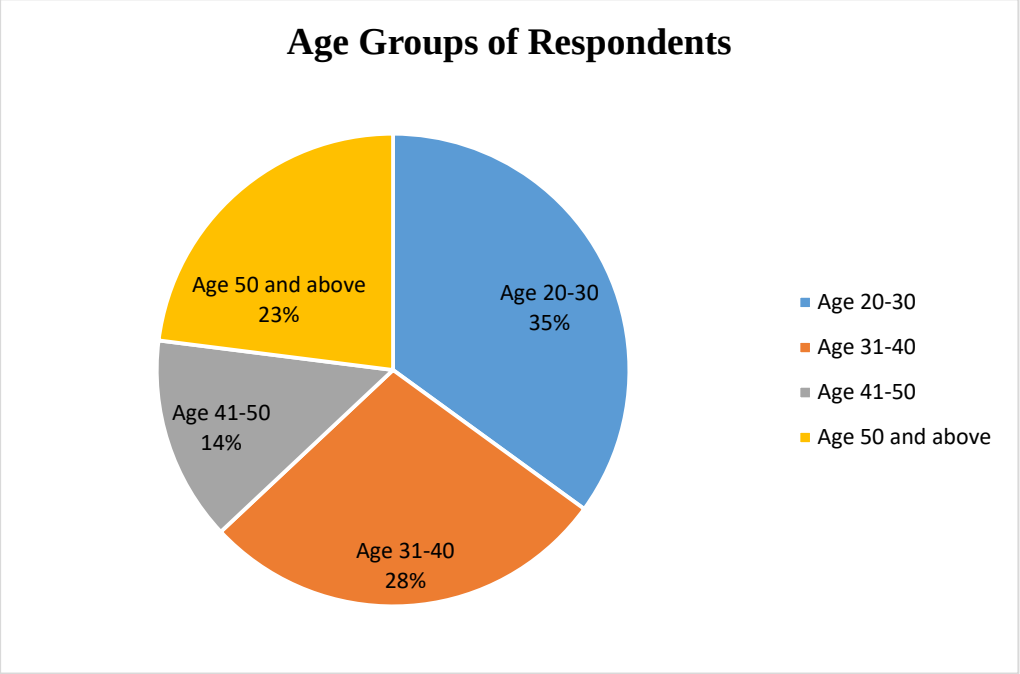

Figure 4.2 Age Groups of Respondents

4.2.3 Academic Qualifications of the Respondents.

In part 1 of the survey form, all the respondents are required to answer their academic qualifications. Out of 100 respondents that had replied, 65 respondents are graduated with bachelor while the lowest academic qualification is SPM which is only 1respondent. 4 respondents answer in other academic qualifications; the other academic qualifications that the four

respondents had answered are Diploma. Figure 4.3 shows the academic qualification of the respondents.

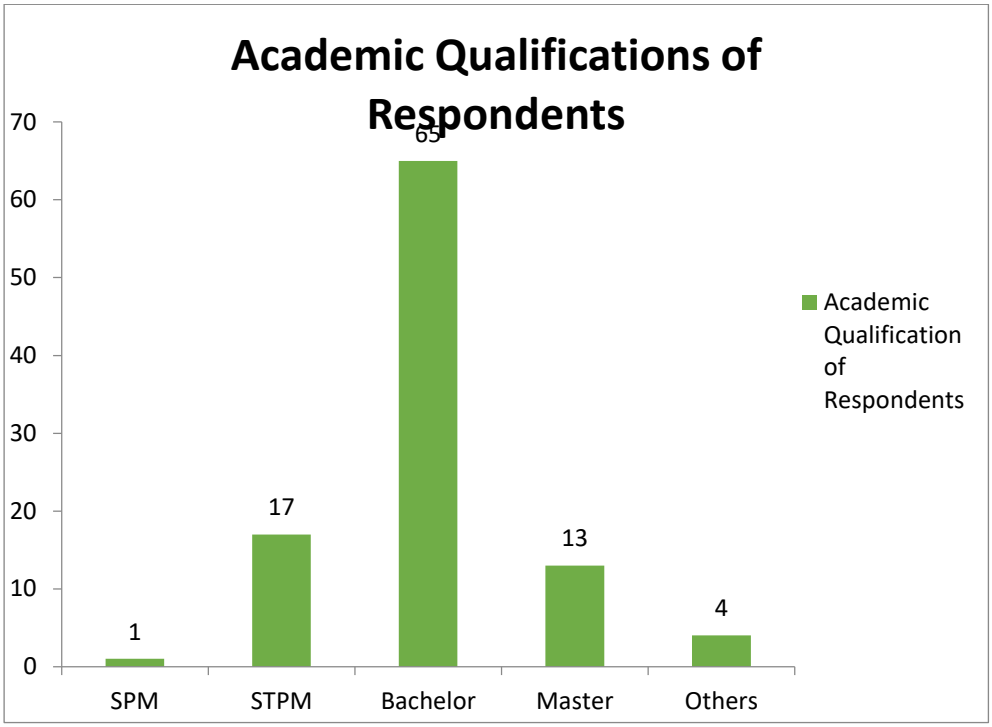

Figure 4.3 Academic Qualifications of Respondents.

4.2.4 Area of Specialisation of Respondents.

In this questionnaire, respondents are required to answer their area of specialisation. This question is to show that each of the specialisation in the construction industry will also have their stress. Hence, in this questions, out of 100 of respondents, 34 respondents are specialised in quantity surveying; 24 respondents specialise in project management; 21 respondents specialise in engineering, 9 respondents are in architect field; 4 respondents are in social

science and 8 respondents are specialised in others field. The other field that the respondents had stated are mostly in sales. However, there are also respondent states their area of specialisation in safety. Figure 4.4 shows the area of specialisationof those surveyed.

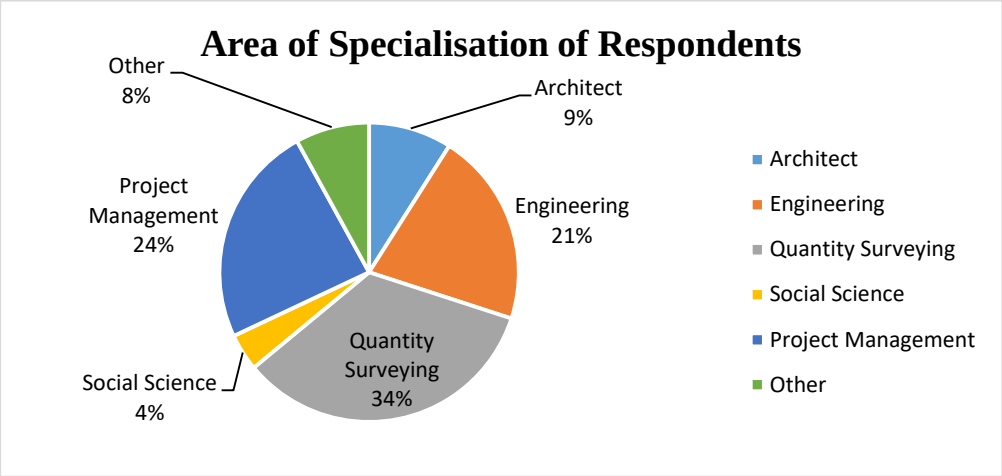

Figure 4.4 Area of Specialisation of Respondents.

4.2.5 Company Position of Respondents

In this question, the respondents need to state their current company position. In this case, there are many company positions which had been stated by the respondents. The author had categorised them into eight groups. The 8groups are including the director, project manager, sales, manager, architect, engineer, quantity surveyor and others. In these 8groups, there are many sub position where the respondents had to fill up. For example, in the director category, it consists of company director, sales director and project directors. On the other hands, in sales group, it including the sales executive, senior sales executive, sales engineer and so forth. Besides that, in manager groups, it consists of sales manager, assistant sales manager, project manager, assistant manager and so forth; in quantity surveyor group, it includes the contract executive, contract administrator, site quantity surveyor and so on. In others groups, it includes the safety manager, draftsman and so forth. In figure 4.5, it shows the company position of respondents.

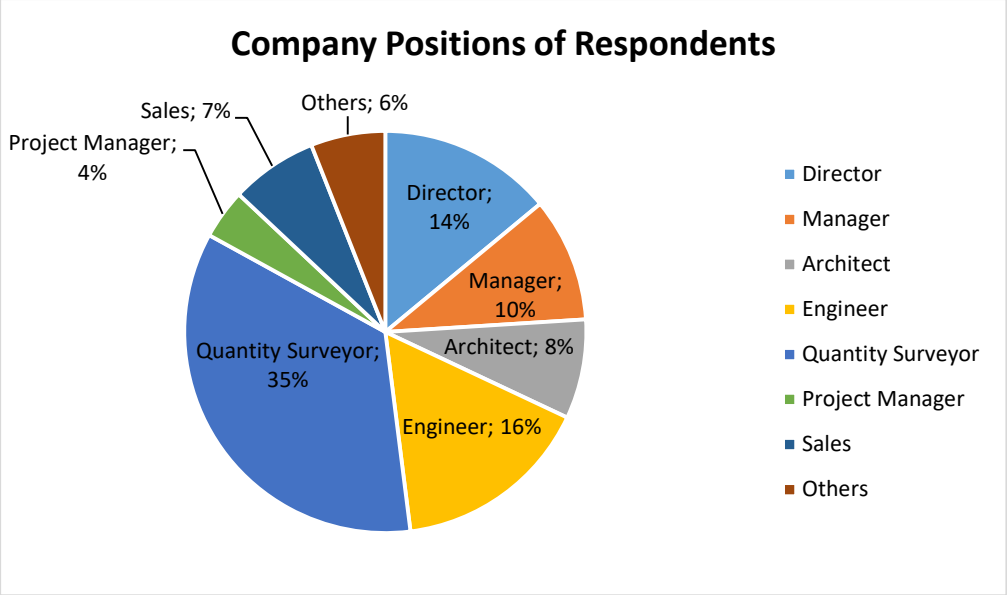

Figure 4.5 Company Positions of Respondents.

4.2.6 Respondents Practice Mindfulness

In part 2 of the survey form, the respondent required answering the mindfulness question.In the first questions, there are only two options that the respondent are required to choose – yes or no. If the respondent answers yes, then they will continue the following question. However, if the respondents answer no, then they will not continue to answer the following questions. Out of 100 respondents, 65 respondents are currently practicing mindfulness while the 35 respondents did not practice mindfulness. Therefore, 65 respondents can continue to answer the following questions. Figure 4.6 shows the respondents who are practicing mindfulness and who are did not practicing mindfulness.

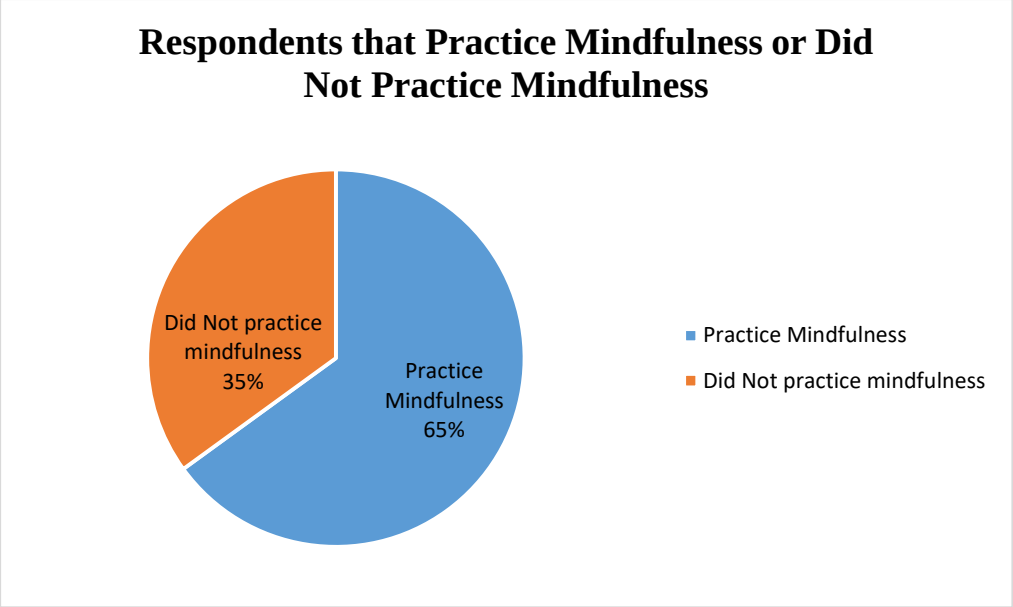

Figure 4.6 Respondents that Practice Mindfulness or Did Not Practice Mindfulness.

4.2.7 How Many Days that Respondents Practicing Mindfulness

Respondents who are said they are currently practicing mindfulness need to continue to answer this section. They need to answer how many days they arepracticing mindfulness. Most of the respondents (43%) are answering daily; this means that the respondent's practice mindfulness daily. 18% of respondents had practiced their mindfulness every 2 days. Below the piechart, there are 17% of respondent answer practice mindfulness every 1 week and every 2 weeks. However, there is also few respondents (5%) answer they practice mindfulness in more than two weeks. Figure 4.7 shows how many days that the respondents practicing mindfulness.

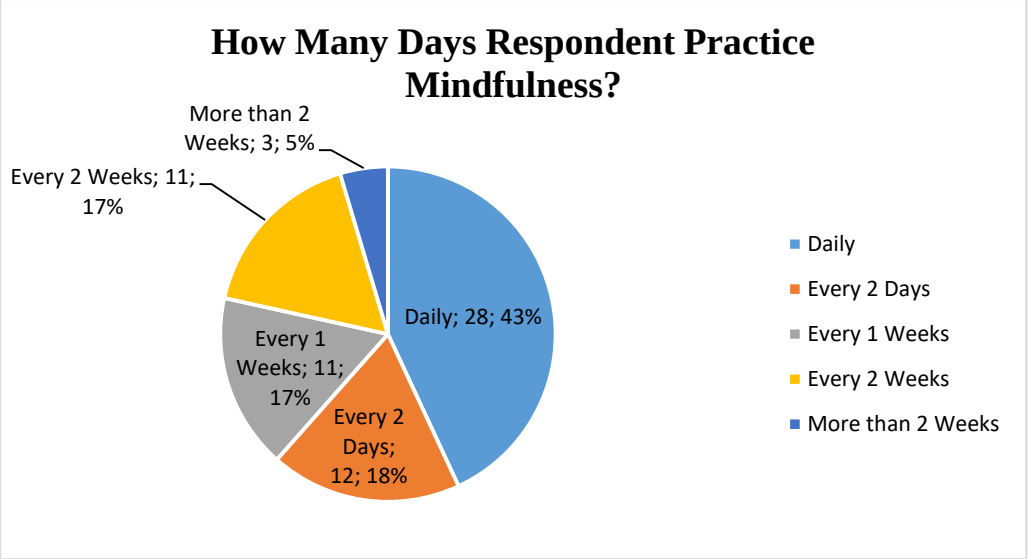

Figure 4.7 How Many Days that Respondent had Practice Mindfulness.

4.2.8 Duration of Practice Mindfulness for Each Time.

In these questions, respondents need to answer the period that they had used to practice mindfulness. In this questions, 57 (56.9%) of respondents used the period between 15 minutes to 15 minutes for each time they practice mindfulness. Nevertheless, there are 22 (33.8%) of respondents used less than 5 minutes to practice mindfulness. Lastly, there are also 6(9.2%) of respondents used the period which is more than 15 minutes each time they practice mindfulness. Figure 4.8 shows the period of practice mindfulness for each time the respondents used.

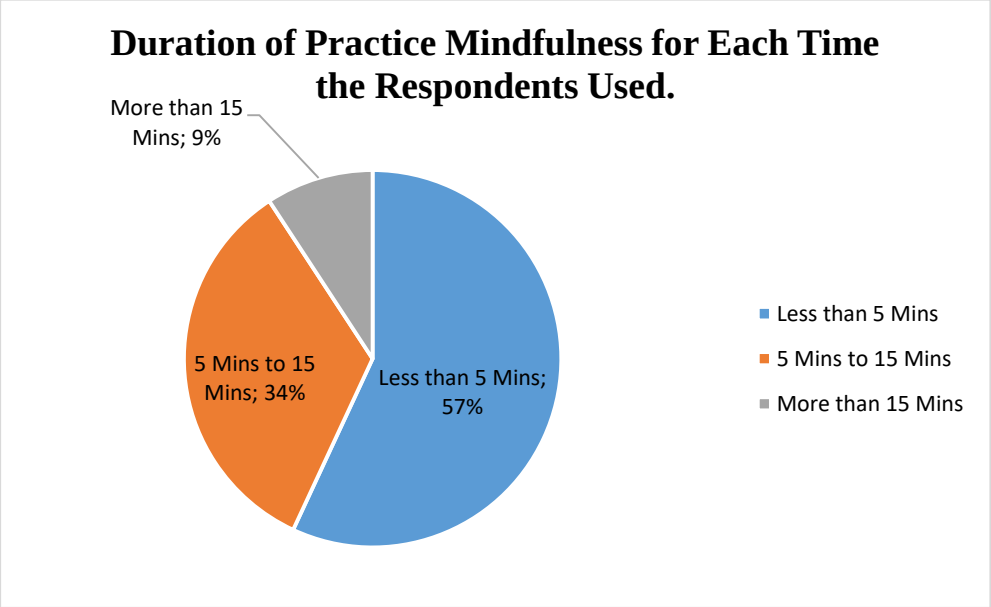

Figure 4.8 Period of Practice Mindfulness for Each Time The Respondents Used.

4.2.9 Period that Respondents have Practice for Mindfulness

In this question, the respondents need to answer how long they have been practice mindfulness. 42 (64.6%) of the respondents had practiced mindfulness more than eight weeks. However, there are 2 respondents just started one week of practicing mindfulness. Besides that, there are 11 (16.9%) of respondents had practiced mindfulness for eight weeks. In figure 4.9, it shows the period that respondents have practiced for mindfulness.

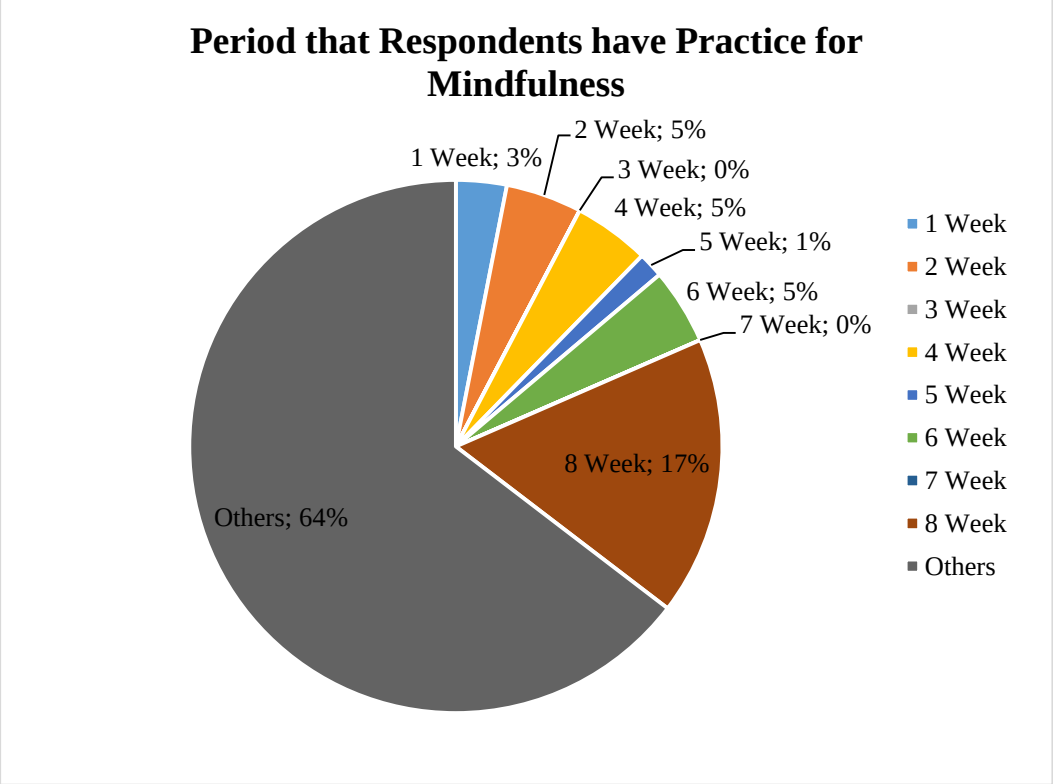

Figure 4.9 Period that Respondents have Practice for Mindfulness

4.2.10 Gender and PSS Before and After Practice Mindfulness

In figure 4.10, it shows the gender and PSS before practice mindfulness. Based on the data acquired, the average PSS score for the participants are 24. More than half of the participants (63%) have a PSS score between 21 and 24. For male participants, the average PSS score is 24. For female participants, the average PSS score is 26. Both of the male and female participant's average score are considered moderate stress. In figure 4.11, it shows the gender and PSS after practice mindfulness. Based on the data obtained, the average PSS score for the participants are 18. More than half of the participants (51%) have a PSS score between 17 and 19. For male and female participants, the average score is 18. Both of the male and female participant's average score are considered moderate stress, but compare to the PSS before practice mindfulness; it had decrease 6 for the average score. Observing the statistics before and after practicing mindfulness, one can see that there is a general improvement of perceived stress.

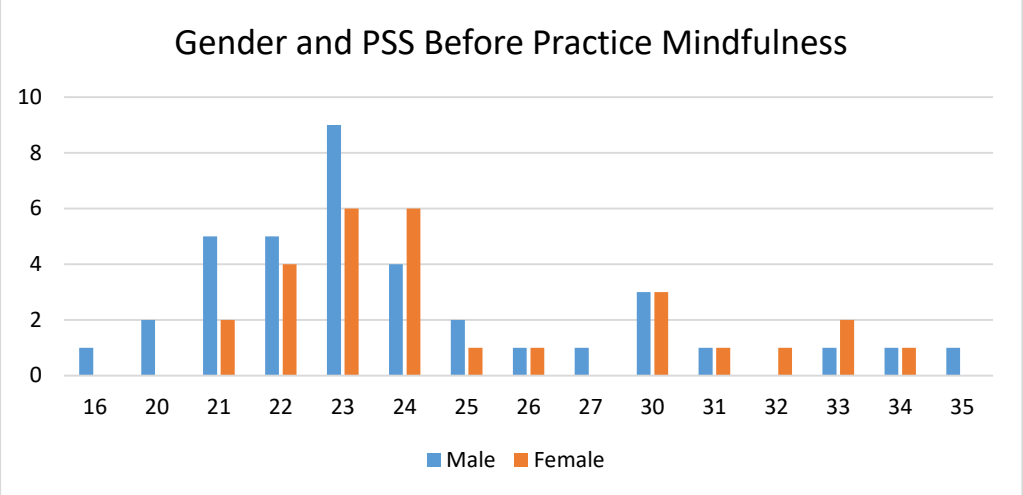

Figure 4.10 Gender and PSS before Practice Mindfulness

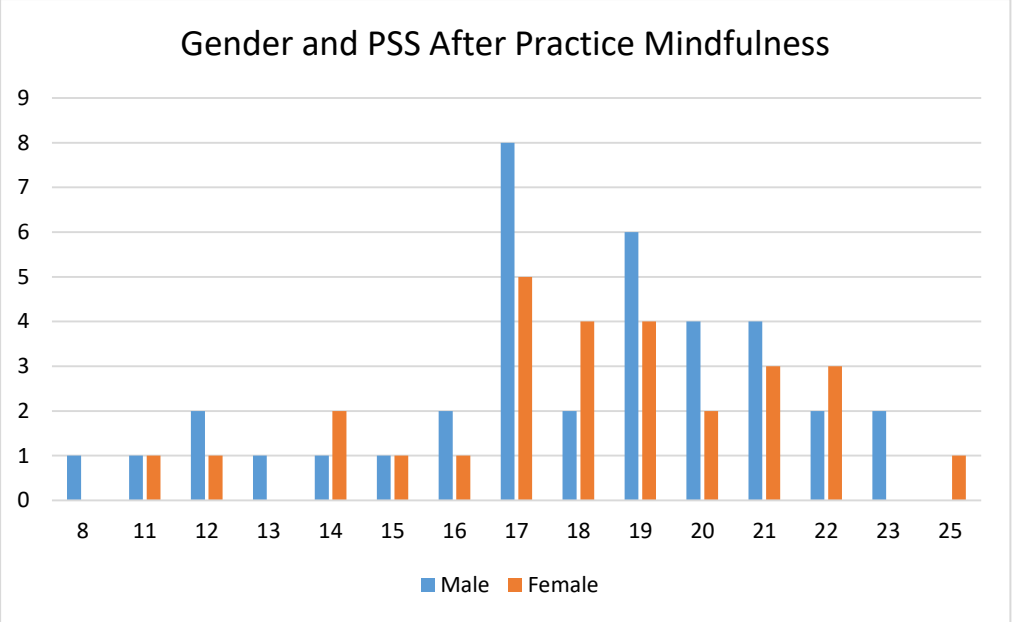

Figure 4.11 Gender and PSS after Practice Mindfulness

4.2.11 Gender and MAAS Before and After Practice Mindfulness

In figure 4.12, it shows the gender and MAAS before practice mindfulness. Based on the data acquired, the average MAAS score for the participants are 2.54. There are only 46% of the participants has a MAAS score between 2.27 and 2.53. For male participants, the average PSS score is 2.52. For female participants, the average PSS score is 2.56. Both of the male and female participant's average score are considered low mindfulness level. In figure 4.13, it shows the gender and MAAS after practice mindfulness. Based on the data obtained, the average MAAS score for the participants are 4.12. There are 38.5% of participants has a MAAS score between 3.93 and 4.33. For male participants, the average score is 4.22. For female participants, the average score is 4. Both of the male and female participant's average score are

considered high mindfulness level compare to the MAAS before practice mindfulness, it had increase 1.58 for average score. Observing the statistics before and after practicing mindfulness, one can see that there is a general improvement of mindfulness level.

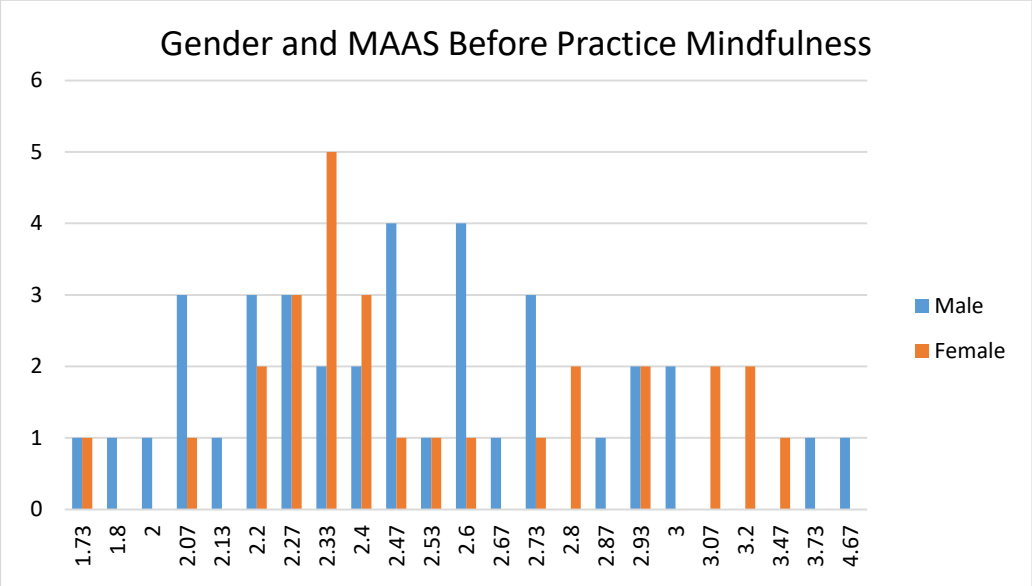

Figure 4.12 Genders and MAAS before Practice Mindfulness

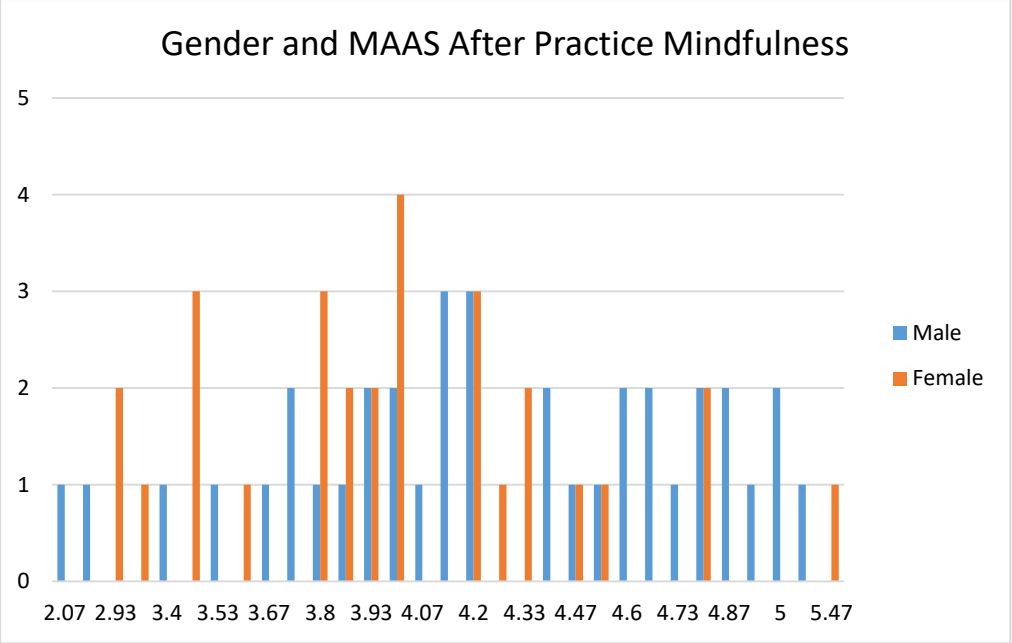

Figure 4.13 Genders and MAAS After Practice Mindfulness

4.2.12 Cronbach's Alpha for Perceived Stress Scale (PSS)

In part 3 of the questionnaire, it had included the PSS for the respondent to answer and to test the respondent's stress. The respondent has to answer before and after they had to practice mindfulness for PSS. Then the author will calculate the PSS overall score to generate the result as shown in Table 4.1. In Table 4.1, it shows that the Cronbach's alpha is 0.763 which indicates a high level of internal consistency for the scale with this specific sample. Besides that, the Item-Total Statistic table presents the "Cronbach's Alpha if Item Deleted" in the final column as shown in the table next page. This column presents the value that Cronbach's alpha would be if that particular item were deleted from the scale. The author can see that removal of any question, except question 14, would result in a lower Cronbach's alpha. Hence, the author will not want to remove these questions. Removal of Question 14 would lead to a small improvement in Cronbach's alpha, and also see that the "Corrected Item-Total Correlation" value was low (0.056) for this item and it may lead to consider whether the author should remove the item.

Table 4.1 Cronbach's Alpha for Perceived Stress Scale (PSS)

Case Processing Summary			
		N	%
Cases	Valid	65	100.0
	Excluded[a]	0	.0
	Total	65	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.763	.772	20

Item Statistics			
	Mean	Std. Deviation	N
q1	4.1846	.70472	65
q2	2.7385	.79602	65
q3	3.8154	.65889	65
q4	2.5231	.83118	65
q5	4.2769	.83867	65
q6	2.6923	.78905	65
q7	3.6923	.93413	65
q8	2.8308	.85822	65
q9	3.5231	.93721	65
q10	2.8154	.89952	65
q11	3.7385	.75575	65
q12	2.5385	.77211	65
q13	3.6462	.95902	65
q14	2.8462	.95575	65
q15	3.5846	1.04421	65
q16	2.7077	.84267	65
q17	3.9385	.74743	65
q18	2.4923	.70982	65

q19	3.9846	.59928	65
q20	2.4308	.68395	65

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
q1	60.8154	43.465	.579	.616	.738
q2	62.2615	42.884	.559	.585	.737
q3	61.1846	45.028	.439	.522	.748
q4	62.4769	43.847	.437	.560	.746
q5	60.7231	43.453	.469	.644	.743
q6	62.3077	44.029	.448	.534	.745
q7	61.3077	43.435	.409	.756	.747
q8	62.1692	47.299	.111	.491	.769
q9	61.4769	44.878	.286	.784	.757
q10	62.1846	46.528	.164	.573	.766
q11	61.2615	46.134	.257	.439	.758
q12	62.4615	46.627	.201	.495	.762
q13	61.3538	44.482	.308	.707	.755
q14	62.1538	47.695	.056	.544	.775
q15	61.4154	42.497	.423	.706	.746
q16	62.2923	44.991	.322	.593	.754
q17	61.0615	44.340	.447	.576	.746

q18	62.5077	47.504	.137	.458	.765
q19	61.0154	46.328	.326	.641	.755
q20	62.5692	46.312	.275	.503	.757

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
65.0000	49.344	7.02451	20

4.2.13 Dependent T-Test for PSS Overall Score

In Table 4.2, it shows the result for dependent t-test for PSS overall score whom the respondents had practice mindfulness. The mean for PSS before the respondent practice mindfulness is 24.86 while the standard deviation is 4.19. On the other hand, the mean for PSS after the respondent had practice mindfulness is 17.94 and the standard deviation is 3.302. The format for to report the statistic is t(degrees of freedom) = t-value, p = significant level. Hence, in this questions, the result will be: t (64) = 10.049, $p < 0.0005$. Due to the means of the two PSS before and after, it can conclude that was a statistically significant improvement in perceived stress from 24.86 $\pm$4.19 to 17.94 $\pm$3.302 ($p < 0.0005$); there is an improvement of 6.92 $\pm$6.92. According to E.Andreouet al., 2011, the research

had proved that by practicing mindfulness, there would have a statistically significant improvement in perceived stress.

Table 4.2 Dependent T-Test Result for PSS Overall Score

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PSS_Before	24.86	65	4.190	.520
	PSS_After	17.94	65	3.302	.410

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	PSS_Before&PSS_After	65	-.086	.493

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	PSS_Before - PSS_After	6.923	5.555	.689	5.547	8.299	10.049	64	.000

4.2.14 Spearman Test between Company Position and Perceived Stress Scale

In Table 4.3, it shows the result for Spearman test for PSS overall score before and after the respondents have practice mindfulness. A Spearman's rank-order correlation was run to determine the relationship between the respondent's company position and perceived stress scale (PSS) before and after practice mindfulness. There was a negative strong, positive correlation between company position and PSS before practice mindfulness, which was statistically significant ($rs(63) = -.255$, $p = .040$). On the other hand, Table 4.4 also shows that there is no any correlation between company position and PSS after practice mindfulness, which was no statistically significant ($rs(63) = -.040$, $p = .754$).

Table 4.3 Spearman test between respondent's company position and PSS

Correlations					
			Company _Position	PSS_ Before	PSS_ After
Spearman's rho	Company_Position	Correlation Coefficient	1.000	-.255*	-.040
		Sig. (2-tailed)	.	.040	.754
		N	65	65	65
	PSS_Before	Correlation Coefficient	-.255*	1.000	-.013
		Sig. (2-tailed)	.040	.	.921
		N	65	65	65
	PSS_After	Correlation Coefficient	-.040	-.013	1.000
		Sig. (2-tailed)	.754	.921	.
		N	65	65	65
*. Correlation is significant at the 0.05 level (2-tailed).					

4.2.15 Cronbach's Alpha for MAAS

In part 4 of the questionnaire, MAAS will ask. The respondent will need to answer this question. MAAS is used in this part because it is used to determine a characteristic of personality mindfulness, open or approachable awareness of and attention to what is taking place in the current moment. The respondents required choosing their scale for before practice mindfulness and after practice mindfulness.

In Table 4.4, it shows that the Cronbach's alpha is 0.833which indicates a high level of internal consistency for the scale with this specific sample. Besides that, the Item-Total Statistics table presents the "Cronbach's Alpha if Item Deleted" in the final column as shown in the table next page. This column presents the value that Cronbach's alpha would be if that particular item were deleted from the scale. The author can see that removal of any question, except question 23, would result in a lower Cronbach's alpha. Hence, the author will not want to remove these questions. Removal of Question 23 would lead to a small improvement in Cronbach's alpha, and also see that the "Corrected Item-Total Correlation" value was low (0.072) for this item and it may lead to consider whether the author should remove the item. Besides that, the mean for MAAS is 1006.8 while the variance of the MAAS is 129.316. The standard deviation for MAAS is 11.372.

Table 4.4 Cronbach's Alpha for Mindful Attention Awareness Scale (MAAS)

Case Processing Summary			
		N	%
Cases	Valid	65	100.0
	Excluded[a]	0	.0
	Total	65	100.0
a. Listwise deletion based on all variables in the procedure.			

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.833	.837	30

Item Statistics			
	Mean	Std. Deviation	N
q1	1.95	.891	65
q2	3.83	.858	65
q3	2.22	.838	65
q4	3.94	.916	65
q5	2.35	.799	65
q6	4.03	.901	65
q7	2.38	.947	65
q8	4.18	.864	65
q9	2.40	.880	65
q10	4.09	.861	65
q11	2.55	.867	65
q12	4.08	1.020	65
q13	2.58	.846	65
q14	4.31	.883	65
q15	2.60	.703	65
q16	4.35	.856	65
q17	2.68	1.077	65
q18	4.17	1.039	65
q19	2.57	.918	65
q20	4.17	.911	65
q21	2.69	.865	65
q22	4.28	.927	65
q23	2.80	1.093	65
q24	4.28	.960	65
q25	2.68	.850	65
q26	4.23	1.027	65

q27	2.65	.856	65
q28	4.32	.970	65
q29	3.02	1.053	65
q30	4.29	.914	65

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
q1	98.72	125.266	.163	.702	.834
q2	96.85	123.413	.271	.700	.830
q3	98.46	122.690	.319	.601	.829
q4	96.74	121.977	.321	.690	.829
q5	98.32	123.222	.308	.472	.829
q6	96.65	116.545	.615	.799	.819
q7	98.29	119.710	.420	.663	.825
q8	96.49	121.816	.354	.762	.828
q9	98.28	123.328	.267	.657	.830
q10	96.58	121.684	.363	.581	.827
q11	98.12	122.797	.300	.732	.829
q12	96.60	119.337	.401	.797	.826
q13	98.09	121.273	.393	.628	.826
q14	96.37	119.393	.474	.613	.824
q15	98.08	122.322	.418	.697	.826
q16	96.32	119.285	.498	.713	.823
q17	98.00	121.375	.286	.439	.830
q18	96.51	121.473	.295	.608	.830
q19	98.11	119.910	.426	.628	.825
q20	96.51	119.035	.475	.685	.823

q21	97.98	124.328	.220	.565	.832
q22	96.40	120.306	.401	.697	.826
q23	97.88	126.360	.072	.821	.839
q24	96.40	120.619	.369	.848	.827
q25	98.00	126.531	.108	.562	.835
q26	96.45	122.813	.239	.779	.832
q27	98.03	121.468	.377	.558	.827
q28	96.35	118.638	.461	.675	.824
q29	97.66	121.884	.272	.828	.831
q30	96.38	117.272	.566	.761	.820

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
100.68	129.316	11.372	30

4.2.16 Dependent T-Test for MAAS

MAAS is to measure the mindfulness level for individuals. To get the MAAS overall score, the author will need to find out the average of the MAAS total score. To get MAAS scoring, simply add up the whole score of the respondents that had choose, then divide the total by 15 and it will generate the average score. The highest score for MAAS is 6, and the lowest MAAS score is 1. For example, if

the respondent MAAS score before practicing mindfulness is 2.00, then this means that the respondent has a low mindfulness level and vice versa. It is very important to implement MAAS into the questionnaire because it will show that by practicing mindfulness, the respondents will increase their mindfulness level or they did not increase their mindfulness. However, in this study, there are no respondents have the highest score for MAAS and vice versa.

In Table 4.5, it shows the result for dependent t-test for MAAS whom the respondents had practice mindfulness. The mean for MAAS before the respondent practice mindfulness is 2.54 while the standard deviation is 0.47. On the other hand, the mean for MAAS after the respondent had practice mindfulness is 4.12 and the standard deviation is 0.61. The format for to report the statistic is t(degrees of freedom) = t-value, p = significant level. Hence, in this questions, the result will be: $t(64) = -17.271$, $p < 0.0005$. Due to the means of the two MAAS before and after, it can conclude that was a statistically significant improvement in mindfulness level from 2.54 ± 0.47 to 4.12 ± 0.61 ($p < 0.0005$); there is an improvement of 1.58 ± 1.58.

Table 4.5 Dependent T-Test Result for MAAS

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	MAAS_Before	2.5415	65	.47361	.05874
	MAAS_After	4.1242	65	.60533	.07508

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	MAAS_Before - MAAS_After	-1.58262	.73876	.09163	-1.76567	-1.39956	-17.271	64	.000

4.2.17 Chi-Square between Respondent's Gender and Did They Practice Mindfulness

In Table 4.6, it shows the Chi-Square results between gender and practice mindfulness. The cross-tabulation table is to allow the author and reader to understand that both males and females got practice mindfulness or not. In the following table, which is the Chi-Square Tests table, it shows that χ (1) = 2.032, p = 0.154. In this result, it means that there is no significant association between gender and practice mindfulness; that is, both males and females equally practice mindfulness, or they did not practice mindfulness. Besides that, the symmetric measures table have shown the Phi and Cramer's V, and both of this test are the strength of association. Therefore, in the result, the strength of association between the variables is weak. According to the E.H. Lee, there will be no any relationship between both male and females. However, some of the studies will found that there will have the difference between both male and females and it had shown that women are more mindfulness than men.

Table 4.6 Chi-Square results between the Respondent's Gender and Did They Practice Mindfulness.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Gender * Practice_Mindfulness	100	100.0%	0	0.0%	100	100.0%

Gender * Practice_MindfulnessCrosstabulation

			Practice_Mindfulness		
			Yes	No	Total
Gender	Male	Count	37	25	62
		% within Gender	59.7%	40.3%	100.0%
		% within Practice_Mindfulness	56.9%	71.4%	62.0%
		% of Total	37.0%	25.0%	62.0%
	Female	Count	28	10	38
		% within Gender	73.7%	26.3%	100.0%
		% within Practice_Mindfulness	43.1%	28.6%	38.0%
		% of Total	28.0%	10.0%	38.0%
Total		Count	65	35	100
		% within Gender	65.0%	35.0%	100.0%
		% within Practice_Mindfulness	100.0%	100.0%	100.0%
		% of Total	65.0%	35.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.032[a]	1	.154		
Continuity Correction[b]	1.463	1	.226		
Likelihood Ratio	2.075	1	.150		
Fisher's Exact Test				.197	.113
Linear-by-Linear Association	2.011	1	.156		
N of Valid Cases	100				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 13.30.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	-.143	.154
	Cramer's V	.143	.154
N of Valid Cases		100	

4.2.18 Chi-Square between Respondent's Age and Did They Practice Mindfulness.

In Table 4.7, it shows the Chi-Square results between gender and practice mindfulness. The cross-tabulation table is to allow the author and reader to understand that both males and females got practice mindfulness or not. In the following table, which is the Chi-Square Tests table, it shows that χ (3) = 3.716, p = 0.294. In this result, it means that there is no significant association between age and practice mindfulness; that is, both males and females equally practice mindfulness, or they did not practice mindfulness. Nevertheless, the symmetric measures table have shown the Phi and Cramer's V, and both of this test are the strength of association. Therefore, in the result, the strength of association between the variables is weak.

Table 4.7 Chi-Square results Between the Respondent's Age and Did They Practice Mindfulness.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Age_Group * Practice_Mindfulness	100	100.0%	0	0.0%	100	100.0%

Age_Group * Practice_MindfulnessCrosstabulation

			Practice_Mindfulness		
			Yes	No	Total
Age_Group	21-30	Count	27	8	35
		% within Age_Group	77.1%	22.9%	100.0%
		% within Practice_Mindfulness	41.5%	22.9%	35.0%
		% of Total	27.0%	8.0%	35.0%
	31-40	Count	17	11	28
		% within Age_Group	60.7%	39.3%	100.0%
		% within Practice_Mindfulness	26.2%	31.4%	28.0%
		% of Total	17.0%	11.0%	28.0%
	41-50	Count	9	6	15
		% within Age_Group	60.0%	40.0%	100.0%
		% within Practice_Mindfulness	13.8%	17.1%	15.0%
		% of Total	9.0%	6.0%	15.0%
	50 and Above	Count	12	10	22
		% within Age_Group	54.5%	45.5%	100.0%
		% within Practice_Mindfulness	18.5%	28.6%	22.0%
		% of Total	12.0%	10.0%	22.0%
Total		Count	65	35	100
		% within Age_Group	65.0%	35.0%	100.0%
		% within Practice_Mindfulness	100.0%	100.0%	100.0%
		% of Total	65.0%	35.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	3.716[a]	3	.294
Likelihood Ratio	3.834	3	.280
Linear-by-Linear Association	3.033	1	.082
N of Valid Cases	100		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.25.

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.193	.294
	Cramer's V	.193	.294
N of Valid Cases		100	

4.2.19 Chi-Square between Respondent's Area of Specialization and Did They Practice Mindfulness

In Table 4.8, it shows the Chi-Square results between the respondent's area of specialisation and whether they had practice mindfulness or not. The cross-tabulation table is to allow the author and reader to understand that both males and females got practice mindfulness or not. In the following table, which is the Chi-Square Tests table, it shows that χ (5) = 3.731, p = 0.589. In this result, it means that there is no significant association between respondent's areas of specialisation and whether they had to practice mindfulness or not; that is, both males and females equally practice mindfulness, or they did not practice mindfulness. Nevertheless, the symmetric measures table have shown the Phi and Cramer's V, and both of this test are the strength of association. Therefore, in the result, the strength of association between the variables is weak.

Table 4.8 Chi-Square results Between the Respondent's Area of Specialisation and Did They Practice Mindfulness.

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Specialization * Practice_Mindfulness	100	100.0%	0	0.0%	100	100.0%

Specialization * Practice_MindfulnessCrosstabulation

			Practice_Mindfulness		
			Yes	No	Total
Specialization	Architect	Count	7	2	9
		% within Specialization	77.8%	22.2%	100.0%
		% within Practice_Mindfulness	10.8%	5.7%	9.0%
		% of Total	7.0%	2.0%	9.0%
	Quantity Surveying	Count	18	16	34
		% within Specialization	52.9%	47.1%	100.0%
		% within Practice_Mindfulness	27.7%	45.7%	34.0%
		% of Total	18.0%	16.0%	34.0%
	Project Management	Count	17	7	24
		% within Specialization	70.8%	29.2%	100.0%
		% within Practice_Mindfulness	26.2%	20.0%	24.0%
		% of Total	17.0%	7.0%	24.0%
	Engineering	Count	14	7	21
		% within Specialization	66.7%	33.3%	100.0%
		% within Practice_Mindfulness	21.5%	20.0%	21.0%
		% of Total	14.0%	7.0%	21.0%

	Social Science	Count	3	1	4
		% within Specialization	75.0%	25.0%	100.0%
		% within Practice_Mindfulness	4.6%	2.9%	4.0%
		% of Total	3.0%	1.0%	4.0%
	Others	Count	6	2	8
		% within Specialization	75.0%	25.0%	100.0%
		% within Practice_Mindfulness	9.2%	5.7%	8.0%
		% of Total	6.0%	2.0%	8.0%
Total		Count	65	35	100
		% within Specialization	65.0%	35.0%	100.0%
		% within Practice_Mindfulness	100.0%	100.0%	100.0%
		% of Total	65.0%	35.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	3.731[a]	5	.589
Likelihood Ratio	3.734	5	.588
Linear-by-Linear Association	.696	1	.404
N of Valid Cases	100		

a. 4 cells (33.3%) have expected count less than 5. The minimum expected count is 1.40.

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.193	.589
	Cramer's V	.193	.589
N of Valid Cases		100	

Chapter 5

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

In this chapter of this research, the author will include the conclusion, limitations and recommendations based on the conclusion. The conclusion will be including in this chapter based on the aim and objective of this research. On the other hand, the limitations will deliberate in this chapter. Recommendations will also includeenhancing the study in future research.

5.2 Conclusion

Stress is a reality of life, specifically for work in the construction industry which, because sometimes, the working environment is blazing new and inexperienced. Besides that, stress is instantaneously making its way to the top of the most ordinary employee complaints. Depression and anxiety sign are escalated along with other health issues. Extended stress is simply untenable. Therefore, mindfulness is introduced when people are feeling stress. Mindfulness is aptitude, low-cost solution to stress. By controlling the simple mindfulness techniques, the employee for the company will find out a better way to handle their stress level throughout the day. This enormously reduces the negative impact of stress, even beyond the changes to the work environment, situation and the facts of existence thereof. Businesses like Google, Apple and so on now attempt mindfulness training to their staff to maintain their staff healthy body and a clear mind whenever they are working. The aim of the study is to determine the stress level that the project team member had experienced and to prove that mindfulness can reduce the stress of the project team members. In these studies, it can be concluded that by practicing mindfulness, it really can reduce the stress. Before the project team members practice mindfulness, their stress levels are almost gone to the highest level. But then after they have practiced mindfulness, some of the project team members stress level has a tremendous decrease. However, there are a few project team members where their stress level considered high even they are practicing mindfulness. The stress level remains high are because their practicing

method iswrong, or maybe they do not have the intention to practice mindfulness. Therefore, their stress levels are remaining in high level. Notwithstanding, there are still lots of people from the construction industry did not hear about mindfulness.

In conclusion, there are still lots of things need to be done to guarantee all the project team members from the construction industry are well-known with mindfulness and with that, the project team members will have a cheerful working environment, and they will do things efficiently.

5.3 Recommendation

In the path of carrying out this research, it is observable that there are still many people who worked in the construction industry feel stressful. The intensity of the awareness of mindfulness still needs to improve because most of the employee quit a job due to their stress level met to their limit. Besides that, the company should also have some activity to their staff related to mindfulness. For example, the company can give their staff to the class which about the mindfulness once a month, this will reduce the staff stress. Besides that, the company also can hire a mindfulness professional to educate their staff on what is the benefit of studying mindfulness and what is the effect after they practice mindfulness. Furthermore, the company also can have an 8-weeks program for the staff to join for practice mindfulness. Moreover, universities and colleges should educate their students by

practicing mindfulness. By educating the students, this can improve the awareness of mindfulness. And there will be not much student or professionals commit suicide due to stress.On the other hand, the government should also have some seminar on mindfulness so that everyone aware of mindfulness. Not only that, the government can encourage individual to practice mindfulness to relief their stress.

5.4 Limitations

There are three limitations while the author carries out this research. The limitations are as below:

1) Reply rate of questionnaire is low

   Out of 346 sets of questionnaire emailed and called out to construction companies, only 100 respondents were replied. Such a low reply rate will have an effect on the precision of the results.

2) Shortage of knowledge for the respondent

   Mindfulness is still new in Malaysia construction industry. Therefore, there are not many people from the construction industry know what mindfulness is and what mindfulness are.

3) Shortage of reference

   Mindfulness article from Malaysia is hard to be found through websites. Most of the mindfulness articles are from Western countries. Therefore,

the information of mindfulness that was acquired is from different sources and difference partied.

5.5 Recommendation for Further Studies and areas for improvement

Due to the time constraint to carry out this research, it is recommended that in the future, studies like this should be done with another field rather than the construction industry. This is because not only people who worked in construction field are stress, other people who worked in another field also have stress. For example, people who worked in accountant firm also have stress because they have to make sure that the balance sheet, the statement are generated before the due date. Besides that, human resources also have their stress because they have to deal with the employees. Besides that, the areas that can improve in future are the mindfulness training. The studies in future can have a research for those who go to psychology clinic as there are many psychologists in the current moment. This happen because many people have stress and they do not know how to distress. Therefore, the psychologist will recommend their patient to have a mindfulness class.

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