



**A QUANTITATIVE STUDY OF EMPLOYEE MINDFULNESS –
AN INVESTIGATION OF THE PERCEIVED BENEFITS TO
EMPLOYEES**

by

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Abstract

Mindfulness has been defined as “the awareness that emerges through paying attention on purpose, in the present moment, and non-judgmentally to the unfolding of experience moment to moment” (Kabat-Zinn, 2003). There has been a growing interest and body of empirical research examining the role of mindfulness in psychological wellbeing. Brown et al (2016) posit that mindfulness today “is among one of the hottest topics in clinical and basic psychological science”. While much of the research has been conducted on the benefits of mindfulness in the medical world, less is known about the prevalence and benefits in a workplace context (Glomb, 2011; Vich 2015).

Mental ill health is the leading cause of workplace sickness in the UK (The Mindful Initiative, 2016). Closer to home, ‘the overwhelmed employee’ was identified as the number one human capital issue facing Ireland (Deloitte, 2014). Solutions must be found deal with these issues and organisations need to do more for the wellbeing of their employees. There is evidence to support that mindfulness practice leads to a number of benefits including stress reduction; and therefore has a positive impact on employee wellbeing.

A study of employees in a Global Technology Company was undertaken. The research was conducted using a mono method quantitative design. To examine the mindfulness level of the employees the Mindful Attention Awareness Scale was included in the survey (Brown and Ryan, 2003). The MAAS maintained reliability and a Cronbach’s reliability value of 0.890 was reported. The results revealed an average mindfulness score, which reflected the typical average MAAS score reported. In order to triangulate the research, a number of findings regarding the uptake of courses, daily practice and the benefits of mindfulness courses were discussed with a Human Resource Manager from the company. The implications of the results are outlined in this report.

KEYWORDS: Mindfulness, MAAS, Technology, Benefits, Employees, Wellbeing

Submission of Thesis and Dissertation

National College of Ireland

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(Thesis/Author Declaration Form)

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List of Abbreviations

MAAS	Mindful Attention Awareness Scale
HR	Human Resources
Tech	Technology
MBSR	Mindfulness Based Stress Reduction
MBCT	Mindfulness Based Cognitive Therapy
EQ	Emotional Intelligence

CHAPTER 1: INTRODUCTION

1.1 Introduction

The area of research for this dissertation project is “Mindfulness”. Langer et al (2000) outline that there are three primary categories of mindfulness research: health, business and education. The focus of the research for this dissertation will be on mindfulness in business and in the workplace. It will assess the mindfulness of employees operating in a global technology company and will investigate if employees perceive offering mindfulness courses in the workplace as beneficial.

Kabat-Zinn (2003) defined mindfulness as “the awareness that emerges through paying attention on purpose, in the present moment, and non-judgmentally to the unfolding of experience moment to moment”. Bishop et al (2004) suggest a mindfulness model of two components: (1) attention and awareness and (2) acceptance. Simply put, mindfulness is a conscious and open awareness of the present moment. A mindful mind pays attention to what is happening right now, rather than wandering to the past or present, unless there is intention to do so.

The Mindfulness Attention Awareness Scale has been used in this study (Brown and Ryan, 2003). The scale is shown at **Appendix 4**, and provides the reader with some examples of what mindfulness is not. Snacking without realising that one is eating; or forgetting a person’s name almost as soon as one has been told it for the first time, are examples of not being mindful. How often does one shower or get ready for work in the morning and play the full day out in their mind - thinking of issues or meetings, or workload; rather than being in the present moment feeling the water on their skin or tasting the mint of their toothpaste. This study will provide the reader with an overview of mindfulness and why it is beneficial to general wellbeing, with a focus on mindfulness in a workplace context.

The term and concept of mindfulness dates back over 2500 years and is firmly rooted in Buddhist psychology (Brown et al, 2007). It has been linked to many

contemporary psychological theories including Self-Determination Theory, which is concerned with the study of motivation; and Cognitive-Behavioural Models (Brown et al, 2016).

The Deloitte Human Capital Trends Report (2014) is one of the largest longitudinal studies of HR challenges in the world. The report outlined that the number one challenge for Irish organisations is the 'overwhelmed employee'. This issue is particularly significant for Ireland, with the report placing this issue further down the rankings for EMEA and Global at 9th and 10th place respectively in comparison to being the number 1 issue in Ireland. The report outlines that employees are overwhelmed by information overload and are 'on' 24/7 connected via a multitude of devices. This is leading to reduced engagement and productivity in the workplace and is impacting all levels in the organisation.

In France, the El Khomri labour law includes a provision in the chapter called "The Adaptation of Work Rights to the Digital Era" providing the employee the "right to disconnect", and has been widely covered in media reports since 2016. The Business Insider (June, 2016) outlined that the law proposed organisations with employees of 50 or more introduce policies and practices to reduce the impact of digital technology on daily life. This translated into a requirement to ban work emails outside of working hours due to employee 'burn-out'. Indeed the Deloitte Global Human Capital report (2015) references this issue and outlines that in the new world of work we are experiencing, there has been an elimination of the barriers between working life and home life and that employees are 'always on'.

A study commissioned by the UK Department of Health reported that since 2009 the number of days absent due to illness caused by stress, anxiety and burnout has increased by 24%; and the leading cause of sickness in the UK is mental ill health (The Mindfulness Initiative, 2016). This has led to organisations putting additional focus on the wellbeing of their staff, one reason being the growing cost on organisations due to absenteeism.

Research to better understand the role that mindfulness practices and programmes can play to reduce or alleviate employee stress and burnout; and also increase engagement and productivity as a positive consequence, is needed.

1.2 Research Objectives

The primary research question and objective of the dissertation study is to establish the perceived mindfulness of employees operating in a global technology company and to investigate if offering mindfulness courses in the workplace is perceived as beneficial by employees. The research will specifically investigate the following research questions:

1. To test whether employees have a tendency to be attentive to and aware of the present experience in daily life, that is, are they mindful. This question will also be assessed to explore if there differences in results pertaining to males and females.
2. To determine whether there is an association between having previously attended a mindfulness course and an increased tendency to be attentive and aware of the present-moment experience in daily life, that is Mindful.
3. To establish whether there is a correlation between the number of hours spent on mindfulness courses and a higher MAAS score.

Sub-objectives of the study will include the examination of the uptake of mindfulness courses at work, the prevalence of daily mindfulness practice, and the perceived benefits of companies offering mindfulness courses at work.

1.3 Research approach

A quantitative research study will be undertaken. The research will be conducted using an online survey and the components of the survey will include the Mindful Attention Awareness Scale (MAAS) construct (Brown and Ryan, 2003). The scale is a 15-item instrument that measures the tendency to be attentive to and aware of present-moment experience in daily life. The survey will also gather descriptive data about the sample including demographics and other mindfulness information.

1.4 Justification for the Research

Empirical research on mindfulness in the workplace is still in its infancy (Glomb, 2011). Studies of mindfulness are in early development (Baer, 2003). The majority of studies on mindfulness have been conducted outside the work context using student or clinical samples. Much of the research concerned using mindfulness in training in clinical contexts (Baer, 2003). Vich (2015) suggests that mindfulness at work is still a pioneering discipline. This demonstrates the need for additional research in the area.

In relation to the scale that was used in the study, Black et al (2012) posit that MAAS has been predominantly used in research of students in the US citing a gap for quantitative research using MAAS amongst other demographics, which this research will address by examining employees of a company in the Global Technology industry. The research will also include a qualitative aspect. Baer et al (2006), in their research of self-report assessment methods to explore facets of mindfulness, suggested that future research should expand assessment to include other methods other than self-report scales.

1.5 Study roadmap

The study is organised into six chapters:

- Chapter 1 provides an introduction and background to the study
- Chapter 2 provides an overview of the literature, identified gaps within the literature, where this research fits and why it is necessary. This section will also present the research problem and the research questions of the study
- Chapter 3 outlines the research methodology used for the study and provides an overview of the limitations and ethical considerations
- Chapter 4 presents the results of the study
- Chapter 5 is the discussion section providing a critical analysis of the results and linking the results and literature
- Chapter 6 provides a conclusion to the study

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction to Literature Review

This chapter will provide an overview of the current body of theoretical and empirical research in the field of mindfulness. Khalid et al (2012) posit that there are two objectives in conducting a literature review. Firstly to get a broad understanding of the topic and to identify links between theories and academic view points. The second objective is to provide the rationale for the need to perform further research. Cooper and Emory (1994) suggest that research is always undertaken to satisfy a research problem. The research problem this study aims to answer is to examine the mindfulness of employees in a Global Technology Company and to understand the perceived benefits of offering mindfulness courses to employees. The literature review will therefore provide the reader with an overview of mindfulness, its origins and will pay particular attention to mindfulness in the workplace context.

The literature review will be divided into sections for the reader commencing with defining mindfulness. Then an evolution of mindfulness will be provided. It will look at existing published academic research on the subject examining the growth of mindfulness and its evolution from its association with Eastern spirituality to its attention in clinical and personality psychology and entry into educational institutions and workplace settings. While some background will be given to the origins and evolution of mindfulness, the literature review will focus on data and research from the year 2000 to the present day.

Next the review will examine mindfulness in a workplace context, which is the focus of this study. It will provide an overview of the research and it will also provide some information regarding the companies that are investing in mindfulness.

Mindfulness practices and benefits will then be provided. The next section will then look at the measurement of mindfulness and provide an overview of tools and techniques used. It will also briefly outline the measurement chosen for this study and rationale for its selection.

Some conclusions will then be drawn highlighting gaps in the research and the rationale for this study. Finally, the research questions for this study will be outlined. Hart (1998) outlines that the purpose of a literature review is to provide clarification of the gap in current knowledge and determine what is required to fill it. The gap in current research identified for this study is the limited research in relation to mindfulness practices in the workplace. The research on mindfulness in a work context is still in its infancy and a developing discipline (Glomb, 2011; Vich, 2015). In addition, the scale used for this study, the MAAS, has been predominantly used to assess students and medical patients in the US (Black et al, 2012). This reflects a gap in its use on employees, and further more, employees of a Global Technology Company, rather than US centric studies.

2.2 Defining Mindfulness

Many definitions of mindfulness exist today. Definitions usually include reference to bringing one's awareness and attention to the present moment, in a nonjudgmental way (Brown & Ryan, 2003; Kabat-Zinn, 1990). Brown et al (2003) posit that mindfulness is an attribute of consciousness, believed for a long time to promote health and wellbeing.

Langer (2014) describes mindfulness as being engaged. She suggests that it is energy giving and not energy depleting. Simply put, she posits that activities can be undertaken either mindfully or mindlessly. The former, not only makes the task at hand more enjoyable and performed to a better standard, but also brings added benefits to the individual.

The definition provided in the introduction to this study is provided by Kabat-Zinn (2003) who defined mindfulness as "the awareness that emerges through paying

attention on purpose, in the present moment, and non-judgmentally to the unfolding of experience moment to moment”. A second definition of mindfulness is “keeping one’s consciousness alive to the present reality” (Brown et al, 2003, citing Hanh, 1976). Brown et al (2016), outline that these definitions are the output of over 100 years of Western research.

Both definitions refer to paying attention to the present: Kabat-Zinn’s “paying attention.. to the present moment” and Hanh’s “consciousness alive to the present reality’. However, Kabat-Zinn’s (2003) definition would seem to expand on Hanh’s earlier definition, to include the notion of paying attention “on purpose” and “non-judgmentally”; and to the “awareness” of the process. Congleton et al (2015) outlined that it is the acting on purpose and with awareness that has the ability to change the brain and lead to benefits for wellbeing. Brown et al (2016) posit that it is the attentiveness to the present moment that is beneficial in its own right. Kabat-Zinn’s 2003 definition will therefore be adopted for the purpose of this study, as the benefits of mindfulness for employees will be discussed.

Brown et al (2007) outline 4 key characteristics of mindfulness summarized as follows. Firstly, mindfulness involves the awareness of internal emotions, feelings, thoughts; and the awareness of external surroundings. Secondly, they suggest that mindfulness is pre-conceptual. That is, when a person is being mindful they are noticing but not analysing or over-thinking the situation, thought or emotion. Thirdly, mindfulness is being in the present moment, it is not thinking about the past or future. Fourthly, mindfulness is an inherent capacity in all humans, which varies in strength, but for those with weak mindfulness tendencies, it can be learned.

The first 3 characteristics are identifiable in Kabat-Zinn’s 2003 definition. However, the fourth characteristic is also significant for this study. Mindfulness is an inherent capacity that all humans have (Dane, 2011). This capacity enables humans to focus on experiences in the present moment both internally; and externally, which involves being mindful of the environment one is in at any given time (Kabat-Zinn, 2005). Everyone is somewhat mindful some of the time, but through practice and

intention, mindfulness can be learned and harnessed to gain benefits (The Mindful Initiative, 2016).

The research suggesting that mindfulness can be learned to garner benefits is important for the purposes of this study. This study will examine if the employees of the Global Technology Company in this study, are mindful? And if mindfulness can be thought to employees to enhance their well being, is it something that companies should be offering to their staff as part of their employee wellness initiatives.

2.3 The Evolution of Mindfulness

Research in the field of mindfulness has exploded in recent years. At the time of writing this report, an online search indicated over 17,000 pieces of scholarly and peer reviewed published literature in the area of mindfulness in the past year alone. Appendix 1 shows the speed of this growth. Publications were few and far between in the 1980s and 1990s, but a burst of growth starting in the early 2000s, has brought the concept of mindfulness to the mainstream.

Brown et al (2016) posit that mindfulness, today, “is among one of the hottest topics in clinical and basic psychological science”. They outline how mindfulness is growing in popularity with an explosion of journal pages dedicated to the subject, as well as considerable grant investment for studies from government agencies and extensive training in behavioural interventions to treat many mental and physical health issues.

Lang et al (2013) outline that the origin of mindfulness is from Eastern spirituality; and firmly rooted in Buddhist psychology (Brown et al, 2007). The term and concept of mindfulness dates back over 2500 years. Brown et al (2016) note that despite mindfulness descending from Buddhism, the involvement of Buddhist intellectuals on research has been minimal. They outline that this is starting to change recently with discussions attempting to clarify western understanding of mindfulness.

Brown et al, (2016) outline that it was in 1881 when it is believed that T. W. Rhys Davids, through his study of Pali, native Indian language and Buddhist texts, translated the Buddhist term *sati* to the English word mindfulness. The literature outlines that *sati* encapsulates various characteristics from different origins – China, Tibet and Burma, including memory, attention, and remembrance.

The science of mindfulness has evolved over four key areas – conceptualization, psychological theory, basic science and applied science (Brown et al, 2016). Conceptualization is concerned with the popularity and interest in conscious awareness. Psychological Theory, drawn from Buddhist theory, looks at the salutary effects of mindfulness. Basic Science has involved the study of mindfulness using experimental studies and techniques to provide insights into clinical uses and training that can benefit symptoms and individual types, for example those suffering from depression. Finally Applied Science, has seen mindfulness expand to target healthy populations, not just in a clinical or educational setting, but for the mainstream, for example for otherwise healthy individuals dealing with stress. It is the Applied Science area where mindfulness in a work context fits.

2.4 Mindfulness in the Workplace

Linking this academic literature back to the research question for this dissertation, there have been many research studies on the potential role of mindfulness in a business context, suggesting that the practice has a role to play in work-related activities for example task performance (Lang et al, 2012). In their research and a study they conducted, they found that mindfulness reduces emotional exhaustion and improves job satisfaction.

The Mindfulness Institute in the UK (2016) outlines that organizational mindfulness is not just for individual employees, but can be used across teams of employees leading to benefits for employees and the organisation as a whole. Adams (2016) provides a good summary of research in the area linking mindfulness to work

benefits including that mindfulness improved decision making, increases the ability to work in high-pressure environments, and that it improved work-life balance.

There is also a recent body of research emerging in relation to the use of Mindfulness training for the development of leaders. Reitz et al (2016) suggest that mindfulness practice could assist leaders in the 21st century where the pace of business is fast, complex and ever changing. Through their research they put forward a theory of Mindful Leadership, which looks at mindfulness practice to improve collaboration, resilience and the ability to deal with complex contexts. The Mindfulness Initiative, citing research conducted by Narayanan (2012) and Narayanan et al (2013), outline that the employees of leaders who practice mindfulness, report better work life balance, less stress, and improved performance.

Langer, who has researched Mindfulness for over 40 years, posits that Fortune 50 CEOs and all humans in any discipline at the top of their game, be it artists, musicians, athletes and others, are mindful people as that is how they got there (Langer, 2014).

Mindfulness has also been discussed as a component in developing the authentic leader (Goleman and Kabat-Zinn, 2007). They discuss the extensive training and development Leaders receive but note that the importance of being mindful has been largely overlooked. Leaders sometimes believe they must 'multitask', but the mind can only focus on one thing at a time. Mindfulness lends itself to single tasking – bringing full focus and concentration to the task at hand.

Many companies are investing in mindfulness programs for their employees. Google has a well-publicised program called "Search Inside Yourself" (Business Inside, Forbes, New York Times, 2012). Intel, in 2014, launched a global mindfulness program called Awake@Intel. They measure pre and post course attendance and have registered very positive results in terms of stress reduction, happiness, general wellbeing and increased creativity (Mindful.org, 2014). Other

companies reported to be embracing mindfulness include Apple, Ford Motor Company, Facebook, Proctor and Gamble and Nike (Mental Workout Inc, 2016).

The introduction of mindfulness in the workplace and other non-clinical settings also has its critics. In very current research, Farb (2014) outlines that modern secular mindfulness training (MSMT) is becoming a focus of commercial enterprise rather than clinical. He outlines that mindfulness apps are becoming more prevalent in the digital market and raises concerns about the commercialisation of mindfulness programmes. Farb references the term 'McMindfulness' where teachers are concerned about practices being introduced that have little resemblance to established MSMT. Other research suggests that rather than mindfulness, which involves being still and largely looking inward, the key to wellbeing and good health is relationships and activities that involve interaction with others (Vaillant, 2015).

Baer (2011) similarly outlines that given the difficulty in fully understanding the original Buddhist literature on mindfulness, it is likely that Western psychologists don't fully understand the Buddhist teachings. However, she concludes that research suggests the pioneering teachers in the western world such as Kabat-Zinn and others have developed practices and methods that are beneficial.

2.5 Mindfulness Practices and Benefits

Over the last three decades, mindfulness has been receiving increasing attention in clinical psychology (Lang et al, 2013; Bishop et al, 2004). In an article for Science and Practice, Bishop et al (2004) provide an overview of the work by Kabat-Zinn in combining mindfulness practices with clinical therapy processes, and hence moving it from a spiritual concept to a practical therapy. Mindfulness has been developed into a secular training and thousands of scientific trials have been conducted (Brown et al, 2007).

Much research has been conducted on the benefits of mindfulness for psychological conditions, stress reduction and health (Langer et al, 2000, citing

Geer et al, 1970; and Langer et al, 1975). Baer et al (2006) outline that mindfulness practices have been adapted for use in medical settings and include popular therapies such as 'mindfulness-based cognitive therapy (MBCT; Segal et al, 2002) and 'mindfulness-based stress reduction (MBSR; Kabat-Zinn, 1982, 1990). Shapiro et al (2008) posit that benefits of the MBSR and MBCT practices outlined above are attributed to the cultivation of mindfulness. MBSR uses a combination of meditation, yoga and mind-body awareness techniques. MBCT was specifically designed to deal with individuals suffering from depression and uses cognitive behavioural therapy including education about depression and other mindfulness meditations.

In addition to the use of mindfulness interventions to treat medical patients, mindfulness has been gaining popularity in education. Lovell (2015) outlines that medical schools are including mindfulness training in their undergraduate curriculum. He suggests that mindfulness is not a fad, a new-age philosophy or self-indulgence, "it is a tool for improving both doctor and patient health and is the antithesis to multitasking, over reaching and rigid adherence to algorithms and protocols".

Langer (2014) outlines many benefits to mindfulness. Better memory, creativity and the person tends to be more liked and charismatic as they are less evaluative. The mindful person also tends to not regret or procrastinate. No matter what the measure, mindfulness generates a positive result (Langer, 2014). The role of mindfulness in wellbeing is supported through research conducted to date (Brown et al, 2007).

Reitz et al (2016) outline that mindfulness is not a quick win. It must be practiced regularly, for at least 10 minutes per day, as their results indicated from various studies. They outline that this has implications for the design and implementation of mindfulness programmes.

Mindfulness practice can be formal or informal. Some of the more formal techniques include MBSR and MBCT, which have been outlined above. Other

more informal techniques can be incorporated into daily life. Goleman (2012) linking mindfulness to improved Emotional intelligence (EQ) breaks down mindfulness into 4 distinct steps:

1. Focus on one thing – breathing, eating, walking
2. The mind wanders
3. The person notices that the mind has wandered
4. The person then brings the attention back to the focus item

It is the act of bringing the mind back to the present, non-judgmentally, and with intention, that trains and can change the brain (Congleton, et al 2015).

Examples include walking mindfully to work observing surroundings, smells, sounds; eating mindfully by taking time to enjoy the taste of the food; concentrating on the breathe for a few minutes at times during the day; doing a body scan going to sleep or listening intently to others.

The mindfulness practices outlined above would suggest that benefits could be gained from even dedicating a small amount of time to being mindful on a daily basis. This will be further discussed in the discussion section as it could have positive implications for companies rolling out mindfulness programmes for their employees with minimal effort or expense.

2.6 Measuring Mindfulness

Vich (2015) posits that mindfulness measurement has become more commonplace since the introduction of self-reporting questionnaires. The entire human population has the capacity to be mindful (Baer, 2011; Kabat-Zinn, 2003). It is not as easy as asking a person if they are mindful or not. There is the likelihood that the person might misinterpret the question or might not understand what mindfulness is, therefore several mindfulness constructs have been developed (Baer, 2011).

The constructs include the Mindfulness Attention Awareness Scale (MAAS; Brown & Ryan, 2003), The Freiburg Mindfulness Inventory (FMI; Buchheld et al, 2001), The Kentucky Inventory of Mindfulness Skills (KIMS; Baer et al, 2004), The Cognitive and affective Mindfulness Scale (CAMS; Feldman et al, 2004) and The Mindfulness Questionnaire (MQ; Chadwick et al, 2005).

One of the aforementioned questionnaires, the Mindfulness Attention Awareness Scale, also referred to as the MAAS (Brown and Ryan, 2003), was selected to be used in this research study and will be discussed in detail in the methodology section. Black et al (2012) outline that the MAAS scale has the longest and most consistent empirical record as a measure of trait mindfulness. Other factors considered when selecting the MAAS included the timeframe for the study and the research problem the study aimed to solve.

2.7 Conclusion

Brown et al (2016) note that although a lot has been learned about mindfulness over the past 3 decades, the field is still only maturing. Empirical research on mindfulness in the workplace is still in its infancy. Glomb (2011) noted that the majority of studies on mindfulness have been conducted outside the work context using student or clinical samples. Vich (2015) suggests that mindfulness at work is still a pioneering discipline. This demonstrates the need for additional research in the area. Indeed, a book published in 2016 by Brown et al, consolidating much of the research to date on mindfulness, does not include reference to mindfulness in the workplace, apart from in a clinical setting. They outline studies regarding mindfulness training on healthy adult populations in such categories as health care workers, couples, expectant mothers, and parents.

Although in an early stage of development, mindfulness training at work is gaining popularity and credibility. Studies are showing that mindfulness programs in work have positive impacts on employee stress levels, burnout and general well being (The Mindfulness Initiative, 2016, citing Chiesa et al, 2009; Shapiro et al 2007). Thus, providing a case that warrants further research.

As outlined in the introduction section, the MAAS scale used in the study has been predominantly used in research of students in the US citing a gap for quantitative research using MAAS amongst other demographics (Black et al, 2012). Therefore this study aims to provide some further research with the objective of contributing to filling this gap by using the MAAS in the study of employees of a company in the Global Technology industry.

2.8 Research Question

“We understand only when we understand the question to which something is the answer” (Ulrich, 2001, p. 3, with reference to Collingwood, 1946). Ulrich outlines that defining the problem or research question is a crucial task in itself. Defining a research problem should outline something essential about the aim of the research. The research problem and aim of this study will be outlined in the next section.

The primary research question and objective of the dissertation study is to establish the mindfulness of employees operating in a Global Technology Company and to investigate if offering mindfulness courses in the workplace is perceived as beneficial by employees.

Hypothesis:

1. To test whether employees have a tendency to be attentive to and aware of the present experience in daily life, that is, are they mindful. This question will also be assessed to explore if there differences in results pertaining to males and females.
2. To determine whether there is an association between having previously attended a mindfulness course and an increased tendency to be attentive and aware of the present-moment experience in daily life, that is Mindful.
3. To establish whether there is a correlation between the number of hours spent on mindfulness courses and a higher MAAS score.

Sub-objectives of the study

- a) To ascertain the level of uptake of mindfulness courses.
- b) To determine the prevalence of daily mindfulness practice.
- c) To determine whether the sample perceive that there are benefits of companies offering mindfulness programmes at work.
- d) To gather insights into what the employees perceive the benefits are of companies offering mindfulness programmes at work.
- e) To assess what conclusions, insights and recommendations the dissertation research results have for employers and employees; and to discuss the results and possible recommendations with the Human Resource Department of the Organisation where the survey is being conducted.

The research project will take the form of a survey. The Mindful Attention Awareness Scale (MAAS), Brown & Ryan (2003) will be used to survey the sample of employees. The MAAS is explained in more detail in the methodology section of this paper.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

The following section will outline the methodology used for the research study. Specifically it will set out the research philosophy, approach, strategy and data collection process using the Research Onion framework proposed by Saunders et al (2016), found in Appendix 2. The section will also use the survey process steps framework by Groves et al (2009).

Mingers (2003) posits that research methodology is a set of structured activities that assist the researcher in producing valid and reliable results. The section will outline the methodology believed to have been the most appropriate for the study and the steps taken. Finally ethical considerations and limitations will also be discussed.

3.2 Research Philosophy and Approach

Understanding the philosophy and approach is a critical step in the Research Process. Saunders et al 2016, outline that research philosophy is a system of beliefs and assumptions in relation to knowledge development and is the first step in defining the research methodology. The research philosophy for this study is positivist.

Adam et al (2014) outline that there are two styles of reasoning or two methods of scientific enquiry in all research: Inductivism and Deductivism (Adam et al, 2014). This study will use a deductive method. A deductive approach involves identifying a theory, deriving a hypothesis, making observations and then obtaining confirmation or rejection of the hypothesis (Hinkelmann et al, 2013).

The two main domains of research frequently used are Quantitative and Qualitative (Adams et al, 2014). This study used a quantitative approach, which will be

outlined in more detail in the next section. The quantitative approach was chosen as the researcher wanted to get a global view of the technology company where the research was being carried out. The aim was to get as many responses to the survey from as many countries as possible, therefore the population size to be surveyed was also a key factor in determining the research approach. This approach was taken in other studies using the MAAS (Black et al, 2012; Hansen et al, 2009).

In order to triangulate the research, a qualitative interview was conducted with a Human Resources Department Manager from the organisation. The interview was undertaken in order to discuss the results from the mindfulness study, provide any insights from the research and discuss any recommendations that could be implemented by the organization.

3.3 Research Design and Strategy

The research was conducted using a mono method quantitative design (Saunders and Tosey, 2013). A cross-sectional survey was used and found to be a good alternative to experimental design studies. Opportunities for further research will be discussed in the conclusions section, which could use an experimental research design. Given the time constraints for the study and the desire to get a global view, it was not possible to do a wide-scale experiment. Therefore a cross-sectional survey was deemed the most appropriate instrument for the study.

The cross-sectional survey allowed the researcher to gather large amounts of information quickly, permitted the researcher to compare hypotheses at the same time and it was done at no cost. The disadvantages with using a cross-sectional research design are that it cannot establish causation and that a large sample size was required.

Careful consideration was afforded to the survey design and every stage of the survey life cycle was thought through. Surveys move from design phase into execution phase and without good design, errors can result in the statistics (Groves et al, 2009). The overarching survey design process was adapted from

Hulley et al (2007). The main stages involve: identifying the primary research question, designing the study, implementing the study, extrapolating findings from the study, inference of the results to the population.

3.4 The Survey Process Steps

The following section outlines the survey process steps taken by the researcher. A survey process framework was used to assist the researcher follow a logical sequence and also permitted the researcher to estimate the time required for the end-to-end process. The survey process steps found in Appendix 3 are adopted from the framework of Groves et al (2009).

3.4.1 Define Research Objectives

The first step in the process is to clearly define the research objectives. The research objectives for this study are outlined in the Literature Review section 2.8.

3.4.2 Mode of Collection

An online questionnaire was chosen, as it is quick to administer, and it permitted the researcher to reach respondents all over the world. The questionnaire was created using Google Forms. Google Forms was selected in particular, as it is a tool widely used by the technology company where the research was being conducted. This meant that the respondents were already familiar with the tool. In addition it meant that the researcher did not have any cost outlays.

Saunders et al (2016) outline that due attention should be paid to the formatting, presentation and design of the questionnaire to ensure is not seen differently by respondents due to different web browsers used or mobile phone operating systems. Attention was paid to this and sample questionnaires were opened on different browsers and devices during the test phase.

3.4.3 Target Population and Sampling Technique

Adams et al (2014) outline that sampling is the technique of choosing a sample that will provide a representative view of the population in order to draw conclusions. Using the Saunders et al (2016) Sampling Technique Grid the most appropriate sampling technique and sample was identified.

The target population is the global employee population of a technology company. Non-probability sampling was used. The technique used was convenience sampling as the researcher had access to the employees at the company; therefore they were conveniently available (Zikmund, 2000). It could be argued that the sampling method was also judgment sampling which is another method of non-probability sampling. Saunders et al (2016) outline that judgment or purposive sampling requires personal judgment in choosing cases that will best answer the questions to meet the objectives. It was important in the research for this study to reach employees who had previously attended a mindfulness course and employees that had not. This therefore ensured that the objectives of the research were met.

Employees of the Global Technology Company are voluntarily members resource groups within the company. These employee groups communicate with each other via generic email aliases. The groups of employees are random in nature in terms of gender, age, work function and country. The researcher was able to access these groups and request that they take part in the survey. Four groups were used as follows:

- Group one: Global Employee Resource Group of 150 participants.
- Group two: Global Mindfulness group of 100 participants
- Group three: European Thrive Employee group of 60 participants.
- Group four: Global Culture Engagement group of 40 participants.

The group of 350 individuals was asked to participate in the study. The employees were contacted by email by using one generic email address for each group rather than emailing employees individually.

3.4.4 Sample Design and Selection

Sample size determination is a complex matter and there are various tests that can be used to assist the researcher to determine the appropriate sample size. The total population of the Global Technology Company at the time of the study was approximately 14,000 employees. The target population for the survey was 350 employees. Due to the timeframe that was available to conduct the research, the aim of the researcher was to get over 100 responses from the 350 asked to participate. The total respondents and sample used for the study was 119 employees.

3.4.5 Questionnaire Construction and Components

Constructs are the various pieces of information that the researcher seeks to gather from respondents. Measurements in surveys are the means by which the researcher can gather information about the constructs. Groves et al (2012) outline that the critical task in the measurement phase is to design questions that will provide answers reflecting the constructs the researcher is attempting to measure. Considerable time was allocated to the construction of the questions. The questions were also tested on a number of employees prior to full launch of the survey as outlined in the survey pilot section.

The survey construction for this study had two sections. One section comprised of a published construct, the Mindful Attention Awareness Scale (MAAS). The other section was comprised of a number of questions that were designed by the researcher and used to gather demographics and other data related to mindfulness from the sample. The survey designed by the researcher and used for the study is included at Appendix 5. The components of the survey are outlined in the next section.

3.4.5.1 Mindful Attention Awareness Scale (MAAS)

The study aims to determine the mindfulness of employees operating in a Global Technology Company. The literature review section of this report outlines the various constructs available to measure mindfulness at section 2.6.

For the purpose of this study Brown and Ryan's Mindfulness Attention Awareness Scale (MAAS; 2003) was used and was sourced from PsycTESTS database. The scale can be found at Appendix 4. Baer (2011) outlines that MAAS items describe certain characteristics that are not consistent with being mindful, and are reversed coded.

The scale is a 15-item instrument that measures the tendency to be attentive to and aware of present-moment experience in daily life. It has a single-factor structure and derives a single total score. It uses an ordinal rating scale with a 6-point Likert response scale (1 = almost always; 2 = very frequently; 3 = somewhat frequently; 4 = somewhat infrequently; 5 = very infrequently; 6 = almost never). From an original study in 2003, the MAAS was positively correlated with openness to experience, emotional intelligence, and wellbeing; and negatively correlated with anxiety and rumination (Brown and Ryan, 2003).

The MAAS is included at Appendix 4. In order to assess an individual's level of mindfulness, the instructions are as follows. Note the answers and add them up, then divide the total by 15. This will give the average score for the fifteen statements. The higher the score, the higher the level of mindfulness. Typically the average score is 3.86 (Baer, 2011). The highest score is 6, the lowest score is 1.

3.4.5.2 Reliability and Validity

Brown and Ryan (2003) and Carlson and Brown (2005), provide details on the reliability and validity of the scale. Establishing that the scale is reliable is crucial. The most common method of assessing consistency is to calculate the Cronbach's alpha coefficient. In measuring the internal reliability of a test, DeVellis (2012) outlines that a Cronbach alpha value of greater than 0.70 is acceptable. Internal

consistency levels (Cronbach's alphas) are stated as ranging from .80 to .90 for MAAS. The MAAS has demonstrated high test-retest reliability, discriminant and convergent validity, known-groups validity, and criterion validity (Brown and Ryan, 2003). The MAAS was also selected as it is simple and quick to complete which was envisaged would be important in increasing the respondent rate.

A Reliability Analysis was conducted in SPSS on the MAAS scale data collected from the sample for this study. A Cronbach's reliability value of 0.890 is reported at Table 9 in the results section 4.2.

3.4.5.3 Additional Survey Measurements

The questionnaire gathered demographical information about the sample, specifically gender, age, country of residence and work function.

In addition to the demographics information and MAAS construct outlined above at section 3.4.5.1, a number of additional questions were asked of the sample. The questions were separate to the MAAS scale in order to retain the validity of the scale. The questions included whether the respondent practices mindfulness daily, if they previously attended a mindfulness course, how many hours the respondent spent on mindfulness courses in the past year, if the respondent believes work mindfulness programmes are beneficial, and finally what those benefits are.

These questions enabled the researcher to test hypotheses and to achieve the sub-objectives of the research study.

3.4.6 Permissions

In terms of permissions to use the MAAS, the developers of the scale, K.W. Brown and R.M. Ryan published an open letter from the Department of Psychology, Virginia outlining that the scale is in the public domain and that special permission would not be required by a researcher to use it. The letter can be found at Appendix 6.

In relation to the Global Technology Company where the survey was administered, specific and explicit permission was sought from the Human Resources (HR) Department and was granted. One request from the HR Department to the researcher was to not survey management level in the organisation. The company in question was recently acquired and is going through an intensive merger integration initiative. This meant that manager level was required to be excluded from the survey email grouping lists used to issue the survey to employees. This limitation will be further elaborated on in the limitations and discussion sections.

In terms of the participant permission and rights, the online questionnaire, found at Appendix 5, contained the following text at the beginning of the questionnaire written by the researcher: "Your responses are anonymous - they will only be available to my university supervisor and I. Your name will not be captured and the data will be non identifiable. The data will be saved securely, password protected and kept for 1 year. Please note that your participation is voluntary and you have the right to withdraw at any time".

3.4.7 Questionnaire Test

Saunders et al (2014) outline that conducting a pilot test may minimize the likelihood of the survey respondents having issues with the questionnaire and therefore decrease the number of spoiled questionnaires. While a full pilot test was not conducted due to the time constraints, sample questionnaires were given to a number of employees to test. This allowed for the questionnaire to be refined by fixing any issues. The guideline minimum number of people is 10 (Saunders et al, 2014; referencing Fink, 2013). A total of 16 completed test questionnaires were received. The test was conducted using a printed questionnaire handed out to respondents in a classroom setting. Feedback was gathered from the respondents. The feedback received from the employees was incorporated and a number of changes were made to the final survey design.

3.4.8 Recruit and Measure Sample

The total population for the study is the employees of a Global Technology Company. The target population, that is the employees the survey was sent to, was 350. The survey was sent to a global selection of 350 employees from various offices of the technology company around the world. In July 2017, the researcher emailed the respondents and included a personal message requesting the respondent to take part in the study. The email contained instructions, a link to the online questionnaire, a timeframe for completion and contact details for the researcher for the respondents to ask any questions about the process. One reminder email was sent to the sample after one week. The email included a thank you to respondents who had already responded; and a reminder to the other participants of the survey closing deadline. The purpose of the reminder was to increase the response rate. As outlined in the permissions section, the anonymity of the respondents was guaranteed and they had the right to withdraw at any time.

3.4.9 Data Editing, Coding and Post-survey adjustments

Following the closure of the survey after the survey deadline, the raw data was downloaded into excel format. Prior to entering the data into a computer data file, it was edited in order to check and adjust for omissions, legibility and consistency (Adams et al, 2014). The data was reviewed for completeness, errors and any spoiled responses. No spoiled responses were found.

A number of post survey adjustments were made to prepare the data for analysis. This involved converting all responses into numeric data. The responses in relation to the number of hours respondents had spent attending mindfulness courses were bucketed. In addition, a column was added to categorise the respondent country responses into regions – EMEA, APAC or AMERICAS.

Following the data editing, coding and post-survey adjustments the final data is ready for the analysis stage, which is outlined in the next section.

3.4.10 Data Analysis

3.4.10.1 Statistical Tool Employed

In terms of the technology to statistically analyse the data, the IBM software package SPSS Statistical Analysis package was selected. Oakshott (2012) outlines that there are several packages specifically designed for statistical analysis and SPSS is one of the most popular. SPSS is the preferred tool of National College of Ireland. The researcher was permitted to use the tool, as it is available to all students of NCI. The tool is seen as an excellent tool for beginners to statistical analysis (Boslaugh et al, 2008).

3.4.10.2 Data Preparation in SPSS

The data was uploaded into SPSS and populated in the Data View. Each column contained a variable for each of the instrument items. Each row represented the responses from a respondent for all variables. As there were 119 responses there were 119 rows of data in the data view. There were 23 columns in the data view representing the 23 different data questions in the survey. The data view omitted one question, which was the qualitative open text question in relation to the benefits of companies offering mindfulness courses as perceived by the employees.

Next all variables were coded appropriately in the variable view. Each variable was given a name, and was flagged as either a Nominal or Ordinal scale of measurement. The data was then ready for statistical analysis.

3.4.10.3 Identification of the Appropriate Statistical Tests to be Conducted

Both descriptive and inferential statistics were used in the data analysis stage. Urdan (2017) outlines that descriptive statistics apply only to the sample the data has been collected from, whereas, inferential statistics refer to the use of the data collected from the sample to make inferences or to reach conclusions.

Descriptive statistics were used in order to summarise the sample data, and are presented using tabular and graphical form. The descriptive statistics describe the major characteristics of the data and sample in terms of gender, age, country of residence, work function, daily mindfulness practice, and course attendance. The specific techniques used were frequency analysis; and the other descriptive statistics: mean, median, mode, and measurements of dispersion.

Inferential statistics were used in the hypothesis testing to look at the relationships between variables. The majority of inferential statistics come from a statistical models family, called the General Linear Model. This includes the t-test, Analysis of Variance (ANOVA), Analysis of Covariance (ANCOVA), regression analysis, and other multivariate methods for example factor analysis, cluster analysis, discriminant function analysis (Boslaugh et al, 2008). In hypothesis testing, Lind et al (2008) outline that the researcher must choose between one sample t-Test, two sample (independent or dependent) t-Tests or ANOVA/MANOVA. For the purpose of this study Single Sample t-Test and Independent Sample t-Test were deemed most appropriate.

The researcher had to ascertain whether a Parametric Analysis or Non-Parametric Analysis approach should be used (Oakshott, 2012). In the case of the data for this study, parametric analysis procedures were used, as this is most appropriate for variables being measured on an interval or scale. Non-parametric is used for nominal or ordinal scales of measurement.

3.4.10.4 Assessing Normality Within Samples

A prerequisite for using parametric tests is that it is assumed the sample data has a normal distribution. A Shapiro-Wilk's test of normality was conducted for each research question. This test confirms normality or deviation from normality. Then a suitable statistical parametric test was used to test the hypothesis.

3.4.10.5 Statistical Tests for the Study

The following section will provide an overview of the specific statistical technique used to test each of the research question hypothesis and sub-objectives. Two grids are presented below summarizing the type of statistics that were used and the appropriate tests to be undertaken for each of the hypothesis or sub-objectives of the study.

The primary research question and objective of the dissertation study is to establish the mindfulness of employees operating in a global technology company and to investigate if offering mindfulness courses in the workplace is perceived as beneficial by employees.

Table 1: Hypothesis Tests

Ref	Hypothesis	Statistics Used	Test Conducted
1	<p>a) To test whether employees have a tendency to be attentive to and aware of the present experience in daily life, that is, are they mindful.</p> <p>b) This question will also be assessed to explore if there differences in results pertaining to males and females.</p>	Inferential Statistics (Parametric)	<p><i>Single Sample t-Test.</i></p> <p><i>Independent Samples t-Test</i></p>
2	To determine whether there is an association between having previously attended a mindfulness course and an increased tendency to be attentive and aware of the present-moment experience in daily life, that is Mindful.	Inferential Statistics (Parametric)	<i>Independent Samples T-Test</i>
3	To establish whether there is a correlation between	Inferential	<i>Correlation</i>

	the number of hours spent on mindfulness courses and a higher MAAS score.	Statistics (Parametric)	(Pearson)
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Table 2: Research Sub-Objectives

Ref	Research Sub-Objectives	Statistics Used	Test
1	To ascertain the level of uptake of mindfulness courses.	Descriptive Statistics	Frequencies
2	To determine the prevalence of daily mindfulness practice.	Descriptive Statistics	Frequencies
3	To determine whether the sample perceive that there are benefits of companies offering mindfulness programmes at work.	Descriptive Statistics	Frequencies
4	To review what the sample listed as the benefits of companies offering mindfulness programmes at work.	N/A Qualitative - narrative	N/A
5	a) To assess what conclusions, insights and recommendations the dissertation research has for employers and employees. b) To discuss recommendations with the Human Resource Department of the Organisation where the survey is being conducted.	N/A Qualitative - narrative	N/A

3.5 Research Triangulation – Qualitative Interview

The research methodology thus far has been concerned with the quantitative research method for the study. In order to triangulate the research, a qualitative

interview was conducted with a manager of the HR department of the Global Technology Company. Triangulation is used to increase the credibility of the results. Cohen et al (2000) talk about improving the richness of the research by viewing it from more than one standpoint.

A semi-structured interview was conducted and lasted one hour. The findings of the research study were discussed with the HR Manager. The information gathered from the interview will be expanded on in the discussion section.

3.6 Limitations and ethical considerations

Convenience sampling was selected, as it is cost effective and appropriate for the study, however Adam et al (2014) suggest that it is the least reliable design of the sampling techniques. The sample may not be generalizable of the total population, therefore the researcher was unable to infer results to the Global Technology Company as a whole, or the industry in general.

In addition, the target of a sample size of over 100 respondents was selected due to the time constraints. A total of 119 valid responses were received. A quantitative research design requires a large sample size. While 119 was adequate for the study, a larger sample size would have been preferred. A further limitation of cross-sectional research is that it cannot establish causation, that is, variations in one variable do not cause variations in the second variable (Urdan, 2017).

Regarding ethical considerations, Saunders et al (2016) state the importance of complying with the appropriate code of ethics. The National College of Ireland Code of Ethics was abided by. An ethical exemption form was completed for review by the ethics committee during the research proposal phase. It was deemed that the study was ethically sound and would pose no ethical risk to participants, the company or the researcher. Respondents are anonymous, and

consent to use the data was handled by the questionnaire. The ethical committee raised no issues.

As mentioned in the last section, the HR Department of the Global Technology Company requested that the management level in the organisation to not be surveyed. The company in question was recently acquired and is going through an intensive merger and huge demands are being placed on managers. This request was respected, but it did present challenges to the researcher in ensuring the survey was not issued to any managers. This challenge was overcome but using internal technical skills to remove management level email aliases from the survey push. While it was unfortunate to have to exclude management level comparisons in the study; it is an area that is recommended for future studies as outlined in the conclusion section.

A further limitation observed is that a strong reliability and consistency score does not guarantee true results. In a critical analysis of the use of questionnaires, Baer (2011) outlines certain biases. Respondents can mistakenly or deliberately misrepresent themselves. Choosing to answer questions based on how they would like to be rather than how they actually are. This was mitigated against by using a reliable published scale, however it cannot 100% avoided.

CHAPTER 4: RESULTS

The results section will provide descriptive information about the sample and it will set out each of the statistical tests conducted and results of the tests. In addition it will provide an overview of the findings from the qualitative interview conducted with the HR Department Manager. The section will be broken into five parts as outlined below.

In part one an introductory overview and a set of descriptive statistics will be provided. It will provide details of the sample size, demographics in terms of gender, age, region and work function. Part two will provide the MAAS scale reliability results. Part three will provide the reader with the outcomes of the descriptive tests conducted to satisfy the sub-objectives of the research question. Part four will then provide the results of the statistical tests used to test the research hypothesis. This section will also include the tests of normality.

4.1 Descriptive results overview

There were a total of 119 responses across 24 items, which comprised of 15 items from the MAAS scale and 9 other items as shown in the survey found at Appendix 5. In addition there was 1 qualitative item on the survey. The Tables and Figures below provide an overview of the demographics of the sample.

4.1.1 Gender and Age

As depicted in **Table 3**, 60% of the sample respondents were female, 39% were male and 1% was gender variant/non-confirming. **Table 4** provides details on the age groupings of the respondents. Of the 6 age groups the majority of the 119 respondents were in the 25 to 34-age bucket representing 44% of the sample, followed by 35% in the 35 to 44-age bracket.

Table 3: Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	71	59.7	59.7	59.7
	Male	47	39.5	39.5	99.2
	Gender Variant / Non-Conforming	1	.8	.8	100.0
	Total	119	100.0	100.0	

Table 4: Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 to 24 years	7	5.9	5.9	5.9
	25 to 34 years	52	43.7	43.7	49.6
	35 to 44 years	42	35.3	35.3	84.9
	45 to 54 years	16	13.4	13.4	98.3
	55 to 64 years	2	1.7	1.7	100.0
	Total	119	100.0	100.0	

4.1.2 Country and Region

In terms of the global geographic spread, the 119 respondents were from 9 countries. The majority of respondents are USA and Ireland resident representing 54% and 38% respectively as outlined in **Table 5**. For the purposes of statistical analysis, the countries were grouped into regions as shown in **Table 6**: 55% from the Americas region, 41% from the EMEA region and 4% from the APAC region.

Table 5: Country

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Canada	1	.8	.8	.8
	Germany	1	.8	.8	1.7
	Hong Kong	1	.8	.8	2.5
	India	2	1.7	1.7	4.2
	Ireland	45	37.8	37.8	42.0
	Philippines	1	.8	.8	42.9
	Taiwan	1	.8	.8	43.7
	UK	3	2.5	2.5	46.2
	USA	64	53.8	53.8	100.0
	Total	119	100.0	100.0	

Table 6: Region

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	EMEA	49	41.2	41.2	41.2
	APAC	5	4.2	4.2	45.4
	AMERICAS	65	54.6	54.6	100.0
	Total	119	100.0	100.0	

4.1.3 Work Function

Table 7 details the functions the respondents work in. A total of 9 work functions and 1 'other' category were included in the survey. All work functions with 1 exception, Sales and Sales Operations, were represented in the sample. The highest frequency was from the Research and Development function with a total of 31 responses representing 26% of the sample respondents.

Table 7: Work Function

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Engineering	14	11.8	11.8	11.8
	Finance	14	11.8	11.8	23.5
	Human Resources	10	8.4	8.4	31.9
	IT	3	2.5	2.5	34.5
	Legal	1	.8	.8	35.3
	Marketing and Communications	11	9.2	9.2	44.5
	R&D	31	26.1	26.1	70.6
	Technical	9	7.6	7.6	78.2
	Other	26	21.8	21.8	100.0
	Total	119	100.0	100.0	

4.2 Scale Reliability Results

This section presents the result from the reliability test for the scale used in this study, which was the Mindful Attention Awareness Scale (MAAS).

Table 8 and **Table 9** below depict the results of a Reliability Analysis for the MAAS Scale. There were 119 valid responses across 15 items shown in the case summary in **Table 8**. A Cronbach's Alpha reliability value of 0.890 is reported in **Table 9**.

Table 8: Case Processing Summary – Mindful Attention Awareness Scale

		N	%
Cases	Valid	119	100.0
	Excluded ^a	0	.0
	Total	119	100.0

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

Table 9: Mindful Attention Awareness Scale Reliability

Reliability Statistics	
Cronbach's Alpha	N of Items
.890	15

4.3 Research Sub-Objectives - Descriptive statistics

The survey asked the respondents a number of questions related to their experience of mindfulness. The questions were asked in order to satisfy a number of sub-objectives that the researcher set for the study. The following section will provide the reader with an overview of the results.

4.3.1 The uptake of mindfulness courses at the technology company

Research sub-objective one was to ascertain the level of uptake of mindfulness courses (survey question 5).

Table 10 provides the result for survey question 5. There were 119 valid responses. The result shows that there is a close split between the employees who have attended a mindfulness course (49.6%) compared to those who have not (50.4%).

Table 10: Attended Mindfulness Course Y/N

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	59	49.6	49.6	49.6
	No	60	50.4	50.4	100.0
	Total	119	100.0	100.0	

4.3.2 Number of mindfulness course attendance hours over the past year

Table 11 provides the result for survey question 6. Of the 59 respondents who have previously attended a mindfulness course, 58 of the respondents responded to question 6 and provided the number of course hours they attended in the past year. The largest group: 27 respondents had attended for 1 to 5 hours, the next largest group: 19 respondents had attended for between 6 to 20 hours. 7 respondents had over 100 hours of attendance at mindfulness courses over the past year.

Table 11: Mindfulness Course Hours

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	61	51.3	51.3	51.3
	1-5	27	22.7	22.7	73.9
	6-20	19	16.0	16.0	89.9
	21-50	3	2.5	2.5	92.4
	51-100	2	1.7	1.7	94.1
	100+	7	5.9	5.9	100.0
	Total	119	100.0	100.0	

4.3.3 The prevalence of Daily Mindfulness Practice

Research sub-objective two was to determine the prevalence of daily mindfulness practice (survey question 7).

Table 12 depicts the number of employees who consciously practice mindfulness on a daily basis. 34% of the total respondents practice mindfulness daily.

Table 12: Daily Mindfulness Practice Y/N

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	40	33.6	33.6	33.6
	No	79	66.4	66.4	100.0
	Total	119	100.0	100.0	

4.3.4 Do employee perceive that there are benefits of companies offering Mindfulness Programmes at work

Research sub-objective three was to determine whether the sample perceive that there are benefits of companies offering mindfulness programmes at work (survey question 8).

The result of question 8 is shown in **Table 13**. 95% of the sample perceives that there are benefits of companies offering Mindfulness Programmes at work.

Table 13: Benefits of Mindfulness Programmes Y/N

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	113	95.0	95.0	95.0
	No	6	5.0	5.0	100.0
	Total	119	100.0	100.0	

4.3.5 The benefits to employees of companies offering mindfulness courses

Research sub-objective four was to gather insights into what the employees perceive the benefits are of companies offering mindfulness programmes at work (survey question 9).

If the respondent answered yes to survey question 8, that is, they perceive that there are benefits to companies offering mindfulness programmes at work; they were subsequently asked to provide examples of the types of benefits. The question was an open text question in the survey. 95% of the respondents perceive that there are benefits of companies providing mindfulness programmes at work and all 95% provided examples of benefits. The results will be discussed in the discussion section of this report, however the researcher has grouped the main results in table format below, see **Table 14**.

Table 14: Benefits of Mindfulness Programmes

REF	BENEFIT
1	Better focus
2	Keep calm under pressure
3	Enjoyment of the present moment
4	Cope with stress
5	General well-being
6	Better concentration
7	Better management of life
8	Feeling in control
9	Engage with others
10	Better collaboration with colleagues
11	Company support of employees
12	Mindful workers more productive
13	General well-being
14	Life Balance
15	De-stress
16	Happier mindset

17	Increased morale
18	Better decision making
19	Clear and logical thinking
20	Reduced anxiety
21	Less illness

4.4 Employee Mindfulness Scores

4.4.1 Hypothesis Test 1 – Employees tendency to be Mindful

Hypothesis test 1 is to establish whether the sample results show that employees have or do not have the tendency to be attentive to and aware of the present-moment experience in daily life, that is, are they Mindful. The overall result will be reported, and also the result for Males and Females.

The study analysed the results of 119 employees in a global Technology organisation. A case summary is presented in **Table 15**. A histogram of the distribution of the employee mindfulness scores is shown in **Appendix 7(a)**. The associated descriptive statistics are shown in **Appendix 7(b)**.

Table 15 : Case Processing Summary – mindfulness scores

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
MindfulnessCompositeScore	119	100.0%	0	0.0%	119	100.0%

The results of tests of normality are presented in **Table 16**. The results of the Shapiro- Wilk's test of normality indicate that there are no significant deviations from normality ($W = 0.984$, $df = 119$, $p = 0.172$).

Table 16: Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
MindfulnessCompositeScore	.070	119	.200*	.984	119	.172

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

The normality test showed a lack of identified deviations. Therefore a Single Samples t-TEST was undertaken to test if there are significant differences between the study sample mean result and the typical MAAS average score of 3.86. The composite score for the 15-item MAAS scale was established and returned a value of 3.8986 as depicted in **Table 17**. **Table 18** depicts the result of the test. The results showed that there was no significant difference observed, at the 5% significance level, between the typical MAAS average and the study sample (M=3.8986, SD=0.77682) t=0.542, df=118, p=0.589. The null hypothesis was therefore supported.

Table 17: One-Sample Statistics – Composite Score

	N	Mean	Std. Deviation	Std. Error Mean
MindfulnessCompositeScore	119	3.8986	.77682	.07121

Table 18: One-Sample Test – Mindfulness scores compared to typical average

	Test Value = 3.86					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
MindfulnessCompositeScore	.542	118	.589	.03860	-.1024	.1796

4.4.2 Hypothesis Test 1 – Employees tendency to be Mindful – gender results

Further, an Independent Samples t-TEST was conducted to ascertain if there exists any difference in the average mindfulness results of males compared to females. The test sample comprised of 118 employees. 1 employee identified as “Gender Variant / Non-Conforming” and was excluded from the analysis for this test. A case summary is presented in **Table 19**. Histograms of the distribution of the employee mindfulness scores for females and males are shown in **Appendix 7c**. The associated descriptive statistics are shown in **Appendix 7d**.

Table 19: Case Processing Summary – Female and Male Mindfulness Scores

		Cases					
		Valid		Missing		Total	
	Gender	N	Percent	N	Percent	N	Percent
MindfulnessCompositeScore	Female	71	100.0%	0	0.0%	71	100.0%
	Male	47	100.0%	0	0.0%	47	100.0%
	Gender Variant / Non-Conforming	1	100.0%	0	0.0%	1	100.0%

The results of tests of normality are presented in **Table 20**. The results of the Shapiro- Wilk’s test of normality indicate that there are no significant deviations from normality for either females or males ($W_{female} = 0.982$, $df = 71$, $p = 0.388$; $W_{male} = 0.981$, $df = 47$, $p = 0.633$).

Table 20: Tests of Normality

		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
MindfulnessCompositeScore	Female	.074	71	.200*	.982	71	.388
	Male	.083	47	.200*	.981	47	.633

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

c. MindfulnessCompositeScore is constant when Gender = Gender Variant / Non-Conforming. It has been omitted.

The normality test showed a lack of identified deviations. Therefore an Independent Samples t-TEST was undertaken to test if there are significant differences between male and female mindfulness scores. The results are depicted in **Table 21**. A significant difference was not observed at the 5% level of significance, between the average male and female mindfulness scores. The male mean value was 3.9234 and the standard deviation was 0.81744; the female mean value was 3.8826 and standard deviation was 0.75991; ($t=0.277$, $df=116$, $p=0.782$) as depicted in **Table 22**. The null hypothesis was therefore supported.

Table 21: Group Statistics – Male and Female

	Gender	N	Mean	Std. Deviation	Std. Error Mean
MindfulnessCompositeScore	Female	71	3.8826	.75991	.09018
	Male	47	3.9234	.81744	.11924

Table 22: Independent Samples Test – Male and Female

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
MindfulnessCompositeScore	Equal variances assumed	.106	.745	-.277	116	.782	-.04078	.14728	-.33249	.25094
	Equal variances not assumed			-.273	93.563	.786	-.04078	.14950	-.33763	.25608

4.4.3 Employee Mindfulness results by region

Descriptive statistics were run to review the mindfulness average result by region. The region with the highest mindfulness average was APAC $m=4.1867$, followed by the AMERICAS $M=3.9292$. The lowest average was recorded for EMEA $M=3.8286$. The descriptives table is shown in Appendix 7e.

4.5 Mindfulness course attendance

4.5.1 Hypothesis Test 2 – Impact of mindfulness course attendance on the MAAS score

To determine whether there is an association between previously attending a mindfulness course and the tendency to be attentive and aware of the present-moment experience in daily life, that is Mindful.

The study considered the sample of 119 employees of a global technology company. The respondents were grouped into two cohorts for this test, of which 59 had previously attended a mindfulness course and 60 had not previously attended a mindfulness course.

A case summary is presented in **Table 23**. Histograms of the distribution of the employee mindfulness scores for those employees who had responded ‘yes’ to having previously attended a mindfulness course and those employees who responded ‘no’ to having previously attended a mindfulness course are shown in **Appendix 7f** and **Appendix 7g** respectively. The associated descriptive statistics are shown in **Appendix 7h**.

Table 23: Case Processing Summary

	Attended Course Y/N	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
MindfulnessCo	Yes	59	100.0%	0	0.0%	59	100.0%
mpositeScore	No	60	100.0%	0	0.0%	60	100.0%

The results of tests of normality are presented in **Table 24**. The results of the Shapiro- Wilk’s test of normality indicate that there are no significant deviations from normality (W yes =0.970, df =59, p =0.146); W no =0.982, df=60, p=0.541).

Table 24: Tests of Normality

	Attended Course Y/N	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
MindfulnessCo	Yes	.083	59	.200*	.970	59	.146
mpositeScore	No	.067	60	.200*	.982	60	.541

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

The normality test showed a lack of identified deviations. Therefore a Single Sample t-Test was undertaken on both sets of data to test if there are significant differences between having previously attended or not attended a mindfulness course and the MAAS result.

In relation to the first cohort (did previously attend a mindfulness course) a case summary is presented in **Table 25**. A Single Sample t-TEST was undertaken to determine if previously attending a mindfulness course would result in a higher MAAS score. The result, depicted in **Table 26**, showed that a significant difference was not observed, at the 5% significance level, between having previously attending a mindfulness course and the typical average mindfulness score. The mean value for the cohort that had previously attended a mindfulness course was 3.8384 and the standard deviation was 0.9993 ($t=-0.216$, $df=58$, $p=0.830$). The null hypothesis was therefore supported.

Table 25: One-Sample Statistics – Did attend a Mindfulness course

	N	Mean	Std. Deviation	Std. Error Mean
MindfulnessComposite Score	59	3.8384	.76756	.09993

Table 26: One-Sample Test – Did attend a Mindfulness Course

	Test Value = 3.86					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
MindfulnessCompositeScore	-.216	58	.830	-.02158	-.2216	.1784

In relation to the second cohort (did not previously attend a mindfulness course) a case summary is presented in **Table 27**. A Single Sample t-TEST was undertaken to determine if not having previously attended a mindfulness course would result in a higher MAAS score. The result, depicted in **Table 28**, showed that a significant difference was not observed, at the 5% significance level, between having not previously attended a mindfulness course and the typical average mindfulness score. The mean value for the cohort that had not previously attended a mindfulness course was 3.9578 and the standard deviation was 0.78776 ($t=0.961$, $df=59$, $p=0.340$). The null hypothesis was therefore supported.

Table 27: One-Sample Statistics – Did not attend a Mindfulness course

	N	Mean	Std. Deviation	Std. Error Mean
MindfulnessCompositeScore	60	3.9578	.78776	.10170

Table 28: One-Sample Test – Did not attend a Mindfulness course

	Test Value = 3.86					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
MindfulnessCompositeScore	.961	59	.340	.09778	-.1057	.3013

4.6 Mindfulness course attendance hours

4.6.1 Hypothesis Test 3 – the correlation between number of hours and MAAS score

To establish whether there is a correlation between the number of hours spent attending mindfulness courses and a higher MAAS score. A parametric test, Pearson Correlation was selected as the test to be conducted.

A Pearson correlation test was computed to assess the relationship between variable one, the employee mindfulness score, and variable two, the hours that the employee spent attending mindfulness courses. **Table 29** provides the output of the test. The result of the test shows that there was no correlation between the two variables [$r = -0.025$, $n = 119$, $p = 0.783$]. A scatterplot summarizes the results in **Appendix 7i**. Overall, there was a very weak negative correlation between the employee mindfulness scores and the number of hours the employee spend attending mindfulness courses. The result is not statistically significant the 5% significance level and is reported as no correlation. The null hypothesis was therefore supported. In relation to females and males, the scatter plots are shown at **Appendix 7j** and **Appendix 7k** respectively. The results for females and males both indicate virtually no correlation between the two variables. The null hypothesis was therefore supported.

Table 29: Correlation – Mindfulness course hours and MAAS Score

		Mindfulness Composite Score	Course Hours
Mindfulness Composite Score	Pearson Correlation	1	-.025
	Sig. (2-tailed)		.783
	N	119	119
Course Hours	Pearson Correlation	-.025	1
	Sig. (2-tailed)	.783	
	N	119	119

CHAPTER 5: DISCUSSION

The next section will discuss the results of the study in relation to the research question and sub-objectives, with reference to the literature.

The response rate of the survey was 119 responses out of 350 surveys issued. This represents 34% of the target population. A study of response rates for questionnaires in organisational research found that the average response rate was 35.7% with a standard deviation of 18.8 (Baruch et al, 2008). Their study found that electronic data collection resulted in higher response rates, rather than other traditional methods. In this context, the 34% response rate from this organisational study is on par with the average in the findings of Baruch et al (2008). Cook et al (2000) posit that response representativeness in the research is more important than the rate of response. The demographics overview of the sample found in the results section 4.1, shows good representation across, gender, age and work function. Further, Cook et al (2000), outline that the number of personalised contacts and pre-contacts is a factor in higher response rates. As the researcher had a connection to each of the employee groups the survey was sent to, as outlined in section 3.4.3, this could have been a factor in the response rates received.

The primary research objective of this study was to determine the mindfulness of employees working in a Global Technology Company, and to examine if attending a mindfulness course(s) had an impact on the mindfulness score. The sub-objectives included determining if employees perceive there are benefits to organisations offering mindfulness courses and some insights to what those benefits are.

The motivations for conducting this research were two-fold. Firstly, there is a growing body of research indicating that employee stress levels, mental health issues and absenteeism are increasing. As outlined in the introduction section, the 'overwhelmed employee' was highlighted as the number one challenge for

organisations in Ireland (Deloitte Human Capital Trends Report (2014). In the UK a study found that absenteeism due to employee burnout, stress and anxiety has increased by 24% since 2009 (The Mindfulness Initiative, 2016). One of the aims, therefore, of this research was to investigate the impact of mindfulness on employee wellness and determine the benefits it would have for employees.

Secondly, a gap in the literature was identified in terms of the use of the MAAS on organisational employees outside of medical contexts (Black et al, 2012). Also, as outlined in the introduction section, research on mindfulness and the benefits of mindfulness in a work context is still at an early stage of development therefore justifying the need for more research in the area (Glomb, 2011; Baer, 2003).

5.1 Interview with a Human Resources Manager from the Global Technology Company

As outlined in the methodology section, a semi-structured qualitative interview was conducted with a Human Resources Manager from the Global Technology Company where the study was undertaken. The interview was conducted in an attempt to triangulate the research; and to fulfill a sub-objective of the research. Feedback from the HR Manager will be used in the discussion commentary below. In general, the HR Manager was very interested in the results and appreciative of the study that was undertaken. In addition, the HR Manager was grateful to get some insight into the literature on mindfulness and in particular, the examples of what other companies are doing for their employees in the area of mindfulness.

5.2 The Mindfulness of Employees in the Global Technology Company

The results from the research hypothesis tests shown at section 4.4 revealed that the sample of employees at the Global Technology Company had a mindfulness score of 3.89, and reported no significant difference to the typical average reported mindfulness score for the scale of 3.86. There was also no significant difference of

the male score compared to females. The scores were also analysed by region. While the APAC region scored higher than the EMEA and the Americas regions with a mean reported of 4.18, the respondent frequency for APAC was 5 out of a total sample of 119, and therefore, too small to draw conclusions, but is an area that could be explored in future research.

If a low mindfulness score for the employee sample had been reported it might have been an indication that further investigation is required. The average score reported does not necessarily suggest that the employees mindfulness at the company is adequate and doesn't warrant investment, it is simply an indication of the mindfulness score of the sample at a moment in time.

Further tests were conducted on the sample in order to determine whether there was an association with previously having attended a mindfulness course and a higher MAAS mindfulness score. In addition, in-depth analysis on the sample was performed to establish if there was a correlation between the number of hours spent attending mindfulness courses and a higher MAAS score. The results of the tests are outlined in section 4.5 and 4.6 respectively. The results indicated that there was no association between having previously attended a mindfulness course and a higher mindfulness score. There was also no correlation between an increased number of hours spent on mindfulness courses and a higher mindfulness score.

Relating this back to the literature, other studies that have been conducted using the MAAS reflected a higher score for the sample population who had attended a mindfulness course. Brown et al (2003) conducted a study of cancer patients. They reported higher MAAS scores after completing an MBSR course. They also showed decreases in stress symptoms. Shapiro (2008) conducted a study of American college students who completed a mindfulness course. The students reported an increase in mindfulness when measured using the MAAS. The students were tested both pre-course and post-course.

As outlined in the limitations section of this report, there are many factors that may impact the result of the MAAS scores. An analysis of the type of course attended by the employees was not conducted. A key limitation of this study was that a full experimental study was not possible to carry out given the time constraints and cost. This would have involved pre and post course testing, and would have specified that all employees attend the same course and for the same duration.

As previously noted in the literature section, that it has been found that mindfulness is an inherent capacity varying in strength (Brown et al, 2007; Dane, 2011). It is possible that individuals who have a strong inherent capacity for mindfulness, don't attend mindfulness courses, as it is something that they have naturally and may not need to learn. Davidson (2010) outlines that individual natural variations in levels of mindfulness are likely because of environmental or genetic influence. This would need to be verified through further research.

5.3 Mindfulness Activity in the Global Technology Company

The sub-objectives of the research study were all met. The results are provided in section 4.3 and will be discussed in this section. The results outlined an even split in the uptake of mindfulness courses. The study sample had included two cohorts, those that had attended a mindfulness course and those that had not.

Of those that had attended a mindfulness course, the majority of 47% had attended for no more than 5 hours over the duration of 1 year, with 33% have attended for no more than 20 hours of the 1-year period. This insight was commented by the HR Manager during the interview. While the Technology company has been offering some mindfulness training, the type of training would seem ad-hoc and not prolonged training as in the case of the programmes being offered at other tech companies such as Google and Intel (Business Insider, 2014; Mindful.org, 2014).

In terms of daily mindfulness practice, it was found that 40% of the sample consciously practice mindfulness on a daily basis. In discussing this result with the

HR Manager, it raised questions about the facilities in offices and the potential need for quiet places for reflection and mindfulness practice. This will be further discussed in the implications section.

5.4 The Benefits of Companies Offering Mindfulness Courses at Work

A remarkable 95% of the sample responded yes to the question posed asking if they perceive that there are benefits of companies offering mindfulness programmes at work. Regardless of whether they had previously attended a course, or practice mindfulness daily, the overwhelming response was positive. This would seem to concur with the literature, outlining the popularity of mindfulness today and its attention in media and print (Brown et al, 2016).

One of the survey questions asked the respondents to list what they consider the benefits. The results were grouped and are presented in Table 14 in the results section 4.3.5. The benefits listed by the respondents included: increased focus, better able to cope with stress, better concentration, general wellbeing, less illness, enjoyment of the present moment, and the ability to keep calm under pressure. These benefits were seen to be consistent with the benefits highlighted in the literature reviewed (Langer et al, 2016; The Mindfulness Initiative, 2016; Adams, 2016; Mental Workout, 2016).

In addition, some benefits were highlighted through this study that were not previously noted from the literature reviewed. These additional benefits included: increased morale, better management of life, feeling in control, better engagement with others, better collaboration with work colleagues and having a happier mindset. In addition it was highlighted as a benefit, that offering mindfulness courses at work would show that the company supports its employees.

The HR Manager was very interested to get an overview of the benefits listed by the employees. The HR Manager did agree with the literature outlining that stress, burnout and anxiety are key issues in the company and in the workplace in

general; and thought it important that companies take more responsibility for their employees wellbeing.

Improving the experience for employees through culture, engagement and wellness programmes is crucial for Global companies (Deloitte, 2017). The report outlines that increased pressure is being putting on ensuring a healthy work-life balance with holiday time taken decreasing, and working hours increasing. A holistic innovation solution is required, and mindfulness initiatives should form part of the solution.

5.5 Implementing Mindfulness Practices in the Workplace

The study and research conducted has implications for organisations in terms of implementing mindfulness practices and training in the workplace. This was a particular area of interest for the HR Manager during the interview. The HR Manager wanted to understand the ways in which the organisation could implement mindfulness practices for staff. While the study did not cover this area specifically, there were some key insights of note from the literature review which are outlined below.

5.5.1 Mindfulness Training

Mindfulness is not only open to those who partake in training; it is a natural capacity (Brown et al, 2003; Glomb, 2011; Dane, 2011). This may imply that there are a range of options open to organisations in how they offer mindfulness activities to employees including formal training in terms of MBSR or MRCT; or less formal training for example mindfulness workshops, talks, webinars or the use of digital apps (The Mindfulness Initiative, 2016). The HR Manager commented that mindfulness and other wellness initiatives offered by companies could have an impact on attracting Talent. The HR Manager noted that recruitment candidates ask what wellness initiatives the company offers to employees. Understanding what competitor companies in the tech industry are doing in the market is important.

5.5.2 Mindfulness Education

Mindfulness education did not feature prominently in the literature, however it was an area that the HR Manager wanted to explore. Reitz et al (2016) suggested that even practicing mindfulness for as little as 10 minutes per day would provide benefits for the practitioner; therefore employees should be educated about this. Guidelines on how employees can incorporate mindfulness in their daily lives should form part of future mindfulness initiatives at the Global Technology Company. This is noted as a recommendation in the conclusion section.

5.6 Mindfulness and Leadership

The literature review revealed a growing body of research on the use of mindfulness in leadership training (Reitz et al, 2016). A limitation of the study, as outlined in the methodology section, was that the management level at the organisation had to be excluded from the study. This is an area noted in the conclusions section recommended for further research. The findings from the literature review were discussed with the HR Manager and were of interest. The HR Manager noted that mindfulness training should be considered as part of the management training tool-kit at the company. The HR Manager also noted that if programmes are being rolled out to benefit employees, then the management team need to be involved in supporting and championing these types of initiatives.

5.7 Limitations

A number of limitations were outlined in the methodology section. Non-probability convenience sampling was used and is the least reliable design of the sampling techniques (Adams et al, 2014). The sample was therefore not generalisable of the total population, and the researcher was not able to infer results to the Global Technology Company as a whole, or the industry in general.

The sample target size was 350, however the study yielded a total of 119 valid responses. A larger sample size would have been preferred and is called out as a limitation to the study.

A further limitation was that the study had to omit management level from the survey. Given the growing body of research in this year, it was unfortunate not to survey this level and review the results of different levels of the organisation.

A further limitation observed is that a strong reliability and consistency score does not guarantee true results. Respondents can mistakenly or deliberately misrepresent themselves (Baer, 2011).

In terms of the study and the use of the MAAS scale, a key limitation in the study was that the time constraints to complete the study did not permit for an experimental study to be carried out. An experimental study would involve testing employees pre- mindfulness training and post- mindfulness training. This is an area recommended for future research and is noted in the conclusion section.

Chapter 6: Conclusion

This research study was undertaken to contribute to closing the gap in the existing literature with regard to an examination of the use of Mindfulness programmes in the workplace. Further an examination was conducted on the impact course attendance has on employee mindfulness scores. The underlying theme was to understand how mindfulness might contribute to reducing stress, burnout and mental health issues and thereby benefitting employees. A further sub-objective was to discuss the findings of the study with a Human Resource Manager at the Global Technology Company to highlight some potential areas to be looked at when designing and implementing wellness programmes for employees at the company.

The hypothesis tests carried out on the sample did not give rise to any alternative hypotheses being accepted. It was found that the average MAAS mindfulness score of the sample of employees tested, was consistent with the typical MAAS average. The statistical test conducted did not find an association between previously attending a mindfulness course and a higher MAAS mindfulness score. Similarly there was no correlation between the number of hours spent on a mindfulness course, and a higher MAAS mindfulness score.

The data collected however, did provide some significant insights into the employees mindfulness activity at the company and their perception of mindfulness as being beneficial to employee wellness.

The digital era of today has transformed and continues to transform how we work, connect and communicate. The birth and growth of the digital era seemed to coincide with the increasing popularity and research on mindfulness. A McKinsey report (2016) suggests that in the hyper-connected world we live in today, employees are expected to be available after normal working hours and weekends to answer emails and handle issues. They posit that urgent organisational action is required to tackle this. It is a common theme and concern today, supported with

references and statistics outlined in this report including, the ‘overwhelmed’ employee in Ireland (Deloitte, 2014), the ‘always on’ employee ‘burn-out’ issue in France (Business Insider, 2016); mental ill health the number one cause of illness at work in the UK (The Mindful Institute, 2016).

As outlined in the discussion section, many of the benefits of companies offering mindfulness courses to employees as listed by the employees during the study were seen to be consistent with the literature – stress management, increased focus, general wellbeing (Langer et al, 2016; The Mindfulness Initiative, 2016; Adams, 2016; Mental Workout, 2016). However, the sample employees of the Global Technology Company highlighted some additional benefits not prevalent in the literature reviewed, which were of interest to the HR Manager, including: better collaboration and engagement with colleagues, increased morale and a happier mindset. In addition it was noted that it shows the company supports employees

6.1 Implications

The study highlighted some implications for organisations as follows:

- Employee burnout and mental health issues are prevalent and increasing. Apart from the human responsibility organisations should have for their employees, these issues are also costing organisations through loss of productivity (Mental Workout, 2016). Employee wellness must become an integral part of the employee experience and organisations must invest in this area and champion it from the top down. The mandate for HR in organisations is changing with ‘workplace redesign, wellbeing, and work productivity’ being the core focus areas (Deloitte, 2017). This should include education for employees.
- The Mindful Leader is an area that is growing in popularity and interest (Reitz et al, 2016). Organisations should consider incorporating mindfulness training and education in their management training programmes.
- Prior to implementing a mindfulness programme, it is advisable for the company to do a review and evaluation of what type of programme

should be implemented, how it will be measured, and what return on investment can be expected. Companies need to be aware of the commercialization of mindfulness.

- Organisations should be clear about objectives for implementing mindfulness programmes. (Vich, 2015) posits that focus should be on employee wellbeing and not the company bottom line.
- The study revealed that 40% of the sample practice mindfulness on a daily basis. Organisation should give some consideration to facilities in the office to foster mindfulness practice, for example mindfulness hubs or quiet spaces.

6.2. Recommendations for Further Research

Continued research to better understand the role that mindfulness can play in dealing with, or preferably, in preventing, stress and burnout is needed. Mindfulness and leadership should be explored. As outlined in the limitations section, this study had to omit management level from the survey. Further research should explore mindfulness and the benefits of mindfulness on employee wellness at all levels. Research on how a mindful leader positively impacts on employees would be recommended to be undertaken.

Research on the use of MAAS in the work place should include full experimental studies with pre and post-course evaluation to better understand the benefits of mindfulness courses for employee wellness.

This study looked at a sample of employees in a Global Technology Company. It would be recommended that further research on mindfulness in the workplace be conducted in other industries.

The research findings on employee stress, burnout and mental health issues should be highlighted at a national level to influence policy makers on changes that needs to take place, an example being the proposed law in France to permit employees to disconnect from work after normal working hours.

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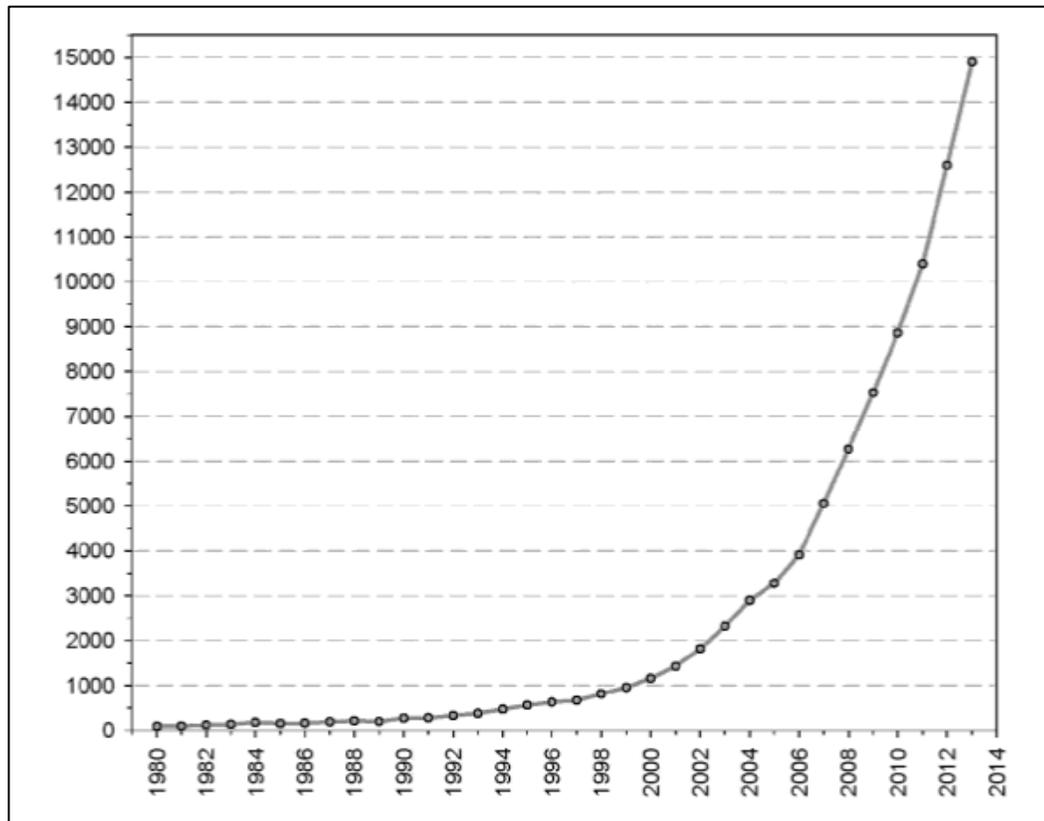
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Appendices

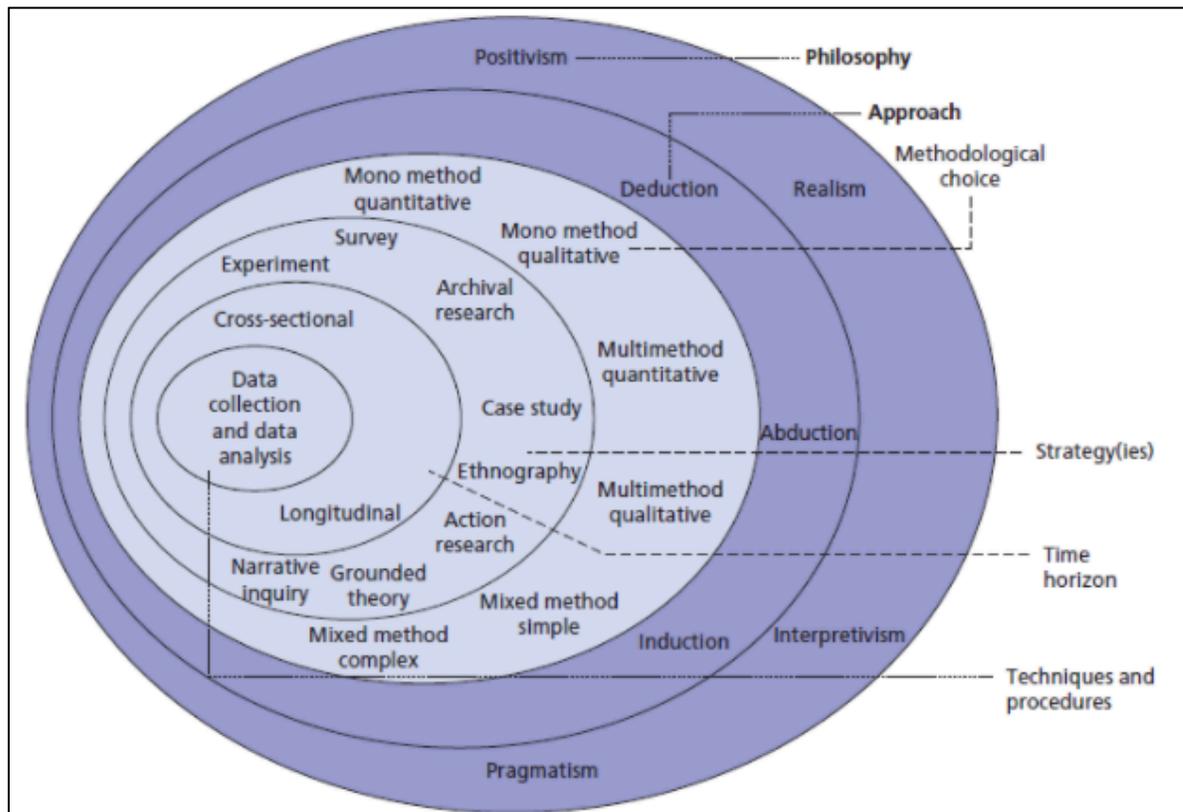
Appendix 1: The number of publications 1980-2013 containing the word *mindfulness* from a search in Google Scholar.

Source: Brown et al, 2015.



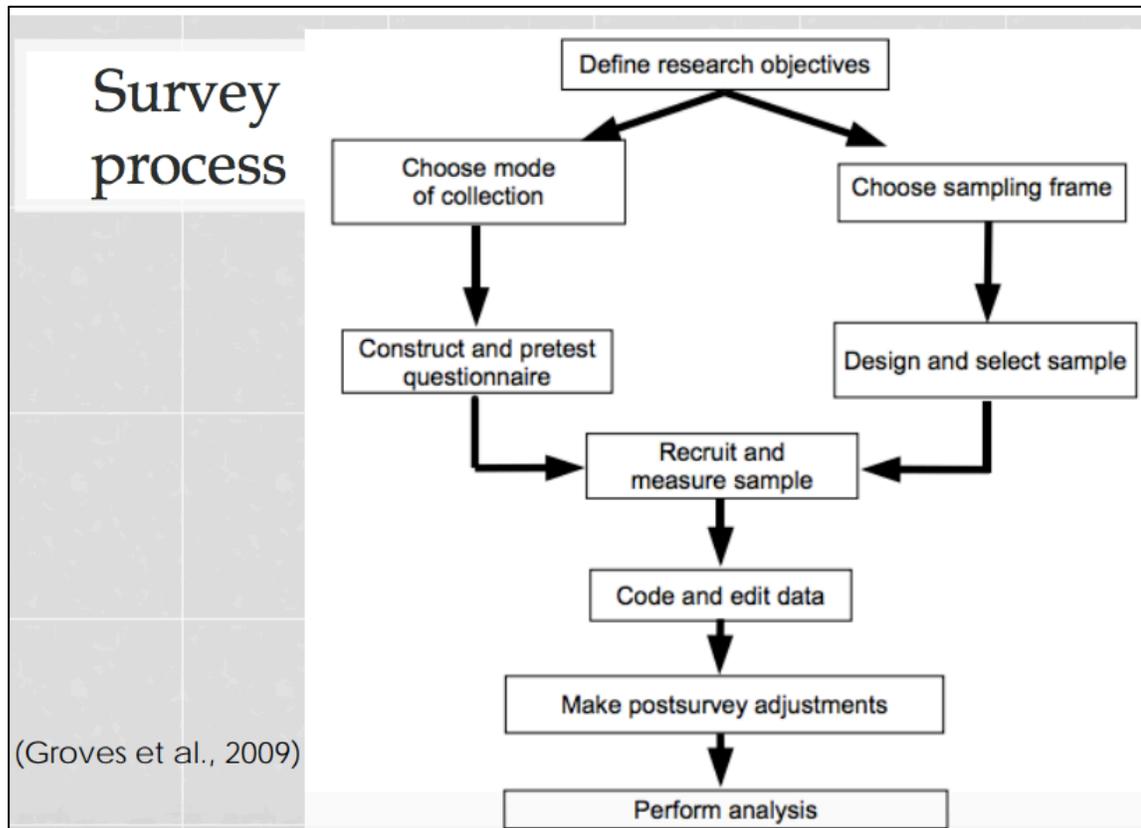
Appendix 2: The Research Onion

Source: 2015 Mark Saunders, Philip Lewis, Adrian Thornhill



Appendix 3: The Survey Process

Source: Groves et al, 2009.



Appendix 4: The Mindful Attention Awareness Scale (MAAS)

Source: Brown, K. W., & Ryan, R. M. (2003).

The Mindful Attention Awareness Scale. Instructions:

Below is a collection of statements about your everyday experience. Using the 1–6 scale below, please indicate how frequently or infrequently you currently have each experience. Please answer according to what really reflects your experience rather than what you think your experience should be.

The accompanying 6-point scale is 1 = almost always, 2 = very frequently, 3 = somewhat frequently, 4 = somewhat infrequently, 5 = very infrequently, and 6 = almost never.

To score the scale - compute a mean (average) of the 15 items. Higher scores reflect higher levels of dispositional mindfulness. Typically the average score is 3.86. The highest score is 6 and the lowest score is 1.

Mindful Attention Awareness Scale

MAAS

Items

1. I could be experiencing some emotion and not be conscious of it until some time later.
2. I break or spill things because of carelessness, not paying attention, or thinking of something else.
3. I find it difficult to stay focused on what's happening in the present.
4. I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.
5. I tend not to notice feelings of physical tension or discomfort until they really grab my attention.
6. I forget a person's name almost as soon as I've been told it for the first time.
7. It seems I am "running on automatic" without much awareness of what I'm doing.
8. I rush through activities without being really attentive to them.
9. I get so focused on the goal I want to achieve that I lose touch with what I am doing right now to get there.
10. I do jobs or tasks automatically, without being aware of what I'm doing.
11. I find myself listening to someone with one ear, doing something else at the same time.
12. I drive places on "automatic pilot" and then wonder why I went there.
13. I find myself preoccupied with the future or the past.
14. I find myself doing things without paying attention.
15. I snack without being aware that I'm eating.

Note: Items were introduced by the following: "Below is a collection of statements about your everyday experience. Using the 1–6 scale below, please indicate how frequently or infrequently you currently have each experience. Please answer according to what really reflects your experience rather than what you think your experience should be." The accompanying 6-point scale was 1 = *almost always*, 2 = *very frequently*, 3 = *somewhat frequently*, 4 = *somewhat infrequently*, 5 = *very infrequently*, and 6 = *almost never*.

Appendix 5: Mindfulness Survey used in this study (includes the MAAS)

Mindfulness Survey

Dear Respondent,

Thank you for taking the time to complete this short questionnaire, which should take you just 5 minutes of your time to complete. The results of this survey will be used as part of an important research study on the benefits of Mindfulness in the workplace and your participation is greatly appreciated.

Your responses are anonymous - they will only be available to my university supervisor and I. Your name will not be captured and the data will be non-identifiable. The data will be saved securely, password protected and kept for 1 year. Please note that your participation is voluntary and you have the right to withdraw at any time.

* Required

1. Gender identification: *

Mark only one oval.

- Female
- Male
- Transgender
- Gender Variant / Non-Conforming
- Not Listed
- Prefer not to say

2. Age *

Mark only one oval.

- 18 to 24 years
- 25 to 34 years
- 35 to 44 years
- 45 to 54 years
- 55 to 64 years
- Age 65 or older

3. Country of residence: *

4. Work Function *

Mark only one oval.

- Engineering
- Finance
- Human Resources
- IT
- Legal
- Marketing and Communications
- R&D
- Sales and Sales Operations
- Technical
- Other

5. Have you previously attended a Mindfulness course? *

Mark only one oval.

- Yes
- No

6. If you have attended a Mindfulness course or formal practice, approximately how many hours have you spent attending mindfulness courses or practice in the past 1 year?

7. Do you consciously practice Mindfulness on a daily basis? *

Mark only one oval.

- Yes
- No

8. Do you perceive that there are benefits to employees of companies offering Mindfulness programmes at work? *

Mark only one oval.

- Yes
 No

9. If you answered yes to the last question, what are the benefits to employees in your view?

Day-to-Day Experiences

The following Mindful Attention Awareness Scale (MAAS) is designed to ascertain the level of present focus of an individual. That is, how mindful they are.

Using the scale below, please indicate how frequently you currently have each experience. Please answer according to what really reflects your experience rather than what you think your experience should be. Please treat each item separately from every other item.

10. I could be experiencing some emotion and not be conscious of it until some time later. *

Mark only one oval.

1. Almost Always
 2. Very Frequently
 3. Somewhat Frequently
 4. Somewhat Infrequently
 5. Very Infrequently
 6. Almost Never

11. I break or spill things because of carelessness, not paying attention, or thinking of something else. *

Mark only one oval.

- 1. Almost Always
- 2. Very Frequently
- 3. Somewhat Frequently
- 4. Somewhat Infrequently
- 5. Very Infrequently
- 6. Almost Never

12. I find it difficult to stay focused on what's happening in the present. *

Mark only one oval.

- 1. Almost Always
- 2. Very Frequently
- 3. Somewhat Frequently
- 4. Somewhat Infrequently
- 5. Very Infrequently
- 6. Almost Never

13. I tend to walk quickly to get where I'm going without paying attention to what I experience along the way. *

Mark only one oval.

- 1. Almost Always
- 2. Very Frequently
- 3. Somewhat Frequently
- 4. Somewhat Infrequently
- 5. Very Infrequently
- 6. Almost Never

14. I tend not to notice feelings of physical tension or discomfort until they really grab my attention. *

Mark only one oval.

- 1. Almost Always
- 2. Very Frequently
- 3. Somewhat Frequently
- 4. Somewhat Infrequently
- 5. Very Infrequently
- 6. Almost Never

15. I forget a person's name almost as soon as I've been told it for the first time. *

Mark only one oval.

- 1. Almost Always
- 2. Very Frequently
- 3. Somewhat Frequently
- 4. Somewhat Infrequently
- 5. Very Infrequently
- 6. Almost Never

16. It seems I am 'running on automatic' without much awareness of what I'm doing. *

Mark only one oval.

- 1. Almost Always
- 2. Very Frequently
- 3. Somewhat Frequently
- 4. Somewhat Infrequently
- 5. Very Infrequently
- 6. Almost Never

17. I rush through activities without being really attentive to them. *

Mark only one oval.

- 1. Almost Always
- 2. Very Frequently
- 3. Somewhat Frequently
- 4. Somewhat Infrequently
- 5. Very Infrequently
- 6. Almost Never

18. 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. *

Mark only one oval.

- 1. Almost Always
- 2. Very Frequently
- 3. Somewhat Frequently
- 4. Somewhat Infrequently
- 5. Very Infrequently
- 6. Almost Never

19. I do jobs or tasks automatically, without being aware of what I'm doing. *

Mark only one oval.

- 1. Almost Always
- 2. Very Frequently
- 3. Somewhat Frequently
- 4. Somewhat Infrequently
- 5. Very Infrequently
- 6. Almost Never

20. I find myself listening to someone with one ear, doing something else at the same time. *

Mark only one oval.

- 1. Almost Always
- 2. Very Frequently
- 3. Somewhat Frequently
- 4. Somewhat Infrequently
- 5. Very Infrequently
- 6. Almost Never

21. I drive places on 'automatic pilot' and then wonder why I went there. *

Mark only one oval.

- 1. Almost Always
- 2. Very Frequently
- 3. Somewhat Frequently
- 4. Somewhat Infrequently
- 5. Very Infrequently
- 6. Almost Never

22. I find myself preoccupied with the future or the past. *

Mark only one oval.

- 1. Almost Always
- 2. Very Frequently
- 3. Somewhat Frequently
- 4. Somewhat Infrequently
- 5. Very Infrequently
- 6. Almost Never

23. I find myself doing things without paying attention. *

Mark only one oval.

- 1. Almost Always
- 2. Very Frequently
- 3. Somewhat Frequently
- 4. Somewhat Infrequently
- 5. Very Infrequently
- 6. Almost Never

24. I snack without being aware that I'm eating. *

Mark only one oval.

- 1. Almost Always
- 2. Very Frequently
- 3. Somewhat Frequently
- 4. Somewhat Infrequently
- 5. Very Infrequently
- 6. Almost Never

Appendix 6: Permission to use the Mindful Attention Awareness Scale



Monroe Campus

V i r g i n i a C o m m o n w e a l t h U n i v e r s i t y

**Department of
Psychology**

White House
806 West Franklin Street
P.O. Box 842018
Richmond, Virginia 23284-2018

804 828-6754
Fax: 804 828-2237
TDD: 1-800-828-1120

Dear Colleague,

The trait Mindful Attention Awareness Scale (MAAS) is in the public domain and special permission is not required to use it for research or clinical purposes. The trait MAAS has been validated for use with college student and community adults (Brown & Ryan, 2003), and for individuals with cancer (Carlson & Brown, 2005). A detailed description of the trait MAAS, along with normative score information, is found below, as is the scale and its scoring. A validated state version of the MAAS is also available in Brown and Ryan (2003) or upon request.

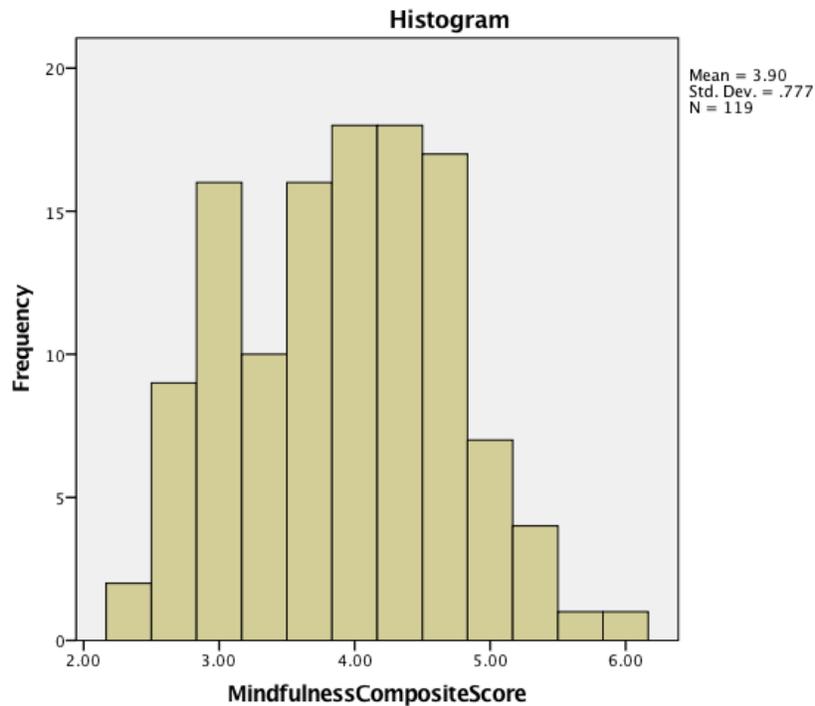
Feel free to e-mail me with any questions about the use or interpretation of the MAAS. I would appreciate hearing about any clinical or research results you obtain using the scale.

Yours,

Kirk Warren Brown, PhD
Department of Psychology
Virginia Commonwealth University
806 West Franklin St.
Richmond, VA 23284-2018
e-mail kwbrown@vcu.edu

Appendix 7: Results SPSS Output – Graphs and Descriptive Statistics Tables

Appendix 7a: Histogram for mindfulness scores employees of a global technology company.



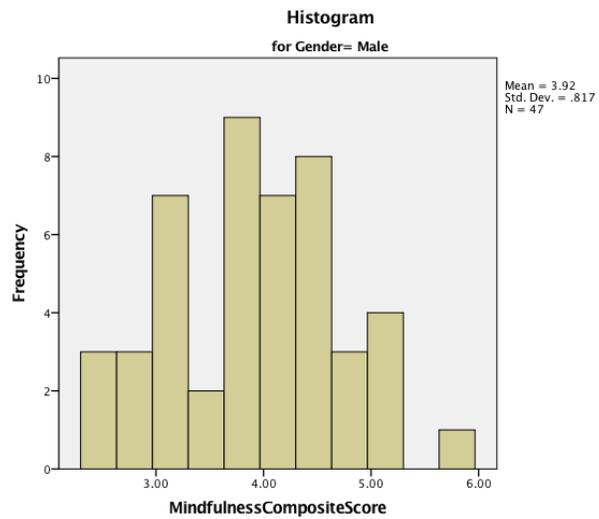
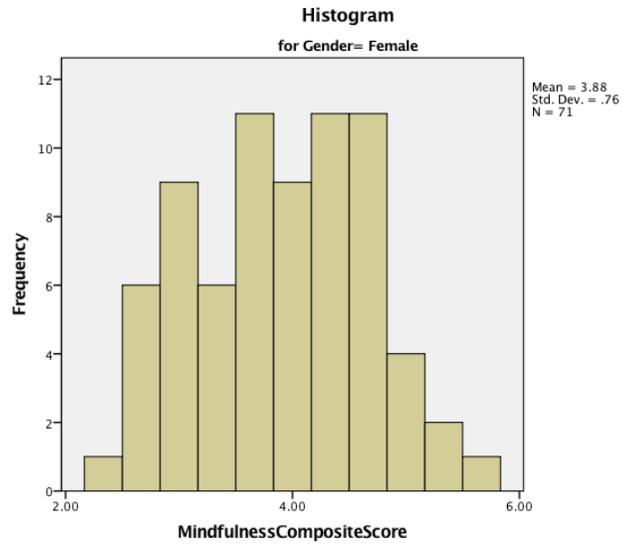
Appendix 7b: Descriptive Distributions for mindfulness scores employees of a global technology company.

Descriptives

		Statistic	Std. Error	
MindfulnessCompositeScore	Mean	3.8986	.07121	
	95% Confidence Interval for Mean	Lower Bound	3.7576	
		Upper Bound	4.0396	
	5% Trimmed Mean	3.8910		
	Median	3.9333		
	Variance	.603		
	Std. Deviation	.77682		
	Minimum	2.33		
	Maximum	5.93		
	Range	3.60		
	Interquartile Range	1.27		
	Skewness	.043	.222	
	Kurtosis	-.626	.440	

Appendix 7c:

Histograms of the distribution of employee mindfulness scores for females and males



**Appendix 7d:
Descriptive statistics – Mindfulness Scores of Females and Males**

		Gender	Statistic	Std. Error	
MindfulnessCompositeScore	Female	Mean	3.8826	.09018	
		95% Confidence Interval for Mean	Lower Bound	3.7028	
			Upper Bound	4.0625	
		5% Trimmed Mean	3.8792		
		Median	3.8667		
		Variance	.577		
		Std. Deviation	.75991		
		Minimum	2.33		
		Maximum	5.60		
		Range	3.27		
		Interquartile Range	1.27		
		Skewness	-.032	.285	
		Kurtosis	-.779	.563	
		Male	Mean	3.9234	.11924
	95% Confidence Interval for Mean		Lower Bound	3.6834	
			Upper Bound	4.1634	
	5% Trimmed Mean		3.9113		
	Median		3.9333		
	Variance		.668		
	Std. Deviation		.81744		
	Minimum		2.47		
	Maximum		5.93		
	Range		3.47		
	Interquartile Range	1.33			
Skewness	.123	.347			
Kurtosis	-.477	.681			

a. MindfulnessCompositeScore is constant when Gender = Gender Variant / Non-Conforming. It has been omitted.

Appendix 7e:

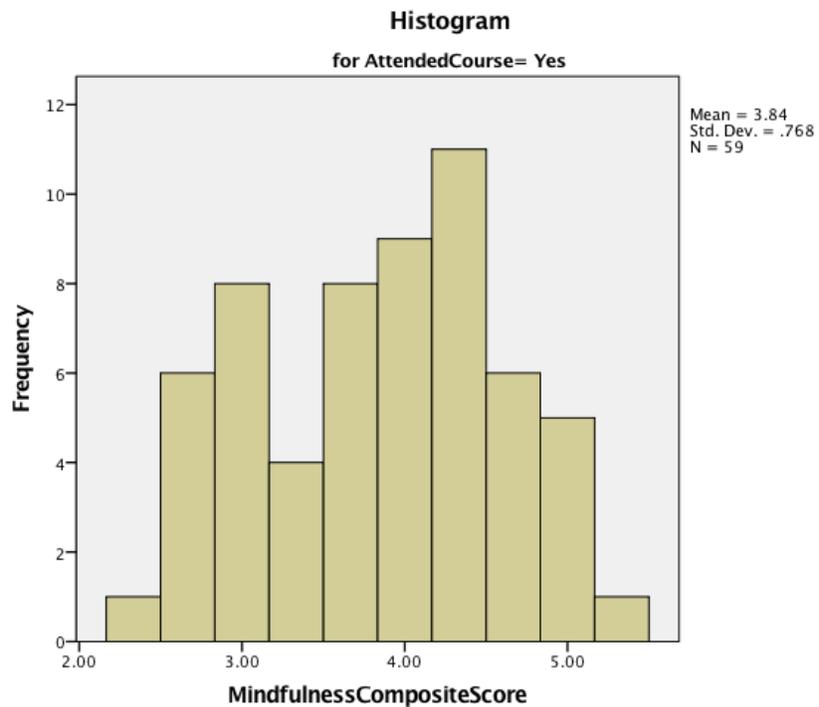
Descriptive statistics: Mindfulness average by Region

	Region		Statistic	Std. Error	
MindfulnessCompositeScore	EMEA	Mean	3.8286	.10566	
		95% Confidence Interval for Mean	Lower Bound	3.6161	
			Upper Bound	4.0410	
		5% Trimmed Mean	3.8271		
		Median	3.8667		
		Variance	.547		
		Std. Deviation	.73962		
		Minimum	2.33		
		Maximum	5.60		
		Range	3.27		
		Interquartile Range	1.17		
		Skewness	.059	.340	
		Kurtosis	-.418	.668	
		APAC	Mean	4.1867	.35615
	95% Confidence Interval for Mean		Lower Bound	3.1978	
			Upper Bound	5.1755	
	5% Trimmed Mean		4.2185		
	Median		4.2667		
	Variance		.634		
	Std. Deviation		.79638		
Minimum	2.87				
Maximum	4.93				
Range	2.07				
Interquartile Range	1.27				
Skewness	-1.462		.913		
Kurtosis	2.566		2.000		
AMERICAS	Mean		3.9292	.10012	
	95% Confidence Interval for Mean	Lower Bound	3.7292		
		Upper Bound	4.1292		
	5% Trimmed Mean	3.9182			
	Median	3.9333			
	Variance	.652			
	Std. Deviation	.80716			
	Minimum	2.53			
	Maximum	5.93			

Range	3.40	
Interquartile Range	1.33	
Skewness	.074	.297
Kurtosis	-.669	.586

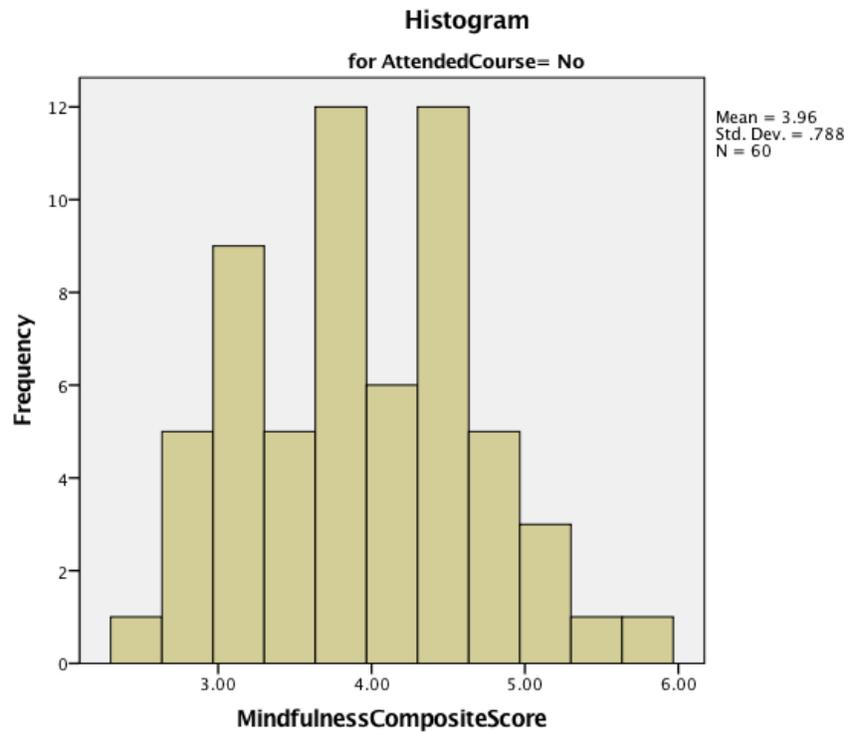
Appendix 7f:

Histograms of the distribution of the employee mindfulness scores for those employees who had responded 'yes' to having previously attended a mindfulness course.



Appendix 7g:

Histograms of the distribution of the employee mindfulness scores for those employees who had responded 'no' to having previously attended a mindfulness course.



Appendix 7h:

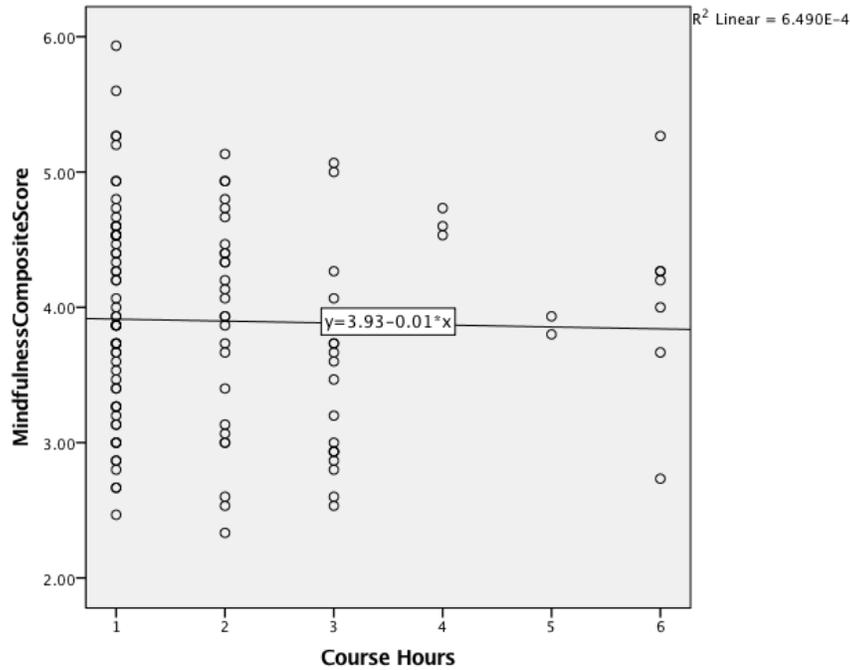
Descriptive statistics – Mindfulness Scores of employees who had previously attended a mindfulness course and those who had not

Descriptives					
Attended Course Y/N			Statistic	Std. Error	
MindfulnessCompositeScore	Yes	Mean	3.8384	.09993	
		95% Confidence Interval for Mean	Lower Bound	3.6384	
			Upper Bound	4.0384	
		5% Trimmed Mean	3.8414		
		Median	3.9333		
		Variance	.589		
		Std. Deviation	.76756		
		Minimum	2.33		
		Maximum	5.27		
		Range	2.93		
		Interquartile Range	1.27		
		Skewness	-.149	.311	
		Kurtosis	-.908	.613	
		No	Mean	3.9578	.10170
	95% Confidence Interval for Mean		Lower Bound	3.7543	
			Upper Bound	4.1613	
	5% Trimmed Mean		3.9420		
	Median		3.9000		
	Variance		.621		
	Std. Deviation		.78776		
	Minimum		2.47		
	Maximum		5.93		
	Range		3.47		
Interquartile Range	1.23				
Skewness	.208	.309			
Kurtosis	-.457	.608			

Appendix 7i:

Mindfulness course hours impact on the MAAS result – Pearson Correlation

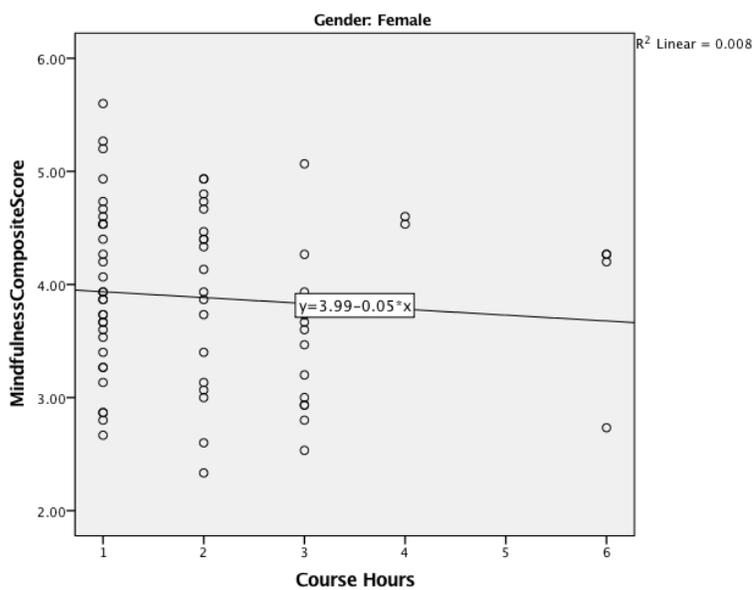
Scatter plot



Appendix 7j:

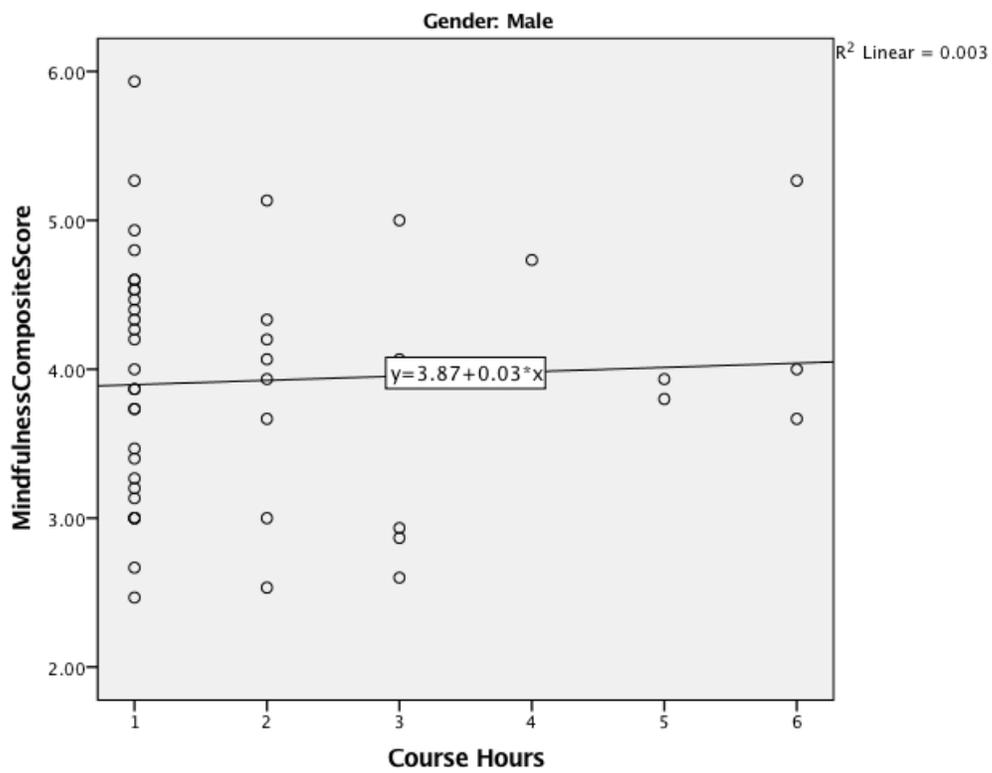
Mindfulness course hours impact on the MAAS result – Pearson Correlation

Scatter plot (Females)



Appendix 7k:

Mindfulness course hours impact on the MAAS result – Pearson Correlation Scatter plot (Females)



**Submission of Thesis to Norma Smurfit Library,
National College of Ireland**

Student Name: Edel Murphy **Student Number:** 15021998

School: Business

Degree to be awarded: Master of Business Administration

Title of Thesis:

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