'It's (not) all in the mind': PhD students' experiences, well-being, and mindfulness

by

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A thesis submitted in fulfilment of the requirements for the degree of
Doctor of Philosophy

College of Arts
Victoria University
Melbourne, Australia
2015

Acknowledgements

I would not have been able to complete this thesis without the ongoing support and guidance of many people. First, I would like to thank my supervisors, Professor Adrian Fisher and Dr Liz Short, for their invaluable support. I am deeply grateful for their encouragement, feedback, and ongoing patience as I grappled with this large and complex task—one I often thought would never be finished. I am amazed by your minds, knowledge, and kindness, and am privileged to have learnt from you both.

I am also indebted to the PhD students who took part in the study. It was because of their generosity and candour that this study was made possible. Sometimes the interviews we shared took several hours, and for those who participated in the intervention, the interviews were conducted on multiple occasions. Their willingness to make time to discuss their experiences, both good and bad, is testament to the courage and openness of the PhD students at Victoria University.

My deepest thanks also goes to my friends and colleagues: Jess Ford, Simone Eichler, Gavin Batchelor, Libby Cimino, Michelle Morris, Linda Faye, Jimmy Burton, Karen Mauri, Lutfiye Ali, Kate Hunter, Laura Stanley, Hugh Mason, Emma Tordsson, Franki Crljen, Sarah Kenny, Catherine Sikand, and Monika Pietrowski, who often asked about how the research and I were going and injected so much fun and friendship into this long journey. I'd also like to thank many of the staff at the university, especially Grace Schirripa and Nicole Drage, for always being helpful in supporting my efforts to recruit students for this study, and Mark Armstrong-Roper for helping me to locate and get copies of difficult to find books and journals. There were also several inspiring and brilliant academics who held trainings and deserve a great deal of respect and thanks such as James Sillitoe, Delwyn Goodrick, Ron Adams, and Darko Hajzler, you all helped clarify what was involved and needed to complete a thesis. I am also grateful to Victoria University itself for providing me with the opportunity and resources to undertake the study and journey of a lifetime. Financial support through a scholarship and part-time work through tutoring classes, and the resources of a desk (surrounded by wonderful students) and printing facilities meant that I didn't need to face many of the challenges that can be a part of PhD work.

Finally, I would like to offer my deepest, heartfelt, and most sincere thanks to my family. My parents Maria and John, my brothers Paul and Gregory, and all those who are my family in-law (Laird, Patti, Lori, and Raymond), you all offered more encouragement and support over these long years than I thought could be possible. The meals and scotch we shared, and the advice and guidance you always provided, have made me feel incredibly blessed and lucky, and always helped me to keep moving forward. Lastly, I would like to thank my brilliant and incredible wife, Emily. Completing this PhD has been the greatest challenge of my life, and I know it's been a big challenge for both of us. But you never suggested I give up, and you never failed to support and be there for me at any stage of this degree. Thank you. I'll spend my life repaying you.

I am also very, very grateful to never have to answer the question again, "so, how's the PhD going?"

Declaration

"I, Robert Kaczan, declare that the PhD thesis *entitled 'It's (not) all in the mind': PhD students' experiences, well-being and mindfulness,* is no more than 100,000 words in length including quotes and exclusive of tables, figures, appendices, bibliography, references and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work".

Signature   Date

Table of Contents

List of Figures

List of Tables

Abstract

Although undertaking a PhD provides great opportunities for intellectual challenges and benefits, students also experience high levels of stress and attrition within the degree. It is therefore important to better understand the needs of students and how to support them in order to improve their experience, increase well-being, and support better academic outcomes. This research conducted two studies: the first explores what supports and hinders the well-being and academic functioning of PhD students at one Victorian university; and the second—because stress is a large feature of PhD students' lives—examines the potential of a brief mindfulness-based intervention (brief MBI) to provide benefits to students. This intervention is a modified and substantially shorter version of the mindfulness-based stress reduction (MBSR) program which was shortened from 8 weeks (27 hours) to 4 weeks (6 hours). This research used constructivist grounded theory as the strategy of inquiry and in-depth semi-structured interviews to achieve the aim of exploring subjective experiences, with participants interviewed at both one and four months post-intervention. Overall, Study 1 found that the needs of PhD students are best understood through an ecological perspective, that is, that the areas important to their well-being and academic functioning fall within and across individual, interpersonal, institutional, and structural, material, and social levels. Included in these areas are the needs for personal and academic growth, personal and academic competence, rest and rejuvenation, social and intellectual integration, and material and cohort specific supports. Further, achieving a balance across these areas of well-being and academic functioning represents an ideal student experience which promotes higher levels of satisfaction. Study 2 found that the brief MBI provided some benefits to these students including stress reduction, increased positive affect, and improved academic

functioning at the one month interview. However, at four months, many of these benefits were not sustained and only a few participants continued to practise techniques from the program. A brief MBI, therefore, has some value in supporting students but requires further modifications to sustain benefits and be of greater help to this population.

Chapter 1

Introduction and Overview

1.1 Background

In discussing the task of undertaking a PhD, many authors refer to the process as a *journey*, a term which captures both the vicissitudes and substantial length which often characterises the degree (Appel & Dahlgren, 2003; McAlpine & Amundsen, 2009). This journey represents a significant path of personal and professional development whilst focusing on what may become the single largest piece of research in students' lives. For some, the experience of completing this degree is a "challenging but enriching journey" (Keyes, Myers, & Kendler, 2013, p. 60) which offers unparalleled freedom of inquiry, a sense of community, and strong support (Devenish et al., 2009); it is a time to be 'stretched' intellectually and develop an academic identity through engagement with a research culture at both local and international levels.

In addition to these rewarding aspect of the degree, however, a substantial body of literature also suggests that the PhD experience for many students is characterised by stress (Juniper, Walsh, Richardson, & Morley, 2012; Offstein, Larson, McNeil, & Mwale, 2004) and frequent experiences of isolation and lack of support (Conrad, 2006; Curtin, Stewart, & Ostrove, 2013). Experiencing a low level of satisfaction with the research climate in one's faculty has also been reported as common in the UK (Hodsdon & Buckley, 2011) and particularly in the Arts and Humanities within Australia (Ainley, 2001; Carroll, 2013). Such negative experiences can have far reaching effects beyond people's perception of their current situation,

impacting, for instance, students' inclination to complete their PhD or to continue with careers in academia (Harman, 2002; Lovitts, 2001).

Rates of attrition both in Australia and internationally reveal that only 40-60% of those who begin the journey actually complete (Council of Graduate Schools, 2008a; Elgar, 2003; Martin, Maclachlan, & Karmel, 2001; Wright & Cochrane, 2000). These high attrition rates have been found to have significant consequences including deep feelings of failure for students, lost contributions to society and knowledge, and significant financial costs — to students themselves, institutions, industry, and Government (Gardner, 2009b; Herman, 2011; Lovitts, 2001; Smallwood, 2004). In all, a substantial literature illustrates that the task of undertaking a PhD as one of great difficulty for many students and has led to calls for research in both understanding (e.g., Golde, 2000; McAlpine & Norton, 2006) and supporting this cohort (e.g., Kearns, Gardiner & Marshall, 2008).

To date, the greatest amount of research conducted in relation to PhD students has focused on factors connected to the supervisory relationship and PhD student progress and attrition. Methods for investigating the PhD student experience in Australia and the UK on a larger scale have been achieved by the large scale distribution of the Postgraduate Research Experience Questionnaire (PREQ) which provides insight into several important areas (supervision, intellectual climate, skill development, infrastructure, thesis examination, goals and expectations, overall satisfaction). However, apart from the notable work of researchers such as Juniper and colleagues (2012), scant research has directly sought to understand the subjective areas students themselves identify as being important to their well-being and academic functioning, areas which are fundamental to outcome and satisfaction in one's degree. Well-being will be discussed in section 1.3 as there are many

conceptualisations, however, the term academic functioning is used broadly in this research to capture any experience of students which relates to their academic work and progress. For instance, academic functioning includes work practices, student motivation and persistence during the PhD; productivity in terms of achieving work tasks (outcome goals) and expending time and effort to engage in these tasks (process goals); and progress in the PhD as gauged by students themselves as well as through elapsed time.

Addressing this gap in research requires an approach which gives consideration to the complex and relational areas of students' lives, including contextual factors which influence both well-being and academic functioning, from the perspectives of students themselves. Such an approach is important as the extant literature highlights that an incredibly diverse range of factors are implicated in these areas, from social bonds with peers and department to the challenge of balancing important areas in one's life outside of the PhD. Therefore, a qualitative analysis of PhD students' experiences, which is underpinned by principles of ecological theory (Prilleltensky & Prilleltensky, 2006), will be used to gain insights of sufficient depth and breadth in this area, namely, that complex factors from a range of levels (individual; interpersonal; institutional; social, structural, and material) are interrelated in impacting and shaping a person's experience (ecological theory is described in section 1.4).

Efforts to support students have similarly been aimed at different levels of the student experience. Some, for example, espouse more socially oriented interventions such as providing students with a community of practice and improving experiences of integration and socialization (Gardner, 2008; Wisker, Robinson, & Shacham, 2007). At the individual level, researchers have also evaluated the provision of

training in a range of skills such as time-management, effective writing habits, or how to overcome procrastination and self-sabotaging behaviours (Kearns, Gardiner, & Marshall, 2008; Maher, Fallucca, & Halasz, 2013), and it is at this level which the current study also aims to contribute in supporting PhD students.

The following sections will continue to give background on important areas within this thesis. First, an overview of what the Doctor of Philosophy degree is and how it operates within Australia will be described before an overview of well-being and ecological perspectives is presented. A specific intervention which was adapted for use in this research, mindfulness-based stress reduction, is given attention next. Lastly, the aims and structure of the thesis conclude this chapter.

1.2 The Doctor of Philosophy degree

In Australia, two broad categories of doctoral degrees are offered, the PhD and the professional doctorate. Although both types entail research, PhD degrees must have research comprising two thirds or more of the program of study while professional doctorates place greater emphasis on professional practice and often include professional training and placements (Australian Qualifications Framework Council, 2013). In this way, the professional doctorate often requires that entrants have professional experience in the field that they wish to study, or a willingness to gain this experience during the Doctorate. In addition to research scope, there are also differences in the required research focus of the two degrees, for example

> *The research Doctoral Degree (typically referred to as a Doctor of Philosophy) makes a significant and original contribution to knowledge; the professional Doctoral Degree (typically titled Doctor of [field of study]) makes a significant and original contribution to knowledge in the context of professional practice (Australian Qualifications Framework Council, 2013)*

As the above quote indicates, the fact that a PhD can make an original and significant contribution to knowledge in most fields, not only those where some form of professional practice is possible, means the PhD is a more widely available degree. Students undertaking PhDs account for the vast majority of enrolments in doctoral degrees in Australia (97.5%) while professional doctorates represent a small but also growing trend in higher education (Evans, Evans, & Marsh, 2008; Kot & Hendel, 2012). Given the large number of PhD students and the difficulties they face, it is the experiences of these students in particular which this research aims to understand and support through a mindfulness intervention, and so will be the focus of the remainder of this thesis.

In terms of the history of the PhD in Australia, it is a relatively recent offering. For instance, the first PhD in Australia was awarded to Joyce Stone in 1948 at the University of Melbourne while PhD degrees — in the form we now recognise it — were first conferred at Yale University (USA) in1860, the University of Toronto (Canada) in 1897, and Oxford (UK) in 1917 (Elgar, 2003; Pearson, 2005). In terms of structural features, the entry requirements for a PhD in Australia are a masters degree or a four-year bachelor's degree with first-class or upper second-class honours, reflecting a grade point average of 3.3 to 3.5 (Evans, 2007). The degree is designed to be completed within 3 to 4 years of full-time study although it can often take several more years, particularly depending on the field of study – length of the degree and the factors which have been found to influence this are detailed in Chapter 3. Most institutions also include training or curriculum which could be termed coursework, however, again, this cannot exceed 33.3% of the of the overall doctoral workload (Evans et al., 2008). This contrasts to the North American model of doctoral education where PhD students must first complete course work and then qualifying

examinations before being admitted into candidacy to begin their independent research (U.S Department of Education, 2008). In Australia, students must complete, instead, a formal confirmation of their candidature approximately 12 months into their studies through submission of written work and an oral presentation to an academic panel to achieve approval for their planned studies. To complete the PhD, students' research must culminate in a thesis (termed dissertation in the USA) of 60,000 to 100,000 words (Evans et al., 2008).

Despite a large research component being common across PhD models internationally, differences exist between countries in how PhD students receive ongoing support from more experienced faculty members and how this relates to their final examinations. In Australia and the UK, for example, PhD students are paired with a supervisor or – as is increasingly common in Australia – a principal and associate supervisor, who help students in the development and execution of their research and provide support throughout their program (Manathunga, 2012). Towards the end of the degree, the supervisor/s select at least two external examiners to evaluate the student's written work (Evans, 2007).

In the United States, the principal supervisor is more commonly called an advisor and in addition to supporting students academically and personally will often either chair and/or assemble the doctoral examination committee in front of whom the students will defend their thesis orally (U.S Department of Education, 2008). In addition to an advisor, students within the North American model are also frequently supported by a dissertation or thesis committee who work in the same field as the student, and who may also make up part of the final examination panel (Lovitts, 2001). In contrast, supervisors in the UK will help assemble an examination panel and be present during the oral defence – often called the viva – of their students' theses,

however, their role is more of an observer (Remenyi & Money, 2012). Unlike the United Kingdom and United States, Australian students are very rarely required to defend their theses orally.

In terms of structure, the Australian PhD shares more in common with the British model where greater emphasis is placed on the research thesis, and although coursework sometimes features as part of the program, it does not generally constitute a formal part of the degree as is often the case in the United States (Group of Eight, 2013; Park, 2007). The common thread through PhD courses internationally is the requirement of completing original research culminating in a thesis which is achieved over a minimum of three years (Nerad & Trzyna, 2008) during which time students develop many skills and attributes. For instance, students have been found to develop practical and technical knowledge of the research process; research skills and personal resourcefulness; deep theoretical perspectives and knowledge, critical thinking, creativity, and flexibility (Mowbray & Halse, 2010). However, although this degree is incredibly rewarding for students (see section 3.2.1 for further benefits), there are also commonalities in the difficulties and challenges many students face.

Two major challenges students commonly encounter internationally during a PhD are completing the degree and managing their well-being. In terms of completion, as mentioned, several studies indicate that only 40-60% of students who begin a PhD actually complete (Bourke, Holbrook, Lovat, & Farley, 2004; Council of Graduate Schools, 2008b; Elgar, 2003; Martin et al., 2001; Wright & Cochrane, 2000). This attrition rate is associated with the field or disciplines of study (Sinclair, 2005), low levels of social and academic integration — in the American model, this is more common during the dissertation phase (Ali & Kohun, 2006; Nerad, 2007), and low satisfaction with supervision amongst other factors (the literature on this area is

described in Chapter 3) (Ferrer de Valero, 1996; Lamm, 2004b). Further, the challenges inherent in the task itself, the time required to complete it, and the sacrifices students must make during the degree means that the experience of stress and reduced well-being can also be common (Juniper et al., 2012; Offstein et al., 2004). It is for these reasons that the current research aims to develop further understanding of what supports and hinders the well-being and academic functioning of PhD students, and how a modified version of a psychologically oriented intervention called mindfulness-based stress reduction might be of help. Although this program and the skill it teaches, mindfulness, does not aim to support students at all levels of the PhD experience (e.g., institutional or structural levels), it may hold promise in helping students to manage the difficulties of the PhD.

1.3 Well-being

Well-being is conceptualised in this research as a combination of positive evaluations of important life domains (e.g., relationships, health, PhD work), greater levels of pleasure and positive affect in one's life (e.g., relaxation, happiness, enjoyment), and the sense of functioning psychologically and socially well (e.g., feeling competent, connected, purposeful) (Keyes, Fredrickson, & Nansook, 2011). This research uses a broad conceptualisation of well-being which integrates several lines of well-being theory — namely, evaluations, affect, and functioning — as a framework with which to understand and investigate the many possible factors or areas of PhD student well-being (Keyes, 2005). Therefore, the constellations of factors which constitute various models of well-being (e.g., self-acceptance, positive relationships, growth etc.) will be used as sensitizing concepts to support analysis but

not as predetermined categories with which to interpret the data of this research (Charmaz, 2014).

The construct of well-being is a central focus of this research because of its importance in the PhD student experience itself and for its relationship with a range of academic and social outcomes. First, it is important that students feel a degree of enjoyment, satisfaction, and positive functioning during their degree as this state of being in and of itself contributes to a positive and well-lived life and is associated with higher levels of mental and physical health (Diener, 2013; Diener & Chan, 2011; Keyes, 2005). Further, aspects of well-being have been found to be related to higher levels of persistence (Stubb, Pyhältö, & Lonka, 2011) and, when lacking, to influence decisions to leave the PhD (Bair & Haworth, 2004; Gardner, 2009a; Lovitts, 2001). Finally, in terms of the social implications, there is some research to suggest that the likelihood of students continuing to pursue academic careers decreases if students experience low levels of satisfaction during their studies (Harman, 2002).

As mentioned, in Chapter 2 I will introduce the conceptualizations of well-being as well as the small amount of research which has directly focused on the well-being of PhD students. Chapter 3 takes a broader focus and reviews studies on the PhD student experience and progress (the most studied aspect of academic functioning) and therefore illustrates aspects of student's well-being through this more indirect research. Well-being will also be attempted to be understood not only in terms of intrapsychic factors (e.g., self-acceptance, growth, meaning) but also through constructs which reflect the wider social and material bases of well-being. In this way, this thesis will utilize an ecological perspective to both organise and shed light on the information in this research, described in more detail below.

1.4 Ecological perspectives

When attempting to understand a particular aspect of a person's experience, a promising avenue is that which includes an analysis or appreciation of multiple levels, contexts, or sites, that is, an ecological perspective. Originally formulated by Urie Bronfenbrenner (1981), a developmental psychologist, the ecological approach was applied to understand human development as a process where a person is in interaction with and is shaped by, as well as shapes, his or her context. For example, commenting on the limitations of not taking a contextual view of human experience and development, Bronfenbrenner (1981) stated that:

> *A theoretical conception of the environment extending beyond the behaviour of individuals to encompass functional systems both with and between settings, systems that can also be modified and expanded, contrasts sharply with prevailing research models. These established models typically employ a scientific lens that restricts, darkens, and even blinds the researcher's vision of environmental obstacles and opportunities and of the remarkable potential of human beings to respond constructively to an ecologically compatible milieu once it is made available. As a result, human capacities and strengths tend to be underestimated. (p. 7)*

In this way, an ecological approach makes explicit those areas which can impact and interact with individuals to affect their development and experiences, a perspective very relevant to the study of PhD students. In his analysis of human development Bronfenbrenner originally demarcated four levels he considered important for both understanding and as areas for intervention in supporting human development. These levels included the microsystem (a person's immediate environment, for example, family, friends, school); the mesosystem (interrelations between two or more microsystems where a person is actively involved, for instance, between one's family, employment, and social relationships); the exosystem (those settings and events that still impact an individual despite not being an active participant in them such as the decisions of the school board which might affect a

child's learning environment); and the macrosystem (those similarities between the micro-, meso-, and exo- systems that are attributable to a subculture, culture, belief system, or ideology, which may pervade all sub-systems). As Bronfenbrenner illustrated, a macrosystem is evident where any one crèche, playground, or post office in France can appear and function in very similar ways, although when compared to those in other countries, such as the United States, can appear quite distinct and different. An underlying "blueprint" appears to be present in each country which influences the appearance and function of these places (Bronfenbrenner, 1981, p. 26). In later work Bronfenbrenner also added a fifth system, the chronosystem, to highlight changes over time in environmental factors, life transitions, and human development (e.g., Bronfenbrenner, 1986). It is important to note that this framework has been adapted across multiple areas to provide more comprehensive perspectives on phenomena (e.g., Banyard, 2011; Costello, Donnellan, & Curley, 2013; Stolzer, 2005)

The influences of this perspective are evident in Bronfenbrenner's work ranging from the study of how the context of upbringing (family versus collective) across cultures (Israeli and Soviet children) impacts pre-adolescents (Shouval, Venaki, Bronfenbrenner, Devereux, & Kiely, 1975), through to the theoretical framework used to organise and engage a diverse and "dispersed" literature (Bronfenbrenner, 1986). For example, in reviewing literature on the external influences of childhood development, Bronfenbrenner (1986) employed his categories of mesosystem, exosystem, and chronosystem, to unite several strands of developmental research, strands which arguably lacked such connection previously.

A further important example of applying the ecological perspective comes from the work of Isaac Prilleltensky and colleagues in the area of well-being (e.g., Prilleltensky & Nelson, 2002; Prilleltensky & Prilleltensky, 2006). Specifically,

Prilleltensky and Prilleltensky (2006, p. 33) argue that "a contextual approach to well-being must account for the role of temporal and ecological variables". Indeed, definitions of well-being which are overly individualistic fail to recognise the material, organisational, political, and social factors, amongst others, which both act to support and hinder personal and collective well-being. Prilleltensky and Prilleltensky (2006, p. 12) argue that there are three primary levels or "sites" where well-being is situated: within "individual persons, organisations, and communities or collectives", and that a failure to secure well-being at any of these levels will affect all others.

This perspective, developed by Bronfenbrenner and then extended by Prilleltensky to the area of well-being is highly relevant to the study of PhD students and the factors which affect their experience and well-being. Gardner (2012), for instance, similarly argued that doctoral students' satisfaction stems from the interplay between personal and a wide range of environmental factors — factors which will be reviewed and discussed in Chapters 2 and 3 — and that a contextual perspective should guide research and interventions for this cohort. The importance of taking a contextual or ecological perspective of the PhD student experience is highlighted here to preface both the analytical approach taken towards the subject matter of this thesis and also as a means to organise the information contained within. Specifically, information within this thesis is organised within: personal; interpersonal; institutional; and social, structural and material levels. In keeping with constructivist grounded theory, rather than attempting to strictly interpret or organise information through pre-established categories (Charmaz, 2014), these levels were constructed through the ongoing analysis of the findings in this research, with ecological theory

and frameworks used as a conceptual resource and 'sensitising concept' (Charmaz, 2014).

1.5 Mindfulness and mindfulness-based stress reduction

In addition to generating knowledge about the experiences of PhD students in terms of their well-being and academic functioning, this research investigates PhD students' experiences and the potential benefits to them (in the areas of well-being and academic functioning) of an adapted version of mindfulness-based stress reduction (MBSR)—the name brief mindfulness-based intervention (brief MBI) is used to distinguish between the original MBSR program and the modified format used in this research. MBSR, initially developed by Jon Kabat-Zinn at the Massachusetts Medical Centre in 1979 is a psychoeducational program originally designed to support medical patients for whom available treatments had little more to offer in the way of pain management, health enhancement or stress reduction (Kabat-Zinn, 2011).

The main skill taught in MBSR, mindfulness, involves a person regulating his or her attention and attitudes to allow greater present moment awareness and has been found to provide a range of positive outcomes including stress reduction, increased ability to focus on tasks, and increases in positive affect (Chiesa, Anselmi, & Serretti, 2014; Keng, Smoski, & Robins, 2011; Shapiro, Oman, Thoresen, Plante, & Flinders, 2008; Weinstein, Brown, & Ryan, 2009). Mindfulness is practiced formally using meditative techniques such as focusing on the breath or body, or informally through bringing full attention to everyday experiences (Kabat-Zinn, 1990). For instance, while practicing mindfulness formally an individual would observe the movement of air at the nostrils or the expansion/ deflation of the belly, and when distracted by thoughts or fantasies, would return their attention to the sensation of breathing.

Practicing informally might involve bringing complete attention to the preparation and eating of a meal or washing of dishes.

The original format of MBSR consists of an eight week course, with each weekly session lasting 2.5 hours, and a one day retreat (27 hours total) — a detailed description of the original format is provided in Appendix C. In addition, participants are required to practice formal techniques for 45 minutes a day, six days a week, all of which would represent a large commitment from many time poor PhD students. To address this, the adapted version used in this study, brief MBI, was held over four weeks and involved six contact hours in total — section 5.3.4 (p. 124) describes how MBSR was shortened for this context. Given the high rates of stress and difficult emotions PhD students reportedly experience (Juniper et al., 2012; Walsh, 2009), it was proposed that a brief MBI may be more manageable for students to attend. PhD students have not been the exclusive focus in MBSR research to date, and so this intervention represents a novel avenue for their support.

In Chapter 2 a detailed description of mindfulness, the MBSR program, and the mechanisms of action which are proposed to explain outcomes will also be described. To justify trialling a brief MBI with PhD students, information about the ways in which MBSR has been adapted and used with different groups (including students), its efficacy and outcomes is presented in Chapter 4.

1.6 Aims of the study

The aims of the research were to:

- Investigate and develop knowledge about the subjective experiences of PhD students in regards to what they have found to be supportive or a hindrance to their well-being and academic functioning during their PhD.

- Administer and investigate the impacts of a brief Mindfulness-Based Intervention (brief MBI) program on PhD students' well-being and academic functioning.

- Investigate which parts of the brief MBI students found helpful and beneficial, allowing further revision to the format to increase satisfaction and effectiveness for future groups.

- Develop recommendations and contribute knowledge that might be useful for future research and program developments aimed at assisting PhD students to experience higher levels of well-being, academic functioning, and potentially higher completion rates.

1.7 Structure and overview of the thesis

Chapter 2 of this dissertation begins by providing a review of key concepts, aspects and foci within this research: well-being, mindfulness, and mindfulness-based stress reduction. Chapter 3 explores the many areas which are important to PhD students' well-being and academic functioning. Chapter 4 presents a detailed survey of current interventions used to support PhD students before describing the evidence for why an adapted version of Mindfulness-Based Stress Reduction might also be helpful. Chapter 5 describes the qualitative method and design used within the current research to provide understanding of PhD students' subjective experiences and the impacts of a brief MBI. Chapters 6, 7, and 8 present the results of this study. Chapter 6 presents findings which reveal what students have found to be positive and

supportive during their studies while Chapter 7 presents findings about what was experienced as negative or as a hindrance (to well-being and academic functioning). Chapter 8 presents findings regarding participation in a brief MBI and its' impacts on the student experience. The final chapter provides a summary of results, highlights the strengths and limitations of the research, makes recommendations and suggests areas for future study.

Chapter 2

Key Conceptual Factors Introduction

  This chapter will review the theory and research of two key areas of interest in this research, well-being and mindfulness-based stress reduction (MBSR), to preface the broader research review on the PhD student experience and methods of supporting this group. A description of what well-being is and models which attempt to capture its most essential elements are presented first. These models have relevance for PhD students as their various aspects can be seen to reflect the motivations, difficulties, and rewards which students reportedly experience during their degree (see Chapter 3). Before a description of MBSR is given, the main skill taught within the program, mindfulness, is defined and discussed. No consensus has been reached on the precise definition of mindfulness, however, because it is the MBSR program which this research investigates it will be the conceptualization of this construct as described within the MBSR literature which will be given the most detail in the sections which follow.

2.1 Conceptualisations of well-being

The study of well-being involves investigations into the cognitions, emotions, functioning, and contexts connected to individuals who experience life in a positive manner (Diener, 2006). This section will review the literature on well-being and by doing so provide some of the sensitizing concepts (Charmaz, 2014, p. 30) that shaped the research and analysis. 'Sensitizing concepts' provide guidance to how empirical phenomena may be interpreted, as opposed to definitive concepts which provide a more prescriptive framework. In this way, various conceptualisations of well-being with relevance for PhD students and research which directly investigates their well-being are described below. Other areas, including indirect research on PhD student well-being, that is, research which illustrates aspects of students' well-being through focussing on other areas such as academic progress, will be organised across ecological levels in Chapter 3 to provide a wider perspective on students' experience.

Well-being can broadly be divided into two interrelated areas: objective well-being and subjective well-being (Diener, 2009). Objective well-being refers to those features of individuals or groups which are observable and measurable directly from an external perspective. For example, objective well-being can be assessed by characteristics such as income, longevity or health status (Keyes, 2006). Subjective well-being, in contrast, is a complex construct theorised to consist of multiple factors and dimensions and is deduced from the reports of individuals themselves (Keyes, 2006). Although broad and general definitions of subjective well-being share similarity in essence, there is no definitive consensus on the constellation of factors which constitute well-being.

Subjective well-being is most often understood as stemming from two types or forms of well-being: hedonic or eudaimonic (Ryan & Deci, 2001). Hedonic

definitions often point to a human experience which is characterised by evaluations of satisfaction in areas that are of importance to an individual and experiencing a high degree of pleasure, enjoyment, comfort, with fewer experiences of pain, discomfort, and negative affect (Diener & Ryan, 2009). Eudaimonic well-being, in contrast, refers to the "extent to which a person is fully functioning, living a life of meaning and self-realisation." (Crum & Salovey, 2013, p. 81), and involves living congruently with one's values (Ryan & Deci, 2001). As Huta (2013) states, these two types of well-being represent the long held distinction between a life of pleasure and a life of virtue, although there are degrees of overlap (Kashdan, Biswas-Diener, & King, 2008).

Different terms for well-being are used to further differentiate those models more closely aligned with the hedonic or eudaimonic traditions, that is, Subjective Well-being (SWB) and Psychological Well-being (PWB), respectively (Diener & Ryan, 2009; Ryff & Singer, 1996). In terms of SWB, the affective component is often measured using the Positive and Negative Affect Schedule (PANAS) however several authors also recommend using the Affect Valuation Index to capture emotions of lower arousal (Miao, Koo, & Oishi, 2013; Tsai, Knutson, & Fung, 2006). The factors comprising the cognitive component of SWB, satisfaction with life domains and life as a whole, vary depending on the individuals studied and areas of focus[1]. Those areas of satisfaction which have bearing on PhD students and their studies are explored through the various ecological levels of Chapter 3. Those models which capture

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[1] The Personal Well-being Index-Adult developed by the International Well-being Group (2013), for example, was designed for wide distribution and enquires into the satisfaction of seven domains: standard of living, personal health, achieving in life, personal relationships, personal safety, community connectedness, and future security. Perhaps the most commonly used measure is the Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985) which asks individuals to evaluate how ideal their life seems, its conditions, how satisfied they are overall, the degree to which important "things" have been attained in life, and, given the chance, how much one would change their life if they could live again.

important aspects of human functioning, Psychological Well-being, are presented next.

2.1.1   Ryff and Keyes' model of well-being

Models of psychological well-being, from the eudaimonic tradition, attempt to capture those fundamental factors necessary for mental health and optimal functioning with aspects connected to behaviours (e.g., engagement, acceptance, development) as well as experiences flowing from such behaviours (e.g., fulfilment, awe, elevation) (Huta, 2013). Huppert and So (2013) found that one of the earliest attempts to identify factors in this regard came from Jahoda (1958) who developed a six factor model, including: self-actualization, integration, autonomy, perception of reality, attitudes towards oneself, and environmental mastery. Building upon this work, Ryff (1989) sought to apply a similar perspective to the well-being of the elderly by also synthesising theories from a range of areas (clinical theories of personal growth, developmental theories, and mental health perspectives). Her model, which continues to be heavily influential, consists of: "self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth" (p. 35). These six factors have gained empirical support for their role in mental health (Ryff & Keyes, 1995) and been used to underpin therapeutic approaches to support treatment and recovery across a range of disorders (Fava, Rafanelli, Cazzaro, Conti, & Grandi, 1998; Fava, Rafanelli, Tomba, Guidi, & Grandi, 2011; Fava & Ruini, 2013; Fava, Ruini, & Rafanelli, 2005).

Corey Keyes added to the work of Ryff by extending well-being to include areas of social importance to individuals at the level of groups, institutions and communities, reflecting a greater ecological perspective (Keyes, 1998, 2013). These areas of social well-being are made up of "the appraisal of one's circumstance and functioning in society" (Keyes, 1998, p. 122) and include: social integration, social acceptance, social contribution, social actualization, and social coherence. In addition to psychological functioning in the personal and social domains (eudaimonic well-being), Keyes also includes dimensions of emotional (hedonic) well-being in his overall model, making an important integration between the different streams of research. This model, summarised in Table 1, has been validated in terms of its three major dimensions (emotional, psychological, social) as distinct but correlated predictors of mental health and well-being (Keyes, 2005) with measures derived from this conceptualisation similarly being confirmed across cohorts of adults (Gallagher, 2009), adolescents (Keyes, 2009), and college students (Robitschek & Keyes, 2009). As such, this model of well-being provides a powerful framework to aid in the understanding of PhD student experiences, their well-being, and how this may relate to their academic functioning.

Table 1. Keye's model of well-being

Hedonic Factors	Eudaimonic Factors	Social Well-being Factors
Positive affect: cheerful, in good spirits, calm and peaceful, satisfied, full of life	**Self-acceptance:** holds positive attitudes towards oneself and past life and concedes and accepts varied aspects of self	**Social coherence:** interested in society or social life and feels that society and culture are intelligible, somewhat logical, predicable, and meaningful

Avowed personal quality of life: happiness or life-satisfaction	Positive relations with others: has warm, satisfying relationships	Social contribution: feels that one's life is useful to society and output of ones activities is valued by or valuable to others
	Personal Growth: shows insight into own potential, sense of development, and open to new and challenging experiences	Social actualization: believes that people, social groups, and society have potential and can grow and evolve positively
	Purpose in life: holds goals and beliefs that affirm sense of direction in life and feels that life has a purpose and meaning	Social acceptance: has positive attitude towards others while acknowledging and accepting people's differences and complexities
	Autonomy: exhibits self-direction that is often guided by own, socially accepted and conventional internal standards, and resists unsavoury social pressures	Social integration: has a sense of belonging to a community and derives comfort and support from community
	Environmental Mastery: exhibits to manage complex environment and can choose or manage and mold environment to suit needs	

Source: Keyes et al. (2011, p. 101)

2.1.2   Seligman's model of well-being

Martin Seligman, another seminal researcher in the field of well-being,

proposed a model which overlaps with many of the factors described in Table 1

(Seligman, 2011). However, Seligman's model — which is comprised of: positive

emotions, engagement, relationships, meaning, and accomplishment (PERMA) — is

particularly helpful here because of the relevance of engagement and accomplishment

to PhD students. For example, engagement refers to finding 'flow' in activities, that

is, losing self-consciousness as one is absorbed and deeply engaged in a task that is challenging and requiring the application of a person's strengths and competencies (Csikszentmihalyi, 1991; Csikszentmihalyi & LeFevre, 1989; Seligman, 2011). The factor of accomplishment speaks to the importance of achieving goals that a person finds rewarding and fulfilling for their own sake, in other words, those that are intrinsically motivating. In terms of PhD students, it is clear that working on tasks with high levels of *engagement* would represent an ideal work state whilst also benefiting well-being. Through this engaged work the *accomplishment* of tasks would also be made more likely and more rewarding, particularly if they reflect intrinsic goals, which would further contribute to well-being.

2.1.3   Self-determination theory

The importance of intrinsic motivation and its connection to a person's well-being is described as important in each of the preceding models. For this reason, it is not surprising that self-determination theory (SDT), a theory of human motivation which emphasises the importance of intrinsic motivation, has such strong empirical support for its contribution to well-being (e.g., Church et al., 2013; Ryan & Deci, 2000, 2001; Ryan, Huta, & Deci, 2008). In SDT, three "universal psychological needs" are argued to be fundamental to well-being: autonomy, competence, and relatedness (Ryan & Deci, 2008b, p. 189).

Autonomy concerns the degree of personal volition and willingness an individual feels in regards to their behaviours, where high autonomy allows greater intrinsic motivation and resultant well-being (Ryan & Deci, 2008b). For example, a person may be forced to perform a task (low self-attribution of volition) or they may choose to perform a task because they want to, that is, it is meaningful or pleasurable

(high self-attribution of volition). Competence refers to a person's sense of efficacy in a given area and is connected to autonomy because where a person feels competent and high in autonomy, again, there is often an association with higher intrinsic motivation and well-being (Ryan & Deci, 2000). Lastly, relatedness refers to the need for humans to feel connected, cared about, and secure with others; and emphasises as well the role of the social environment in supporting or hindering one's autonomy and competence (Ryan & Deci, 2008a).

These psychological needs can be seen as important for PhD students in multiple ways. In the case of supervision, for example, autonomy can be influenced by the intellectual freedom given to students to explore and choose research directions; feelings of competence could be affected by the manner and methods in which feedback is provided; and the need for relatedness may be supported through the degree to which social integration is encouraged and supported. However, despite the relevance of SDT and the other general models of well-being to PhD students, the question must be asked: what do we know of PhD students' well-being?

2.2 The well-being of PhD students

Information regarding the well-being of PhD students can be gathered from either direct or indirect research in this area. The indirect approach, where aspects of well-being may be understood from research investigating other features of PhD students' lives, such as their experience, satisfaction, and progress, is explored in detail in Chapter 3. As noted by researchers in the field, the direct approach, where PhD student well-being itself was the focus of investigation, has unfortunately been given very little attention to date (Juniper et al., 2012; Stubb et al., 2011). That said,

there are clear themes which have emerged from the small amount of direct research conducted thus far.

These themes from direct research cluster around the needs for community and support, confidence and the development of a set of research skills and identity, feeling like one is progressing, maintaining psychological and physical health, and attempting to keep balance in valued areas of life. For example, a survey study by Stubb et al. (2011), which focused particularly on psychosocial well-being, found that more than half (56%) their sample of 669 PhD students in Finland reported feeling unsupported and disconnected from their research communities while the remainder found greater levels of connection and support. A sense of belonging, contribution, and worthiness, in this social context, were highly related to empowerment, persistence, academic engagement, and negatively related to stress, anxiety, and exhaustion — that is, aspects of well-being. Moreover, those students who experienced little sense of belonging, contribution, or worthiness were also found to have been significantly more likely to consider dropping out of the degree—however, prospective research is needed to assess whether these experiences, such as feelings of worthiness, change throughout the degree and influence risk of dropping out. At least one other direct study of students' well-being supports these findings in terms of the importance of feeling connected to and being supported by peers, as well as working in a non-competitive environment (Schmidt & Umans, 2014).

Psychosocial well-being could also be extended to include the supervisory relationship; however, unlike the literature on student satisfaction and progress — which is described in the following sections — supervision has not so far been given much emphasis in direct studies of well-being. That said, the development of researcher skills, confidence, and identity, which are influenced by both supervision

and social integration, are central to the findings of several studies here. For instance, the largest study of PhD student well-being (N= 1,202) found that feeling disappointed in one's skills and lacking confidence in one's ability to conduct research to a necessary standard were amongst the most common and detrimental issues to well-being — this data was collected through questionnaires which themselves were constructed around themes which were identified through semi-structured interviews and focus groups with 57 PhD students (Juniper et al., 2012; Walsh, 2009). Similarly, a study of 669 students also found that development of research expertise was a priority of students across all faculties (Kirsi, Auli, Jenni, & Kirsti, 2012) while others have found that personal and professional growth during the PhD are also highly desirable to students (Schmidt & Umans, 2014). Feeling skilled and confident plays an important role in the development of an identity as a researcher and students well-being, and supporting these needs may be an important area for intervention.

The need for students to feel that they are progressing in their research, which shares some overlap with the desire for growth, has also been found to be central to well-being (Schmidt & Umans, 2014; Walsh, 2009). The belief that students are progressing well is also influenced by their expectations of the research process and time required to complete the PhD. In this way, realistic expectations and knowledge of the nature of research as being nonlinear with uncertain time requirements could also influence these expectations, reduce stress and increase well-being (Juniper et al., 2012).

Most studies have also found that the notion of balance is a central, challenging and desirable part of the PhD journey (Haynes et al., 2012; Juniper et al., 2012; Schmidt & Umans, 2014; Walsh, 2009). Finding balance includes managing

various roles, responsibilities, and tasks of the PhD, in addition to finding time for the areas which students derive enjoyment or meaning (e.g., friends, spirituality, hobbies) (Smith, Maroney, Nelson, Abel, & Abel, 2006; Spaulding & Rockinson-Szapkiw, 2012; Wasburn-Moses, 2008). Haynes et al. (2012) found that some students who were able to find greater balance in their lives also experienced higher efficiency and productivity while other studies highlight that a lack of balance is frequently experienced as detrimental to well-being (Juniper et al., 2012; Schmidt & Umans, 2014). In keeping with this, Haynes et al., conclude that when considering how students cope with internal and external pressures, "It is the balancing act they perform that appears to define this interaction and to thus epitomize their well-being" (2012, p. 9).

All of the themes described above can be seen as potential areas of stress, anxiety, and detractors to well-being if the needs they represent are not met. In this way, the mental health of students, as evaluated by their levels of stress and mood disturbance, is also a common and important theme within direct studies of well-being. A lack of balance and the effort required to seek and maintain balance, for example, can create stress for students (Schmidt & Umans, 2014; Walsh, 2009), as can the perceived difficulty of the task (Walsh, 2009). Further, feeling fatigued by one's research, or experiencing a low mood because of its pressures, has also been reported (Stubb et al., 2011; Walsh, 2009). It is apparent in these studies that "concerns about research difficulties and the associated experience of stress are widespread" (Juniper et al., 2012, p. 573), and these findings are also reflected in broader—indirect— research (e.g., Kirsi et al., 2012; Offstein et al., 2004). It is for these reasons that the mindfulness-based stress reduction program, which has strong

empirical support for its ability to reduce stress and increase well-being, is potentially well placed to be modified and employed in supporting this group of students.

2.3 Mindfulness and mindfulness-based stress reduction

2.3.1   What is mindfulness?

Whereas the section *Mindfulness and mindfulness-based stress reduction* on page 13 gave a brief introduction to mindfulness and MBSR, this section will provide far greater detail on how mindfulness is conceptualised and why a brief MBI may be helpful for PhD students. It will also end by reviewing the proposed mechanisms which attempt to explain the positive outcomes of mindfulness practice and MBSR participation.

Interest in mindfulness within Western academia has grown substantially over the last two decades (Didonna, 2009) although the concept itself is stated to have originated in Buddhism in approximately 500 BC (Siegel, Germer, & Olendzki, 2009). Indeed, it is considered by some to be the heart of Buddhist psychology (Bodhi, 2011; Germer, 2005). Within Buddhism, mindfulness — or sati, in Sanskrit — has many connotations. Scholars agree that mindfulness was at times rendered by the Buddha as something very close to remembering, memory, reflection, or contemplation, in terms of one's previous actions, the consequences they have on one's life, as well as remembering to stay aware of experience and the object of focus during meditation (Bodhi, 2011; Gethin, 2011; Sujato, 2005; Thanissaro, 2008). Sharing some overlap with remembering, there is also a connotation in the context of meditation where mindfulness refers to a lucid present moment awareness of experience (Bodhi, 2011). As a consequence of the role of mindfulness in both considering a person's actions and developing psychologically through meditation,

mindfulness is also viewed as a central skill or ability to aid the moral and ethical development of individuals (Gunaratana, 2001).

However, just as there is no strict consensus within the Buddhist tradition regarding a precise definition of mindfulness, so it is within contemporary research in psychology. A definition proposed by Kabat-Zinn, the developer of MBSR, is, however, the most frequently used within research and underpins much of the debate and theorizing about what mindfulness actually is. Defined in terms of its process, Kabat-Zinn (1994, p. 4) states that "Mindfulness means paying attention in a particular way: on purpose, in the present moment, and non-judgmentally." Elaborating on attitudes implicit in this definition, he later added that mindfulness also "includes an affectionate, compassionate quality within the attending, a sense of openhearted, friendly presence and interest" (Kabat-Zinn, 2003, p. 145). Mindfulness therefore could be a skill which students might apply to their work, emotions, and cognitions during their degree.

Bishop et al. (2004) sought to operationalise Kabat-Zinn's definition by proposing a more detailed conceptualisation of the factors involved in mindfulness. They state: "mindfulness can be defined, in part, as the self-regulation of attention, which involves sustained attention, attention switching, and the inhibition of elaborative processing… [with] a quality of relating to one's experience within an orientation of curiosity, experiential openness, and acceptance" (Bishop et al., 2004, pp. 233-234). In regards to *what* sustained attention actually focuses on, Kabat-Zinn's (1990) MBSR program begins with sensations of the breath and moves to include parts of the body, the body as a whole, sounds, and thought processes as the weeks progress. Also, the practice of *choiceless awareness* is taught in which there is no

focus of attention, rather, a person becomes receptive to whatever stimuli enters

awareness without attempts to control or direct attention (Kabat-Zinn, 1990).

Shapiro, Carlson, Astin, and Freedman (2006) highlighted the importance of

intention as a major factor in addition to the two of attention and attitudes which are

evident in Bishop et al.'s definition (the attitudes associated with mindfulness are

outlined in section 2.3.2 below). They contend that the intention people bring to their

mindfulness practice is important and will invariably influence the experience and

outcome, and despite being a feature of Kabat-Zinn's original definition, it is rarely

mentioned as a factor within contemporary constructions of mindfulness. Intention

within mindfulness practice refers to the motivation and sense of purpose that

underpins why one practices — it is needed to motivate the ongoing self-regulation of

attention and attitudes during mindfulness practice. For example, Kabat-Zinn (2005,

p. 45) wrote that "your meditation practice will only be as powerful as your

motivation to dispel the fog of your own lack of awareness. When you are in this fog,

it is hard to remember the importance of practicing mindfulness, and it is hard to

locate your attitudinal bearings."

Taken together, these important works potentially provide an excellent

framework to understand differences in proposed definitions to date. Some

researchers, for example, emphasise the *attentional* qualities in their definitions where

mindfulness is argued to primarily involve a receptive awareness of experience

(Brown & Ryan, 2003; Brown, Ryan, & Creswell, 2007b) and a decentered or

metacognitive awareness (Carmody, 2009). Table 2 provides further examples of

definitions and conceptualisations of what mindfulness is argued to involve, all of

which can be seen as variations on the central factors of intention, attention, and

attitude. However, it is an adaptation of Kabat-Zinn's MBSR program which is used

in this research and therefore his definition of mindfulness will be the

conceptualisation employed for the remainder of this thesis.

Table 2. Definitions and descriptions of mindfulness

Reference	Description/Definition
(Marlatt & Kristeller, 1999, p. 68)	"bringing one's complete attention to the present experiences on a moment-to moment basis."
(Segal, Williams, & Teasdale, 2001, pp. 322-323)	" . . . in mindfulness practice, the focus of a person's attention is opened to admit whatever enters experience, while at the same time, a stance of kindly curiosity allows the person to investigate whatever appears, without falling prey to automatic judgments or reactivity."
(Dimidjian & Linehan, 2003, p. 166)	"This conceptualization identifies three qualities related to what one does when practicing mindfulness: (1) observing, noticing, bringing awareness; (2) describing, labeling, noting; and (3) participating. It also identifies three qualities related to the ways in which one does these activities: (1) nonjudgmentally, with accceptance, allowing; (2) in the present moment, with beginner's mind; and (3) effectively."
(Baer, 2003, p. 125)	"…mindfulness is the nonjudgmental observation of the ongoing stream of internal and external stimuli as they arise."
(Grossman et al., 2004, p. 36)	"Mindfulness is characterized by dispassionate, [nondeliberative], nonevaluative and sustained moment-to-moment awareness of perceptible mental states and processes."
(Germer, 2005, p. 7).	"mindfulness also involves *remembering*, but not dwelling in memories. It involves remembering to reorient our attention and awareness to current experience in a wholehearted, receptive manner. This requires the *intention* to disentangle from our reverie and fully experience the moment."
(Carmody, 2009, p. 277)	"This model of mindfulness in which attentional skill is central can be conceptualized as facilitating a process of recognition. There is recognition of where attention is focused at any given moment, recognition that it can be intentionally directed, and recognition that arousal and well-being are related to the affective quality of the object of attention."
(Sauer & Baer, 2010)	"In combination, these definitions, descriptions, and instructions for teaching mindfulness suggest the utility of conceptualizing mindfulness as a multifaceted construct that includes paying attention to present-moment experiences, labeling them with words, acting with awareness, avoiding

	automatic pilot, and bringing an attitude of openness, acceptance, willingness, allowing, nonjudging, kindness, friendliness, and curiosity to all observed experiences."

2.3.2   The attitudes of mindfulness

As previously stated, Kabat-Zinn's definition of mindfulness involves intentionally paying attention to the present moment with particular attitudes. Many of the attentional factors discussed above, such as sustained attention, attention switching, or choiceless awareness (Bishop et al., 2004; Kabat-Zinn, 1990), could not be executed without certain attitudes being present (Shapiro et al., 2006). For example, the inhibition of secondary processes (elaborative thinking) relies on qualities such as acceptance to create an atmosphere of non-reactivity. It would be difficult to inhibit streams of thought and maintain sustained attention on the breath if something arises during meditation that contradicts a person's desires or expectations (Rosenberg & Guy, 2000). A person's intentions, as will become clearer below, are also influenced by the attitudes brought to mindfulness practice and so having adaptive attitudes is viewed as fundamental to mindfulness practice (Kabat-Zinn, 1990).

The purpose or function of these attitudes is therefore to prevent further reactionary responses, induce a state of equanimity, clarity, and a strengthening of concentration with which to observe one's changing perceptual field (Kabat-Zinn, 2005). Practitioners also learn how attitudes play a powerful role in how events are experienced in daily life, and how fostering these 'mindful' attitudes therefore similarly influence how events are experienced (i.e., appraised more adaptively), Kabat-Zinn (2005, p. 19) describes the mode of bringing these attitudinal qualities into one's life — with the other factors of intention and attention — as "*the way of mindfulness*", an orientation towards experience which stems from the practice and insights associated with mindfulness. For PhD students, developing the skill of

mindfulness may therefore support their regulation of emotions and attention, helping them focus on work or everyday tasks, reduce difficult emotions, and increase positive affect. The following section will describe those seven attitudes taught within the MBSR program as the foundations of mindfulness: non-judging, patience, beginners mind, trust, non-striving, acceptance, and letting go.

A person cultivating the attitude of *non-judging* intentionally takes a stance of impartiality towards anything they experience (Kabat-Zinn, 1990). It involves being aware of the mind's tendency to evaluate, compare, and react with automatic judgements of approval or disapproval, especially in reference to one's goals and desires, and then just observe this process without getting involved. Of course, there can also be a tendency for the mind to then judge the judgements a person becomes aware of, however, this reaction is again simply noticed and not engaged with.

At its core, *patience* refers to an expectation one has regarding how long phenomena should take to run their course. Patience, therefore, involves as Kabat-Zinn (2005, p. 34) calls it, a type of wisdom which understands that "sometimes things must unfold in their own time". For example, if a person is meditating and a disturbing thought comes to mind, there would be less chance of remaining calm or free of tension if there was not a willingness to allow that thought and any corresponding feeling to be present. This attitude is therefore closely linked to others such as acceptance, and is even considered by some to be a key quality to mindfulness (Gunaratana, 2011).

Many attitudes in the context of mindfulness can be viewed as adaptive countermeasures for certain mind states or processes which prevent clarity, calm, and the development of concentration. *Beginners' mind*, for example, involves suspending or loosening preconceptions one might have and fostering a willingness "to see

everything as if for the first time" (Kabat-Zinn, 2005, p. 35), rather than through automatic modes of perception where a person's expectations, thoughts, and beliefs act as filters for experience. It also aims to diminish that aspect of mind which fits phenomena within the framework of existing cognitive schema, thereby losing some of the experiences' novelty and uniqueness.

The attitude of *trust* is unique to mindfulness in the context of MBSR as no other researcher, as far as this review has seen, has made it an explicit feature of the definition or instructions to practise. This may be a result of yoga being a part of the MBSR program, and so listening to one's body and trusting its signals regarding limitations can have serious implications. As Kabat-Zinn (2005) describes it, trust involves an orientation of respect towards one's feelings, intuition, and physical sensations, so that a practitioner develops a greater understanding and acceptance of who they are, whilst also taking greater personal responsibility for the direction of their practice and life.

Mindfulness meditation is considered to be one of the few activities where there is no need to achieve, gain, or change anything (Kabat-Zinn, 2005). It is paradoxical in a sense because although the instructions during practice are to be receptive to experience as it is and accept ones' self, some sort of motivation or desire must have brought people to practice in the first place. Clinical populations would likely desire some sort of reprieve from physical or psychological discomfort while non-clinical populations might desire some sort of psychological growth, insight, or positive affect. However, one of the earliest instructions to MBSR participants is that while practising mindfulness, they should not *try* to move towards any of their goals. Instead, practitioners are directed to simply relax into how they currently are, despite their initial motivations or desires. *Non-striving* therefore seeks to support people in

accommodating whatever they experience by developing a capacity to not compulsively seek pleasurable experiences or avoid the unpleasant (Shapiro et al., 2006).

The attitude of *acceptance* is functionally intertwined with other attitudes (e.g., patience, non-striving, non-judging) in cultivating a calm, clear, and alert mind. Acceptance is described as the complete willingness to allow each moment to arise exactly as it is — with receptivity being the key to this process (Kabat-Zinn, 2005). Fostering a willingness to 'be with' experiences as they are and remaining receptive to them means that this attitude also requires a suspension of one's preferences, desires and biases, allowing contact with a greater variety of information and stimuli than would otherwise be possible.

Many of the attitudes described so far speak to an orientation that allows everything to arise in consciousness without interference or influence so that they run their course in their own time. However, for phenomena such as emotions to run their course, this process assumes that a person does not become 'wrapped up in' and lengthen the stay of the phenomena, either through thinking about or becoming engrossed and losing awareness of it as an object to attend to. The attitude of *letting-go* is conceptualised as an intentional effort to abandon control of what is experienced during mindfulness as well as the effort to release any identification with that stimulus (Kabat-Zinn, 1990). In the same vein of relinquishing preferences for what enters awareness individuals are instructed within the MBSR program to also not influence how long something remains. Therefore a person observes whatever comes into awareness, be it a thought, feeling or sensation, without adding or subtracting any content, or trying to prolong or shorten its presence, and refraining from seeing that content as a true reflection one's identity, for example, "these aggressive thoughts are

just temporary, do not reflect who I am, and do not need to be thought about or dealt with". A person lets go of preferences and ideas of outcomes and accommodates themselves to whatever arises.

2.3.3   Mindfulness-based stress reduction (MBSR)

The mindfulness-based stress reduction (MBSR) program runs for eight weeks and a total of 27 hours, with participants required to attend weekly sessions of 2.5 hours and a full day retreat (7 hours). Participants are also required to practice at home for 45 minutes a day, six days a week (a detailed description of the eight session MBSR protocol is available in Appendix C). In MBSR, participants learn how to apply mindfulness through both formal techniques (sitting meditation, yoga, body-scan) and through informal practice, that is, bringing mindfulness to day-to-day activities in efforts to relate to thoughts, emotions and physical sensations more adaptively, reduce stress and reactivity, and enhance the experience of everyday moments (Brantley, 2007; McCown, Reibel, & Micozzi, 2010).

Since its inception, MBSR has been adapted by therapists and clinicians to address a range of disorders and issues. For example, Linehan (1993) added elements of cognitive-behavioural therapy and interpersonal skills training to create dialectical behaviour therapy (DBT), a treatment program for borderline personality disorder. In close consultation with Kabat-Zinn, Segal, Williams, and Teasdale (2001) used MBSR as the basis for developing mindfulness-based cognitive therapy (MBCT) for depression. As MBSR has grown in application and empirical support it has been adapted and delivered to clinical and nonclinical individuals in prisons, hospitals, community centres, schools and universities (McCown et al., 2010) – the evidence for MBSR's efficacy with university groups are outlined in section 4.4.2 (p. 112). This

research aims to continue this line of work by adapting MBSR to better suit the needs PhD students by reducing the intervention's length.

Two strong reasons position MBSR as a promising intervention for this cohort. Firstly, findings indicate stress is a large feature of many PhD students' lives (e.g., Offstein et al., 2004) and is one of the most detrimental elements to their well-being (Juniper et al., 2012) which makes an effective stress reduction program likely to be beneficial. MBSR has shown a high efficacy in reducing stress, increasing positive affect, and reducing rumination for a wide variety of populations (Chiesa & Serretti, 2009) and within university settings, for example, with undergraduates (e.g., Bergen-Cico, Possemato, & Cheon, 2013; Oman, Shapiro, Thoresen, Plante, & Flinders, 2008) and postgraduate medical students (e.g., Rosenzweig et al., 2003; Shapiro, Schwartz & Bonner, 1998).

Secondly, research by Carmody and Baer (2009) which investigated the relationship between the length of the MBSR program and outcomes found a non-significant relationship between the variables. This finding suggests a short program — such as the four week (6 hour) version proposed in this research — might provide many of the same benefits as the full 8 weeks (27 hours). This has important implications for PhD students as their commonly time-poor schedule may restrict participation in lengthy interventions such as the traditional format of MBSR.

At the intersection of questions relating to students' experiences during their studies, and whether a psychologically oriented intervention such as brief MBI can support them, lays a gap in research the current study endeavours to address. Analysing what students find helpful or difficult during their journey from an ecological perspective will provide a view that apprehends and appreciates the complexity of the many interrelated areas that impact this cohort's experience. In

terms of supporting students given the highly stressed and time-poor nature of PhD study, a brief MBI is positioned as a strong candidate to address difficulties this group faces.

2.3.4 Mechanisms of action

As evidence for the utility of MBSR has become more established, the line of questioning within research has shifted more from *whether* mindfulness is effective to *how* it actually brings about those results (Baer, 2011, p. 242). As Baer (2003, p. 140) stated, "The empirical evaluation of any intervention requires clear operational definitions of concepts and procedures, and the identification of conceptually sound mechanisms that may account for changes produced by the intervention." At this time, an understanding of the mechanisms through which both mindfulness and the MBSR program support individuals is regarded to be in its early stages. The following section will firstly review those mechanisms of mindfulness considered to be important followed by other factors which may also provide MBSR participants benefits, namely, group factors.

At the broadest level, mindfulness can viewed as an act or state of consciousness which includes the faculties of awareness and attention (Brown & Ryan, 2003). Awareness can be likened to the overarching field of consciousness which monitors a person's internal and external environment; it is the background or the field in which phenomena make contact with a person's consciousness. Attention, on the other hand, is the capacity and process of focusing on objects within that broader field of awareness (Westen, 1999). A helpful analogy is that of a diffuse light (awareness) covering a broad range of objects. This light can be concentrated through the use of a magnifying glass (attentional focus) to provide greater clarity to a smaller

area at the expense of the larger field (Perls, Hefferline, & Goodman, 1951).

Awareness and attention are interrelated and the manner in which they are

intentionally employed is a central feature of mindfulness (Shapiro et al., 2006).

Indeed, attention regulation is seen to be a central feature of many descriptions of

mindfulness and its mechanisms of action (Brown, Ryan, & Creswell, 2007a;

Carmody, 2009).

The intentional application of attention and awareness with 'mindful' attitudes

allows individuals, according to Shapiro et al. (2006), to develop a perspective on

their thoughts, emotions and experiences which they argue is a central overarching

mechanism by which mindfulness elicits positive outcomes. This change in

perspective is termed *reperceiving* and is characterised by a "rotation in consciousness

in which what was previously "subject" becomes "object"" (Shapiro et al., 2006, p.

377). For instance, rather than viewing a self-critical thought as an accurate and true

reflection of reality, individuals develop an ability to not identify or become attached

to the content of the thought, thereby witnessing narratives or feelings without being

caught up in them. In this way, reperceiving shares much similarity with the processes

of decentering (mentally stepping back to observe one's experience; Fresco et al.,

2007), deautomization (reducing habitual/automatic behaviours, perceptions,

cognitions), and metacognitive awareness (awareness of one's thinking processes;

Teasdale, 1999). Of all these terms, it is decentering which is most often used in the

literature — even more so than reperceiving — but at their core is a similarity held by

many researchers to be integral to the benefits of mindfulness: an ability for a person

to not identify with the content of their experience and assume the mental posture of

an observer, less troubled and attached to what may arise (i.e. thoughts, emotions,

sensations). Relaxation, consequently, can often flow on from this reduction in reactivity through this change in perspective.

A further mechanism posited to stem closely from the ability to reperceive or decenter from one's experience is the disruption and reduction of ruminative thinking (Chiesa et al., 2014; Jain et al., 2007; Oman et al., 2008; Teasdale et al., 2002). Rumination is defined as repetitively thinking about one's own problems and emotions without taking action to address the cause of the problem and is strongly associated with depression (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008) and so influencing the process of rumination with mindfulness has delivered positive outcomes. For example, Teasdale's clinical work in the area of depression places the ability to become aware of one's thoughts — termed metacognitive awareness in this context — question their accuracy, and become aware of their transience, as a central means in disrupting depressogenic thinking associated with negative mood (Teasdale, Segal, & Williams, 1995). Interestingly, in studies comparing MBSR with other interventions such as somatic relaxation (Jain et al., 2007) or Easwaran's Eight Point Program (Oman et al., 2008; Shapiro et al., 2008), only MBSR participants experienced significant reductions in ruminative thinking, further supporting the disruption of this process as a mechanism of change linked to mindfulness.

Again, another mechanism of mindfulness which stems from reperceiving or decentering is exposure. In Shapiro and colleagues' (2006) MBSR informed model of mindfulness, reperceiving allows difficult thoughts and emotions to emerge and remain in the field of awareness with less reactivity (e.g., avoidance, repression), allowing a desensitization towards and extinction of responses associated with these stimuli (see also Hölzel, Lazar, et al., 2011; Kabat-Zinn et al., 1992). This mechanism may be particularly helpful where avoidance maintains or exacerbates particular

problems such as anxiety. In this way, exposure can also be seen as affecting another conceptually close process termed experiential avoidance, that is, the tendency to avoid unpleasant stimuli or events, which has also shown to be reduced through mindfulness training and is held as an important mechanism of change (Chambers, Foley, Galt, Ferguson, & Clutton, 2012; Chiesa et al., 2014). Through developing a greater tolerance towards unpleasant feelings and thoughts, individuals are more likely to experience stimuli that cause discomfort, reduce its intensity over time, and expand their cognitive, emotional, and behavioural flexibility to respond (Shapiro et al., 2006).

Given the range of mechanisms described above, it is not surprising that increased emotional-regulation is similarly held by many scholars to be a pivotal mechanism and construct to understand how mindfulness exerts its benefits. Emotion regulation refers to the adjustment of one's emotional responses by the application of regulatory actions (Ochsner & Gross, 2005). For example, in a model of the mechanisms of mindfulness developed by Hölzel, Lazar, et al. (2011), emotion regulation is seen to manifest in two ways. First, mindfulness helps individuals approach and experience emotions more adaptively (i.e., with acceptance and nonjudgment) and secondly, as a result of being more open to the experience of emotion through exposure, extinction of conditioned responses and reconsolidation of new meanings is made possible. Shapiro et al., (2006, p. 380) similarly view increased self-regulation as a further mechanism, whereby "systems maintain stability of functioning and adaptability to change…based on feedback loops". A greater awareness of one's experience and an increased ability to not identify with immediate thoughts and emotions also supports individuals in choosing among a wider range of options in the regulation of their wellbeing. Indeed, a range of evidence supports the

notion that increased mindfulness is associated with more adaptive emotion regulation in both clinical and nonclinical populations (Coffey & Hartman, 2008; Erisman & Roemer, 2010; Feldman, Harley, Kerrigan, Jacobo, & Fava, 2009; Mitmansgruber, Beck, Höfer, & Schüßler, 2009).

Of course, as mentioned when exploring definitions of mindfulness, the regulation of one's attention and emotions would be difficult without certain attitudes being present (Shapiro et al., 2006). Again, the specific attitudes taught within MBSR include: nonjudgement, patience, acceptance, beginners mind, trust, letting go, and non-striving. For example, acceptance has been found to mediate outcomes in workplace stress and quitting smoking in studies using Acceptance and Commitment Therapy — a mindfulness-based intervention — (Bond & Bunce, 2000; Gifford et al., 2004) while self-compassion, a related construct, has also been found to be significantly higher following practice in mindfulness meditation and is also argued to be a psychological mechanism (Chiesa et al., 2014; Lykins, 2009; Shapiro, Brown, & Biegel, 2007). Though many of the specific attitudes taught in MBSR are not reported as mechanisms of change (e.g., beginners mind), these attitudes are implicit in how mindfulness is explained, practised, and therefore likely play some role in affecting outcomes — particularly because they are interrelated.

Lastly, although the above discussion focussed on mindfulness, there are also potential mechanisms of action which stem from the format and delivery of mindfulness in group settings. For example, Wyatt, Harper, and Weatherhead (2014) reviewed qualitative studies where individuals with mental health problems participated in mindfulness-based interventions with the aim of identifying common experiences across interventions. One such finding was that participants often reported themes connected to feeling supported and having their difficulties

normalized, and so the group itself — not mindfulness — also contributed to their outcomes. Malpass et al. (2012) reported similar findings in their meta-ethnographic study where, in addition to reduced stigma, participants of group mindfulness-based interventions also often reported reductions in feelings of isolation and that the group supported motivation to continue and increased learning. These findings are significant in the context of this current research as PhD students often experience isolation and significant time pressures, so increased motivation and feelings of social support may have a strong impact on their experience of a brief MBI.

2.4 Conclusion

This chapter has highlighted that well-being can be understood in multiple ways that have relevance for PhD students. Just as different models have emerged through attempting to understand well-being of various groups, so too will this study remain open to other areas which may be of particular importance to PhD students. The theoretical models proposed by Ryff (1989), Keyes (2002), Seligman (2011), and Ryan and Deci (2001), in addition to those areas identified through direct studies of students' well-being, provide a helpful framework with which to begin such an exploration to both understand and better support the needs of PhD students – indirect research in the next section will continue this work. From the extant literature it appears that stress is a common experience of students and so a brief mindfulness-based intervention is a promising candidate to help improve the well-being of this population and potentially improve their academic functioning.

Chapter 3

PhD Student Well-being, Experiences, and Progress

3.1 Introduction

The journey of undertaking a PhD takes myriad forms and delivers diverse experiences to students according to interrelated individual, interpersonal, institutional, societal, structural and material factors. For example, not only do the cultures across different disciplines vary — let alone across universities themselves — but so do the compulsory requirements for the completion of the degree such as the presence of a necessary coursework component or the method by which students' theses are examined. Nonetheless, whilst acknowledging these differences, there are commonalities or shared experiences amongst many students. This shared experience stems from similarities implicit in PhDs across institutions and national borders, such as the substantial amounts of time, focus and energy required in producing a large and significant body of work. In this chapter I will present findings from research that investigated PhD students from within Australia and internationally and in doing so will attempt to illustrate several common experiences of this cohort.

The central themes examined within this broader section organised by ecological levels includes literature on the PhD student experience, well-being, and progress. The *experiences* of students will include any accounts from research which illustrates what it is like to undertake a PhD. Aspects of students' w*ell-being* in this section will be derived from those studies not directly investigating well-being which were discussed above in section 2.2, but which non-the-less provides insight into it. Finally, information relating to *progress* will cover how various factors impact on students' persistence, time-to-degree (TTD), rates of completion, and attrition —

these aspects of PhD academic functioning have been given the greatest empirical attention.

Finally, this chapter will conclude by reviewing the consequences of longer completion times and attrition. These consequences include financial and psychosocial costs but there are also positive reasons why, at least in terms of attrition, students sometimes decide to leave. A review of literature across the areas of this chapter will reveal a great deal about the PhD student experience, serving as a foundation to also understand the needs of students and how a brief mindfulness-based intervention might support this cohort.

3.2 Individual Level

3.2.1 Personal benefits of completing a PhD

Within the literature on PhD students, there is little doubt that far greater attention is given to the problems, deficits, and challenges facing these individuals. This emphasis is warranted given the difficult nature of the task and rates of attrition, however, such a perspective may overlook and fail to acknowledge the many benefits and positive experiences students gain during and after their degree. For example, Barry (2007) found that 78 participants (84%) in their sample felt that they had realised their planned personal goals during their studies. As with the motivations which initially led students to undertake the degree, the positive outcomes reported by different researchers fall within the areas of personal, intellectual, professional development and achievement, and several social outcomes.

In terms of personal benefits and positive experiences, doctoral students have reported that they experienced a process of self-actualisation, proving to themselves that they are capable of achieving the highest academic degree — which sometimes

also acted to negate a feeling of inadequate past achievement — and the attainment of

an important personal goal (Barry, 2007). Other researchers report benefits of

personal and emotional growth, reporting that students expressed increases in

confidence, self-fulfilment, self-discipline, persistence, a broadening of horizons, and

experienced a great deal of joy through the process of studying and having a novel

and fulfilling life (Leonard, Becker, & Coate, 2005).

      The benefits of intellectual development and achievement focus more on the

skills and knowledge students gained through their degree. A third of Barry's (2007)

sample of 94 reported that their doctorate was the pinnacle of their intellectual

achievements. Specific examples of how students develop intellectually have included

greater analytic, interpretive, reflective, and information management skills;

knowledge and understanding of their particular area; and writing skills (Barry, 2007;

Leonard et al., 2005). These benefits also appear closely related to how the PhD

helped these students professionally such as serving as a base for a career in

academia, the establishment of more professional contacts, and improving job

prospects and promotion. Indeed, Leonard et al. (2005) found that in the year

following students' graduations, 90% of respondents identified as being employed.

      An interesting group of outcomes reported by students are social benefits.

These benefits refer to the relationships and friendships students formed with their

peers and supervisors, as well as professional contacts (Barry, 2007; Leonard et al.,

2005; Worley & Bieber, 2006). Many students also reported improvements in how

they believe they are perceived socially, reporting that they experienced feelings of

higher status, increased respect and credibility, and also felt pride and satisfaction

from making social contributions through their research (Barry, 2007; Leonard et al.,

2005).

Overall, it appears that the benefits and positive experiences which students gain through undertaking a PhD are held in high-esteem by those who complete. This is not surprising given that these rewards reflect outcomes which appear commensurate with the difficulty and challenge of the degree. However, a study with 89 students who completed a lengthy questionnaire found that the PhD graduates would advise those who are currently completing the degree to find more enjoyment during the process (Leonard et al., 2005), a finding which raises questions about how students perceive the benefits and positive experiences of their degree whilst in the midst of it. In addition, the studies above surveyed students who had completed their degree and, therefore, may represent more positive experiences than the accounts of those who dropped out.

3.2.2 Motivations and persistence

Reasons reported by students and graduates as to why they chose to undertake a PhD cluster around intrinsic and extrinsic motivations (Dinham & Scott, 1999). More specifically, students' motivations can also be seen to broadly fall within the categories of: professional development, acquisition of research skills, personal development, and interest in a particular research area (Leonard et al., 2005).

Leonard et al., (2005) found that, although it was not a primary motivation, a third of their 89 respondents undertook their PhD believing it would be beneficial to their professional development or fulfil the expectations of a current or desired occupation. Similarly, 31% of 31,202 PhD students surveyed across the UK reported their decision to begin a PhD was motivated by a desire to improve their research and academic career prospects (Hodsdon & Buckley, 2011). Further, those participants within the Health disciplines were most motivated by "career prospects" (p. 5) while

those in the Arts, Humanities, and Social Sciences showed most interest in attaining

an academic career in particular. In terms of doctoral students in the UK within social

work, the proportion of students undertaking the PhD for reasons of career was

higher. In a survey of 45 PhD students in the UK , Lyons and Manion (2003) found

that almost two thirds sought a PhD to aid a particular career path while a desire for

professional development was almost as common. In Australia, Dinham and

Catherine (1999) similarly found that over half of their 139 survey respondents were

motivated by perceived benefits to career options and attainability, credibility, or by

"completing what is considered a rite of passage within certain professions" (p. 18).

Many researchers found that these extrinsic motivations were interrelated to a

large extent with those considered more intrinsic, that is, those related to personal

development or satisfaction, or an interest in a particular area. Indeed, across studies,

and although overlapping somewhat, these intrinsic motivations have been found to

be the most frequently reported and highly ranked. For instance, 37% of students who

replied to the Postgraduate Research Experience Survey in the UK stated that interest

in their subject was a primary motivation (Hodsdon & Buckley, 2011); this was

especially true for those students in the Arts and Humanities. Neumann (2005)

similarly found in her study comparing differences between PhD students and those

undertaking professional doctorates, that the strongest motivation for both groups was

the desire to conduct research in a specific area they found interesting. Another

Australian study, which used responses from 139 PhD graduates to an email survey

regarding particular domains (e.g., supervision, process of completion, overall

effects), found that 60% of their sample shared the motivation to conduct interesting

research as well as gain satisfaction from the intellectual challenge, the process of

research, and its completion (Dinham & Scott, 1999). Other similar reasons included

statements around study being fun and also that some were simply bored with their previous situation. Similarly, a third of Leonard, Becker and Coate's (2005) sample in the UK claimed to have been driven by interest in a particular area whilst a quarter described aspects related to personal development such as self-fulfilment, testing oneself, proving one's ability, or simply taking pleasure in learning.

In terms of those personal factors which support persistence, intrinsic motivations have similarly been found to be important (Lovitts, 2005; Spaulding & Rockinson-Szapkiw, 2012). For example, a study by Spaulding and Rockinson-Szapkiw (2012) which investigated students' own attributions regarding their persistence found that the most commonly mentioned factors were personal traits such as being stubborn, goal oriented, structured, disciplined, determined, self-motivated, competitive, independent, mature, and committed. Having a strong commitment to personal goals and plans, as well as support from peers and supervisors, has also been found to be important to doctoral persistence in other survey based research (Martinsuo & Turkulainen, 2011). However, many also mentioned that having a strong understanding of their topic prior to commencement also aided their ability to persist.

Extrinsic factors found by Spaulding and Rockinson-Szapkiw (2012) to support persistence included wanting to reap the benefits of having invested significant resources into the degree. As one of their participants stated, "There was NO way I was going to put all that time, energy, and money into a program and then NOT finish! That wasn't an option for me" (Spaulding & Rockinson-Szapkiw, 2012, p. 110). Moreover, the incentives of social recognition and improved employment/remuneration as a result of completing also supported persistence. Taken together, Spaulding and Rockinson-Szapkiw concluded that having and being aware

of both intrinsic and extrinsic motivations are important to both persistence and eventual completion.

3.2.3   The challenge of finding balance and managing multiple areas of life

Doctoral study requires a significant commitment from students in terms of time and energy — whilst often living on a modest budget. Further, managing the multiple areas of their lives can often cause strain or require some aspects to be sacrificed altogether. As well as relationships and academic pressures, students must also juggle family, employment and financial concerns, all of which can place strain on well-being (Smith et al., 2006) and lead to difficulty in students finding balance in their lives (Offstein et al., 2004). For instance, Mason, Goulden and Frasch (2009) found that almost half their sample of 8,000 PhD students across the United States felt least satisfied with two related areas: their departments' support for finding a balance between work and life, and being able to find time for themselves to focus on different areas such as health, recreation or relaxation. Similarly, a study by Wasburn-Moses (2008) of 619 students enrolled within 78 different doctoral programs reported that in terms of student satisfaction in multiple areas such as advisor/supervisor support, program structure, and financial supports, students were least satisfied with having time to balance their workload, family, and other interests.

Regarding what students must often give up, relationships have been found to be one of the most commonly sacrificed areas. Some evidence suggests feelings of isolation can also ensue as students struggle to find time to satisfy these social needs (Offstein et al., 2004; Spaulding & Rockinson-Szapkiw, 2012). Indeed, the academic demands facing doctoral students seem to affect not only their ability to make social

contact, but also the quality of existing relationships. Spaulding and Rockinson-Szapkiw (2012), who conducted open-ended interviews with 76 doctoral students regarding their experience and persistence found that the theme of sacrificing time with one's family was commonly expressed. As a result, "the student frequently questions whether she or he is spending enough time with children, spouse, parents, or his or her studies" (Smith et al., 2006, p. 23).

The impact of such struggles can lead to negative consequences in well-being and rates of completion. As the quote above partly demonstrates, emotions such as guilt, worry, anger, and anxiety are common experiences for doctoral students who have too little time for so many competing responsibilities (Boes, Ullery, Millner, & Cobia, 1999; Lovitts, 2001; Smith et al., 2006; Spaulding & Rockinson-Szapkiw, 2012). Not surprisingly, several participants in one study commented that the resulting stress from this difficulty left them often at risk of burnout and break down (Spaulding & Rockinson-Szapkiw, 2012). In her study on PhD attrition, Lovitts (2001) found that 70% of those who departed cited personal reasons, with the areas of family, finances, academic pressures, and health all contributing to the decision to leave.

Another closely related area which adds obstacles to students' ability to manage responsibilities, desires, and needs are foreseen and unforeseen life events (Lovitts, 2001). Such events vary and have included a spouse losing his or her job; gaining a promotion; getting married; being divorced or having relationship difficulties; having a child; the death and illness of loved ones; and needing to help organise weddings (Spaulding & Rockinson-Szapkiw, 2012). Such events demand additional time and emotional resources and can further detract from students' abilities to cope.

Finally, the theme and importance of balance and the need to manage multiple areas of life can also be seen in the recommendations of researchers and graduates for future and current students. Some, for example, emphasise the need to maintain a balanced life in terms of good diet, exercise, and rest, to counterbalance the difficulties in long hours of academic study (Barry, 2007). Others (Spaulding & Rockinson-Szapkiw, 2012) propose a proactive approach where students' children, parents, spouses and friends are all made aware of the need for them to sacrifice time with them in order to be successful, as well as the possibility that they may also potentially need to help more so than in the past (e.g., with cleaning, cooking, shopping etc.).

3.3 Interpersonal Level

3.3.1   Marriage and relationships during a PhD

As above and as stated previously, relationships are an area of potential tension and found to be challenging for students given all the demands they face. As Smith et al. (2006, p. 23) states, "time and guilt are two factors associated with managing family responsibilities and doctoral studies" and as a result, can sometimes lead to relationships being strained and studies being distracted (Maher, Ford, & Thompson, 2004).

Over two decades ago Scheinkman (1988) commented that marriages amongst postgraduate students are particularly vulnerable, and some current research suggests this trend has continued. The strains placed upon a marriage or partnership have been found to emerge in a range of forms, including difficulties in negotiating financial priorities (Gold, 2006; MacLean & Peters, 1995), having inadequate time to spend with one's spouse, a lack of sexual satisfaction (Gold, 2006; Katz, Monnier, Libet,

Shaw, & Beach, 2000), and difficulties in problem solving and communication (Gold, 2006). Of course, these types of difficulties are also common within marriages and partnerships where neither partner is undertaking a PhD, however, the inherent demands of this degree have been identified as a main contributing factor to marital or relationship problems where one partner is a student (Gold, 2006; Scheinkman, 1988).

Some research suggests an association between being married and positive outcomes. Price (2006) found that being married decreased time-to-degree while Nettles and Millett (2006) reported a positive relationship between marriage and overall student satisfaction. Further, these positive impacts appear to sometimes be bidirectional as 10% of students (N=89) in another study reported that their relationships were improved by the doctorate (Leonard et al., 2005).

3.3.2   Socialization and integration

The importance of social interaction between students, their peers, faculty and supervisors during doctoral degrees is one of the most consistently reported factors leading to successful progress, completion, and overall satisfaction (Bair & Haworth, 2004; Lovitts, 2001; Nettles & Millett, 2006). Peer and faculty interaction can be viewed to affect positive outcomes through two interrelated sources: socialization and integration. *Socialization* is defined as the process through which one acquires the values, beliefs, attitudes, habits, behaviour patterns, skills and knowledge of one's society, organisation, or group (Calhoun, 2002; Gardner, 2010a). Other authors term this process *enculturation* and similarly describe how important the learning process is whereby doctoral students come to know how to act in concordance with their departments and be productive (Boyle & Boice, 1998). However, in the context of doctoral students, the term socialization is employed far more frequently than

enculturation and will therefore be used to refer this process for the remainder of the thesis. *Integration*, on the other hand, refers to the frequency of interaction between a person, their social network, and the feelings of belonging and community which can often arise (Hoskins & Goldberg, 2005; Tinto, 1993) — they are, of course, related, as social integration can lead to socialization and vice-versa (e.g., Lovitts, 2001; Nettles & Millet, 2006). To reduce confusion it should be noted that both socialization and integration can occur through *socializing,* but to retain clarity regarding these concepts the term *interaction* will be used to not confuse the processes of socialization with socializing.

There are many ways in which positive integration and socialization are arrived at by PhD students, though in essence all avenues centre on increased contact and the values of collaboration and support. For example, some scholars espouse learning communities or peer mentoring programs which match students with similar experiences or interests (Gardner, 2008; Wisker et al., 2007). Other avenues include research symposia and opportunities for informal contact with peers (Walker, 2008). *Academic integration*, which also embodies the socialization of field specific norms and practices, can also occur through such peer networks though many researchers specifically emphasise the relationships between students, their supervisors and faculty (Austin, 2002; Earl-Novell, 2006), and the opportunities to conduct, write, and present research with these same individuals (Hoskins & Goldberg, 2005). Support, socialization and integration therefore aid students in developing both knowledge and skills necessary for scholarly activity and academic success.

For example, several studies place integration as essential to this cohort's persistence (e.g., Daniels, 1975; Hoskins & Goldberg, 2005; Lovitts, 2001; Spaulding & Rockinson-Szapkiw, 2012) and in at least one study has been found to be the

strongest predictor in influencing persistence and time-to-degree — indeed, higher levels of support predicted quicker completion times (Abedi & Benkin, 1987). A review of 128 quantitative and qualitative studies concluded that students who interacted more frequently with their peers were more likely to complete than those with little contact (Bair & Haworth, 2004). Not surprisingly, satisfaction has also been found to be higher where students feel greater levels of formal and informal integration with their peers and faculty (Gardner, 2010a; Nettles & Millett, 2006). In addition to practical and academic support, these impacts are likely to be derived from benefits to students' socioemotional needs; that is, if students experience a greater sense of belonging, trust, community, and help, both their satisfaction and progress will be enhanced. Gardner (2007) and Janson, Howard, and Schoenberger-Orgad (2004), for instance, reported how the friendship, support, guidance, and mentoring they received from their peers was paramount to their positive experience of the degree.

Conversely, negative socialization experiences and lower levels of integration have been shown to impede students' progress and satisfaction (Gardner, 2010b). Lovitts (2001) found that many students decided to leave as a result of being disillusioned by a culture of what students described as cold and pretentious interactions amongst their peers, with one student reporting he felt himself becoming more arrogant and so left the program to avoid further socialization of these unattractive traits. Lower levels of integration are also a contributing factor to the experience of social and intellectual isolation for doctoral students, an experience associated with decreased satisfaction and attrition (Lovitts & Nelson, 2000; Lovitts, 2001) which will be examined in more detail in forthcoming sections on isolation.

The level of integration and socialization students experience is, of course, not solely determined by one's institution and the opportunities they provide but also the efforts and willingness of students themselves to be involved. Astin (1977, p.21) defined involvement as "the time and effort expended by the student in activities that relate directly to the institution and its program". Bair and Haworth (2004, p. 497) expanded on these activities by including "graduate association meetings, academic activities, social activities, informal and formal meetings, and activities of the profession". As such, involvement is an important concept as it implies not only the degree of contact or integration a student experiences through a variety of options, but also brings to attention the motivation students feel to actually make that contact.

In terms of how involvement affects student progress and completion, it is not surprising to see a similar trend emerge as seen in the research focusing on integration, support, and socialization, all of which are based on social contact and interaction For example, Lovitts (2001) found that completers were more likely to attend informal events organised at their university, but, again, this was "partially a function of dispositions and partially a function of advisor type", where advisor type refers to their tendency to encourage such involvement (p. 156). Involvement was also found to be a significant predictor in students' progress through multiple stages of their degrees — that is, courses subsequent to a masters, the passing of examinations leading to candidacy, and completion of the doctorate, across 42 departments of 12 universities in the United States (Girves & Wemmerus, 1988). Indeed, the relationship between student involvement and progress, retention, and completion has received substantial research support (e.g., Bair & Haworth, 2004; Ferrer de Valero, 1996; Nerad & Cerny, 1991 May; Tinto, 1993).

3.3.3   Social isolation

The demands placed upon PhD students in terms of time, energy and commitment are substantial. As a result, it is not uncommon for students to find difficulty in having several types of social needs met. Specifically, as demands increase and students engage in highly specialized areas of research, many report corresponding increases in various forms of isolation.

The prominence of social isolation, for example, is widely acknowledged as common for many PhD students (e.g., Conrad, 2006). Generally, social isolation is defined as a lack of meaningful social connections in one's life (Hortulanus, Machielse, & Meeuwesen, 2006), and in the context of PhD students can refer to a lack of meaningful connections with their peers, supervisor(s), or department (Ali & Kohun, 2007). The experience of this isolation appears to affect PhD students who study within the North American model of PhD study, particularly during the dissertation phase of the PhD (Ali & Kohun, 2006; Lovitts, 2001), the British model (Janson et al., 2004; Neumann, 2003), and has been found to be a particularly widespread issue for international students (Le & Gardner, 2010; Sawir, Marginson, Deumert, Nyland, & Ramia, 2008) and those studying in the social sciences and humanities (Ainley, 2001; Bair & Haworth, 2004; Neumann, 2003; Wisker et al., 2007).

The causes of social isolation are many and span across personal, institutional, sociocultural and material factors. For example, the findings that students within the humanities and social sciences experience greater levels of social isolation is attributed to differences in how research is conducted by different disciplines, with group work being far more common within in the physical and natural sciences (Neumann, 2003; Wisker et al., 2007). International students report that cultural and

linguistic differences make developing relationships more difficult with peers and others within their institution (Le & Gardner, 2010; Sawir et al., 2008), and presumably with individuals outside their places of study as well. However, status as an international student or the field of research notwithstanding, the large requirements of time and energy have also been found to act as a barrier to meaningful social contacts for many PhD students (Kearns, Gardiner, Marshall, & Banytis, 2006; Offstein et al., 2004).

Consequently, isolation and loneliness have been found to contribute to a range of outcomes depending on both the degree faced by students and their evaluation of the experience. For instance, some students have reported that a lack of social contact contributed to an overall negative perception of the doctoral process (Golde, 1996), was a factor leading to depression (Sawir et al., 2008), or was a primary consideration in ceasing work on their PhDs prior to completion (Bair & Haworth, 2004; Hawlery, 2003; Lovitts, 2001).

3.3.4   Intellectual isolation

As highlighted above, the process of earning a PhD can be a solitary journey for many students (e.g. Ainley, 2001; Kearns et al., 2006; Lovitts, 2001; Sawir et al., 2008), however, the causes and manner in which this isolation is experienced is not uniform. The depth and level of specialization at which student research operates can create difficulty in sharing work and finding understanding amongst family and friends, and even amongst fellow students (see also Conrad & Phillips, 1995; Hockey, 1994). These findings may also add support for the importance of the relationship between students and supervisors, as they would often be sought to provide a level of intellectual support and understanding which is unavailable elsewhere.

Intellectual isolation and a lack of support can also stem from different research practices within different fields. For example, research within the natural sciences is more likely to entail collaboration with peers and supervisors — as students' theses are often part of their supervisors' research projects and may also share workspaces/ resources — and therefore may more commonly lead to greater contact and intellectual support (Becher, 1981; Martin et al., 2001; Sauer, 1986). Similarly, supervisors within the natural and life sciences who share this close working environment with their students are also able to set objectives and closely observe student progress, achievement of milestones, and also communicate their expectations more frequently (Sauer, 1986; Turner, Miller, & Mitchell-Kernan, 2002b). As a result, the features of these working environments can allow a clearer sense of structure and intellectual support than those within the arts, humanities, and to some extent, the social sciences (Bauer, 1997; Martin et al., 2001).

To gain a sense of how intellectual or academic integration may be experienced across large numbers of students and institutions, studies using the Postgraduate Research Experience Questionnaire (PREQ) provide helpful information. Specifically, the item termed intellectual climate provides insight into how well departments provided students with opportunities for social and academic integration, socialization, and whether there was an ambience which stimulated their work. In the most recent Australian study (Carroll, 2013), this survey was distributed to 4,809 PhD and Masters by research students (of whom 3,956 were PhD students) across 41 Australian institutions. Interestingly, students were least satisfied with intellectual climate— a finding consistent with previous years — whilst an item tapping skill development revealed students were most satisfied in this area. Overall, the authors concluded that "While graduates generally have a positive view of their

postgraduate research experience as an exercise in skill development, many did not feel a part of the research community during their time at university" (p. 5). This finding is indicative of a failure to fulfil many social and psychological needs of students and highlights a clear direction to improve the postgraduate research experience for many students. Further, this is also an important finding as one would expect that PhD students would be highly engaged in the creation of knowledge and active debates about ideas which are supposed to underpin the very nature of academic life.

3.4 Institutional Level

3.4.1 Supervision

A supervisor is a more experienced staff member from a student's faculty who endeavours to work with a student for the duration of his or her degree[2]. This individual, or individuals, aim to facilitate a student's progress by providing support and guidance across any situation including formal academic and research related areas, social adjustment and integration to a student's faculty, as well as with study-related personal and emotional issues (Moltschaniwskyj & Moltschaniwskyj, 2007). Neuman (2003, p. 183) calls this relationship "the heart of the student experience" and its importance has been demonstrated through its relationship with significant and diverse outcomes for students.

Perhaps one of the most commonly reported effects this relationship has is upon PhD students' levels of satisfaction with their program (e.g. Harman, 2002; Ives & Rowley, 2005; Lamm, 2004a). For example, a study by Harman (2003)

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[2] Again, the North American equivalent is termed an advisor. However, an Australian supervisor does not chair or convene an advisory or examination committee as is commonly the case in the North American model.

investigated the experiences of 1,531 students at two major Australian universities and found that two of the most predictive items determining PhD students' overall satisfaction were those relating to how students perceive their supervisors, and whether there were adverse changes in their supervision.

Further, the study (Harman, 2003) also revealed a relatively low satisfaction with the overall experience of completing a PhD. Only 57% of respondents reported their experiences to be satisfactory or very satisfactory, with a correspondingly low level of satisfaction in the quality and effectiveness of supervision. These particular findings, being over a decade old, must be interpreted with caution in terms of relevance for current Australian PhD students. However, when taken with the results of other similar research, it appears that the relationship between student and supervisor plays a significant role in influencing the overall experience of students.

There are common features which students find valuable in the supervisory relationship both in Australian studies and internationally. For instance, several researchers have found PhD students place a high degree of value on accessibility and frequent meetings (Harman, 2003; Heath, 2002; Lamm, 2004a; Offstein et al., 2004); academic and personal guidance, support, and trust (James & Baldwyn, 1999; Lamm, 2004a; Neumann, 2003); and an intellectually stimulating atmosphere where feedback is also provided in a prompt and constructive manner (Knowles, 1999; Neumann, 2003; Spear, 2000).

In terms of student success, this relationship has been found to be the most predictive variable to time-to-degree (TTD) and completion in some studies (Ferrer de Valero, 1996; Lamm, 2004b). In particular, it is perhaps the impact of the student-supervisor relationship on PhD completion which is most striking. For example, Lovitts (2001, p. 270) concluded at the completion of her large scale study that "A

student's relationship with his or her adviser is probably the single most critical factor in determining who stays and who leaves", with Dickson (1983) having reached a similar conclusion. In addition to the single studies which all found a strong correlation between the student-supervisor relationship and completion, further persuasive evidence also comes from a meta-analysis by Bair and Haworth (2004). Overall, these researchers found that, of the 128 studies they reviewed, a positive relationship with the supervisor far outweighed any other factor in determining the chance of successful completion. This relationship was the most frequently observed in their study, while, alternatively, they note that no literature suggested any evidence or argument to the contrary.

So, what exactly is occurring or not occurring within these relationships to incline students to depart? Important factors include the unavailability of the supervisor and inability to gain their advice (Heath, 2002; Lamm, 2004b); fear of becoming like their supervisor and losing 'humane' qualities in order to belong and succeed in that environment; perceiving one's supervisors as having an unpleasant attitude (Lovitts, 2001); ineffective academic support and advice (Reiff, 1992); and a lack of interest in the students' work (Bair & Haworth, 2004). Table 3 lists other features of this relationship found associated with attrition.

Table 3. Characteristics of student/advisor relationship related to attrition

Concerns with dissertation advisor/supervisor
Problems with supervisor
Problems with dissertation committee
Lack of advisor cooperation
Lack of advisor understanding
Advisor not caring
Advisor not helpful
Advisor not encouraging
Mismatched expectations and working styles
Inadequate support
Inadequate advice
Major faculty changes during the dissertation
Advisor left the institution or died
Needed more guidance
Infrequency of contacts
Student's standing with the advisor unknown
Lack of support with stress
Inaccessibility of advisor

Source: Bair and Haworth (2004, p. 498)

Conversely, students who completed their degree were more likely than non-completers to report having supervisors who seemed available and approachable (Benkin, 1984; Ducette, 1990), and those who experienced frequent interaction have been found to be most satisfied (Nettles & Millet, 2006). Similarly, Lamm (2004b) found that those students who progressed through to completion had a relationship in which they felt their supervisor was sensitive to their emotional needs which typified different stages and challenges of the research degree, offered encouragement, and fostered student's enthusiasm and persistence. Table 4 lists features of the relationship which have been found to be important for student completion. These findings strongly suggest that not only is the relationship between student and supervisor central to retention, progress, and completion of the degree, but it also plays an important role in creating an overall positive experience for students.

Table 4. Descriptors of student/advisor and student/faculty relationships positively related to degree completion

Quality of the relationship	*High level of faculty/advisor expertise*	*Characteristics of the Advisor*
Positive relationships in quality and time Ability to talk about problems encountered Close, personal relationship Satisfactory interaction Good student/advisor relationship Value of student/faculty interaction Student is satisfied with the relationship Student is treated like junior colleague Student knows one or more faculty quite well Frequent contacts Ease of interaction Opportunities to meet informally Characterized by trust	High quality of advising Quality as a teacher and scholar Usefulness in providing needed information Caring as an advisor Helpfulness on questions related to research Academic coaching Career sponsorship Provides valuable advice	Easy to approach Accessible Personally supportive of students Cooperative Concerned for students as persons Supportive (Major Professor) Supportive (Committee Members) Supportive (General Faculty) Encourages students Encourages student/faculty interaction Personally supportive of students Caring, patient, kind High amount of help Concern for student development Supportive (mentor) Voice of care and power Concern for teaching Acceptance of students Confirmation of students Personal counseling of students Friendship with students

Source: Bair and Haworth (2004, p. 497)

3.4.2 Feedback and recognition

The opportunities for and kinds of feedback received are vastly different during doctoral study than they are during an undergraduate degree. Whereas doctoral students may once have received frequent assessments, marks, and grades to punctuate their effort and achievements, PhD study offers few of these milestones. Instead, the feedback in the context of doctoral study reflects the comments and

recognition students receive from their peers, supervisors, and faculty regarding their efforts and development within their program and is, therefore, "vital for doctoral student satisfaction" and reducing feelings of ambiguity and isolation (Gardner, 2012, p. 18).

Several lines of research highlight the importance of feedback to the academic success of this group. For example, Caffarella and Barnett (2000) found students' writing abilities were strongly associated to the provision of frequent and clear feedback by faculty and peers. A similar theme is echoed through other research exploring the impacts of writing and support groups on student satisfaction and academic progress where feedback, amongst other factors such as sense of community and accountability, are key (Aitchison, 2010; Guerin et al., 2013; Janson et al., 2004; Maher et al., 2013; Nerad et al., 1997). Moreover, the importance of feedback may also be interpreted from the large body of research highlighting the significance of frequent meetings, encouragement, and open and supportive discussions with supervisors, features found to be crucial to student satisfaction, progress, and completion (e.g., Bair & Haworth, 2004; Harman, 2003; Knowles, 1999; Spear, 2000).

However, as influential as constructive and encouraging feedback is, the attitude of the student to receive such feedback is also important. Spaulding and Rockinson-Szapkiw (2012) found through interviews with 76 doctoral students that being able to incorporate and act upon feedback, as well as being open and able to accept criticism, were considered by students to be important to persistence. For example, one student described how "people with a personality that can accept criticism and change and look forward to that challenge are able to finish" (Spaulding & Rockinson-Szapkiw, 2012, p. 210). It appears overall that feedback is closely

related to academic and social integration, and may be a particularly important aspect given the few markers of progress throughout the course of this particularly long and challenging degree.

3.4.3   Academic discipline/departmental differences

The role of different departments and how they affect student persistence, progress, and completion is a complex phenomenon and one that, according to Gardner (2007), can be seen to involve at least five distinct cultural influences. The first is the overarching culture of postgraduate education which reaches across disciplines and institutions. Second is the culture of the university, the norms, values, and processes which govern its daily operation. Next, there is the culture of individual disciplines which also hold distinct norms, modes of behaviour, values, and philosophical traditions that one must adopt to gain membership. Fourth is the culture of the department or faculty which is influenced by the history of its members — this history forms distinct interpersonal dynamics, ways of being, and goals for those who belong there. Lastly there is the culture of the individual students themselves which is comprised of personal history, values, skills, knowledge and personality which interacts with the other cultures, both affecting and being affected by them. This broad view is helpful in understanding the complexity of university culture, however, ultimately, it is at the departmental level where all these cultures intersect, manifest, and influence students to either persist or depart (Gardner, 2007; Golde, 2005; Lee, 2007).

Taken together, the interactions between the students themselves and their faculty, supervisors, and the practices of administration and the like, are features of

distinct departmental cultures (Golde, 1996). Culture, as thought of in universities, is described by Kuh and Whitt (1988, p. 12) as being

> *the collective, mutually shaping patterns of norms, values, practices, beliefs, and assumptions that guide the behavior of individuals and groups...and provide a frame of reference within which to interpret the meaning of events and actions on and off campus.*

In this way, socialization can be viewed as the process through which students learn, adopt, and interact with their departmental cultures.

Rates of completion have shown to be closely and significantly related to the departments and fields in which students study, both in Australia and internationally (Martin et al., 2001; Wright & Cochrane, 2000). In Australia, students within the science disciplines have consistently completed at higher rates than those within the arts and humanities. For instance, Martin and colleagues (2001), through analysis of quantitative data on the 2,647 doctoral students who commenced their degree in 1992, found a consistent trend occurring in departments across multiple Australian universities. The highest rates of completion were found amongst students in veterinary science, followed by those in health, science, agriculture and animal husbandry, and engineering; followed by the consecutively lower rates of arts, humanites, social sciences, and education students. The researchers concluded that students undergoing a PhD in the sciences had significantly higher rates of completion than those in the arts.

The only other Australian research of comparable scale to that of Martin et al. (2001) was conducted by Sinclair (2005) using a different data set from a similar

period. Sinclair drew on a combination of survey data from supervisors (N= 6,482) from 26 universities; and in-depth interviews with another 83 PhD supervisors and 26 PhD students from 17 universities (a total of 26 universities). The cohort studied here were active through 1990-1997 either as students (enrolled in 1990) or by supervising students during that period. Overall, 75% of students enrolled in the natural sciences completed their degree as opposed to 52% in the social sciences, 54% in the humanities and the arts, and 61% in undefined 'other' disciplines. Time-to-degree also followed a similar trend as "48 per cent of candidates in the natural sciences submitted in four years or less compared with 30 per cent in the social sciences, 28 per cent in the Humanities & Arts and 41 per cent in other disciplines" (Sinclair, 2005, p. 6). Interestingly, it was found that discipline was more predictive of completion than institution.

This trend is also supported by research from the United Kingdom (Booth & Satchell, 1995; Wright & Cochrane, 2000). For example, a study of 3,579 PhD students who enrolled in 1984 at the University of Birmingham found discipline to be the only significant factor in predicting completion (Wright & Cochrane, 2000). These results were maintained after controlling for gender, previous academic achievement, source of funding and age — though these other factors (age and funding) where influential when included in the regression.

In American universities, where despite the structure of PhD programs differing from Australian and British institutions in terms of coursework, this trend has also received substantial empirical support (Bair & Haworth, 2004; Bowen & Rudenstine, 1992; Council of Graduate Schools, 2008b; Ferrer de Valero, 1996; Golde, 1996; Golde, 2005; Lovitts, 2001). The largest of these studies, the PhD Completion Project (Council of Graduate Schools, 2008), received data from 24

universities on 19,079 students who commenced in either 1992 or 1993 over a 10 year period. Their analysis revealed that engineering and life sciences students had the highest completion rates (60%), followed by math, physical sciences, and social sciences all sharing a similar average rate of 55%, followed lastly by the humanities (49%).

3.4.3.1 Epistemological influences

The practices of disciplines which influence completion can be, in some respects, traced back to their epistemological roots. In other words, how research is actually carried out in relation to what the subject of enquiry is, as well as the related values and norms within disciplines, can explain some of the departmental differences outlined above. In regards to the evidence for differing rates of completion and attrition by department, two related ideas are useful: paradigmatic consensus and social collaboration.

The term paradigm refers to the body of theory which communities of scholars use to guide their selection of phenomena to study, their means of enquiry, and the notions of validity regarding the knowledge emerging through such practices (Kuhn, 1996). In this way, a paradigm serves an "organising function" by promoting consistency, direction, and best practice amongst members of various disciplines when there is strong consensus regarding a single paradigm (Biglan, 1973a, p. 201). Kuhn (1996) and others (Becher & Trowler, 2001; Sinclair, 2005) describe the natural sciences as having high levels of consensus with the arts and humanities being more diffuse; the fields of social science and business are considered to be approaching or closer to consensus than the arts and humanities.

Biglan (1973a) coined two categories based on Kuhn's analysis of paradigmatic consensus which divides fields into either being a 'hard' or a 'soft' science. 'Hard' sciences such as chemistry, physics, or biology, again share high degrees of consensus and are

> *oriented towards causal explanation and prediction, revelation of universal laws, and generalizability. Soft disciplines such as history and sociology, by contrast, are concerned with less narrowly focused research problems, resist universalizing in favor of particularizing, and share an emphasis on interpretation and reinterpretation. (Turner, Miller, & Mitchell-Kernan, 2002a, p. 52)*

Biglan's distinction highlights how 'soft' disciplines such as sociology or history are — due to nature of phenomenon they study — inclined towards interpretation and subjectivity. Some researchers have noted that as a result of this, certain fields are more *divergent* in theoretical orientations (Turner et al., 2002a) and, perhaps more controversially, that this might lead some disciplines to be more difficult than others for doctoral students to study in (Booth & Satchell, 1995). This argument finds some support from researchers such as Blume and Amsterdamska (1987, p. 78) who found that within many of the 'soft' sciences the "complexity, possibilities, and likely duration" of a doctorate are less amenable to prediction and control. Similarly, some argue that many disciplines which fit the 'soft' science category are also typified by a process of research which must take into account vast areas of knowledge and theoretical perspectives due to their divergent nature (Becher & Trowler, 2001) and that expression of this particular knowledge requires many

forms of intricate and complex types of written analysis (Turner et al., 2002b).
However, evidence regarding the comparative difficulty of various disciplines
remains thin and requires much more research to prove itself a candidate in explaining
rates of attrition.

However, from a social perspective, there is evidence that disciplines differ in
the level of collaboration and interaction as a result of their epistemological roots. For
example, Biglan (1973b) investigated the relationship between departments and their
paradigmic consensus, and how they function socially, and revealed that those with
high consensus (e.g., natural sciences) tended to work with far higher levels of
collaboration on research projects than those with low consensus (e.g., humanities).
Indeed, several researchers have recently proposed different terms to capture these
similar styles of social collaboration and interaction by expanding on Biglan's (1973a;
1973b) work, including: rural vs. urban, divergent vs. convergent (Becher, 1989;
Becher & Trowler, 2001), and collaborative vs. lone scholar disciplines (Turner et al.,
2002b).

The collaborative-lone scholar distinction is of particular interest here because,
despite overlapping with the other concepts, it was developed as a means to better
understand postgraduate culture in particular. This stems from the idea that the culture
of a discipline or department functions not simply as an agent to affect knowledge
production, but also the socialization and progress of students (Turner et al., 2002a),
which is a change of emphasis from previous work. Table 5 shows the hypothesised
features of the lone-scholar and collaborative discipline dimensions.

Table 5. Features of lone-scholar and collaborative disciplinary cultures

Feature of Graduate Education	Lone-Scholar Disciplines	Collaborative Disciplines
Early affiliation with faculty mentor	Low	High
Frequency of student/faculty interaction	Low	High
Faculty responsibility for financial support of students	Low	High
Faculty consensus on socialization goals and standards	Low	High
Coauthorship among faculty and students	Low	High
Importance attached to formal coursework	High	Low
Student autonomy in research and scholarship	High	Low
Student ownership of intellectual property	High	Low
Arduousness of qualifying process	High	Low

Source: Turner et al., (2002a, p. 55)

Similar to the analysis of paradigmatic consensus by Kuhn (1996), Turner and colleagues state that the lone-scholar disciplinary culture results from the primacy of individual subjectivity within certain fields (arts and humanities) while collaborative cultures, on the other hand, arise from disciplines where this individual subjectivity is limited. The intellectual labor of the lone-scholar cannot, therefore, be easily shared amongst members of a team or group (Turner et al., 2002a) which may presumably leave students within these disciplines feeling less intellectually and socially supported or as members of a community.

To conclude that these described cultures within different disciplines explains the varying rates of attrition and progress is, however, premature. Virtually all of the researchers who study and theorize regarding disciplinary culture note that departments, fields, and areas of research within different disciplines are vast, and that

distinctions such as hard-soft or lone-scholar/collaborative are generalizations which do not account for the variability and complexity within fields (Rodwell & Neumann, 2008b), however, these constructs can provide a helpful framework with which to understand the experience of some students.

3.4.4 Clarity of expectations

The clear communication to students of how the various processes and procedures work within their department/institution, and what kinds of experiences they can expect from doctoral study, has been found to have an important impact on student progress (Wao, Dedrick, & Ferron, 2011). Most students in Lovitts' (2001) study had very little understanding of what to expect from their degree, what the process of completing it would be like, and also how the various administrative and institutional procedures operate — a finding shared by other large scale research in the U.S (Golde & Dore, 2001). Those who visited their university prior to beginning and gained information from speaking to people were more likely to complete than those with little prior exposure or knowledge of what to expect. As a factor influencing completion, Lovitts states "Prior socialization to the graduate experience (cognitive map of informal expectations) is a better predictor of success than undergraduate GPA or prior socialization to the academic profession" (2001, p. 266).

In addition to reducing confusion, surprise or disappointment regarding what the doctoral experience will be like, another important area for an institution or faculty to communicate clearly with prospective — and current — students is that of faculty expectations. Semi-structured interviews of 33 students enrolled in counselling doctorates revealed that, for this group, the fit between a student's goals and expectations and those of their faculty and the program strongly influenced who

completed or left prematurely (Hoskins & Goldberg, 2005). How successfully the structure and experience of programs are explained to students has also been found to play a significant role in determining completion (Ehrenberg, Jakubson, Groen, So, & Price, 2007; Smith et al., 2006) and time-to-degree (Wao et al., 2011). This is perhaps not surprising considering that students will likely only tolerate a certain degree of discrepancy between their expectations and the reality of doctoral study — if the reality is worse than expected, that is — before deciding to withdraw (Golde & Dore, 2001).

An emotional consequence resulting from unclear expectations and communication can perhaps best be summarized by what Gardner (2007) refers to as *ambiguity*. Her research found ambiguity to be one of the most common experiences students faced and one that was present throughout the degree (Gardner, 2007). Again, students were unclear about what the doctoral experience would entail, program requirements, and what the expectations of faculty and supervisors were. In addition, she found many students also felt uncertain about their employment future and the nature of their research projects. Of course, this ambiguity is not completely a result of supervisors, departments, and universities failing to clearly disseminate information upon receptive students. The students, too, play an important role in this process (Gardner, 2007).

3.5 Social, Structural, and Material Level

There are several factors which influence the experience of students which could be organised at both lower (Individual) and higher levels of analysis (Social, Structural, and Material). For example, gender and socioeconomic background can be seen as individual demographic factors, however, because they are so closely tied to

sociocultural influences, particularly as they impact the doctoral experience, they will be explored within this Social, Structural, and Material section. Similarly, many of the reasons students choose to undertake their degree as either a part-time or full-time endeavour, or are able to travel internationally to do so, are based largely upon their financial or material resources to do so (Lovitts, 2001). Therefore, this section will review those factors from this higher level of analysis and how they impact students' well-being and academic functioning. It will begin by reviewing literature on how the socio-economic backgrounds of students impact their experience and progress. Next, the financial resources of students and the various ways students support themselves financially will be described, particularly in relation to how this can influence time to degree and completion. Issues surrounding students studying part-time or full-time, or as an international student then follows, before the final section on gender is introduced.

3.5.1 Socioeconomic backgrounds of students

Students backgrounds in terms of socioeconomic status (SES) are frequently deduced from their parents' income level and past education, where higher levels of parental education is often seen as a marker of higher SES (Gardner 2012). Coming from a family of higher SES is argued to be helpful to PhD students through a variety of means. For one, it may provide students with social capital in the sense of providing some socialization to the norms, practices, and expectations surrounding higher research degrees (Holley & Gardner, 2012). For example, a study by Warnock and Appel (2012) found that working class students were less integrated academically and socially in their departments than those of higher SES backgrounds.

A similar sentiment was expressed in other research (Holley & Gardner, 2012) on the influence of sociocultural factors on the PhD experience. One student, for instance, found that the academic divide between himself and his family caused a lack of appreciation for his studies: "I tell my family that I am working on my PhD, and they say, 'You got to have a job'" (Holley & Gardner, 2012, p. 118). However, it is important to note that many students also commented on the fact that they believe their coming from a working class background actually aided their academic performance, for example, by being motivated by memories of financial difficulties or, for sociology students, by having a greater understanding of different social classes (Holley & Gardner, 2012). It appears that, despite research in this area only beginning, coming from a higher SES background prepares some students by equipping them with support, knowledge, and perhaps confidence through being aligned with the dominant culture of higher education, while strengths are also attributed to having come from lower SES strata.

Regarding questions of financial support for low and working class students, Warnock and Appel (2012) also found that these groups were more likely to have larger loans and be more concerned about the ability to pay them off then middle and upper-class students. Nettles and Millet (2006) reported that SES background also affected time-to-degree for students in the fields of engineering and the social sciences who completed more quickly if they came from families of higher socio-economic status while those students in engineering who themselves had a relatively higher household income took longer to complete — presumably due to employment taking time away from their PhD work (financial factors are discussed at greater length in the following section). Overall, research into the impact of SES background

is a fruitful area in understanding the factors affecting PhD students but still requires much more study (Gardner, 2012).

3.5.2   Income, funding, and progress

A significant and varied body of research places the financial support of students as an important factor, though more clearly in terms of time-to-degree than completion. As will be discussed, a possible explanation may lie in the connection between different forms of income and their impact on areas such as socialization and integration, and that more involvement with students' universities may increase commitment to the PhD.

Those students who are self-supporting (through either loans, personal savings, or off-campus employment) have been found to take longer in completing their degree than those engaged in research and teaching assistantships, or those with a fellowship—the latter is a general term in the US referring to scholarships and grants for study (Bowen & Rudenstine, 1992; Ehrenberg & Mavros, 1995b; Maher et al., 2004). Maher et al., (2004) suggest that this difficulty may be disproportionately carried by women as they have been found to be 15% more likely to be self-supporting than men.

When evaluating the comparative impacts between teaching assistantships, research assistantships, and fellowships, however, it is teaching assistantships which have been found to be associated with longer times to complete (e.g., Nettles & Millett, 2006; Seagram, Gould, & Pyke, 1998). A longitudinal study using 20 years of data (1962-1986) from the Departments of Economics, Mathematics and Physics at Cornell University revealed that after students' abilities were controlled for, those students who held teaching assistantships were significantly more likely to withdraw

altogether or take longer in completing their degrees (Ehrenberg & Mavros, 1995a). This trend was also found to hold true more recently. Using data from across 21 universities in the USA, for example, Nettles and Millet (2006) found a similar effect of teaching assistantships on progress within the departments of science, mathematics and education.

A less clear picture emerges between the role of students' finances and attrition. On the one hand, certain large scale studies such as that of the PhD Completion Project, which surveyed close to 2,000 PhD students across 18 institutions in the United States, found that 80% of respondents felt that having adequate financial support and resources was crucial in their being able to complete their degree (Council of Graduate Schools, 2009). Similarly, the work of Lovitts (2001) found that having a teaching assistantship made PhD students twice as likely to complete, while having a research assistantship increased chances of completing by three-fold when they were compared to non-completers. However, other research has drawn different results.

One of the largest and most complex studies of PhD students found a minimal association between funding and completion in their sample (Nettles & Millet, 2006). Specifically, only one type of financial support, namely, having a fellowship was found to have a significant impact on completion rates and only for those in the department of education. In sciences and mathematics, being a research assistant gave only a slight advantage in completing, as did working as a teaching assistant in the humanities or education.

Several possibilities may explain these mixed results. Teaching assistantships place added pressure on students to manage both their own studies and those responsibilities involved in teaching and marking (Nettles & Millet, 2006). Being a

research assistant, on the other hand, may provide academic socialization of relevant skills and knowledge regarding one's own research more so than being a teaching assistant does (Weidman & Stein, 2003), potentially accounting for the faster completion times and persistence amongst research assistants across more disciplines. However, the fact that having a teaching assistantship in the humanities was somewhat helpful in Nettles and Millet's (2006) study might also indicate that the extra social contact in a discipline where work is more commonly done in a solitary fashion, is also helpful. For example, in one study students have been found more likely to persist in the face of financial hardships if they felt tightly integrated within their departments and institutions (Attiyeh, 1999). Finally, reconciling some contrasting results might simply rest on differences of focus with the two major studies mentioned. Nettles and Millet's (2006) study tells us little about students' *views* on the importance of funding to their progress and completion and so — despite the weak association between finances and progress — their sample may also hold a similarly high opinion to that of respondents in the Council of Graduate Schools' research.

3.5.1   Mode of study: full-time versus part-time study

Whether doctoral students study full or part-time has also been found to be closely related to completion rates and time-to-degree in the United States (Nettles & Millett, 2006), Canada (Seagram et al., 1998) the UK (Wright & Cochrane, 2000), and Australia (Rodwell & Neumann, 2008b). Examples of the most robust associations for these variables come from the National Centre for Education Statistics (1996) in the United States, where type of enrolment was found to be the single strongest predictor of time-to-degree (TTD). Similarly, the large scale research of Nettles and Millet (2006) supports this conclusion in terms of TTD, and also rates of completion (with

the exception of engineering). Overall, the researchers found that students who maintain full-time enrolment were several times more likely than their part-time peers to complete — specifically, those in science and mathematics were 4 times more likely; 2.8 times in the humanities; and 1.9 and 1.6 times more likely for in the social sciences and education, respectively. Full-time enrolment was also found to be a significant predictor of TTD.

An Australian study (Rodwell & Neumann, 2008b) similarly found full-time enrolment to be the single most predictive factor of completion, but when comparing the speed of progress between the two enrolment types, part-time students were assessed in terms of their full-time equivalent (FTE) and garnered opposite findings to that of Nettles and Millet (2006). Part-time students completed on average within 3.25 FTE years, significantly faster than their full-time counterparts. These trends have also been found in other Australian (Bourke et al., 2004) and British research (Wright & Cochrane, 2000).

Explanations for the higher rates of completion amongst full-time students and more often faster equivalent TTD for part-time students are believed to result from the availability and use of time. In terms of completion, being enrolled full-time may allow greater amounts of consistent time and intensity to be applied to achieving the degree (Nettles & Millet, 2006), although, as 3-5 years for full-time students and 6-10 years for part-time students is the 'normal' expected amount of time to complete (in Australia and the UK), a larger proportion of full-time students will, of course, complete first. That said, all things being considered equal, there should be no reason for part-time students to finish more quickly in FTE years. No conclusive evidence exists to explain this observed trend although it may be possible that part-time students use more than half of their potential working time — as is expected — to

complete their work, while full-time students use less than what is available (Bourke et al., 2004). It is tempting to consider a possible decline in productivity or performance for full-time students as a result of the added stress and pressure of a closer deadline. International students, however, face this same deadline with the added pressure of visa expiration and still manage to complete more quickly than local students.

In terms of how part-time PhD students experience their degree, Gardner (2012) stated there is a paucity of research in the area. It does appear however that part-time students may experience higher rates of isolation than full-time students (Gardner, 2008). This may be partly attributable to other features found to be more present in the lives of part-time students — features which may have initially led to enrolling part-time — such as having children and experiencing financial difficulties and may similarly preclude the same depth of socialization and integration experienced by full-time students (Gardner, 2008). A similar notion is proposed by Rodwell and Neumann (2008b) who argue that lower rates of part-time student completions may reflect the lowered opportunity for immersion and the development of deeper knowledge and competence in their area of study.

3.5.1   International students

An international student is defined in this context as a student who has enrolled within a doctoral university program and who has gained entry to the country based on a student visa (Department of Education, 2014). Proportions of international students appears to be similar between various Western countries, with this group accounting for 19% of the doctoral student population within Australia in 2004 (DEST, 2006) and 20% within the United States during the same period (Choy &

Cataldi, 2006). The vast majority of these students in the US have also been found to enrol within the STEM fields (science, technology, engineering, and mathematics) (Hoffer, Hess, Welch, & Williams, 2007; Nettles & Millett, 2006). With such a large proportion of doctoral education being made up of this population, significant economic and social importance is tied to their progress, completion, and satisfaction.

It seems that in terms of progress and completion, however, there is little cause for concern. This group of students has comparatively higher rates of completion and quicker times-to-degree than their domestic counterparts. For example, at the end of a ten year period in the United States (1992-93 to 2003-04), 67% of international students completed their degrees compared to 54% of domestic students over the same period (Council of Graduate Schools, 2008).

It is from within the United States that time-to-degree has been most clearly researched with this group. Nettles and Millet (2006) found that international students were significantly faster in completing their degree than most other American groups. Specifically, international students "averaged 5.32 years compared with 5.99 years for Asian Americans, 6.21 for white Americans, 6.26 for African Americans, and 6.34 for Hispanics" (Nettles & Millett, 2006, p. 135).

Given the added difficulties international students face, the faster time-to-degree might seem surprising. For instance, many international students are not of English speaking backgrounds (NESB) — the majority in Australia, the USA, and UK are of Asian background — and so obstacles are raised in terms of contact and socialization with peers and faculty (Nettles & Millet, 2006), both of which are highly predictive of progress times and completion. In addition, conducting highly specialized work using complex language must also add to the challenges these students face. In this way, supervisors have been found to expend extra time and

effort with this population as both the verbal and written communication of
international students requires additional support (Sinclair, 2005).

It is believed that the dominant force in these faster rates of progress stems
from the time pressures of holding a visa as an international (Nettles & Millett, 2006;
Rodwell & Neumann, 2008b). Needing to finish the degree within this strict
timeframe is motivating, and it is also compounded by financial pressures. For
example, despite research suggesting this group is as likely as domestic students to
receive assistantships or scholarships, their chances of securing a student loan are
lower than for their citizen peers. This is concerning when one's savings are depleting
through living expenses and, if one's savings are from a country with a weaker
currency or lower income, a loss through the rate of conversion (Nettles & Millet,
2006).

The well-being of international students is similarly connected to many of the
unique challenges they face. As mentioned, language difficulties and cultural
adjustment problems have repeatedly been found related to their isolation and stress
(Le & Gardner, 2010; Nettles & Millett, 2006; Walsh, 2010). Several analyses of a
large dataset derived from 979 International students at the University of Melbourne
in Australia (where 70.8% were conducting postgraduate research or coursework)
provide insights to several areas related to well-being. In one study, the researchers
investigated what factors might be connected to *cultural stress*, that is, stress
connected to degrees of difference between students' home culture and that of the host
country; feelings of social connection experienced in the country; and the level of
perceived support (Thomson, Rosenthal, & Russell, 2006). Lifestyle balance and
social connectedness were found to be negatively correlated to the experience of
cultural stress, areas that have similarly been found to be important for the well-being

of domestic students. Stress, anxiety, and depression were also found to be positively related to cultural stress (Thomson et al., 2006), while those whose progress was appraised as less than ideal were significantly more stressed than those who considered themselves progressing well (Rosenthal, Russell, & Thomson, 2008). However, it was found that the vast majority did not find studying overseas to negatively impact their well-being (Rosenthal et al., 2008).

3.5.2   Gender

Studies into the rates of completion between male and female PhD students have garnered mixed results. For example, an Australian study using a large data set of 6,034 postgraduate research students showed no significant differences between genders and rates of completion, although men were found somewhat less likely to complete (Martin et al., 2001). This contrasts with the often consistent findings in the United States where women tend to complete less frequently than men (e.g., Council of Graduate Schools, 2008). For instance, the seminal work of Lovitts (2001) on the causes and consequences of doctoral attrition in the United States found that, despite having no detailed national data at the time of publication, women were reportedly accounting for a larger portion of the national 50% attrition rate at least since the 1960's (e.g., National Science Foundation, 1990; Widnall, 1988). More recent large scale studies such as the PhD Completion Project support this conclusion with more specific data. Of 19,079 students from across 24 institutions in the U.S over a 10 year period (1993-2004), the rates of completion for female PhD students were three percentage points lower (55%) than that of men (58%; Council of Graduate Schools, 2008b).

These differences become more pronounced when viewing completion rates of the different sexes across various fields of study. The PhD Completion Project found men to complete nine percentage points higher than women in engineering, eight points in the life sciences, and seven points in math and physical sciences. Conversely, women were found to complete at rates four and five percentage points higher than men in the social sciences and humanities, respectively (Council of Graduate Schools, 2008). Figure 1 illustrates the rates of completion by gender and field of study in the mentioned study.

Figure 1. Gender differences in completion across fields of study
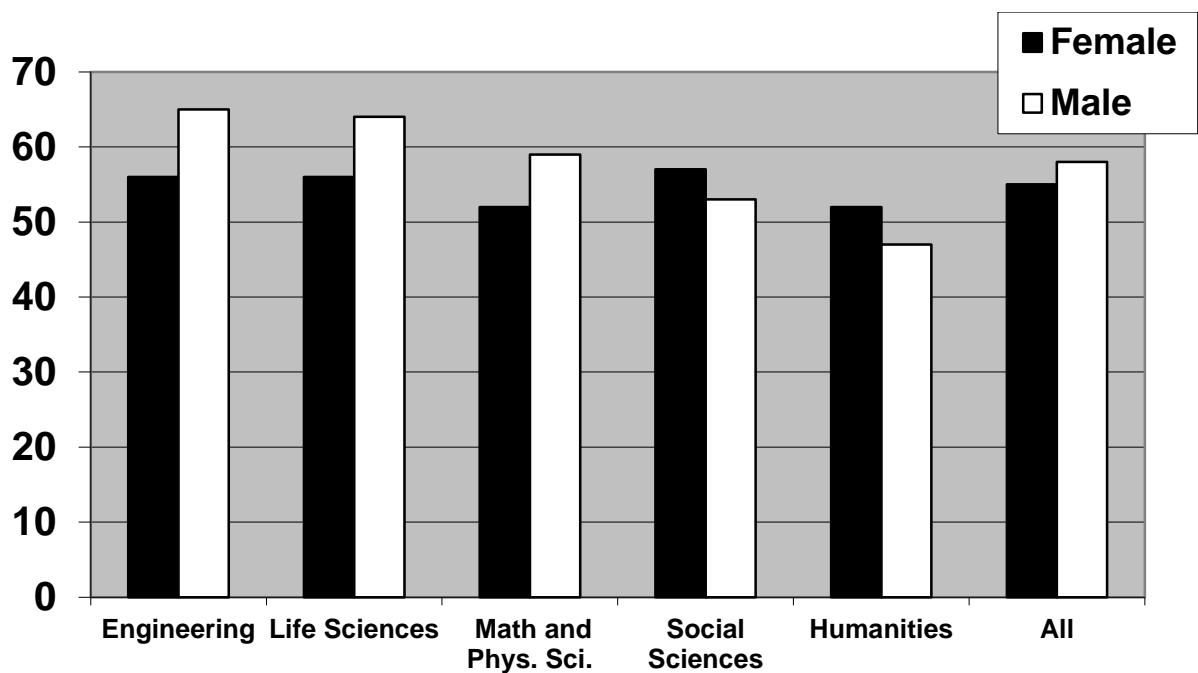
Greater differences have been reported, for example, in Canadian universities, where women in biology dropped out at a 16% higher rate than their male counterparts, and 15% in chemistry (Seagram et al., 1998) with similar disparities reported elsewhere in the United States (Nettles & Millett, 2006).

Men have also been found to complete more quickly than women in at least one major study (Nettles & Millet, 2006), a finding also supported at a smaller scale elsewhere (Moses, 1994). Men finished close to 6 months ahead of their female colleagues across several institutions in the United States, with average completion times standing at 5.77 and 6.25 years respectively (Nettles & Millet, 2006). A lack of similar findings, however, leaves this conclusion as tentative.

Taken together, some research does suggest women are exiting doctoral degrees more often than men — especially in the fields of science, technology, engineering, and maths in the United States — and several reasons have been proposed. In one chemistry department female students felt that the small number of women peers and professors left them with little power to influence the culture of their working environments (Seagram et al., 1998). This culture, as a result, remained one described as reflecting the traditional male qualities of aggression and competitiveness, and motivated several female students to leave.

Other factors found more significant for female students than males included difficulties in balancing family and career goals, lack of advisor support (Seagram et al., 1998), relationship breakdown, a boyfriend or husband moving away, and discrimination based on marital status (feeling they needed to choose between their husband and their work; Lovitts, 2001). Findings that female doctoral students (40.5%) are significantly more likely to rely on their own savings, loans, or off-campus employment than males (25.7%) (Maher et al., 2004), and have lower levels of satisfaction with supervision — experiencing issues around sexuality and power within this relationship (Conrad, 1994) — might also play a role.

A study by Maher et al. (2004) into the factors that differentiated early and late finishing female doctoral students may also provide explanation for varying rates of

progress and completion. Early finishing women were found to hold a higher degree of motivation to complete in a timely manner than those finishing late, as well as a more helpful and productive relationship with their supervisor. Stable funding and financial support was found to be an important factor for both groups, however, late finishing women reported greater uncertainty and severity of financial issues. Similarly, the degree and frequency of family issues involving marital or family problems also served as important barriers to progress. The study also found that women spent a greater amount of time caring for children than their partners, a finding which is consistent with research on gender and the uneven distribution of responsibilities for childcare more generally (Bittman & Folbre, 2004; Craig, 2006; DeVault, 1994).

The last two major themes to separate the early and late finishers in Maher et al's. (2004) study were 'research experiences' and 'ability to make the system work for them'. These themes illustrate that those who completed late were more likely to report having difficulties with aspects of their actual research such as finding a thesis topic or collecting data, while those who finished early were more likely to resolve such issues quickly. Those who finished earlier also felt more confident in seeking support and help from people other than their supervisors, thereby making the 'system' of relationships, rules and resources work in their favour. Overall, the study found those who completed early reported less obstacles and problems with their degree, resolved issues quickly, while those who finished late, if at all, experienced more research problems as well as greater family, marital, and health issues.

3.6 Conclusion

The above section highlights that most students undertake a PhD for a love of learning and intellectual stimulation, as well as to improve employment prospects. The PhD is a demanding and rewarding degree which, unfortunately, a rather small proportion of students tend to complete. The experience of undertaking a PhD, particularly in relation to well-being and academic functioning, is influenced across multiple levels of analysis which are highly connected. Overall, there is strong support for the notion that maintaining a balanced lifestyle, which includes having time for relationships and for oneself, is a challenge for students and is necessary for academic satisfaction and psychological well-being.

High levels of academic and social integration with one's peers, supervisors, and faculty, and the values of support and collaboration, are very important in supporting students. These forms of integration impact well-being, academic confidence, satisfaction, completion and can be more difficult to achieve for international and part-time students. Further, those studying in the humanities, arts, and social sciences are more likely to experience social and academic isolation due to the epistemological nature of their fields and the manner in which research is commonly conducted there. To support academic confidence and satisfaction across fields, skilled feedback and recognition for effort and achievement greatly benefits students.

The societal and material factors of funding and gender also impact the experience of students across multiple areas. For instance, those who work as research assistants might also benefit from increased socialization while those with teaching assistantships may have their progress slowed due to large demands on their resources. Time spent on meeting financial, childcare, or familial responsibilities —

with the latter two being disproportionally attended to by females — also adds to the challenge of finding balance.

If the areas which are important to students' well-being and academic functioning are frustrated, students are more likely to take longer to complete and potentially dropout. The following section explores the implications of these potential outcomes.

Consequences of Longer Completion Times and Attrition

3.7 Introduction

The consequences of PhD students not completing include substantial financial and psychosocial losses and wasted potential and academic resources and time. However, deciding to dropout can also bring about positive outcomes — for students, at least. The following sections will review literature which describes the negative consequences of students taking longer periods of time to complete their degree and from ceasing their studies before completion. Lastly, evidence for students leaving their degrees for positive reasons and experiencing benefits as a result will also be presented.

3.8 Consequences of longer time-to-degree

The most disconcerting consequence of a student taking longer to complete their degree is the consistent finding that they have an increased likelihood of dropping out (Bair & Haworth, 2004; Chris M. Golde, 2005; M. A. Maher et al., 2004; J. Rodwell

& R. Neumann, 2008). The prospect of completing one's degree becoming less appealing (M. A. Maher et al., 2004) may be related to students increasingly feeling demoralized as the duration extends (Tuckman, 1991). Certainly the financial burden students bear in terms of funding magnifies as TTD increases (Bourke et al., 2004; M. A. Maher et al., 2004), as does time away from employment were students could be earning their maximum potential (Lovitts, 2001; Maher, et al., 2004) or pursuing other important life goals. Therefore, longer time-to-degree itself increases the chance of many negative outcomes in the same vein as attrition, however, unlike attrition which can sometimes be associated with positive outcomes, no benefits are recorded in the literature regarding students taking longer to complete their degree.

3.9 Financial losses from attrition

In addition to the effects of longer times-to-degree, financial losses can also be sustained by departing students just as their non-completion leaves the university, department, workforce, state and federal governments, economically worse off (Lovitts, 2001). The level of debt accrued by students who depart may be substantial. The work of Lovitts (2001) showed that of those students who left the PhD, 53% had no debt, 37% owed around $5,000 (these two groups had institutional support of some sort e.g., assistantships), with a small percentage (4%) left with debts of $30,000 or more. However, most students who depart were also shown to be less likely financially supported through assistantships or scholarships, which may suggest higher levels of indebtedness as a result of needing loans (Lovitts, 2001) — although this possibility requires further study.

For institutions, the costs involved in recruiting students are greater than they are in retaining them (Lau, 2003), while losses flowing from the absence of returns on

investing in students are also substantial. The University of Notre Dame (Indiana) found that $1 million could be saved in stipends alone each year if doctoral attrition were reduced by 10% (Smallwood, 2004). At the departmental level, some researchers have commented on the costs that are surely accrued through supervisors and faculty having invested time and effort in students who then depart, as well as departmental resources, which are seemingly wasted as students miss the opportunity to reciprocate this contribution (Lovitts, 2001; Lunneborg & Lunneborg, 1973).

Bair and Haworth (2004) highlight losses to the general economy resulting from attrition. In their review, several studies reported a shortage in most fields of specialists who hold a doctorate (Bowen & Rudenstine, 1992; Ziolkowski, 1990) and they conclude that, in those industries affected, a negative impact would surely result for "business, industry, and government" (Bair & Haworth, 2004, p. 483). However, little evidence currently exists to evaluate the exact economic impact on government and industry of this attrition, mostly due to the difficulty in obtaining data on attrition beyond the departmental and institutional level, which itself is reportedly a challenge to obtain (Bair & Haworth, 2004).

3.10   Psychosocial effects of attrition

The departure of PhD students also brings a heavy emotional toll to students themselves, their peers and faculty, and decreases their potential to add further value to society in numerous ways. For example, a study of 45,596 students who completed their doctorates in the United States between July 2005 to June 2006 found that 64% had definite plans for future work while the remaining 34% wished to pursue postdoctoral studies (Hoffer, Hess, Welch, & Williams, 2006). Of the 64% with intentions for work, 54% planned to work at educational institutions, 26% intended to

work for industry, 6 percent wanted to work in the Government, with the remainder mostly interested in not-for-profit endeavours and K-12 teaching. This means that with rates of attrition ranging from 40-60% internationally, many fine minds who enter doctoral education will not have the opportunity to fulfil their potential as innovative leaders and researchers in business and academia, influential educators, skilled government officials, and highly educated humanitarian workers, both locally and abroad (Gardner, 2009b; Haworth, 1996).

One of the most serious consequences, however, is the emotional cost to the individual who leaves doctorate study (Gardner, 2009; Lovitts, 2001). Lovitts (2001) describes how those who leave are often faced with a serious blow to their self-esteem, identity, personal vision, and confidence. PhD students often come to graduate study with a history of feeling academically competent, able to overcome challenges and hurdles to achieve their desired goal. Many, she adds, are faced with "failure" for the first time, and this can be "devastating" for the student (Lovitts, 2001, p. 6). Students felt "horrible", "shell-shocked", "really shaken up", and "depressed" over the decision and process of leaving their degree. Two female respondents to Lovitts' survey admitted to attempting suicide after leaving the degree, at least one other felt suicidal for several years after leaving, while Golde (1996) reports of at least one suicide.

3.11   Positive reasons for departure

Finally, it is important to note that not all reasons for departure are negative. For instance, opportunities may arise which serve the interests of individuals better than the completion of their degree (Rapaport, 1998). For instance, some may leave because of excellent employment opportunities, to change degrees, or to focus on

family and relationships (Norton, 2011). These cases of departure may be present in situations where students experienced high levels of wellbeing and satisfaction with their studies. However, it is important to consider in some cases whether other alternatives — jobs, degrees, pursuits — became more attractive because of the low level of satisfaction students felt during their degree. Specifically, reasons for departing may appear, at times, more "positive" simply because experiences of the PhD are so negative.

3.12   Conclusion

In all, the costs of students taking longer to complete or dropping out altogether appear substantial to students themselves, institutions, and society. These costs include financial losses, lowered well-being, and a reduction in the likelihood of students to then contribute to academia and society through further high level research and employment. The factors found to be important in influencing students' well-being and academic functioning which were outlined in the beginning of Chapters 2 & 3 provide some insight into what contributes to a more positive experience of the degree which in turn reduced time-to-degree and attrition. The following section will continue to explore these themes regarding what is important in students' academic success and well-being by reviewing interventions and efforts which have aimed to support this cohort in various ways.

Chapter 4

Supporting PhD Students: Current Programs, Resources, and the Potential of Mindfulness

4.1 Introduction

The primary means through which students are supported by their universities include opportunities for increased intellectual and social integration, as well as through guidance on self-management strategies and well-being. These various avenues often include opportunities for the development of academic skills such as writing and productivity or more psychologically oriented skills such as overcoming procrastination and reducing stress. The following chapter will begin by reviewing the literature which describes students being supported in these ways before introducing research which positions mindfulness-based stress reduction (MBSR) — and a shortened adaptation of it — as a potentially promising intervention for PhD students. Mindfulness, taught through MBSR and other means, is already being used by universities to support students and staff and so an illustration of its adoption and application in different universities will also be presented.

4.2 Supporting intellectual and social integration

4.2.1   Writing groups, writing Support, and communities of practice

The transition to individual research following the coursework component of North American PhD, and the engagement of this process throughout the entire course of those working within the British model, presents students with challenges far greater than those experienced in their undergraduate studies. In particular, the research

requires comprehension and critical engagement with a large literature while the writing of a thesis calls for proficiency in style, structure, and rigour commensurate with the highest standards across academic fields (Hart, 2010). These challenges, in addition to greater isolation for many, contribute to a rate of attrition where approximately 50% of those who drop out in the United States do so after entering the independent research phase or soon after (Nerad et al., 1997). For these reasons (e.g., meeting the challenges of acquiring and practising academic skills, as well as overcoming isolation), support groups have been identified as important resources for students.

Some fascinating examples of these groups which overcome geographical distance to share experiences and offer support to one another are online forums and collaborative blogs and websites. One of the oldest of these, PhinisheD (phinished.org), began in 1997 and boasts a hall of 'Phame' where the usernames and completion years of hundreds of PhD students are listed, all of who used the site to discuss the difficulties of their journeys and offer and receive guidance. Other websites include the collaborative blogs of GradHacker (gradhacker.org) and The Thesis Whisperer (thesiswhisperer.com), both of which allow PhD students to browse topics such as productivity or well-being, and also to contribute posts of their own or ask questions.

The most commonly researched type of support group, however, are PhD writing groups. For example, Maher et al. (2013) describe a group which began informally, where two academics decided to simply work in the same location on a Saturday, sharing goals for both the morning and afternoon and then discussing progress at certain intervals. This model soon attracted other academics, doctoral students, and also inspired spin-off groups to accommodate individuals' differing

circumstances (e.g., a 2-3 hour meeting held fortnightly on a weeknight on campus). A year after the inception of these groups, faculty members reported an increase in PhD completions and shorter times-to-degree.

Examples of more formal and purposefully implemented writing groups in Australia are described by Aitchison and Lee (2006) where thesis writing circles (TWCs) were convened weekly for three hours over 8-10 weeks. These meetings were used to critique/review new and revised work produced by students, with each week focusing on different aspects of writing (e.g., language, thesis structure, style of writing). These TWCs were led by an independent language specialist, a feature considered important to the success of the group.

Despite several researchers commenting on the lack of evaluation and understanding of writing groups (Aitchison, 2010; Maher et al., 2013) the extant findings support their helpfulness to PhD students. Broadly speaking, these groups have been found to contribute to many interrelated areas of student experience, including: the development of academic identities as students explore scholarly work and practices within their own and other disciplines (Aitchison, 2010; Lassig, Dillon, & Diezmann, 2012; Maher et al., 2013); an increase in productivity, skills, and confidence in one's academic work (Maher et al., 2008; Nerad et al., 1997); and reductions in isolation with a corresponding increase in feelings of community and interaction (Guerin et al., 2013; Janson et al., 2004; Maher et al., 2013). These outcomes all speak to improvements in students' academic performance and well-being.

Indeed, a consideration of these benefits — and the form and functions of various writing groups — from the perspective of psychological well-being models provides a greater depth of analysis. For example, in line with Aitchison's (2010, p.

85) description of writing groups as a "social practice" most forms of writing groups can be seen to provide opportunity for positive relations with others; social acceptance, actualization, contribution, and integration; personal growth; and environmental mastery according to the psychosocial model well-being of Keyes (2002a). Self-determination theory on the other hand, which overlaps with Keyes' model in many regards, places greater emphasis on the three factors of autonomy, relatedness, and competence as the basic constituents of psychological well-being (Niemiec & Ryan, 2013). In this way, writing groups which are student led may provide a greater sense of autonomy whereby the direction and functioning of the group provides greater personal choice, agency, and self-directed behaviour. All writing groups, however, can be seen to provide opportunity for increasing students' sense of competence. Through the acts of discussion, critique, and support, students normalise their experiences of academic challenges and move to greater degrees of proficiency and skill. Lastly, the increased accountability found in groups which often motivates students to be more productive (Maher et al., 2013) may similarly give students a greater sense of *accomplishment* and *engagement* with their work, two factors considered important in Seligman's (2011) model of well-being.

Many of these benefits to well-being are evident in studies which provide more detailed reflections on the experience of writing groups. One notable example is provided by a group of former PhD students from the University of Waikato, New Zealand. The authors recount the collective experiences of themselves and five others who, after beginning their studies with high hopes and excitement, soon found themselves feeling "isolated in what seemed to be an unending emotional storm" (Janson et al., 2004, p. 171). After a few individuals learnt that they were not alone in having these feelings a group was formed which quickly attracted further members.

The group acted as a means through which members could discuss both emotional and academic experiences, contributing to what the authors describe as an incredibly positive experience. Overall, membership in the group was said to be responsible for transforming the experiences of the students, leading to improved persistence, performance, well-being, and completion of their degrees.

Similarly, literature from within Australia also provides accounts highlighting the contrast between those with and without a sense of social and intellectual support. Devenish et al., (2009) from Curtin University in Western Australia also describe how pleasurable their journey and that of their peers had been during their doctoral studies (see also Horstmanshof & Conrad, 2003). The authors continued to note their surprise at the discrepancy between their own experience and those reported by students from other Australian universities, who were described as feeling invisible and isolated (e.g., McAlpine & Norton, 2006). Devenish et al. (2009) attribute a significant portion of this relative "success" to the support they received through their study group, again emphasizing the importance of the social connections in influencing positive academic and personal outcomes.

The examples given above can also be understood as *communities of practice*, a term which several researchers use to understand these various forms of PhD student support groups (e.g., Janson et al., 2004; Lahenius, 2012; Maher et al., 2008; Wisker et al., 2007). A community of practice is defined as a group of people who come together to address a range of shared concerns, work on problems based on a similar work context, and to develop understanding and expertise through continuing interaction and mutual support (Wenger, McDermott, & Snyder, 2002). As such, PhD students who come together to discuss their experience, challenges, work on their theses together, and who reciprocate support can be seen as communities of practice.

This concept is important as it emphasises the aspect of *community* which, as Chapter 3 illustrated, is strongly linked to both PhD well-being and academic success. Further, conceptualising writing and various support groups in this way may also reduce some stigma attached to the term "support group", which may imply connotations of deficit in this context. Instead, the term speaks to the joint venture of skilled individuals overcoming challenges together (Janson et al., 2004).

A predominant model for doctoral communities of practice does not exist; indeed, some authors argue that there is no correct format or formula, and that a variety is required for different needs (Buissink-Smith, Hart, & van der Meer, 2013). As the above section on writing groups demonstrates, some major differences in groups do exist between those which are originally student initiated (developed bottom-up) versus those which are institution driven and formed from the top down — however, combinations of these also exist, just as combinations of the groups themselves being student or faculty lead also varies. Secondly, groups also differ according to their function where some are more social in nature and are often convened around food (e.g., restaurants), activities (e.g., sporting events), or informal get-togethers (e.g., at a home or university room), whereas others are more explicitly academic in focus (e.g., focusing on skill development or topics related to research). Lastly, for those groups who meet at particular times, the frequency and length of sessions, and the degree of predetermined objectives and structure for meetings also varies. The following section highlights examples of groups which may serve certain functions of communities of practice (e.g., skill development and intellectual support) but are more geared towards social integration and interaction.

4.2.2 Associations, clubs, and teams

Although no direct research could be found to attest to the impacts of university associations, clubs, and teams on PhD student well-being or academic functioning, these groups might play an important role in creating an engaging culture in universities and supporting the social and intellectual integration of students — factors found to have a profound influence on satisfaction and progress (e.g., Bair & Haworth, 2004; Spaulding & Rockinson-Szapkiw, 2012). It is also important to note that the groups and associations discussed below are open to PhD. students and postgraduates more generally, and so this section discusses resources that may be helpful but are not exclusive to PhD students. Many of the potential psychological benefits that PhD students can potentially experience from belonging to groups at universities could be understood through the models of well-being discussed in section 2.1 as well as team and organisational research.

From the area of well-being research, factors from Ryan and Deci's (2008) self-determination theory (relatedness and competence), and those from Ryff's (1995) earlier work and then from Keyes' (2013) contributions (positive relations with others, social integration, social contribution, social coherence) may account for many of the benefits of group membership. Literature on teams from within organisations support this perspective as studies have found that working as a team increases a sense of belonging (Allen & Hecht, 2004) and reduced fatigue and stress (Godard, 2001). Differences exist between organisational teams who focus on work tasks and the many forms of groups within universities (described below), however, some socioemotional needs – sense of belongingness and relatedness – which are met through collaboration and interaction are likely universal (Ryan & Deci, 2001).

The sheer variety and volume of groups internationally is testament to their value to postgraduates. The most commonly observed type of group across

universities, Graduate Student Associations (e.g., Imperial College London; University of Melbourne; Penn State University), function to provide students with entertainment (e.g., movie screenings), sports (e.g., hiking or surf trips), and opportunities for socialising and social support (e.g., dinners or peer support groups). These associations provide services and activities for all students and attempt to cater for a wide variety of needs and are represented nationally in this country by the Council of Australian Postgraduate Associations (Evans, 2007).

Many universities also provide opportunities for membership around particular demographic characteristics, such as minorities, or goals; in addition to the types of functions that graduate student associations carried out, some of these more specialised groups also foster greater advocacy, discussion and support around particular areas. These groups provide an important function because having a reason behind or perceiving meaning in a groups' membership supports a strong sense of belonging (Baumeister & Leary, 1995). For example, the Queer Pride Graduate Student Association at Northwestern University in Chicago aims to also increase awareness of the areas which may affect the Lesbian, Gay, Bisexual, Transgender, Queer, and Ally (LGBTQA) graduate community, as well as lobbying to support the interests of this community both within and without the university. Other examples include the International Student Association at Victoria University which aims to provide support and connection to students who came to study from abroad, the Black Graduate Students Association at Stanford University, and the Latino Graduate Student Association at Princeton University, who similarly provide support and interaction to those from these ethnic groups.

Lastly, there are also sporting teams and other types of clubs also provide opportunities for social contact and networking but are generally less focussed on

particular issues or groups of individuals than the above mentioned associations. Varieties of such clubs are plentiful, from the Outdoor Adventure Club at Victoria University to the Young Researchers' Speaking Club at the University of Edinburgh, all providing membership and activities suited to student's interests and satisfying important social needs (Baumeister & Leary, 1995).

4.3 Supporting psychological well-being and self-management

4.3.1   Addressing procrastination and self-handicapping

Many authors speak to the importance of psychological factors such as cognitions and emotions and their impact on the experience and progress of PhD students and that this would be a fruitful line of intervention. Muszynski and Akamatsu (1991) for instance recommend that programs which help students manage stress and restructure irrational or unhelpful cognitions would likely support their progress. Similarly, Norton (2011) also concludes his review on factors important to student progress and completion, with a particular focus on psychological factors, by recommending that interventions or workshops which focus on time-management, strategies to increase motivation, manage difficult emotions, momentum, and writers block, as well as fostering positive relationships with one supervisors, are all likely to be valuable paths to decreasing stress and promoting better student progress. However, as also noted by many researchers, despite a focus on factors associated with PhD student progress, completion and attrition, there exists a distinct lack of research into the actual efficacy of programs and interventions designed to support this cohort (Kearns et al., 2008; Norton, 2011). The few exceptions focus on helping students with self-handicapping behaviours, perfectionism, procrastination, and also stress-management.

Procrastination is commonly defined in academic and other contexts as the process of delaying work on important tasks by focusing instead on activities or goals of less importance (Howell, Watson, Powell, & Buro, 2006; Johnson, Green, & Kluever, 2000; Lay, 1986). In this way, procrastination on thesis completion has also been found to be correlated with perfectionism, as the latter may increase a task's aversiveness due to high expectations and possibility of failure (Green, 1997). However, although procrastination may delay or sabotage a project's completion, an individual may either feel guilt for not having achieved the desired goal or find solace in the knowledge the failure does not reflect ones true ability, courtesy of distractions or other responsibilities. The term self-handicapping highlights this distinction by including all self-sabotaging actions, including procrastination, which allow a person to maintain a positive image of oneself or self-presentation to others by providing a justification for a lack of performance (Kearns, Forbes, & Gardiner, 2007). Kearns and colleagues' (2007) review of the PhD student literature found self-handicapping behaviours included such actions as staying incredibly busy, overcommitting, being disorganised, perfectionism, procrastination, putting in little effort, and opting for circumstances which prevent optimal performance. Interestingly, a strong relationship has also been found between perfectionism and self-handicapping behaviours (Kearns et al., 2007), perhaps highlighting the tension in this cohort between placing high personal demands and a need for a positive self-evaluation. This finding is in line with the work of Ahern and Manathunga (2004) who similarly argue that the antecedents of PhD student procrastination and other displays of stalled progress are often cognitive and emotional, but, also social in nature.

The cognitive reasons for procrastination refer to the lack of knowledge and skills necessary for completion of the thesis (Onwuegbuzie & Collins, 2001) and

irrational or unhelpful beliefs (Kearns et al., 2008). The affective or emotional reasons

for PhD procrastination may arise from performance anxiety stemming from irrational

beliefs (Greenberger & Padesky, 1995), such as viewing the PhD as a test of

intelligence and competence, the failure of which has significant repercussions for

personal self-esteem. Low self-esteem itself has also been identified as another

emotional source of procrastination amongst university students (Beswick, Rothblum,

& Mann, 1988). For instance, having a low level of confidence in oneself and abilities

may preclude necessary action to progress in the degree. The final emotional factor

offered by Ahern and Manathunga (2004) relates to potential personality clashes

between students and their supervisor, which "can result from a clash of unclear,

unrealistic or unnegotiated expectations of each other" (p. 248).

Within the social domain, procrastination is viewed to likely be linked to four

areas in students' lives: feeling isolated in one's schools or department; finding it

difficult to manage responsibilities and find time for study; having family or social

networks being unsupportive or jealous, or experiencing a relationship breakdown or

loss; or, finally, experiencing financial pressures which inhibits progress. However, as

noted by Ahern and Manathunga (2004), not all blocks to student progress are caused

by procrastination, in other words, all delay is not procrastination, but all

procrastination is delay.

As mentioned previously, very few studies have examined the effectiveness of

interventions aimed at helping PhD students with their self-handicapping and self-

sabotaging behaviours. Notable exceptions, however, include the early work of

Franek (1982) and more recently that of Kearns and colleagues at Flinders University,

Australia (Kearns et al., 2007; Kearns et al., 2008). Franek's (1982) intervention

consisted of four sessions where discussion and education around several cognitive,

emotional, and social areas relevant to the PhD experience took place. Specifically, the areas covered included: managing difficult emotions, time management, strategies for maintaining motivation and momentum, overcoming writers block, and the student-supervisor relationship. Interestingly, despite the experimental group making significantly more progress on their theses compared to a control group over eight weeks, the most highly rated factor was the social support participants felt they received during the intervention. This finding highlights the high importance of social integration and connection amongst PhD students, particularly in the context of their shared experience of challenges.

The work of Kearns and colleagues at Flinders University in Australia has repeatedly shown that a psychologically oriented intervention for PhD students can be highly effective (Kearns et al., 2007; Kearns et al., 2008). Their program entitled 'Getting your thesis finished: defeating self-sabotage' aimed to "teach students the underlying cognitive strategies and attitudes needed to complete their PhD on time, reduce stress, manage their time and workload better" by replacing perfectionism and self-handicapping with more adaptive behaviours (Kearns et al., 2008, p. 79). Specifically, the course ran for 15 hours over six weeks and focused on goal setting, identification of unhelpful patterns and obstacles, exploring the costs of these patterns, taking corrective action, and identifying and challenging irrational or unhelpful beliefs. Students reported a range of benefits from the program including significant improvements in time management and planning skills, more frequent sharing of work with supervisors and increased ability to ask for help, as well as significant reductions in unrealistic self-expectations, amongst others (Kearns et al., 2008). Such work is important in highlighting that cognitions and emotions can also be targeted as

fruitful avenues to support PhD students, in addition to the skills and varieties of integration which are most commonly investigated.

4.3.2 Relaxation training

Given the stressful nature of the PhD degree, and the high rates of stress reported amongst this group (e.g., Juniper et al., 2012; Kirsi et al., 2012), it comes as no surprise that many universities offer students avenues to reduce stress. Michigan State University in the United States, for example, offers two programs for PhD students, 'Stress Management and Enhancing Performance in Graduate School', and 'Banishing Burnout: from Stress to Strength', while Monash University in Melbourne Australia offers weekly mindfulness meditation classes at five of its campuses — for undergraduates and postgraduates alike. Similarly, virtually all university websites advertise support for dealing with stress through their counselling and support services. Despite this, whether offered as part of general counselling services or, less commonly, through trainings and programs, very few research studies examine the impacts of stress reduction for PhD students.

Being one of the few, Smith et al. (2006) sought to understand how a 12 week stress reduction course, offered as an elective, might benefit 12 doctoral students at Texas A&M University. Their study was conducted with students from Educational Psychology and the Department of Counselling, though what percentage were research students as opposed to those doing professional doctorates is unclear. The program itself was based on the fifth edition of *The Relaxation & Stress Reduction Workbook* (Davis, McKay, & Eshelman, 2000) and organised into three modules: stress identification (understanding sources and manifestations of stress), intervention development (understanding physical, cognitive, and behavioural stress reduction

techniques), and reporting results (tracking impacts/experiences of the course).

Students identified manifestations of their stress both pre-and-post program and a

reduction in symptoms was reported, including: a complete elimination of headaches,

nail-biting, and neck and shoulder pain, as well as lowered coffee consumption, blood

pressure, and rates of sleep disturbance. In addition to praising the program, the

authors note that all participants stated the stress reduction program should be made a

"permanent part of graduate studies at the doctoral level" (Smith et al., 2006, p.29).

Although this study highlights the potential for stress reduction with doctoral students,

the only data beyond students' own pre-post symptom descriptions were the authors

own anecdotal accounts.

More recently, the curriculum of the program was expanded to also include

two texts on the relaxation response and delivered to 55 Masters level students in a

counselling program (46 controls; Abel, Abel, & Smith, 2012). Using a wide array of

measures, the study found that 100% of students in the treatment group experienced

reductions in self-identified symptoms of stress, as well as significant improvements

in knowledge of stress, perceived state and trait anxiety, perceived stress response in

terms of positive and negative self-statements, and general perceived stress levels.

The only measure which did not reach significance was perceived current stress level,

which the authors attributed to the end of semester stressors (exams and deadlines)

during which post data collection took place.

Taken together, it appears that a stress reduction program is an effective means

of transferring knowledge and skills in self-management to postgraduate students.

Whether these same results may hold true for a more clearly defined PhD population

remains to be assessed, however, given the high levels of stress and difficulty which

most doctoral students experience, it is likely that an intervention for these students

would also be fruitful. The next section will review literature on an intervention called mindfulness-based stress reduction (MBSR) which, in addition to teaching individuals how to reduce stress and manage emotions more adaptively, also supports the development of attentional regulation skills. Although MBSR was introduced in Chapter 2 in order to present the central areas of this research, the following section will provide a review of the literature in relation to the efficacy and impacts of this program both with the wider population and with university groups. It is hoped a brief version of this intervention will be able to support PhD students in terms of their well-being and academic functioning.

4.4 Could mindfulness and MBSR support PhD students?

As introduced in Chapters 1 & 2, Mindfulness-Based Stress Reduction (MBSR) is an eight week psychoeducational program developed by Jon Kabat-Zinn (1990) which teaches participants how to apply the skill of mindfulness through various techniques (sitting meditation, body scan, yoga, walking meditation). The common aim in MBSR groups is to equip individuals with skills and knowledge to reduce stress and reactivity and increase well-being (McCown et al., 2010). Despite the MBSR program being adapted and changed to reflect differences in context and groups, the essential content remains unchanged throughout versions (McCown et al., 2010). The "template MBSR program" (McCown et al., 2010, p. 139) developed by Kabat-Zinn (1990) requires participants to attend eight weekly 2.5 hour sessions and a full day (7 hour) retreat just before the seventh session. In total, participants are expected to attend the full 27 hours of class time as well as practise at home for 45mins a day, 6 days a week during the length of the course — Appendix C describes the content of the traditional MBSR format in detail. The following sections will

review the evidence for MBSR and adaptations of this intervention for supporting a wide range of individuals in different contexts, including universities, to highlight its potential for benefitting PhD students.

4.4.1   Efficacy, outcomes, and adaptations of MBSR

MBSR has been used and found to be helpful for people suffering a range of problems. For example, these include healthcare professionals with stress (Martín-Asuero & García-Banda, 2010), organ transplant recipients (Gross et al., 2010), those diagnosed with social anxiety disorder (Goldin & Gross, 2010), failed back surgery patients (Esmer, Blum, Rulf, & Pier, 2010), many individuals with sleep disturbance (Winbush, Gross, & Kreitzer, 2007), rheumatoid-arthritis (Pradhan et al., 2007a), and those within correctional facilities (Samuelson, Carmody, Bratt, & Kabat-Zinn, 2007). Common to most of these studies and others are improvements in quality of life and well-being, pain tolerance, as well as significant reductions in levels of stress.

Beyond the individual studies which have found positive results with a wide range of people, meta-analyses also lend support for MBSR as an effective intervention. For example, an earlier meta-analytic study by Grossman et al. (2004) sifted through 64 studies to identify only 20 with suitable criteria. They found that, overall, MBSR did provide consistent and substantial improvements across a wide range of groups, leading the authors to conclude that MBSR may foster enhanced coping in the general population as well as those facing more serious illness. The areas which showed improvements commonly included depression, anxiety, quality of life, coping ability, stress levels, and other measures of affect. However, the small number of eligible studies in the analysis prevented an assessment of MBSR's

influence across physical measures and also reduced the strength of the overall conclusion. Being able to include only a small number of studies has also hampered more recent meta-analyses (Bohlmeijer, Prenger, Taal, & Cuijpers, 2010; Chiesa & Serretti, 2009), indicating a greater need for randomised control trials (RCT's) in this area.

The effectiveness of MBSR with specific populations, as opposed to heterogeneous groups, also provides insight into MBSR's efficacy but is similarly limited by few quality studies. Looking at levels of depression, anxiety, and psychological distress amongst individuals with chronic somatic illnesses, Bohlmeijer and colleagues (2010) found that MBSR provided small levels of improvement. However, they advise caution in interpreting these results as the effect was found to be larger when more lower-quality studies were included, raising questions regarding the statistical power of the analysis. Further, when MBSR has been adapted to specifically target depression elsewhere by incorporating features of cognitive therapy it has found to significantly reduce relapse rates of individuals compared to those receiving treatment as usual (Kuyken et al., 2008; Strauss, Cavanagh, Oliver, & Pettman, 2014; Teasdale et al., 2002; Teasdale et al., 2000) suggesting that rather than being a panacea in its original format, MBSR has greater potential to help individuals if it is adapted for specific populations.

Some evidence also exists for the efficacy of MBSR with healthy people. Chiesa and Serretti (2009) focused on controlled studies and measured stress along with some dimensions of what they termed spirituality (participants being more accepting and open to present moment experience or feeling a sense of transcendence or connection to something greater). In all, ten studies were found to be eligible for analysis and again, after cautioning against how much weight should be given to

conclusions drawn from studies using a small pool of evidence, they found MBSR to be effective in reducing stress and increasing spiritual values. Sharma and Rush (2014) recently followed a similar line of inquiry by conducting a systematic review of MBSR studies which focused on nonclinical populations from 2009-2014 and also concluded that this intervention had continued to be an effective strategy for reducing stress with healthy groups. Overall, these meta-analyses and reviews point to the possibility of MBSR being an effective intervention for a wide range of populations, particularly in relation to improving psychological health.

As mentioned in relation to depression above, MBSR and aspects of the program have been adapted to address particular problems or to better suit the needs of different groups. For example, there is evidence that such adaptations are being used to successfully support individuals with borderline personality disorder using dialectical behaviour therapy (Kliem, Kröger, & Kosfelder, 2010), those suffering from addictions using mindfulness-based relapse prevention (Chiesa & Serretti, 2014), and those with eating behaviour problems connected to obesity using MBSR and a range of mindfulness-based interventions (O'Reilly, Cook, Spruijt-Metz, & Black, 2014). Kabat-Zinn (1996, p. 162) himself states:

> *We emphasize that there are many different ways to structure and deliver mindfulness-based stress reduction programs. The optimal form of its delivery will depend critically on local factors and on the level of experience and understanding of the people undertaking the teaching. Rather than "clone" or "franchise" one cookie cutter approach, mindfulness ultimately requires effective use of the present moment as the core indicator of the appropriateness of particular choices.*

However, in terms of the current study, the adaptations which are of most relevance are those where MBSR has been shortened. To this end, several lines of research support the efficacy of these adapted programs which have been made

shorter by some combination of reducing the number of sessions, the duration of sessions, and/or the frequency and duration of home practice.

The strongest evidence for shortened MBSR programs being effective with various populations comes from the work of Carmody and Baer (2009). In their study, Carmody and Baer analysed the effect sizes of adapted MBSR programs delivered to both clinical and nonclinical groups, as reported within 30 empirical studies. The number of sessions within these 30 studies ranged from 4 weeks (in 1 study) to 10 weeks (in 3 studies), though the majority (83%) still used eight sessions. Duration of sessions ranged from 1 hour (one study) to 2.5 hours (10 studies), with 7 studies shortening sessions to 1.5 hours. Whereas the original format consisted of 27 hours of in-class time, the average within these 30 studies was 18.8 hours. After computing effect sizes and assessing their relationship with class hours in these 30 papers the authors concluded that there was no significant relationship between the two; meaning, shorter versions of MBSR may be as effective in producing positive outcomes for participants as the full length program. This finding and other studies which position shortened MBSR programs as effective (e.g., Erogul, Singer, McIntyre, & Stefanov, 2014; Klatt, Buckworth, & Malarkey, 2008) have important implications for many groups. For PhD students, the time requirement of the original MBSR format could to be an obstacle to participation given their time poor schedules and so shorter adaptations could increase accessibility without compromising outcomes.

There is less clarity on the question of how reduced homework practice during an MBSR program, in terms of duration and frequency, impacts outcomes. Again, the traditional format requires participants to practice for 45 minutes a day, six days a week, which would not be easy for many populations (e.g., university students).

Several studies have found a significant correlation between the frequency/duration of home practice and outcomes (Carmody & Baer, 2008; Speca, Carlson, Goodey, & Angen, 2000) while other studies report no significant relationships between these variables (Astin, 1997; Davidson et al., 2003). Such mixed results may indicate that a more complex range of factors, rather than just frequency and duration, affect outcomes. For instance, Kabat-Zinn (1994, p. 123) states that a person's sincere effort is more important than the length of practice, and so a range of intrapsychic variables such as strength of motivation and outcome expectancies may also play a role.

4.4.2   MBSR and mindfulness within universities

It is important to note that mindfulness has been made available at many universities to support the well-being of students and staff, as well as being the focus of academic research in many fields. Mindfulness is also offered as an elective to medical students at Brown University, Rhode Island in the United States, within Psychiatry at the University of Massachusetts Medical School, as well as Cambridge University and the University of Leeds amongst many others. In a general sense, there appears to be a growing interest in increasing the well-being of students and staff at many universities (Oades, Spence, Robinson, & Green, 2011; Shutler-Jones, 2011) and mindfulness is offered through the counselling services or as part of the curriculum in various courses to support students' well-being and/or professional practice.

An important example of how mindfulness has been incorporated into higher education comes from Monash University in Melbourne, Australia. Monash University is making efforts to integrate mindfulness with many areas of study including the faculties of Law, Psychology, Business, and IT ("Mindfulness at

Monash," 2014). Due to the pioneering and ongoing work of Craig Hassed, the Monash mindfulness program has been used to train undergraduate and postgraduate medical students in mindfulness since 1991 (Hassed, Sierpina, & Kreitzer, 2008). In 2002, the Health Enhancement Program (HEP) was introduced as a component of the core medical curriculum. The HEP consists of two primary components, training in mindfulness and the ESSENCE lifestyle program (an acronym describing factors important for health: Education, Stress management, Spirituality, Exercise, Nutrition, Connection, Environment), but also covers topics such as mind-body medicine and behavioural change techniques over the course of the program (Hassed, De Lisle, Sullivan, & Pier, 2009). The HEP is significant as it was one of the first integrative programs to support the personal well-being and professional development of medical students (Hassed, 2004), and has since been made available in other universities as seen, for example, in the voluntary self-care workshops available for Harvard medical students (Rosenthal & Okie, 2005).

An evaluation of the impacts of the HEP on the well-being of Monash University medical students also provides support for the role of mindfulness during difficult degrees. Hassed, de Lisle, Sullivan, and Pier (2008) investigated what impact the HEP had on dimensions of well-being including depression, hostility, anxiety, and quality of life amongst 148 first year medical students. Time 1 data was collected midway through semester one, after students had adjusted to university and before the HEP had started, and, interestingly, Time 2 data was taken six weeks later, one week before exams. Despite post-test data being collected during a more stressful time of year, the study found that there were significant reductions for depression, hostility, and significant improvements were found for the psychological domain of the quality of life measure – not for the physical domain or the subscale of anxiety, although both

of these also showed improvements. Further, 90.5% of respondents reported using mindfulness practices in their personal lives at least once a week at Time 2. The authors concluded that to see improvements across these areas during a time when well-being is generally lowest for students is significant and highlights the importance of teaching self-care to students within difficult fields (Hassed, de Lisle, et al., 2008). The above example illustrates how mindfulness has been successfully used within higher education, however, it is the MBSR program in particular which this research will investigate as it has a larger research base supporting its efficacy for stress reduction.

As medical students are a highly stressed university cohort (Dyrbye, Thomas, & Shanafelt, 2006; Moffat, McConnachie, Ross, & Morrison, 2004) they provide a good litmus test of whether MBSR can offer assistance. Rosenzweig, Reibel, Greeson, Brainard, and Hojat (2003) employed a nonrandomized and controlled design to evaluate any impact MBSR might have on students psychological distress, as measured by the Profile of Mood States (POMS). In all, 140 and 162 second-year medical students participated in MBSR and didactic seminars on complementary health (controls), respectively. Interestingly, the MBSR group scored higher than controls in Total Mood Disturbance (TMD: an overall score depicting levels of psychological distress) before the program commenced, and yet, post-intervention, the MBSR group scored significantly lower than both their baseline score and the control group. A striking feature of this change comes from the fact that the program finished as students were entering exams, therefore, the control group's stress levels rose while in spite of the added pressure of exams, the MBSR group's scores still fell significantly. The effects of selection bias cast some uncertainty on these results, however, the change remains statistically significant. Moreover, the role of selection

bias might also not be substantial within this population as a study by Shapiro, Schwartz, and Bonner (1998) which did use a randomized and control design (also with premedical and medical students), similarly found significant improvements in anxiety, depression, empathy and spirituality post-intervention.

Using a more sophisticated design, research by Jain et al (2007) recruited full-time premedical, prehealth, medical, and graduate nursing students and similarly gained positive results. The research aimed to compare the efficacy between MBSR and a relaxation intervention and so participants were randomly assigned to one of these conditions or a control group. The length of the MBSR program was significantly shortened to reflect the needs of students and so ran for 1.5 hours a week over 4 weeks. Both the MBSR and relaxation group saw significant drops across measures of distress and increases in positive mood, with neither proving more efficacious than the other across this measure. Both groups also did significantly better than the control. Interestingly, however, the control group and the relaxation group both experienced increases in distracting and ruminative thoughts following the 4 weeks, whereas the MBSR participants reported a significant decrease. These results highlight the possibility that stress reduction in various forms is helpful for students, but that calming mental processes might be an added benefit of MBSR for students.

Similar results were also found with students undertaking their Masters in Counselling where one of the researchers' aims was to assess if MBSR could be helpful in teaching therapists in training effective means of self-care (Shapiro et al., 2007). Those in MBSR reported significant improvements compared to a cohort control group across the measures of negative affect, perceived stress, rumination, state and trait anxiety, and significant increases in both self-compassion and positive affect. The authors commented upon the significant decreases in rumination as

highlighting MBSR's ability to enable better emotional regulation, potentially buffering against depression (Nolen-Hoeksema, Morrow, & Fredrickson, 1993). Other work which similarly looked at the effect of teaching mindfulness to therapists and counsellors in training, though not in the traditional MBSR format, found that 13 out of 16 participants continued a formal mindfulness meditation practice once they completed their studies (Christopher et al., 2011). Through interviews, the students described how mindfulness had significantly impacted their personal and professional lives, and continued to be an important tool for self-care and their therapeutic work.

4.5 Conclusion

Many avenues exist in supporting PhD students although most centre on increasing both psychological and academic skills through programs which often improve social and intellectual integration. For example, writing groups are a common feature of many universities and in addition to improved productivity and time-management skills students often report also feeling part of a community through participation. Procrastination and perfectionism also appear to be areas which cause students some difficulty and are amenable to intervention. As stress is a common feature of PhD students' lives it is also not surprising to see stress reduction programs also being helpful for this population. MBSR, the original and the most well researched program which delivers mindfulness training to reduce stress and increase well-being, is therefore positioned to be a potentially helpful intervention for PhD students.

Taken together, it appears that interventions aimed at supporting PhD students' well-being and professional development are important and effective means for improving the experience and academic functioning of this group. MBSR, or a

brief version of the program, may be helpful for this group as it offers a means for stress reduction, improved well-being, and a positive social experience. The following chapter will detail the methods and procedures for how this research investigated the experiences of PhD students and how a brief MBI offered support.

Chapter 5

Research Methods and Procedures

5.1 Introduction

The following chapter provides details on how the current research was conducted to investigate two broad areas. The first major area regarded what PhD students themselves found to support or a hinder their well-being and academic functioning. The second major area concerned how a brief MBI might impact PhD students. Those students who participated in the MBSR program were also asked about what supported and hindered their well-being and academic functioning, and so their answers also contributed to this first major area.

The following chapter begins by describing how my epistemological commitments (constructivist–interpretive) led to the adoption of constructivist grounded theory as the strategy of enquiry for this research. Next, the participants, materials, and procedures of the current study are detailed. Overall, these sections describe how PhD students were recruited and how they participated in this research. This includes details of the brief MBI protocol, the semi-structured interviews which were conducted with all students, and the ethical considerations throughout this study. How the analysis was conducted is then presented and is shown to reflect the guidelines proposed by Charmaz (2014) on how to conduct grounded theory research

(e.g., stages of coding, constant comparative analysis etc.). Finally, this chapter ends with a researcher statement which makes clear how personal factors such as my interests and history shaped this research and my interpretation of the results.

5.2 Methodology

5.2.1 Epistemological commitments

Qualitative methods were used in this project as a means to provide insight and understanding into the experiences of PhD students with as great a degree of depth and breadth as possible. A qualitative approach meant that the voices of the students could be reflected with less of the researcher's preconceived notions directing the responses than would have been the case with quantitative measures, an important feature given that experiences of the PhD degree were of central interest. More specifically, this qualitative research is situated within a constructivist-interpretive paradigm (Denzin & Lincoln, 2005).

This paradigm reflects my epistemological views regarding the nature of knowledge whereby the findings of this research are not viewed to be objective 'truths' 'discovered' through the application of neutral procedures and methods; rather, the data recorded in this research was influenced and co-created through my interaction with participants and the analysis was interpretive (Charmaz, 2014). The constructivist-interpretive paradigm seeks to understand the complexity of individuals' views, actions, and experiences with greater acknowledgement of ontological relativism: that is, that multiple realities or interpretations of studied phenomena exist and these interpretations are constructed according to the researcher's (and the participants') values, knowledge, philosophical orientation, and prior experiences (Charmaz, 2014; Denzin & Lincoln, 2005, p. 24). This view is often contrasted with the positivistic-objectivist paradigm which attempts to position the

researcher as a neutral and objective recorder of data who also avoids subjective

interpretations of that data.

5.2.2   Constructivist Grounded Theory as the strategy of inquiry

Originally, grounded theory was articulated by Glaser and Strauss (1967) in

their pioneering work *The Discovery of Grounded Theory* stemming from research

into the experiences of death and dying within hospitals (Glaser & Strauss, 1965,

1968; Strauss & Glaser, 1970). Rather than "deducing testable hypotheses from

existing theories" (Charmaz, 2014, p. 6), Glaser and Strauss sought to develop

theories from the information provided by patients themselves, thereby offering novel

understanding, less constrained by perspectives based in extant knowledge. In their

own words, grounded theory allowed "the discovery of theory from data

systematically obtained from social research" (Glaser & Strauss, 1967, p. 2), and

these systematic processes for gathering and analysing qualitative data gained wide

popularity at a time when positivistic quantitative research prevailed.

Having been applied over the course of three decades, grounded theory

developed in new directions as scholars reflected on the methodology's

epistemological and ontological assumptions (Denzin & Lincoln, 2005). Even Glaser

and Strauss diverged in their emphasis on various aspects of the method where, for

example, earlier iterations of grounded theory were seen by Glaser to merge

positivistic tenets by making data fit within predetermined, researcher-defined

categories (Glaser, 1992).

More recently, scholars have increasingly brought into question and focus the

role and impact of the researcher in conducting and (co)creating research (Charmaz,

2000, 2006, 2014; Charmaz & Henwood, 2008; Clark, 2005). For example, Glaser

and Strauss (1967, p. 1) stated that grounded theory allows "the discovery of theory from data", implying that theory exists in the data and requires finding what is already there (Willig, 2008). This perspective is argued to not acknowledge the role of the researcher in shaping the type of data which is gathered or the subjectivity involved in rendering interpretations (Charmaz, 2014).

Addressing these concerns lead to the development of a more socially constructionist version of grounded theory by Charmaz (Charmaz, 2000, 2006; Charmaz & Henwood, 2008). This approach, termed constructivist grounded theory, explicitly acknowledges "that the researcher's decisions, the questions he or she is asking of the data, the way he or she is using the method, as well as his or her (personal, philosophical, theoretical, methodological) background shape the research process and, ultimately, the findings" (Willig, 2008, p. 46). As Charmaz (2014) and others (Bryant, 2002; Clark, 2005) posit, such an orientation makes it possible to utilize the best of grounded theory guidelines whilst incorporating contemporary philosophical assumptions and research practices. As such, constructivist grounded theory embodies the tenets of the constructivist-interpretive paradigm and provides a detailed and flexible method which is well suited to investigate the experiences of PhD students.

5.3 Design and procedure

5.3.1 Research design

This research was conducted by interviewing two groups of participants[3].

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[3] It was initially intended that there would be a third group of students who would participate in a social support intervention. This group would have allowed comparisons to see if the benefits of the brief MBI would be beyond what could be expected from social support alone. However, too few students expressed an interest in the social support group to make it viable and is therefore not included in this research.

Both groups of students (Group1 and Group 2) were interviewed regarding the supports and hindrances to their well-being and academic functioning during their degree, the results of which comprise Study 1. The second group (Group 2) was made up of students who participated in a brief MBI, and although they were similarly asked about supports and hindrances to well-being and academic functioning, this group was also interviewed in regards to their experience of the intervention. The brief MBI ran three times with different individuals attending each separate occasion, and the results of this part of the research comprise Study 2.

Demographic data was collected from Group 1 students prior to being interviewed while Group 2 filled out their demographic questionnaires prior to commencing the intervention. Group 1 was interviewed once while those who undertook the brief MBI were interviewed both at 1 month and at 4 months post-intervention to explore their perceptions of short term and longer lasting impacts. Figure 2 illustrates the various aspects of this research design below.

Figure 2. Research design of the current project

| Group 1 | Group 2
First running of intervention | Group 2
Second running of intervention | Group 2
Third running of intervention |

Request for students advertised

Program advertised to support well-being and PhD studies

Program advertised to support well-being and PhD studies

Program advertised to support well-being and PhD studies

'Information to participants', 'consent forms', and 'demographic questionnaires' collected

Group 1: Students interviewed regarding supports and hindrances during PhD

Group 2: brief MBI group run

Group 2: brief MBI group run

Group 2: brief MBI group run

One month interviews conducted

Four month interviews conducted

The information students provided in the interviews is organised in this thesis in two broad sections. The information that both Group 1 and Group 2 provided in terms of what supported or hindered their well-being and academic functioning during the PhD is presented and analysed first in Chapters 6 and 7, while the experiences of Group 2 in the brief MBI are detailed in Chapter 8.

5.3.2   Recruitment

For the PhD students who were needed for interviews regarding their experiences of supports and hindrances during the degree (Group 1), several recruitment methods were employed. First, a notice was posted on the online postgraduate notice board and second, posters were placed around several Victoria University campuses. PhD students and PhD supervisors were also emailed through email server lists and through associate deans of all research faculties.

The students who were needed for brief MBI (Group 2) were sought through similar means. First, a notice was also posted on the online postgraduate notice board and posters were also placed around areas frequented by PhD students (postgraduate offices, libraries, hallways, and eating areas). Next, the associate deans of research in all faculties at the university were asked to forward an email to any lists of PhD students they may have. The Office of Postgraduate Research also posted an advertisement for this research on its online trainings page, while all those on a supervisors emailing list were also asked to pass on the advertisement to any PhD students they may have. Lastly, the offices of students were visited so that the offer to participate in an intervention could be discussed firsthand.

5.3.3   Provision of information and the gaining of consent

Once students expressed an interest in the intervention and/or being interviewed regarding their supports and hindrances, they were provided with detailed information explaining the research and what would be involved in their participation either through email or in person. The *information to participants forms* and also the *consent forms* for those interested in being interviewed (Group 1), or those interested in brief MBI (Group 2), can be seen in Appendix A and Appendix B, respectively.

In addition, these forms also outlined issues around confidentiality (discussed more below), the potential benefits and risks of participation, how the information they provided would be used, and how the research was to be conducted. Before students participated in this research, the project was fully outlined to them verbally as well as in writing, and they were asked if they had any questions or concerns. Participation in the research began only after the participants completed the consent form.

5.3.4   The brief MBI

The reader is referred to Outline of MBSR Sessions in Appendix C for an overview of the full eight week MBSR program. Here, the 4 week program, brief Mindfulness-Based Intervention (brief MBI), is described.

The MBSR course was shortened by removing those themes and modules which are more appropriate in a medical context (challenging identification with illness; detailed instructions on working with pain; not measuring progress through reductions in symptoms) whilst retaining the core practices and lessons related to stress reduction and developing the skill of mindfulness and its primary components (intentions, attitudes, attention). Further, by consulting with the facilitator, an individual with formal training and experience in delivering MBSR, it was ensured

that the final format of the program was one which reflected the core components of the traditional format (Kabat-Zinn, 1990), though in synthesised form (see Table 7 below). In total there were four sessions, once a week for four weeks, lasting 1.5 hours each. It is important to note that although the original MBSR format served as a template for the intervention used here (i.e., brief MBI) the new modified version is substantially shorter and should be considered a distinct intervention.

In terms of overall format and structure, the brief MBI sessions all included elements of explanation of concepts by the facilitator, experiential exercises to practice mindfulness skills, and discussion to reflect, share experiences, and clarify points of concern. Students were also given a manual which summarised key points from each session (Appendix D), detailed the homework activities, and provided a space for reflection. In terms of homework, students were asked to practice the core mindfulness practices for 10-15 minutes, four times a week — in addition to smaller mindfulness activities which changed weekly. This can be contrasted with the traditional requirement of practising for 45 minutes a day, six days a week (Kabat-Zinn, 1990). Lastly, students were also provided with a CD with short, 15 minute recordings of the mindfulness exercises (body scan, mindfulness of the breath, yoga) to support their home practice. Table 7 describes the key practices, topics, and homework provided at each of the four sessions.

Table 6. Brief MBI course format

	First session	**Second session**	**Third session**	**Fourth session**
Key practice(s)	Body Scan	Breath meditation; mountain	Yoga (mindful movement);	Loving-kindness meditation.

		meditation; STOP breathing technique	walking meditation	
Topics/themes discussed	What mindfulness is; core attitudes of mindfulness; benefits of mindfulness	Triangle of awareness; barriers to practice/common problems	The stress response and how mindfulness can help; responding vs. reacting	Mindfulness of feelings and thoughts; experiential avoidance vs. acceptance; sustaining a practice after the course
Homework	Practise body scan (four times, 10 to 15 mins); mindfulness of one routine activity; eat one meal mindfully; pay attention to experience of stress	Practise breath meditation (four times, 10-15 mins); take note of pleasurable experience; Practise STOP breathing technique, times a day; choose new activity to be mindful of	Practise yoga (four times, 10-15mins); use STOP breathing technique regularly; take note of unpleasant experience	Continue using the practices regularly

The first session introduced students to the concept of mindfulness by highlighting the definition used within MBSR, that is, mindfulness involves being aware of the present moment, intentionally, and in a particular way. This *particular way* was further explained as being made up of seven core attitudes: nonjudging, acceptance, patience, beginners mind, trust, non-striving, and letting go. The core practice of this week, the body scan, involved mindfully moving one's awareness over the different parts of the body, or over the body as a whole. Lastly, several psychological and physical benefits of mindfulness practice were shared with participants. Homework this week involved practising the body scan four times for 10-15 minutes, becoming mindful of a routine activity to increase awareness of

automaticity and the difference in experience which stems from a mindful orientation, eating mindfully (for similar reasons), and paying attention to the experience of stress.

After a discussion of the homework experiences in the second session (which continued each week) students were introduced to mindfulness of the breath. In this practice, students were instructed to bring their attention to the sensation of breathing either at the nostrils or in the abdomen, and follow these sensations continuously. Distractions such as thoughts or other sensations were to be accepted and let go of so that one's focus could return to the breath. The mountain meditation was also introduced which uses the image of mountain as an analogy for one's practice, whereby a mountain does not change due to wind, clouds or rain, and so too does one awareness remain on the breath regardless of what other phenomena might arise. The STOP breathing technique was then taught as a means to bring more mindfulness to one's experience throughout the day. The word STOP is an acronym for the instructions to: Stop and interrupt one's thoughts; Take a breath; Observe what is happening around or within oneself (What can be seen, heard, sensed, smelt, felt? What is being thought?); and Proceed to reconnect with one's surroundings and activity. To support this and the other mindfulness techniques, the concept of the triangle of awareness was introduced which highlights how becoming aware of one's thoughts, feelings, and sensations, as interrelated but distinct phenomena, can support a decentring from them and greater understanding of one's experience. Common problems and barriers to practice were also discussed this week, specifically: attitudes and reactions to the practice: "Am I doing it right?"; painful sensations; conditions not conducive to meditation; wandering or distracted mind; unable to find time to do the homework; and doubts and lack of motivation. The homework included practicing the formal techniques taught in this session as well as becoming aware of a pleasant

experience and the sensations, thoughts, feelings associated with it (triangle of awareness).

Session three taught two mindfulness practices which use movement: yoga and walking. The yoga postures included half which could be performed standing and half which needed to be performed from the floor. For the yoga postures and the walking meditation, the intention was to bring mindfulness to the experience of one's body and experience whilst moving slowly. In terms of themes and topics explored this week, students learnt of the physical changes associated with the stress response, the long term effects of sustained stress, and how mindfulness offers an avenue to interrupt the automatic reactions (conditioned responses) which can sustain stress. Homework again involved practicing the techniques from this week as well as being mindful of a daily unpleasant experience (using the triangle of awareness).

The final session introduced loving-kindness meditation to students which utilizes the repetition of phrases to foster feelings of compassion and goodwill. For example, the phrases introduced to students were: may I be filled with loving-kindness, may I be well, may I be peaceful and at ease, may I be happy. However, students were also encouraged to create any phrases that might resonate with them. Loving-kindness is not strictly a mindfulness technique but it represents another avenue for coping and self-regulation within the original MBSR curriculum. A larger portion of this session was devoted to exploring methods to work with difficult emotions and thoughts, again, aided through the use of another acronym. For example, RAIN, stood for: Recognising difficult feelings; Accepting them; Investigating them with curiosity; and Not identifying with them. The difference and importance between experiential avoidance — trying to distance oneself from or reduce negative feelings or thoughts — and acceptance was also detailed to illustrate

the ineffectiveness of avoiding thoughts and feelings. For example, such attempts can

paradoxically reinforce difficult emotions (e.g., fear, anxiety) and sustain thought

processes. The last topic of discussion, which dovetailed with the final homework of

ongoing practice, encouraged students to continue using whatever techniques they had

found helpful during the program and sought to support them in addressing any

concerns.

The program itself was facilitated by a psychologist, Michelle, who was hired

for the duration of this research. Michelle received training in MBSR at the Australian

training centre called Open Ground, a certified MBSR educator in Australia. Michelle

herself has over 20 years meditation experience and clinical practice, and runs

meditation workshops and retreats in Melbourne. An external facilitator was

preferable to myself running the brief MBI groups for two important reasons. First,

although I have experience with mindfulness meditation I have not been trained to the

same degree as Michelle, nor do I have her level of experience in facilitating groups.

Secondly, having an external facilitator removes a significant problem which could

arise from my having dual roles within this research. If I were to facilitate the group,

participants may feel more inclined/pressured to give responses they believe I'd like

to hear (e.g., that the program was helpful etc.) and thereby reduce the validity of the

results.

5.3.5   The interview process

In keeping with the interpretive-subjectivist paradigm, the interview process itself is

not viewed as a neutral procedure through which the truth or an authentic reality is

uncovered through the objective and non-consequential actions of an interviewer

(Kvale & Brinkmann, 2008). Rather, both the interviewer and the respondent co-

construct a conversation which somewhat brings their histories, views, and actions into dynamic interplay (Charmaz & Henwood, 2008; Galletta, 2012). This section will describe the process and theory which guided the interviews.

Across varieties of grounded theory and qualitative research there is consistency in emphasising certain interview skills (Fontana & Prokos, 2007). The use of open-ended questions to elicit and allow elaboration of personal narratives is fundamental. Implicit in the use of open-ended questions is an attitude where the interviewer attempts to view the world from the respondents' perspective and not impose his or her own preconceptions through leading or closed questions.

To encourage students to feel comfortable and share their experience openly during the interview, an effort was made to build trust and rapport both prior to and during the interview (DiCicco-Bloom & Crabtree, 2006). Trust was established through full disclosure of the research, following through on requests (for more information, links to resources etc.), and expressing intentions to protect the confidentiality of participants. Rapport was developed by engaging in informal conversation just prior to the beginning of the interview and through the use of active listening, expressing interest and attentiveness to participants' disclosure, and reciprocating a small amount of disclosure when it seemed appropriate (e.g., if my experience was asked for during the interview; explored further below in relation to reflexivity). The underpinning orientation towards participants in this regard could be described as one of empathetic interviewing, where an effort is made not simply to understand another's experience but to do so with the intention of ultimately attempting to support their interests and by showing respect for their experience (DiCicco-Bloom & Crabtree, 2006; Fontana & Prokos, 2007). As Fontana and Prokos (2007) argue, rapport and trust are an essential foundation for the primary objective of

interviews: understanding, and without them, the depth and honesty of disclosure is stymied and the resulting understanding is similarly lessened.

The interviews were semi-structured and an interview schedule (Appendix E) was used to guide conversations around topics of interest. This interview schedule was developed in consultation with my supervisors in attempts to capture what may be considered important from different perspectives. Whereas a structured interview uses a questionnaire to strictly determine questions to be asked, a semi-structured approach provided more of a "conversational agenda than a procedural directive" (Holstein & Gubrium, 1995, p. 76) to balance both the fulfilment of this study's objectives as well as remaining open to unanticipated dimensions of experience (de Vaus, 2004; Galletta, 2012). As interviews progressed, it was possible to explore further areas of interest which emerged from previous interviews and analysis, but again, an effort was made to not reduce sensitivity to what is said, or left unsaid, in the pursuit of emerging themes (Galletta, 2012, p. 77).

The effort to remain sensitive to what was said or left out was part of the process of reflexivity engaged with in this research, a practice made more important due to my position as PhD student who was interviewing other PhD students. From one perspective, my prior experience and knowledge of both the PhD experience and practice of mindfulness can be viewed as an invaluable resource to orient myself to the language, circumstances, issues and perspectives of respondents; and also as a means to build rapport and stimulate further conversation through shared experience and understanding (Holstein & Gubrium, 1995, p. 77). Alternatively, my position as student and prior experience could also be argued to raise dangers of providing preconceived frames by which I understand respondents' narratives, preventing the emergence of an understanding less constrained by extant perspectives. In response to

these arguments, the practice of reflexively examining assumptions, values, desires, passions, and how these might be influencing the questions I ask, what information I focus on and which I omit, and how I may have influenced the interviews by being a student, was carried out throughout the research; this is further outlined in the *researcher statement* at the end of this chapter (Finlay, 2003). This was practiced to retain the advantages of my position and prior experience whilst increasing my awareness of how I might be influencing the interview and research process.

From a procedural point of view, the interviews themselves ran, most often, for approximately one hour, though several extended to two and three hours. The locations used to conduct the interviews were selected to allow privacy and confidentiality, away from postgraduate student offices and busy areas. All interviews were recorded with the permission of participants to allow verbatim transcription and ongoing analysis. In total, 15 students were interviewed: all 15 students were interviewed regarding their experiences of supports and hindrances and seven of these were also interviewed regarding their participation in the brief MBI.

5.3.6 Ethical considerations

There were two primary areas within this research which needed attention to ensure ethical conduct. The first major concern was the privacy and anonymity of respondents. It was likely that the topics raised by participants might include their supervisors, other students, departments, policies, and staff at the university. Therefore, protecting the identities of students was imperative to allow free and open disclosure and protect them from any adverse effects from those within the university and without. Actions were taken at each step of the research to ensure this. As mentioned, interviews were conducted in private and away from busy areas. Students

were also advised to keep confidential any discussions which occurred within interventions to protect other students' privacy. Consent forms, the only recording of students' true identities, were locked within a filing cabinet in the office of my primary supervisor within sealed envelopes. Whilst transcribing, analysing the transcripts and writing this thesis, care was taken to use pseudonyms and remove any identifying content — my own supervisors were also not told the names of students as they, or participants' supervisors, may have been known to them.

Secondly, there was a possibility that students may disclose information which would signal a need for greater support of some kind. In this way, a discussion of whether and how students were being supported arose during several interviews and, if they weren't already receiving satisfactory help, the potential usefulness of engaging greater supports was highlighted, for example, through the university counselling service.

5.1 Participants

This section outlines the characteristics of participants in this study based on their responses to a demographics questionnaire, the summarised results of which are displayed in Table 6. Overall, a total of 15 PhD students at Victoria University in Melbourne participated in this research. Because all participants, including those who participated in the brief MBI, were interviewed about what supported and compromised their well-being and academic functioning, all 15 students contributed to this part of the research — the findings of which are discussed in chapters 6 and 7. There were 10 participants in the brief MBIs, which were run on three separate occasions, however, three of these students only attended one session and so are

excluded from the results and discussion on the impacts of the intervention (Chapter 8).

The students ranged in age from 25-57 years of age, with an average of 35 , quite close to a national average of 37 (DEST 2004, cited in B. Evans, 2008). Most came from the faculty of Arts, Education, and Human Development (n=8), followed by those from Business and Law (n=5) and Health, Engineering and Science (n=2). All students were based at three of Victoria University's 9 campuses, three from St Albans and another three from City Flinders while most came from Footscray Park (n=9).

Although the proportion of female and male students undertaking PhD studies in Australia is roughly the same (Evans et al., 2008; Pearson, Evans, & Macauley, 2008), far more females (n=13) than males (n=2) participated in this research. Moreover, the two males who did participate volunteered for the general interview regarding student experience, and not the interventions. The vast majority of students were domestic (n=11), studying full-time (n=13), while all had scholarships (n=15) — although two students changed to part-time and froze their scholarships while they resolved personal and academic issues. Nearly half of participants were married (n=7) or single (n=7) and one person was in a defacto relationship. This cohort had spent an average of 2.8 years on their PhD's since enrolment, at the time of our first interview, though elapsed time ranged from eight months to four years.

Table 7. Research participant information

Age	Number (%)
25-30	5 (33)
31-35	4 (27)
36-40	3 (20)

41-46	2 (13)
≤ 50	1 (7)
Faculty	
Arts, Education, and Human Development	8 (53)
Business and Law	5 (33)
Health, Engineering and Science	2 (13)
Campuses	
Footscray Park	9 (60)
St. Albans	3 (20)
City Flinders	3 (20)
Gender	
Female	13 (87)
Male	2 (13)
Residency status of students	
Domestic	11 (73)
International	4 (27)
Study Load	
Full-time	13 (87)
Part-time	2 (13)
Receiving Scholarship	
Yes	15 (100)
No	
Relationship status	
Married	7 (47)
Single	7 (47)
Defacto	1 (7)
Time spent on PhD at first interview	
0-1 year	2 (13)
1-2 years	3 (20)
2-3 years	4 (27)
3-4 years	6 (40)

5.1.1 Victoria University – a description

What is now Victoria University (VU) was originally established as a

technical college in 1916 in efforts to provide access to education for the largely

working class population of inner west Melbourne which was a highly industrial area

at that time. It acquired university status in 1992 after the merging of the Footscray

Institute of Technology and the Western Institute of Technology with aims of

supporting regional areas (Pike, 2009).

The student population is incredibly diverse in both multicultural and socioeconomic terms. Over half of VU's students speak a language other than English and have a parent who was born overseas, approximately 75% of undergraduates are from families within the lower half of Melbourne's socioeconomic range while the SES backgrounds of postgraduates is reportedly higher (Messinis, Sheehan, & Miholcic, 2008)—although no precise data on this difference could be obtained. The predominately lower SES of undergraduates and higher SES of postgraduates reflects both the socioeconomic characteristics of Victoria University's catchment areas and the influence of SES in influencing access to university degrees (ABS, 2010; Messinis et al., 2008).

To further illustrate the location of the university and its catchment areas it might be helpful to highlight that Footscray Park campus, the primary location for teaching and administration (Pike, 2009), is situated in an area within the 12th percentile for socioeconomic disadvantage in the state of Victoria (ABS, 2013). The location of the university, its student body and its history all contribute to and reflect VU's "distinction as the only Australian university where a regional responsibility is made explicit in legislation" (Pike, 2009). However, since its inception in 1992 campuses have also been established within the central business district of Melbourne city as well as in Sydney and so the university continues to grow and serve a wider range of local and international students. In addition, partnerships with universities in China, Vietnam, Germany, Hong Kong, Malaysia, and Singapore now deliver joint programs for students, particularly in the Faculty of Business and Law.

5.2 Analysis

5.2.1 Initial coding

The first step in the process of analysis involved assigning labels to sections of transcript through the process of coding. Initial coding — the first time this coding was conducted — was performed line-by-line in order to stay close to the data and the codes used aimed to summarise, categorise, and capture the participants' meaning as closely as possible while remaining provisional (Charmaz, 2014; Glaser & Strauss, 1967). Codes remained provisional in order to stay open to alternative meanings and interpretations at all times of analysis as the research and understanding of students' experiences developed.

Of course, in keeping with the tenets of constructivist grounded theory, the act of assigning codes to sections of the transcript is not taken to be a neutral process. No matter how closely the code seems to represent the meaning of participants' speech, it is still an active and subjective process conducted by the researcher, not one which perfectly captures an empirical reality: it is still I who chooses the words to describe the data. That said, coding line-by-line does provide a means to more closely approximate participate students' experiences than assigning a code to a larger section of text (a process described in Focused Coding, next). Therefore, initial coding of this kind, line-by-line, can reduce the imposition of preconceived notions on students' experiences (Charmaz, 2014).

Other practices which also support initial coding involved assigning active terms and engaging the data analytically — although *how* the data was approached analytically will be described in *memo-writing* below (Charmaz, 2014; Glaser, 1978). Assigning active terms or codes involved using gerunds (words ending in *ing*) to retain the sense of action and process in how students described their experiences. For example, when a participant described a motivation in her PhD she stated "I know there's something here and I'm just going to keep plugging on, plugging on, plugging

on, because I think it's unusual and it's interesting and its different", a difference can be seen between capturing this sentiment with an initial code of *determination* versus, more actively, *pushing through and loving the learning.* The latter code attempts to crystalize the active pursuit and the quality of that motivation.

The above approaches to coding are in keeping with the orientation of grounded theory research as an emergent process, one that develops and changes as the study continues and unanticipated ideas develop and are engaged with (Birks & Mills, 2011; Charmaz & Henwood, 2008). For example, one of the questions asked of the data, mentioned above, relates to whether there are any gaps in the research. Of course, gaps in understanding and knowledge were revealed throughout the process of research, and this was acknowledged by then seeking out further examples in previous transcripts or asking further participants about what was discovered. A few participants, for instance, naturally veered into discussions of their motivations for beginning their PhD's and so once I realised this comprised an important dimension of supports and hindrances in students' lives, I was able to recognise it in earlier interviews and inquire into it in the latter. Also, the joint analysis of transcripts with my supervisors provided invaluable perspectives in developing an understanding of what I had and had not identified. This collaboration supported each stage of coding and analysis and the resulting construction of knowledge.

5.2.2   Focused coding

After the initial coding which provided some analytical directions, the second major step was to proceed with focused coding (Charmaz, 2014). Focused coding is more selective than initial coding and attempts to synthesise and capture themes in larger sections of text. In this way, it also involves decisions about which codes are

most significant, frequent, or conceptually relevant to the emerging themes and categories. For example, a large number of students repeatedly spoke to issues surrounding the PhD as being a daunting, difficult to manage, and a seemingly unending undertaking, and so the category *Feeling overwhelmed by the size and difficulty of the task* emerged to capture a wide range of these sentiments. It was during this process of focused coding that theoretical integration was possible, and larger sections of data were able to be ascribed to salient categories. Codes were brought together under a category where some dimension shared similarity with other codes to a significant degree.

Of course, focused coding also proved to be an ongoing process as interviews continued. New insights regarding the data or new comments from students who were interviewed later in the research recast many codes and categories as I engaged in constant comparison with the data, codes, categories, and emerging concepts (detailed next).

5.2.3   Constant comparative analysis

Constant comparative analysis was used throughout this research. It involved making ongoing comparisons between data with data, code with code, category with category, and all of these with the developing theoretical understanding. Indeed, Charmaz (2006, p. 211) states that "successive levels of abstraction through comparative analysis constitute the core of grounded theory analysis" as it is the process which inductively builds theory upon data (Glaser, 1978; Glaser & Strauss, 1967). First, sections of interview data were compared with one another for similarities, differences, and relationships. Then, this same process was applied between different participants. Codes were then refined into categories and categories

themselves were then able to be clustered together, integrated, and analysed (Holton, 2007). Lastly, this analysis also included comparing the developing categories and understanding to that within the literature to determine where there was similarity, difference, and where something novel may be contributed.

5.2.4   Memo-writing

No technique or process advanced the comparative and ongoing analysis within this study as well as memo-writing (Lempert, 2007). By writing informal notes — memos — from the beginning of data collection and analysis, I was able to capture ideas, questions, and insights relating to the data. Memo-writing also helped to record any conjectures I may have had and allowed an avenue to explore these further. It was especially helpful in terms of seeking out relationships and making comparisons between data to create codes, and then focused codes, and finally categories, more abstract theories, and compare all this to the literature. For example, the social experiences of PhD students appeared to be significant for the majority of students but it was expressed in myriad ways. Writing about these different dimensions of social experience helped to delineate its various features and aspects which, after reading the literature, appeared to be heavily related to the concept of social integration. Throughout, it was the process of jotting down memo's which helped weave the analytical threads between the themes and allowed me to construct an understanding of the data and develop the research.

Approaching the data analytically was achieved by also asking questions of the data to explore the implicit or unstated. The questions asked of the data to achieve this form of analysis followed Charmaz's (2014) suggestions, such as: are there any tacit assumptions in what was said? Are there any gaps in this data which further

questioning might address? What does the participant express he or she thinks and feels while describing experiences? Did this experience change over time, and if so, how, why? What consequences stem from the processes and experiences described? Such a process can be seen for instance when attempting to code the experience of a student who described speaking to a stuffed toy animal for support during times of stress, before responding to herself by pretending to be the compassionate-sounding voice of the animal. Such an experience goes beyond the focused code of *coping with stress* and was questioned in regards to what else was not being said? What does the toy stuffed animal stand in for or represent that might not be available? What needs does this experience speak to? What are the consequences of such behaviour? Such analytical engagement allowed a much richer picture of the data to be constructed as different dimensions were explored and recorded.

5.2.5   Theoretical sampling

In keeping with the grounded theory tenet of research being an emergent process, it is impossible to know what categories might be constructed and become important before collecting and analysing our data and it is similarly difficult to know which particular group of people should be sampled or which questions should be asked of them (Charmaz & Henwood, 2008). Theoretical sampling addresses these concerns. It is an emergent strategy which allows researchers to pursue further empirical investigation into areas of interest first identified in initial sampling. It begins with the construction of ideas about initial data and then moves to seek relationships, clarify, build, and delineate the properties and variations of categories through further investigation (Strauss & Corbin, 1998). In short, the purpose of theoretical sampling "is to elaborate and refine the categories constituting your

theory" (Charmaz, 2014, p. 193). This can be achieved by seeking out new participants, re-interviewing participants, and by re-analysing the earlier interviews in light of the knowledge and understanding developed from the later interviews. Once again, memo-writing takes a central role in this process where ideas, questions or hunches outlined in memos can direct further strategic empirical investigation while subsequent memos allow further analysis and development of categories and ideas.

Theoretical sampling also builds on the logic of grounded theory which can be contrasted against methods in quantitative research in two important ways. Firstly, whereas quantitative strategies use deduction to gather evidence to confirm or falsify pre-established hypotheses, grounded theory uses both induction and deduction to develop theories and understanding (Charmaz, 2014). This is achieved whereby initial categories are developed inductively, that is, grounded in the data, but then these categories or ideas are further developed and refined through subsequent strategic sampling — theoretical sampling. This form of reasoning entails abduction as it involves remaining open to all theoretical possibilities until the best candidate to explain the data is constructed and tested through ongoing theoretical sampling (Charmaz & Henwood, 2008). Therefore, abductive reasoning allows for discovery and connections that may not have previously been considered (Reichertz, 2007) and is a powerful feature of the grounded theory methodology.

Grounded theory also holds different sampling goals to traditional quantitative research which often aims for a randomized group of individuals with characteristics to represent a population, and a sample size which can support inferences being generalized to that population. Grounded theory, in contrast, uses theoretical sampling to develop categories to a point where they provide a strong understanding of those participants in the study; it does not seek to generalise results beyond these

individuals — though the results of grounded theory studies could then be applied in this way. An important question then arises: how many participants are necessary in a grounded theory study?

5.2.6   Theoretical saturation or sufficiency

Whereas in quantitative research the size of a sample needs to answer concerns related to statistical power and generalizability, sample size in grounded theory studies remains a topic of debate. For example, some researchers argue that one needs to continue theoretical sampling until one's categories are *saturated*, that is, until "gathering fresh data no longer sparks new theoretical insights, nor reveals new properties of these core theoretical categories", and so one's sample could be quite small so long as this state of saturation is reached (Charmaz, 2014, p. 213). However, the task of proving that one's categories are in fact saturated is difficult without any strict means or criteria to claim such saturation and consequent choice of sample size (Morse, 1995, p. 147) . Dey (1999) also argues that grounded theorists construct their categories through partial but not exhaustive coding of their data, and so to claim that one's categories are saturated overstates the finality of this process and is dependent on the conjecture of the researcher.

Instead, Dey (1999) proposes the use of the term *theoretical sufficiency* to denote the development of categories which are well supported by the data but that do not claim to be exhaustive. The categories are not seen to be saturated but are, instead, sufficiently illustrated by the data. This perspective not only seems logical but also allowed the flexibility necessary to conduct grounded research in this study where the sample size was limited by the number of those who volunteered for an intervention or interview within the time-frame available. Not only does theoretical sufficiency

appear to answer valid concerns about saturation, it was also well suited in this research in a practical sense. Therefore, although it was not possible to seek out further participants to develop and refine categories, theoretical sampling in this research took the approach of using constant comparative analysis to construct categories and then pursue these categories in subsequent interviews with different participants at both the one and four month interviews.

5.2.7 Theoretical sorting

Theoretical sorting refers to a technique of clustering together those codes, categories, or memos which seemed to share some significant element. I used theoretical sorting in different forms including diagramming (e.g., mind maps, concept maps), electronically (e.g., using the programs OneNote and Microsoft Word), and by experimenting with physical arrangements (e.g., by writing the names of categories on flash-cards and then sorting them according to different dimensions: similarities, differences, relationships etc.). Overall, theoretical sorting was closely connected to the previously mentioned grounded theory techniques of making constant comparisons, theoretical sampling (in terms of developing interview questions to develop categories), and memo-writing — the titles of which would then be sorted to help develop categories.

5.2.8 Constructing theory

Before recounting the process of theory development used in this thesis, an important clarification must be made regarding how the term *theory* was defined and used in the current study. Charmaz (2014) argues that the most widely known definition comes from the positivist tradition, where theory means explanation,

supports prediction, allows generalizability, and is refined to be parsimonious. Interpretive theory in contrast gives greater importance to abstract understanding than explanation (Charmaz, 2014), where theory acts as an interpretive frame through which to view studied phenomena (Alusuutari, 1996). Moreover, this interpretive frame is considered to be only one perspective of many, where the understanding one constructs is intertwined with one's values, history, and subjectivity. The studied phenomena is also considered to be situationally based, contingent on temporal, social and other factors, meaning that one's theory — although providing valuable insight — does not claim universality or replicability in the same way positivist theory may (Clark, 2005).

The process of constructing theory involved approaching the data with a particular orientation and applying strategies to allow its development. Charmaz (2014, p. 244) states that "Theorizing means stopping, pondering, and thinking afresh. We stop the flow of studied experience and take it apart." This process of deconstructing and contemplating one's research requires adopting an attitude of openness, playfulness, and even wonder while engaged in theorising (Charmaz, 2014, p. 245), an orientation that is needed as this process often requires sitting with degrees of ambiguity and confusion during one's emerging understanding (Locke, 2007).

Strategies that supported theoretical development included constructing higher order categories which subsumed and reflected larger sets of data as well as through questioning the data and various levels of categories. Through raising categories, increasing their level of abstraction and considering the relationships between them, the generation of ideas, concepts and understanding was made more available (Charmaz, 2014). At this point, however, effort was made to ensure that the emerging theory was grounded in the data and that the increased abstraction did not create

unfounded conclusions. In addition, asking questions of the research also supported

the development of theory (Glaser, 1998; Locke, 2007), such as: what's happening

here, what is this study about, what am I seeing here, what's another way of looking at

this?

This process of theorizing can be illustrated through an example of how

grappling with categories within the results of the brief MBI lead to a higher order and

more abstract category which then heavily influenced the overall direction of the

analysis. Several students described a range of outcomes from practicing mindfulness

both at home and after the sessions at the university which included affective changes

such as feeling more happy or peaceful; cognitive changes such as feeling more

focused or experiencing a reduction in rumination; as well as examples of using

mindfulness to reduce stress. Having some background in the theories of stress and

coping, I originally had these experiences organised as different dimensions of what I

saw to be *mostly* coping behaviour, although there were varieties of experiences

which did not seem to fit within this interpretive frame. However, by remaining open

to other possibilities (Charmaz, 2014, p. 244) and considering these results from

different perspectives — and a great deal of diagramming and memo-writing — I

noticed that stress or negative affect did not always precede mindfulness practice and

therefore the changes students experienced were not simply a result of emotion-

focussed coping (Lazarus & Folkman, 1984). Instead, the results of mindfulness

practice, as well as the social benefits of the group, were better viewed as dimensions

of regulating well-being. Well-being subsumed several major categories and was

emphasised as a new frame through which to understand a large amount of the results

within this research, including coping behaviours. As such, the concept of well-being

emerged as a powerful way to make sense of my research, reveal relationships, and develop a theoretical understanding of students' experiences.

5.3 Researcher statement

The purpose of this section is to make explicit several key personal areas which influenced my construction of this research including my personal history with mindfulness, my motives and hopes for this research, and how my experiences and background raises both challenges and opportunity for robust research. In other words, this statement sets out several key areas which informed my practice of reflexivity. The term reflexivity has become a popular notion in qualitative research and many definitions are offered, however, the treatment given to the term by Finlay and Gough (2008, p. IX) best captures what was carried out in this research and which is outlined further below:

> *The etymological root of the word 'reflexive' means 'to bend back upon oneself'. In research terms this can be translated as thoughtful, self-aware analysis of the intersubjective dynamics between researcher and the researched. Reflexivity requires critical self-reflection of the ways in which researchers' social background, assumptions, positioning and behaviour impact on the research process.*

A logical place to begin this critical self-reflection is with a brief history of my experience with mindfulness. I was introduced to mindfulness meditation in my third year of university in 2006 because I was looking for methods of stress reduction to deal with the pressures of working to support myself and needing to attain high marks at university to allow entry into a psychology honours program. I began a regular practice and stress reduction did follow, but so too did a greater appreciation for what this approach offered. Mindfulness offered a new means to relate to my thoughts and

feelings and provided me with regular experiences of peace that was incredibly helpful to my well-being — again, during what was one of the most difficult years of my university life (excluding the PhD, of course). From that point on I developed a deep fascination for the practice, theory, and value of mindfulness which continues to today. Although I have read widely on the work of Jon Kabat-Zinn and practice mindfulness meditation in line with his research and writing, I have not received formal training in becoming an MBSR facilitator.

My motives and hopes for this research stem from these personal experiences of mindfulness. Having found mindfulness helpful in my own university life raised a question of whether it could be of similar benefit to others. After investigating possible gaps in the research I discovered that not only are PhD students incredibly stressed, a high proportion did not complete their degrees and they were yet to be studied in relation to mindfulness. My hope was that by offering these students training in mindfulness they would experience less stress and find the journey of their PhD more manageable.

In this way, I clearly hold a bias towards viewing mindfulness as helpful which similarly creates a hope for positive results in this research. Such a view, although positive in the sense that it motivated a study in this area, may also create a tendency in me to focus more on evidence that confirms my own personal experience and de-emphasise or ignore evidence which counters it. Being aware of this has meant that I consciously made an effort to represent all findings in this research, even those which were somewhat disappointing e.g., frequency of mindfulness practice at four months.

In terms of my positioning as a PhD student myself who is researching other PhD students, the practise of reflexivity also raised several challenges and

opportunities. From one perspective, there was a danger that I could assume to know an experience a fellow student was speaking about without inviting greater elaboration to really illustrate what *they* mean rather than what *I take* them to mean. For example, when reviewing some earlier interviews it was apparent I missed opportunities for elaboration and so made a concerted effort to remain aware of this danger during proceeding interviews.

Further, being a student myself, I also have a stronger affinity with the issues many students raised and a greater sympathy for them. For example, when hearing of the problems students faced with regards to family and friends not understanding their work, my initial inclination was to not think critically on their own potential role in contributing to this problem — having experienced it myself and assuming I understood the causes. Of course anything beyond "face value" is speculative, but questioning the causes of issues students faced is an important part of this research, and so in interviews and during the analysis I needed to take a more active approach in being critical of what students had said and how I viewed their stories.

However, as mentioned in the section on the *Interview Process,* my position as a student and my sympathy for the struggles of those I interviewed also helped the research process in many ways. My empathy for students supported a building of rapport while my own experience of mindfulness and the PhD journey also allowed me to orient myself to the experiences of students. In answer to the criticism that my prior experience may have prevented a novel understanding of the researched phenomena I quote Dey (1999, p. 251): "There is a difference between an open mind and an empty head." Likewise, my construction of this research and influence on the research process are surely linked to my values, experience, and desires. However,

keeping an open mind and conducting the research reflexively allowed better avenues to understand students' experiences creatively and with less bias.

Chapter 6

Results and Discussion

6.1 Structure and overview

Students who participated in this research provided a wide range of descriptions regarding what it is like for them to be doing a PhD, and also what they experienced by participating in the brief MBI. To focus this information in light of the study's aims, the results and discussion are divided into three parts. The first two chapters comprise Study 1 and consist of Chapter 6 which discusses and analyses the positive experiences and supports to well-being and academic functioning and Chapter 7 which focuses on negative experiences and hindrances to these same areas. Study 2 is given focus in Chapter 8 and explores the experiences of students' participation in the brief MBI. These sections provide insight into students' lives, the pressures and help they receive, and how a mindfulness intervention might further support their journey.

In the first two Chapters (positive experiences/supports and negative experiences/hindrances) the PhD students' general experience is organised and discussed within four major categories adapted from Urie Bronfenbrenner's (1981) ecological framework, that is, by individual; interpersonal; institutional; and social, structural, and material levels. This framework serves both organisational and analytical purposes by highlighting the interconnected nature of personal experience

with external factors (e.g., institutional or social influence), and also the multidimensionality of personal accounts (e.g., supervisor support might be institutionally based, interpersonally executed, and impact a student personally).

Careful consideration is also given to quotes and descriptions of participants to preserve anonymity. For example, backgrounds of international students and specific details are at times altered or presented in general terms, pseudonyms are used in place of real names, and details connected to students fields of study and research directions are removed to maintain confidentiality.

To highlight important sections of interviews and achieve brevity, sections of text will be omitted from quotations. The number of lines which are omitted will be shown, instead of the original text, within brackets — for example, (2 lines) reflects that two lines of text have been removed. Longer pauses during interviews will be denoted by three full-tops (e.g., …). My own questions and comments from interviews may also at times be included within quotations to provide greater context and clarity to students' responses and experiences.

Study 1: Experiences and factors which support well-being and academic functioning

6.2 Introduction

Chapter 6 will present findings which speak to positive experiences and supports to PhD students well-being and academic functioning. Within the first section of individual factors, students' reasons for doing a PhD are introduced as well as areas which support their motivation. The next major section focuses on the satisfaction and positive experiences students derived from their studies such as feeling challenged

and lucky for the opportunity to do a PhD, being part of an academic community, learning about oneself, clarifying one's values, and experiencing flow. This material illustrates the complex ways in which motivation is influenced by a range of factors, particularly social connections and feedback on one's work.

Topics which relate to the themes of clarity and focus are then presented. Specifically, students described many ways in which they employed different work practices and strategies to gain greater clarity of their topic or area of work, and to reduce distractions and stay focused on their different work tasks. As stress also interfered with students' academic functioning in this way, a description of how stress reduction increased clarity and focus is also included.

The next major section examines the primary ways students managed their mental and physical health during the PhD. The (re)connection and (re)prioritization of valued areas in students' lives such as sport and social connections, a sense of refreshment stemming from a break or disengagement from the PhD, and even (re)engagement with the PhD itself, is presented. Part of managing mental and physical health for several students also included meditation, relaxation and prayer, and so descriptions of these practices and outcomes complete this section.

Within the interpersonal level of the ecological framework, the diverse ways in which social connections supported students is explored. This section begins with three major types of support students reported receiving: intellectual, emotional, and therapeutic support. The role of social interaction in students' lives is then introduced with a description of the many avenues by which it was attained including participation in sporting or interest groups, and time with family and friends.

The institutional level of the ecological framework is presented next to broadly examine themes connected to university culture and resources as well as experiences

of supervision. This includes a detailed analysis of how academic culture is experienced at the faculty and school level, its impacts on identity and sense of belonging, and also how students experienced interaction with staff throughout the university. Varieties of support that students derived from the university are then outlined including the experiences of supervision. How supervision was experienced as a source of support and understanding, and the factors which were found to be most important in this regard, are discussed.

Finally, supportive and positive areas at the social, structural, and material level are described. Specifically, individuals coming from non-academic or blue-collar backgrounds, being international or domestic students, being of a particular gender, having financial supports, and the impact of housing and availability of a workspace were all found to be important areas for students well-being and academic functioning in this regard. In all, this chapter provides a detailed illustration and analysis of the areas and ways in which students experience the PhD in a positive manner. Table 8 presents the major themes and subthemes discussed in this section, as organised by ecological level.

Table 8. Experiences and the factors which support well-being and academic functioning: Organisation of major themes and subthemes by ecological levels

Ecological Levels	Major Themes	Sub Themes
Individual level	Reasons for doing a PhD	The enjoyment and challenge of learning A lack of alternatives
	Satisfaction and positive experiences during the PhD	Finding challenged and engagement Feeling lucky to be doing a PhD Receiving positive feedback and feeling part of a community
	Supports to motivation	Feeling determined and bolstered by achievement Feeling lucky

		Feelings of connection and support
		Challenges and peer comparisons
		Not wanting to waste past effort and wanting a better future
	Supports to clarity and focus	Reducing distractions
		Switching between tasks and types of activities
		Externalising and visualising
		Managing stress
	Supports to physical and mental health	Increasing confidence and reducing doubt
		(Re)connecting and (re)prioritizing valued areas:
		Sport, social connections, and fun
		Meditation, relaxation, and prayer
Interpersonal level	Social support	Types of interpersonal support
		Intellectual support
		Emotional support
		Therapeutic support
		Interaction
Institutional level	Connections and resources	Sense of community and belonging to the University
		Supervision
		University staff and resources
		Supports within one's centre or school
Social, structural, and material level	History, identity, and location	Benefits of coming from a non-academic or blue-collar background
		Financial support
		Gender
		Housing and workspace

6.3 Individual Level

Themes and findings were organised under the individual level if they were identified to be best situated at this *site* of analysis (Prilleltensky, 2005). For example, the experience of motivation and satisfaction can be seen to occur at the level of the individual despite the *source* of these experiences being located at the interpersonal

(e.g., friends) or institutional level (e.g., supervisors). In this way, despite the interconnected nature of these themes with other areas, this individual level emphasises what was revealed in terms of personal experiences, perceptions, behaviours, all connected to the engagement with students' PhD life. The following sections will move through dimensions of motivation before introducing the complex ways in which the PhD is viewed and how this, as well as valued areas in students' lives, are managed.

6.3.1   Reasons for doing a PhD

6.3.1.1   The enjoyment and challenge of learning

Though questions around initial motivations were not originally included in the interview schedule, eight students' reasons for undertaking the PhD were recorded and showed a high degree of similarity. Most undertook the PhD due to a love of learning or desire for personal challenge and growth while a few simply weren't sure what else to do, a finding consistent with large scale studies (Hodsdon & Buckley, 2011). Specifically, six students mentioned that their love of learning was the main reason for undertaking a PhD. Connected to the notion of developing one's potential, students spoke of how they desired to be challenged intellectually, develop new skills and gain new knowledge, reflecting dimensions of personal growth and engagement in the well-being literature (Keyes, 2002a). Several also emphasised the primacy of this motivation by distancing themselves from the possibility that they were undertaking a PhD to earn a particular title, more prestige, or to gain financially. The following statements by Sarah, Jade, and Samantha highlight this clarification of motivation:

Sarah: I love it, love to learn (2 lines). And I suppose it's what you're learning from the research, so you're enhancing your knowledge. For me it's not about the title of having a PhD or you're going to earn a higher salary, that's not as important as what I'm going to learn in the process; the skills that you've built through the process of doing a PhD.

Jade: I'm here not for the PhD title, I'm here to enjoy the research and to enjoy that challenge of learning and learning new things challenging my own ways of thinking.

Samantha: I don't know, it's just something I want to do for me, this is just a precious gift for me. It's not about money, it's not about prestige, it's not about recognition, it's about me and stretching myself and being able to contribute something, even if it's worth nothing, at least I tried to contribute something.

In comparison to Samantha's motivation, which was also for the academic environment, community, and culture, Amy's description took a more future-goal oriented tone and centred on her view that the PhD was a great and exciting challenge that once completed would be immensely satisfying, a step closer to her dream of being an academic. The *process* of completing the PhD seemed secondary to the achievement and thrill of meeting this challenge, a process similarly connected to improvements in well-being (Keyes, 2002a; Seligman, 2011). In this way, Amy framed this goal as representing a measure of her own ability and skill:

It is a challenge that awaits me, so it was never a matter of if I would do a PhD, it was always when, or what on. So it's a personal challenge that I need to fulfill. Not because I want to tell other people that I have a doctorate or anything […], it's proving it to myself that I think I can do it and that I can do it.

6.3.1.2 A lack of alternatives

Interestingly, despite most students seeking to complete the PhD to either engage in an enjoyable process or achieve some desirable outcome, a few students began the PhD with less initial interest or expectation for results. Experiencing a lack of attractive alternatives and a feeling of boredom were reason enough for two

students (Jill and Maria) to undertake the PhD. The option of a PhD provided a path forward during times of uncertainty, and the financial incentive of a scholarship further added to this appeal. As described by Jill:

I went into it thinking — I thought it was a joke to be honest — I wasn't overly invested in it, and I went into it because I got a scholarship, if that makes sense, and it was something to do for me, it wasn't something I had always planned to do, and I knew I wanted to study but didn't know exactly where I was going and then the opportunity with the PhD came up and I thought 'yeah, I'll do it'.

6.3.2 Satisfaction and positive experiences during the PhD

The following section discusses what students described to be important rewards, benefits, and positive experiences during the PhD. These included feeling challenged and engaged by research, feeling a great deal of gratitude for being "lucky" enough to have such an opportunity, and the satisfaction and pleasure which came from positive feedback and feeling part of an academic community.

6.3.2.1 Finding challenge and engagement

The most common finding regarding positive experiences students had when undertaking a PhD comes from the enjoyment of being challenged and gaining something of intrinsic value, reflecting the initial goals of the majority. For instance, Kim described a sense of fulfilling her potential in work that reflects her true values, an experience she found to increase her sense of fulfilment:

Kim: I'm not working against the grain of who I am, it's in line with who I am and so that's how I feel, that's what's helpful in the

role. It's more internal things that are helpful than external, things like the fact that I'm grateful, the fact that I feel like I'm utilising my talents. Another key thing is that when I worked in an office I always felt like I was not living up to my ability. Like I was limiting myself, whereas now I don't have that feeling because I'm working at my intellectual capabilities.

What students gained varied widely, but an enjoyment of actually being challenged and having one's skills and abilities "*stretched*" was common to many. Other benefits included learning about one's strengths and weaknesses, developing time-management skills, gaining valuable lessons, a sense of achievement, and fulfilling one's potential. Two students, Max and Sarah, also shared the view that the challenges and lessons learnt through undertaking a PhD made them stronger and more resilient. Moreover, Max stated that being challenged actually increased his general satisfaction and well-being.

These findings demonstrate that although the PhD is a substantial and challenging degree to undertake, the process does create diverse opportunities for enhancing psychological well-being. In the strongest sense, the themes shared by students in this regard again reflect the notion of personal growth where there is a feeling of development and the fulfilment of one's potential as well as an increase in skills and efficacy when facing challenges over time (Fava & Ruini, 2013; Keyes, 2002a).

Similarly, the experience of strong engagement during a student's work highlights a degree of pleasure and interest derived from their PhD. Samantha described this as an experience characterised by a feeling of absorption to the exclusion of all else. It is likely her background in mental health provided her with the language and awareness to describe such a state using the particular term *flow*. For

her, the experience was characterised by a combination of positive emotional and
attentional qualities:

> *When I'm really challenged, excited, passionate about what I'm doing, and I
> would say that about my work with my clients and with my PhD, I do go into a
> state of flow which I love, just really being engrossed in it, I might come out of
> that and think 'oh fuck I've got another thing' but not while I'm doing it, it's
> really interesting…*

Samantha also described how her motivation for engaging in the PhD as being
fiercely her own, and how it represents something that is like her "*baby*". Such
motivation reflects a degree of autonomy (Niemiec & Ryan, 2013) in Samantha's
choice to work on the thesis and the enjoyment, focus, and interest that she and other
students experienced is therefore likely linked to intrinsic motivation (Ryan & Deci,
2000).

6.3.2.2 Feeling lucky to be doing a PhD

Several students also shared the view that doing a PhD was an incredible
opportunity. The socioeconomic backgrounds of students can interact with and shape
students' experience in a range of ways. Two students believed coming from a
working class background heightened their appreciation of the degree where having
experienced a less desirable or difficult form of work cast the PhD in an especially
favourable light. Kim, for example, prior to the degree had been working as a
receptionist in a factory and so viewed the opportunity as "*precious*" and a
"*privilege*". An international student similarly spoke about the differences in
resources and opportunity that he found here in Australia as opposed to his home
country while others simply "*loved*" the opportunity to be paid for engaging in areas

that fascinated them. As is discussed below in *supports to motivation*, feeling lucky also aided student persistence.

6.3.2.3   Receiving positive feedback and feeling part of a community

An experience mentioned by four participants highlighted a relationship between receiving some sort of positive feedback or interest in their work and feeling a sense of belonging. Kirsten found a yearly summer conference to be incredibly valuable as she and her peers reciprocated reassurance about their works' quality, supporting and inspiring one another. Jade recounted a similar effect from sharing her work in journal articles and, in particular, at a conference where she *"spoke to professors from around the world and they were really really interested in what I was doing"* while another student felt similarly valued when her conference abstract was accepted. The following quote by Emily provides a particularly lucid example of this relationship which refers to having received feedback from peer reviewers she respects greatly:

> *…to have these networks saying that "wow, we think your ideas are amazing, we'd love to work with you one day, please address these issues because we think they're going to make your research better", that… Oh my God, I felt like I belonged, you know what I mean?*

Emily also spoke to the validation she experienced through receiving feedback and praise from reviewers and also an academic she greatly respected. The experience was also helpful not only to her self-esteem but also her academic identity as she began to feel that her work was approaching a higher standard that others respected her research directions.

The importance of this social acceptance and a sense of social integration is in line with perspectives on well-being as well as research on PhD students' experiences of feedback and progress (Bair & Haworth, 2004; Gardner, 2012; Martinsuo & Turkulainen, 2011). Further, the relationship between such feedback and such strong positive feelings seems reasonable given the high level of self-doubt regarding students' own abilities and their works' accuracy (see Chapter 7: Hindrances to Well-being). Such doubts would surely create a sense of uncertainty regarding one's place amongst other researchers and within the areas they work, and so a corresponding feeling of community, acceptance, and belonging likely stems from signs of approval from experienced academics.

6.3.3 Supports to motivation

Although not primary reasons for undertaking the PhD, a host of factors were mentioned by interviewees that were part of and supported their motivation to continue. Many of the factors relate to areas of well-being and highlight a link between the satisfaction a person feels in core areas of their life, their psychological functioning, and their desire to complete the PhD.

6.3.3.1 Feeling determined and bolstered by achievement

Similar to the way many students took up the PhD as a personal challenge, several others mentioned having an attitude of determination during their studies which drove work and persistence towards completion. Amy, who was working toward her candidature presentation, expressed that determination was as an attitude she would bring to challenges that lay ahead. Those who were further along in their

studies spoke of a drive that helped them persist despite difficulties such as stress or depressed moods, the illness of loved ones, and even discouragement from spouses. Samantha, who experienced both spousal discouragement and the illness and loss of loved ones, demonstrated an incredibly strong determination to persist:

> *It's been a very very long journey for me and anyone in their right mind would have given it up long ago, but I'm sort of a bit like a dog and bone. I think, "nah, you're not gonna beat me, you're not gonna beat me", even though it's so insane.*

As could be expected, this determination was also supported through viewing one's work as meaningful or having a belief in one's project. Three interviewees displayed a relationship between believing their studies might help others and increased persistence, once again highlighting the interconnectedness between areas of well-being and a person's motivation. The well-being domains of *purpose in life, meaning,* or *social contribution* captures the sentiment of these students' beliefs (Keyes, 2002a; Ryff, 1989; Seligman, 2011) and demonstrates that congruence between a person's values and intellectual interests provides strong motivation. Jade, for instance, described how her research might help individuals within the country whose industry she is focussing on:

> *Robert: and what is it that drives you while doing a PhD?*
>
> *Jade: (1 line)…that process of learning and doing the research and learning about myself and learning about the country that I'm doing the research on and coming up with something that can be applied within and help [the industry I'm researching], so trying to make a difference.*

The achievement of tasks and progress in one's PhD also supported motivation for several interviewees. For one student, the work of putting together a conference

presentation provided coherence and clarity for her ideas, leading to a greater sense of momentum and direction. Receiving positive recognition had a similar effect, either from winning an award or through receiving feedback from a journal's review panel, students felt an increased sense of confidence about their ability and ideas which also supported their motivation. Here, Amy describes the bolstering of motivation after being recognised for her work, an event which also highlighted other personal achievements:

> *And I received one of the awards when I wasn't feeling that confident about my research proposal, so that was a huge boost for me. And that made a really big difference because I thought I can do this, just get on with it. I'm meeting my own deadlines, I'm on track, I'm on schedule, I'm fairly confident that I'm moving on a pretty good path right now.*

Samantha described the interplay of achievement and personal growth during her work, a combination which similarly aided her persistence:

> *Robert: And you get pleasure out of it? Like you said you want to be stretched?*
>
> *Samantha: And is it pleasure? I don't know if its pleasure all of the time. I think half the time half of me wants to do it and the other half goes 'what the fuck are you doing?' (Laughs). It's not pleasure it's almost like… It's that achievement, it's that stretching yourself or stretching your skills, which is really hard to do.*

Indeed, the desire for achievement and students' determination are closely linked and raises important implications for the role of goal setting and achievement for PhD students. For example, the skill of setting achievable goals, tracking progress, and reflecting on one's achievements appears important in aiding student persistence — as it has elsewhere (Silvia, 2009) — and so university endeavors which foster these practices offer a supportive avenue.

6.3.3.2   Feeling lucky

A few students' motivation was also supported through them feeling quite lucky for the opportunity to do, and the resources and conditions to support them with, their PhD. For example, Max, an international student would often reflect and be grateful for the office space, library resources, and supportive/accessible supervision which he felt were better than what he previously had — and what his friends currently receive — in his home country. Amy similarly felt lucky about the opportunity to have exclusive focus on a topic of her choosing, having a scholarship, and also for having a supportive husband whose work and study schedule complemented her own. Having these "lucky" factors supported Amy and Max in feeling they should make the most of their time and this "*rare*" opportunity. As Max described, his appreciation propelled him to be productive:

> *So if I compare to Australia in terms of internet, resources, supervisor, journals and everything, I find here it is very helpful, so I feel bad if I don't use it as much as I could, all these resources and facilities that I have here, I mean I have all these opportunities to go here compared to all my friends and colleagues [back home] who don't have the opportunity to come here, so that sort of thing also motivates me to do better.*

Preliminary evidence suggests that gratitude is associated with a range of positive outcomes such as decreases in depression (Seligman, Steen, Park, & Peterson, 2005), increases in well-being (Emmons & Stern, 2013), as well as higher rates of enthusiasm and determination (Emmons & McCullough, 2003), which in addition to the findings in this study does raise the possibility of gratitude having a role to play in supporting PhD student well-being and progress.

6.3.3.3   Feelings of connection and support

Although the relationships students had during the degree and the impacts they had on experience are described more fully within the Interpersonal Level, section 6.4, the impacts these relationships had on *motivation* in particular are described here to maintain consistency with this theme. Students' motivation towards their PhD was supported through several types of relationships ranging from interaction with work colleagues, fellow gym or sporting team members, and other students at trainings, through to the feedback, support and connection of family, friends, and therapists. For example, several interviewees discussed how speaking to other students about their struggles and difficulties brought a feeling of relief through realising they were not alone or different in their experiences. These processes might 'normalize' students' experiences, build rapport and sense of community between them, and also allow a degree emotional support, all of which contributed to motivation. Several of these themes were expressed when Sarah was speaking with friends at a university gym:

> *...there was a time when I was working on my model and trying to get results and you might feel like 'oh my God', but you know through hearing stories about others that that is what you have to go through, it sort of helps (5 lines). Just knowing that that is what you go through, that's how it is, it's not going to be running smoothly as you would expect.*

A particularly interesting finding was highlighted by an international student named Max who had the option of coming alone to Australia while his wife and newborn stayed behind in their home country, but he preferred for them to all come, despite knowing that they would draw on his time and resources. He believed that although they do take time away from his research he would not work as effectively without the support and emotional fulfilment they provide:

> *I know I will have more time to do the PhD [without my family here], but at the same time I don't think when I have the time I could use my time efficiently*

to finish my PhD, but with my family here I feel comfortable, I feel good, I feel safe, and you can be more focused on doing your PhD.

This sentiment was similarly shared by others and highlights that the *absence* of distractions and difficulties are not necessarily sufficient conditions to foster focus and persistence, rather, it is the *presence* of valued people — as well as things, activities, and meaning-making etc. — and the satisfaction to well-being they provide which supports productivity. This finding shares overlap with arguments by proponents of concepts such as *flourishing* or *thriving* (optimal mental health and functioning) whereby a person is seen to be at their best not only when there is an absence of mental illness or difficulties, but when a range of factors are also actually present in an individual's life e.g., social support, living with purpose, self-efficacy (Fredrickson & Losada, 2005; Keyes, 2002b). Further, the significant impacts of support and social integration on PhD student well-being can also been seen in studies examining the outcomes of writing and support groups for PhD students (Aitchison, 2010; Janson et al., 2004; Maher et al., 2013; Nerad et al., 1997). Taken together, the positive impacts of strong social support and connections are vitally important to many PhD students' well-being and motivation, and perhaps nowhere was this relationship more creatively expressed than by Kirsten, who comforted herself by talking to a stuffed toy.

During stressful periods or during times of isolation Kirsten would tell her stuffed toy how she felt, and then she would speak for the toy (like a ventriloquist) and have the toy offer herself consolation and compassion. The following extended quote describes part of this process:

…I've got this little stuffed [toy] and yeah it's just a little stuffed [toy], always smiling and very cute and stuff. And sometimes when I'm stressed I just sort of like sometimes voice the monkey as though he's talking to me. Yeah, it sounds crazy but anyway…(laughing). It's like having company. I even put him as a

part of my acknowledgement in my thesis (laughing), I just said "thanks to my stuffed [toy] for accompanying me during sleepless nights (laughing throughout), long office hours". It sounds weird but….

Robert: but effective?

Kirsten: Effective yeah, in fact another student in our department now has the same thing, he has a stuffed [toy] in his office as a little friend. I don't know how but it kept me sane in a sense, if I'm on my own in my office it's just too much so having this little (laughs). So yeah, so I think when I'm really stressed and voicing it, I'm trying to say to myself "you'll be fine" and stuff like that.

To perhaps indicate some of the benefits of this strategy, it might also bear mentioning that Kirsten completed her PhD within the allocated timeframe, published several journal articles, spoke at a conference, and won an academic award for her work, and so in many ways was an impressive student. This strategy shares similarity to the *empty chair* or *two chair technique* used within Gestalt Therapy where a person changes seats and expresses or role plays different parts of themselves or even other people (Greenberg, 1979) and is a fascinating strategy drawing on elements of imagined social support to aid persistence.

6.3.3.4   Challenges and peer comparisons

Being part of a study group or having peers who are also engaged in their PhDs supported motivation. Specifically, two students (Max and Maria) spoke about the motivation that came from feeling pressure when comparing themselves to other "*hard working*" PhD students in their office. In the following excerpt, Max reports working diligently to be more like the members of his peer group:

Max:…the group [I study in with other students] is very solid. So once, it also motivates me to do as good as them. We have some informal discussion in the room or whatever, and also they are very very good students, as far as I can see, because when I go to the uni, most of those […] group students are there doing their work, so I feel bad if I don't come to the uni or if I come to the uni

and do nothing, so it also helps me to do something and progress with my PhD.

Jade, on the other hand, felt a pressure to perform which stemmed from recent comments from her partner. During a time of low motivation and doubts about whether to continue, her partner asked her whether she was a "*quitter*", a question which spurred her into action:

Jade: I've actually spoken a few times about whether I would do it or just let it all go and do something else, because it's a little bit too hard at the moment, and my boyfriend said "oh are you just going to be a quitter?" And I've never really quit anything before in my life so I think maybe that drives me but I'm really not enjoying it that much at the moment.

It appears these social sources of pressure have complex interactions with students. They can act to inspire, motivate, or demoralize (See Maria's experience in Hindrances to Motivation in Chapter 7) depending on each student's abilities, resources, expectations, and experiences.

6.3.3.5 Not wanting to waste past effort and wanting a better future

A common desire for students centred on them not wanting to have wasted the time and effort they had already invested, both into their undergraduate degrees and PhDs, and also wanting a better future for themselves and their families. For instance, Brad felt an undergraduate Arts degree would be "*useless*" without a PhD while Jade didn't want the difficulties she had overcome to be for nothing. The strongest example of these desires came from Max, an international student who gave up his job when he decided to come to Australia. This, coupled with a child for whom he and his wife

must provide, sustained a strong motivation to complete his degree and return home with better job prospects.

Another interesting motivational support involving one's attitude towards time came from Kim who described herself as thriving on chaos. She enjoyed and found it quite effective to wait and use the mounting pressure of leaving tasks to the last minute as a source of motivation for productivity. It appears this tactic is something that she at times opts into but at other times remained a stressful habitual process:

> *Kim: It's a burden for me to carry when I haven't put the work in. But then there's a part of me that feels like well I'd be better working at a crunch time because then I can get really overwhelmed and push myself (laughs).*

In contrast, Amy was acutely aware of the passage of time and felt a strong desire to make every day as productive as possible. Although these examples differ, they can be viewed as expressions of an expectation or belief regarding how much work (goals) should be done by a certain time. In terms of productivity and completion, harnessing a greater sense of urgency would provide a powerful avenue for students' productivity and ultimately completion. This urgency of course would motivate best if personally meaningful, for example, as Amy's desire for progress allowed or Kelly's wish to finish before her scholarship finished:

> *Kelly: yeah, because I don't mind doing edits on my thesis while I'm working part time, but I don't want to be writing the actual thesis while working I don't think. It'd be a lot of hard work, I mean realistically I'll need to do some writing, but I want to have the bulk of my thesis done before my scholarship runs out. Because I know how hard that work is and how important the scholarship is.*

Finally, Kelly, Brad, Max, and Amy all spoke about how they saw their futures being improved through the completion of their theses, highlighting that

having a personal vision of what one works towards also supports motivation. That is, the development of clear, specific, and personally meaningful goals of what may be gained in the future — academic positions, in these cases — also acts to compel greater action towards the completion of goals (Masuda, Kane, Shoptaugh, & Minor, 2010).

6.3.4   Supports to clarity and focus

This section will explore the many ways in which students increased their sense of clarity and focus. This included strategies such as reducing distractions, changing between different kinds of tasks, using tools to develop conceptual clarity (e.g., mindmapping), and reducing stress. In all, these activities were used to sustain attention on the tasks of the PhD and also to increase understanding of what students were doing and planning to work on.

6.3.4.1   Reducing distractions

Several students spoke about ways to reduce distractions in their work lives, especially through changing the location and time they chose to study. Brad worked from home to avoid the distractions of university and preferred to work late at night once his roommates and others slept. Maria and Mary, both mothers, found the university in general and the Postgraduate Student Lounge in particular to have fewer distractions than home while Jade managed to join a university writers retreat for four days:

> *Jade: I found that was definitely really valuable, going away for four days with other fellow students, working on writing aspects or aspects of writing, so reading whatever you want to focus on and then also having a few hours to*

actually work on your own project and writing. (3 lines) ...having those four days where you're constantly thinking about your thesis, it's not often you get that. You didn't have the commitments you have when you go home.

The lack of usual household chores, as well as the sharing of work, feedback and thoughts with others about work, provided Jade with the conditions for sustained focus and productivity. Not surprisingly, being able to maintain concentration on one's work through the reduction of distractions or presence of conducive factors (e.g., others who are studying) was helpful to productivity.

6.3.4.2   Switching between tasks and types of activities

An interesting strategy was employed by three students who discovered that changing between tasks or types of tasks increased their ability to stay focused and persist in their work. Kirsten's supervisor here in Australia and another from a previous degree in her home country both gave her the advice to have a few tasks to work on in parallel and switch between them when feeling stuck or in need of a break, a strategy she finds very helpful. Samantha switches not between work tasks but between different ways of expressing herself and exploring ideas, so if she feels stuck or in need of a break she engages in visual journaling or collaging, both to stimulate other aspects of herself and to explore ideas through a different "*nonverbal*" medium.

Engaging in something physical and "*non-intellectual*" also supported the focus and mental ability of several students. For example, Kelly found that "*if I didn't make it to my boxing classes my study was not as good. It just wasn't as concentrated and productive*". Similarly, Kirsten found more clarity after dance classes and Brad after football. Common to all these activities was a sense of fun and also social contact. All these students spoke of enjoying the company of their teammates and

friends, while the physical activity surely also contributed to well-being and mental ability (Asmundson et al., 2013; Masley, Roetzheim, & Gualtieri, 2009). Across all these efforts, it appears that novelty and task switching, and engaging in an enjoyable activities, allowed students a break from their work, or parts of it, and provided respite.

6.3.4.3   Externalizing and visualizing

Myriad ways of getting thoughts on paper were employed by several students to provide greater clarity and focus to ideas, research directions, and emotional expression. One student used a research journal to write questions, vent frustrations and explore feelings while another two used mind-mapping for similar purposes and, in the case of Samantha, to help "*ground*" her in her work and avoid feeling lost. As in clinical research where the disclosure of strong emotional content through writing has been found to support the physical and mental well-being of individuals (Smyth, Nazarian, & Arigo, 2008), Samantha also used visual journaling or collaging — cutting out images and pasting them together creatively — to explore ideas in the process of the PhD and gain greater clarity both emotionally and intellectually. Interestingly, she believes using this visual and non-verbal mode of exploration actually leads to connections or insights beyond what she might have gained through discursive processes alone:

> *[Visual journaling] is really therapeutic to me, to sort of move away from words and to do this visual stuff. And it breaks through sometimes, when you're really caught on something you think "I'm missing something here", there is a connection here or it's not making sense or I'm just all over the place and I'll actually do something that will, and I might not necessarily have an idea of what I'm doing at the beginning, but I'll just keep on doing it and doing it and then think "wow, there's a connection there. This has brought out an essence of the point I was trying to make", but it's more, it's more than*

what the words are telling you, it's adding to the words like a picture does, it tells a little bit more of the story that we can't necessarily vocalise.

6.3.4.4   Managing stress

The effects of stress and well-being impact many areas of students' lives and focus and clarity proved no different. A certain degree of stress or perceived challenge is adaptive and corresponds to Selye's (1975) description of eustress which motivates individuals to manage the demands or tasks in life to achieve goals and growth, however, high levels of stress can impair performance and cognitive functioning (Ashcraft & Kirk, 2001; Bröder, 2003; Oei, Everaerd, Elzinga, Van Well, & Bermond, 2006). As with those students who mindmapped or wrote in journals above, the process of expression and disclosure was helpful for participants' well-being, clarity and focus. At the interpersonal level, Max also spoke of how the support and comfort of having his family in Australia also increased his ability to focus.

Jade found that a break from her studies helped her with her studies. Feeling incredibly stressed, she took a tropical holiday and found upon returning from her break she was more productive:

Jade: I guess being relaxed and not stressed, I was able to deal with things better. When you're stressed you don't really deal with things very well, you get quite emotional, and I find that I get less productive because I'm so stressed and I can't think clearly and so you become really less productive. You can look at something and it can take you hours and hours to try and get a solution, and you look at the same issue or problem when you are not stressed and you can get a solution within half an hour to an hour, instead of several hours.

Similarly, Mary found that a deferment from her PhD allowed her to gain a clearer sense of direction for her research:

So in a way, the big kerfuffle that having to defer and my father's health and my sister's health and everything else, has kind of given me more time to think

about things so I've actually probably sharpened up which direction I'm going.

These examples demonstrate that increased well-being and the absence of stress, which in these instances were associated with a break from the thesis or having the support of loved ones, provides students with greater functioning in terms of clarity, problem solving, and focus. In contrast to negative emotions such as stress which restrict these faculties, the improvements students describe are also consistent with theory and research exploring the role of positive emotions on expanding thought-action repertoires (Compton, Wirtz, Pajoumand, Claus, & Heller, 2004; Fredrickson, 2013; Garland et al., 2010). In the context of PhD students, a study by Stubb et al. (2011) similarly found that higher levels of feelings of empowerment were associated with student engagement and focus on their research while lower levels were related to anxiety, stress, and exhaustion. Increased well-being and corresponding positive affect appear to have significant adaptive outcomes for PhD students.

6.3.5 Supports to physical and mental health

The following section will discuss how students engaged in activities which supported both their physical and mental health. Given how difficult the task of the PhD is, many students described themes which spoke to how the alleviation of doubt or the development of confidence was helpful to their well-being. Making time for valued activities which supported physical rejuvenation and social connection were also found to be important and impacted students in many ways.

6.3.5.1 Increasing confidence and reducing doubt

Increasing confidence and reducing doubt supported the mental health of students through three primary avenues: receiving social support and feedback from peers and supervisors; gaining more experience; and feeling skilled in time-management. The most direct evidence of students' doubts being mitigated comes from several cases where positive feedback and support was received for their work. Kirsten, for example, found support and reassurance amongst her peers at a summer conference — indeed, this support was Kirsten's favourite feature of these conferences. Though less clear, the importance of peer support in dissuading doubts may also be evident with Max and Sarah, two of the few students who didn't mention doubts regarding their works' accuracy or value. Both these students regularly attended separate groups which were filled by peers from their area of study and lead by experienced supervisors. At these groups, Max and Sarah both shared their work, read and listened to others present their own, and provided and received feedback. Neither student explicitly reported these groups as having the impact of reducing their doubts, but the rare absence of these doubts from our interviews may indicate an important effect of their attendance.

Supervisor feedback also had a strong impact on some students (which will be discussed in greater length in the section on Supervision). For instance, Jade commented on the positive experience of receiving encouraging feedback earlier on in her PhD, which pointed out areas in her work she needed to improve. Conversely, she recounted how later in her studies the absence of positive or balanced feedback was causing her a great deal of stress. As could be expected, it seems supervisor feedback will likely increase the confidence in the accuracy of one's work but, depending on the manner in which it is delivered, not necessarily a student's confidence in their

ability. Kim spoke to this desire of having feedback and support which aided her

confidence by not undermining her research autonomy:

> *You know, some people think support is telling you. No, I still want to make sure the support has, is supporting my ideas, but just guiding where…not influencing too much my core ideas but just making sure they're expressed in the right way. (4 lines) Yeah, and I think if I did get the academic support then that would cater to those other…my abilities and stuff.*

Greater experience and time spent engaging in research also increased

students' confidence in their ability and research. Jade, for instance, spoke about

meeting the challenge of data collection and policy analysis and how "*through all my*

readings and all the work that I've done I've gained a better understanding, I feel

more confident on my topic matter" while Catherine reflected on a similar point,

"*Ummmm. It's more familiarity with the work, one. My confidence is up.*" In this way,

the factors which support greater clarity (e.g., mind mapping, journaling) also act to

decrease doubt regarding the accuracy of one's work and increase confidence.

In terms of gauging progress and accomplishments, only one student (Brad)

described himself as having a high level of skill in planning, accomplishing tasks, and

tracking this process. In addition to his high self-efficacy, Brad also submitted his

PhD within the standard three year timeframe. Of course, many factors influenced

this. In terms of his completion time, Brad had quite few responsibilities and, in his

eyes, an "*easy*" topic and field to conduct research in. There may also be a possible

gender difference in the willingness of students to volunteer positive self-assessments,

and as Brad was one of only two males in this sample it is difficult to assess this.

Regardless, no other student spoke of their strength in goal setting and its importance,

or seemed to have travelled as smoothly as Brad had. Here, he demonstrates

confidence in this important skill:

Brad: I don't want to sound arrogant but I'm a very good organizer and planner.

Robert: That's amazing, and so I was going to ask you more about that, so it's about organizing, planning, sort of time management?

Brad: Um, yeah, I don't know it's more just um… it's not like I said Thursday nights going to be working on my PhD sort of, Wednesdays going to be reading books, Tuesdays going to be writing or anything like that um, more the idea that I've got this month to write this chapter, and then I've got two months to research that chapter, and then one month to write it sort of thing so, more broader sort of planning yeah.

This focussed strategy of chunking work tasks, allocating rough time frames, completing work, and having responsive feedback from his supervisor were all part of an experience contributing to Brad feeling confident in his ability and research. Also, given what other students mentioned regarding the impacts of achievement, and support, these factors seem fundamental to fostering confidence and reinforcing motivation.

6.3.5.2   (Re)connecting with and (re)prioritizing valued areas

Jade: So I think that [near miss of being hit by a car] was a wake-up call for me to take a different approach. It's not the end of the world if you don't get this task done, you have to be able to have happiness and be able to live as well instead of just being so stressed all the time.

Another important dimension of what PhD students spent time and energy doing was engaging in those areas which were personally valued. These instances were characterised by students manoeuvring towards something they actively wanted more of in their lives and which provided a degree of pleasure, enjoyment or respite. These activities mostly included sport, spending time with friends, and finding

relaxation. However, just as some overlap surely exists between what at times feels like a responsibility versus something desirable, so too is there difficulty in trying to distinguish between those behaviours and activities which simply reflect engagement with valued areas and those which in some way functioned as coping. Similarly, it seems that because many of these activities and choices relate to areas tied to well-being, the (re)connection to them may also act as a preventative measure to stress, providing a buffering effect (Cohen & Pressman, 2004). A common theme of all students interviewed was the movement between and reorganisation of priorities, and a degree of tension between the time pressures that the PhD produced and other areas important to them, a finding which has been well documented with this population (Lovitts, 2001; Mason et al., 2009; Wasburn-Moses, 2008).

6.3.5.2.1   *Sport, social connections, and fun*

Kirsten: The PhD is a large part of your life but it's not your life, you have other things. So I think having that moral support from friends and family makes me feel, you know, I am human. And it's very important to keep that connection I think.

A salient theme for many students involved engaging in activities that in some way tapped dimensions of movement, social contact, and fun. Staying active through exercise classes and various sporting teams, for instance, offered an avenue to use and release physical energy, connect and communicate with others, disengage from the PhD, and rejuvenate both body and mind. Indeed, a large body of evidence supports the link between exercise and improved mood (Myrna-Bekas, Kałwa, Stefaniakm, & Kulmatycki, 2012; Ströhle, 2009), physical health (Warburton, Nicol, & Bredin, 2006), and social well-being in children, adolescents, and adults (Eime, Young, Harvey, Charity, & Payne, 2013; McAuley et al., 2000; Narici et al., 2004). The

process of working on the PhD was described as one which, although mentally active, does little to exert one's physical energy. Kelly, Simone and Samantha all described the need to release and exhaust this energy or risk feeling "*antsy*" or uncomfortable as it "*hangs*" around. Similarly, Catherine and Samantha also viewed exercise as an important part in staying balanced and giving themselves the best possible chance of completing the PhD.

Five students also commented on the fact that being involved in exercise classes or clubs provided social connection and support. Brad, for instance, played both football and baseball and found the interaction beneficial to his well-being. Kelly and Maria similarly described the social support they received from their roller-derby club and gym, respectively. For Maria, who came to Australia with her children but not her husband, the support she received from friends at a gym played an important role in dealing with feelings of isolation and as an outlet for difficult feelings. Overall, the isolation and difficulties experienced by several PhD students was helped by participation in these groups.

Social connections and support, irrespective of sport and exercise, were found to be a primary area that students desired, made time for, and maintained during their PhD. As will be discussed in greater length in the sections on Social Support (6.4.1) and Connection (6.4.1.2) within the Interpersonal Level section, these relationships satisfied important needs for students both during times of stress and high well-being. For a few students such as Maria, Brad, Catherine, and Jade, this need was heightened by the isolation they experienced; as Maria found, she needed "*something else because, during my studying, my friend is only my computer, so I think I need to socialise*".

Several students also stated that they participated in sports, exercise, and other activities to (re)connect with fun. Kirsten, Kelly and Brad all found that disengaging from the PhD for some time and having some fun in their teams or classes was physically and mentally rejuvenating, allowing them to return to, and work more effectively on, their research. Others engaged in "*fun*" or "*light-hearted*" activities to reduce stress and the seriousness in their lives. Simone, for example, enjoyed swimming and reading non-thesis related books, Jade spoke about the pleasure of planning a week's meals, having all ingredients at hand and making time to prepare and enjoy her cooking — a strategy developed in a counselling session. One participant in particular, Samantha, spoke at length and repeatedly about the usefulness in making time for fun, praising its value in balancing different parts of herself and providing relief from the "*horrible*" events taking place in her life such as illness of family members:

> *But I find going to pat the puppies because they're so Zen, they're like 'hey man' (laughs), and you can just play with them and they're great, or playing with kids or something like that, just something really stupid. (8 lines)…like going to do fun things is really important as well, like having a good life is really important, so watching comedies, going to comedy festivals, we went to an [animal show] the other day — it was hilarious — stuff that's really stupid that I guess just takes the heaviness out of life.*

The enjoyment and benefit students experience through novelty and fun reflects research into the role of positive emotions in enhancing well-being during times of stress. For example, a study by Fredrickson and Levenson (1998) showed that the experience of amusement alleviated the impacts of negatively valenced emotion (fear) — at least as measured by cardiovascular recovery time — more quickly than sadness or neutral emotions (see also Fredrickson, Mancuso, Branigan, & Tugade, 2000). Similarly, others have found that the experience of positive

emotions helps to alleviate daily stress and support resilience (Ong, Bergeman, Bisconti, & Wallace, 2006), further supporting the finding that effective means for PhD students to reduce stress and increase well-being is through enjoyable activities such as sport, social contact, or finding amusement.

6.3.5.2.2   *Meditation, relaxation, and prayer*

Three students practiced a combination of meditation techniques to increase feelings of positive affect and well-being. Sarah visualized herself floating on water or being on a beach while Samantha, in addition to mindfulness practices, used a guided visualization that took her through a desert and into an oasis with accompanying sound effects. Samantha and Emily practiced mindfulness both formally (in sitting meditation) and informally (focussing on a range of experiences such as the sounds of birds). Interestingly, having a variety of techniques allowed Samantha to choose between them depending on her mood. If stressed or anxious, for example, she preferred the visualization practices as she found formal mindfulness practice increased her distress when she came into contact with unpleasant physical and mental phenomena. She also found the experience of dispassionately observing her experience especially interesting:

> *But I do use the breath, the one that's really good is the 'observe self', I really love that. Have you heard that? It's really good, that's when you learn… I'm still trying to get it myself, but it's about how you can be in any emotional state, but you're observing it. The first one talks about where is that really disturbing feeling, and you'll explore it like you're a scientist: where is it? How big is it? How deep is it? blah blah blah. So you are able to step outside and see that you are larger than that…(4 lines) it doesn't have to define you.*

The theme of somehow transcending one's emotions or thoughts was also captured by Emily who read a book on meditation following a stressful breakup and loss of a family member:

> *Emily: But I really needed to understand myself better, I needed to understand how to cope better with everything. Turning to Eckhart Tolle and hearing him say, you know, sit and just listen to your surroundings, just listen to it. You're safe, it's okay. I mean it felt amazing thinking that because I'm so stuck in my mind so much of the time, and to have that, to be out of your mind, feels amazing. To be out of your mind.*

These moments of increased peace that students described can be understood through the concepts of reperceiving or decentering (Garland, Gaylord, & Park, 2009; Shapiro et al., 2006). That is, these students intentionally regulated their attention and attitudes in such a way as to experience a broadened sense of awareness with less attachment to experiential phenomena (sounds, thoughts, difficult feelings), accompanied by a sense of acceptance, equanimity, or curiosity.

Other students similarly described strategies to manage their emotions and gain calm. Specifically, several sought relaxation through swimming or bike riding, connecting with nature, listening to relaxing music and going for a holiday. Maria also shared how she at times attempts to distance herself from her thesis and anxious thoughts by actively distracting herself with shopping or through avoidance (e.g., walking to her car when frustrated with her work). When asked what it was about her work that made her seek distractions, she replied "*…because I just feel tired, long time ago I was so eager to do writing and do my modelling with statistics but then I got stuck, and it made me upset.*" Simone similarly sought to calm her anxious mind through the use of natural sleeping pills when experiencing sleep difficulties:

> *Robert: So what kinds of things help you then?*

> *Simone: To sleep? I would just take some pills, sleeping pills. Just light stuff, natural stuff. So maybe I can sleep for half an hour and then I wake up again because it's very light (laughs) but at least it's half an hour.*

Two students also used prayer as a coping strategy, a process through which they both felt free enough to cry and share their difficulties with their God. As Maria described, "*I can get off all my sickness, all my frustrations there*", also signalling a degree of catharsis. Max would pray until he felt a "*connection*" to God before sharing his troubles. This connection may be associated with a feeling of peace and calm that also arises during concentrative meditative practices such as repeating a mantra or focussing on the breath over a similar time frame (20-30 minutes). However, an important aspect of this prayer for Max was that he shared his problems with a God who "*loved*" and cared for him, and so this feeling of connection and sharing may also take on a uniquely supportive and reassuring quality.

Overall it was clear that the thesis and general life stressors were very often on the minds of students, and that seeking ways to not think about it, relieve frustrations, and find fun, connection, health, and a measure of peace and relaxation was important. Although Maria's avoidance behaviours were somewhat problematic as she also suffered from procrastination, her and the other students' efforts to reduce stress and experience greater well-being and positive affect are all evidence of emotion regulation strategies (Gross, 1998; Tugade & Fredrickson, 2007).

6.4 Interpersonal Level

As discussed above, the relationships and support students gained from others during their studies supported well-being, motivation, and sense of belonging. The following section focuses on the varieties of support provided through interpersonal

relationships: interpersonal, intellectual, therapeutic, and also those ways in which students derived a sense of connection through interaction. These varieties of support and connection were integral to the well-being and academic progress of students, supporting research into the importance of both the integration of PhD students (Bair & Haworth, 2004; Spaulding & Rockinson-Szapkiw, 2012) as well as social support and interaction more generally (Cohen, Gottlieb, & Underwood, 2000).

6.4.1   Social support

6.4.1.1   Types of interpersonal support

6.4.1.1.1   Intellectual support

Although intellectual support also at times included elements of social support, its function as a means to provide students with greater clarity, certainty, feedback, information, guidance, and help in the role of generating or developing ideas, was highly valued by students and mostly distinct from the provision of emotional support. These forms of intellectual support were supplied to students either through more formal university networks, including peers, supervisors and academics in their field, or through informal networks such as friends and family. For example, after becoming frustrated with her supervisors' lack of helpful feedback Jade sought out her father's feedback:

> *Jade: Actually it was quite funny, I recently wrote an application for [an award], (2 lines) I actually didn't send an application to my supervisors because I thought "what's the point, I'm not going to get the support anyway", so I sent it to my dad back in my home country, and he gave some really good feedback (5 lines…) and it just felt like wow, dad I think I should go to you more often, this is better feedback than I felt I received from my supervisors so I thought oh wow.*

This example is significant as it highlights Jade's sense of futility or hopelessness regarding any useful help coming from her supervisor. Out of mounting dissatisfaction and desperation she sought out academic support from a family member, however, the cost of the ongoing and unsupportive relationship with her supervisor continued detracted greatly from her well-being.

Similar to emotional support, two students (Amy and Brad) explicitly mentioned that having intellectual support from someone they felt they could relate to in some way was more desirable. These feelings stemmed from there being no students in their discipline who were close to them in age, or at all in the case of Amy. Fortunately, Amy did find intellectual — and emotional — support in a recently finished student from her field which was important as there were "*generations between*" her and her supervisors.

As mentioned, intellectual support and the myriad forms it takes is highly valued, however, having it only available from one's supervisors is not ideal for some, and perhaps most, students. Having other students or friends with knowledge in one's area also appears to be more desirable if there is similarity in some perceived way, though age, in this sample's case, was central. The implications for connecting students with others who are 'similar' therefore appears to be an important avenue for providing intellectual resources and bolstering well-being in the PhD student community. This grouping of students who share similarity and who can relate in some way is advocated by several researchers to enhance integration and feelings of community (Brown, Davis, & McClendon, 1999; Gardner, 2008). In answer to the potential lack of similarity at universities, perhaps a wider online network of peers could similarly meet some of these needs such as PhinisheD.org or other web-based networks.

6.4.1.1.2   Emotional support

As previously mentioned, one of the most important coping strategies used by students, due to its impact and wide use, was social support. Just over two thirds of the sample described how speaking to peers, friends and/or family, or just being around them, helped to reduce stress in a variety of situations. A sense of connection where students feel comfortable to share their feelings and experiences with their peers and colleagues has been described as integral to student satisfaction and completion (Gardner, 2012; Lovitts, 2001; Smith et al., 2006) and the support of partners, family and friends have repeatedly been found to be powerful supports for students (Hyun, Quinn, Madon, & Lustig, 2006; Nelson, Dell'oliver, Koch, & Buckler, 2001). An interesting dimension not mentioned in other research of PhD students related to the different degrees of closeness and intimacy seen as necessary to provide this support; that is, some students felt it was important that the support came from close loved ones whereas one other found the support they needed with individuals they knew little about; it was a supportive context in the presence of others which was helpful. Emily found the experience of being able to "*let go*" within two groups she attended as deeply supportive, despite having little relationship with other members:

> *But the people of the group are so supportive and loving, even though they don't know me from a bag of chips, it's so good to have that support. It feels — I am going to start fucking crying my eyes out — no, but it feels amazing. I feel so supported when I go. Like someone understands, someone is allowing me to do this, someone is just allowing me to dance and spin around and even scream, you know how sometimes when angry you just want to scream your lungs out. Or with the Eckhart Tolle mindfulness meditation stuff, sometimes just sitting there in a group is amazing.*

In contrast, the majority of individuals valued the support of friends and family. Simone was clearest in describing the importance of intimacy as being most helpful: "*Talking to people, not random people, talking to trusted people, people I love and care about [is helpful]*". This theme was echoed by Max, Kelly, Mary, Jade, and Kirsten, the last of who emphasised the difference between intellectual support and the emotional support she received through speaking to her sister, family and friends:

> *Kirsten: They don't help with [my studies], not friends and family, but you know, they say "you've achieved all these things, attending conferences and stuff like that and you've done a lot so you should give yourself some credit". It's good to hear that from someone else I guess, especially when you're lost and you feel like "ohhh I need help" and stuff like that. So having moral support, I guess, it's really helpful.*

At other times, it was simply the presence of loved ones that provided support without the need for communication as seen, for example, in the act of friends and family visiting Amy while she was in hospital. In a similar way, Samantha's husband was described as peaceful and as a counterbalance to her own personality, and so she felt she could just *be* while in his presence, an experience with value for her well-being:

> *Samantha: I'm like this kite whose flying around (laughs) and he just lets me be me. He liberates me in a way, which is really interesting because he is a really grounded, at peace kind of guy. So I think that's really important, to have that sense of peace. And I can just 'be' with him, I just love being with him, I don't have to do anything, just be, and I think that's really important.*

Overall, social support functioned across many overlapping dimensions to provide students with: reassurance regarding their values, abilities, achievements and work; emotional support through being heard, speaking with others, feeling cared for

and able to be one's self; countering isolation; and, as discussed previously regarding membership in teams and sport, students also found a sense of belonging, community, distraction, and stress reduction by engaging with others in various activities.

6.4.1.1.3   *Therapeutic support*

Six students reported seeing a psychologist during their studies to receive support — similar to that described above — in managing difficult emotions stemming from a variety of causes. Two students saw psychologists to deal with abuse both had sustained as young women, and although both mentioned these professionals as being sources of support, only one specifically mentioned that the therapy was related to her PhD in that the memories of her abuse were causing her concentration problems.

Simone, Jade, and Jill all decided to seek out a psychologist during their PhD's in large part due to difficulties and stress related to the actual degree. Jill experienced a very unproductive year categorised by a deep feeling of stagnation whilst also grappling with identity issues and relationship problems; a difficult relationship with her supervisors and mounting stress towards the end of Jade's degree acted as her catalyst; while Simone, an international student, was feeling stressed by visa and university deadlines, romantic loneliness, and the possibility of non-completion.

Emily's reasons for seeing a psychologist were not described as university related, although she was experiencing significant stress in relation to the degree at one time. Rather, soon after the death of a close family member she was left by a boyfriend who she had strong feelings for. This then lead to physical symptoms which

in addition to the stress and grief of these events prompted her seeking psychological help:

> *Emily: ...a couple of weeks after my grandfather's funeral—and my grandfather was a key figure in my life (teary), one of my only supporters—and my boyfriend at the time got really really aggressive with me and aggressively pushed me away without an explanation and that was very very difficult for me because I had lost two of the most important people in my life at that time (3lines) I started having psychosomatic symptoms, I had to see a psychologist for it. I was getting all these infections and back and neck problems which I had never had before.*

Seeing a psychologist was used as a coping strategy only by students who faced significant emotional or traumatic experiences which, although an important avenue of support, perhaps illustrates the beliefs of students about what issues are appropriately dealt with in such a relationship. For example, the process of being interviewed in this research was described as helpful for clarifying thoughts and feeling heard by several students, and so perhaps there is a greater range of students who would benefit from seeing a psychologist or counsellor than currently is the case. The university may need to play a role in addressing these assumptions and explicitly communicate a range of benefits that may be gained from engaging in such a relationship. For example, Hyun et al. (2006) found that graduate students with stronger relationships with their supervisors were significantly more likely to utilize counselling services, suggesting that an important part in connecting students to this support may fall to the advice of supervisors.

6.4.1.2   Interaction

A further dimension of social connection that students drew benefit from was that of simply interacting with others. Although this similarly at times took on the function of support and coping it also served the general well-being of students in the

absence of stress and thus reflected a well-established human need (Baumeister & Leary, 1995). Myriad avenues were taken to achieve this interaction including participation in university trainings; sporting, exercise and meditation groups; movie nights; and spending time with house mates, friends and family. A particularly interesting strategy came from Catherine who found that listening to the radio during breaks in her workday was also helpful in providing her a sense of company:

> *Catherine:…one of my strategies is that I now love Radio National (1 line). Yeah, I find the radio helps with the isolation and also Radio National has lots of academics on so sometimes they talked about my particular research area and even that, The Philosophers Zone, and all these programs are just good for academia really.*

Of course, greater interaction and connection with those in one's faculty would provide a greater sense of belonging to the university (described next; Gottlieb & Bergen, 2010) but connections from wider sources were often used to satisfy this need (Maria, Emily, Samantha). Success in gaining these connections reflects a wide array of opportunities provided within the broader university (trainings, sports, clubs etc.) and indeed is also an important aspect of integration (Walker, 2008).

6.5 Institutional Level

Much like in the previous Interpersonal Level, the following section describes instances where students felt a sense of connection, belonging, and support. At this level of analysis, however, the focus is on instances where students described these feelings in relation to the university itself, its community, and their supervisors. The contribution which supervisors made to students' well-being and academic functioning was found to be strongest when supervisors were accessible and met with

students regularly, provided feedback and guidance, and gave a degree of emotional and other 'non-academic' forms of support – and these features are explored individually below. Lastly, the positive impacts which university staff (e.g., librarians) and resources, and the supports within students own centres or schools, are then also presented.

6.5.1 Connections and resources

6.5.1.1 Sense of community and belonging to the university

Sense of community is conceptualised as including a feeling of belonging, trust, and interdependence where members feel their needs will be met and supported through reciprocated commitment (McMillan & Chavis, 1986; Rovai, 2002). Jill, who studied in the humanities, was the only student who explicitly described feeling connected to the university. As the following excerpt demonstrates, it was a feeling of support and frequent interaction with people in her area which contributed to this sense of connection:

> *Jill: I think having people here as well, like supervisors or colleagues or whatever you want to call them, just having people to break up your day with, and I think that this helps with feeling like you belonged here, to the university or to what your commitment is at the University. For me that was important, and I think because I am socially oriented and verbal I think it was important to me, that connectedness, that you feel yup, I am part of this university, this faculty, or this group of people, and this is my role here even though I'm not sure about my role you got that support around you until you do go through the process of working out exactly what it is you are doing with your PhD.*

Jill's' experience supports research which has similarly found that greater amounts of interaction is associated with higher levels of sense of community for undergraduate and postgraduate students (Dawson, 2006). As Gardner (2012) notes, universities and departments cannot control the development of relationships between

students themselves and their faculties but the likelihood of interaction can be supported through the availability of peer mentoring programs, formal and informal organisations, and physical arrangements (e.g., shared office spaces). However, despite the perceived availability of many of these avenues, it was more common for the students in this sample to feel little or no connection to the university, its' culture, or activities, and will be described in *Sense of Disconnection between the University and People* in Chapter 7.

It is important to note that the exception to this sense of disconnection for some students was the relationship with their supervisors. However, despite the strong and positive relationship several students had with their supervisor, it was not enough to foster a sense of connection to the institution or a sense of community.

6.5.1.2   Supervision

Supervision is often described in academic literature as being one of the most important factors in student's satisfaction and progress throughout the PhD (Bair & Haworth, 2004; Lovitts, 2001; Nettles & Millett, 2006). The current study supports this view as both in this section on positive experiences/supports and in Chapter 7 on negative experiences/hindrances, the majority of students described significant impacts that supervision had on their work, well-being, and overall experience of the PhD. In this way, the practices and attributes of supervisors which most affected students can be said to fall on a continuum of perceived supportiveness and understanding of students' needs.

6.5.1.2.1.1 Accessibility of supervisor and frequency of meetings

In keeping with the literature (Harman, 2003; Lamm, 2004a; Neumann, 2003), many students described the positive effects of having a supervisor(s) who were both accessible and who held frequent meetings. For example Max found weekly meetings motivated him to produce more work while Brad found accessibility reflected the strong rapport he shared with his supervisor. Kelly wished for greater frequency with her supervisors but understood that their workloads prevented this, however, frequency was not paramount as the time she had with her supervisors was described as still being "*amazing*". It is clear from such comments that the supportiveness and accessibility of supervisors were central to students feeling satisfied in the relationship and also in terms of feeling assisted throughout their degrees.

6.5.1.2.1.2 Importance of feedback and intellectual input

In terms of supporting students' work, two other highly related features mentioned to be helpful involved having a supervisor(s) who knew about the students' research area as well as their ability and willingness to give appropriate feedback and input. Overall, three variations on these two themes were reported: some students found their supervisors had knowledge in their area and were very willing to share expertise and guide students; one student found their supervisor had knowledge of their area but did not share or provide satisfactory guidance; and some students found their supervisors did not have sufficient knowledge of their fields and therefore could not provide the necessary feedback. The last two variations of this theme are presented in Chapter 7 as negative experiences.

Earlier in Jade's degree she received feedback and encouragement from her supervisors which provided her with clarity, confidence, and aided her progress. Brad, who found his supervisor to be both accessible and knowledgeable, stated:

> *Brad: Um, we would get along really well personally, we have a very good personal relationship, um, he's very supportive, he'd make himself available, um, readily, so If I want to see him um I can tell him I'd like to meet him and can see him within that week, and he always makes time…*

Similarly, research also suggests that feedback which balances critique with praise and encouragement, offers suggestion but is respectful of autonomy, is based on a strong understanding of the project, and is situated in a supportive and friendly context, are amongst features most valued by students of supervisory feedback (East, Bitchener, & Basturkmen, 2012; Tahir, Ghani, Atek, & Manaf, 2012).

Receiving feedback on their habits also helped two individuals with their work. Being an incredibly proactive student, Amy described applying for a series of awards, conferences, and journals. Her supervisors cautioned her to not divide herself too much between all these tasks at the expense of her thesis. Samantha, on the other hand, had a tendency to "*get lost*" in the complexity of her work as she described herself as someone who "*sees the forest, not the trees*". Her supervisors' advice to "*just do one little bit*", in the same way Amy was advised to be wary of dividing her focus, are examples of well-timed feedback which felt warranted and supported student progress. The strong rapport both Amy and Samantha shared with their supervisors most likely also underpinned the receptivity of these students to such advice.

6.5.1.2.1.3 Provision of non-academic support

Support not related directly to the academic content of the thesis was provided to students in a variety of ways and, as could be expected, was mentioned by most participants as being an important part of the relationship. Nine students described receiving emotional or instrumental support from their supervisors. Max, for instance,

had a supervisor who in addition to being accessible and helpful with his thesis helped

him to find part-time work during a financially stressful period. Overall, Max had the

following to say about supervision:

> *Max: So I think it's really great to have that kind of supervisor who can allocate time for you and who is willing to give anything they could to help you. So I think that is one of the first things I can think of when you asked me what's helped me with my PhD.*

Similarly, Mary also experienced a high level of support, understanding, and

flexibility from her supervisor during a stressful period:

> *Mary: he's been really supportive and said "take your time, do what you now need, let me know what helps, let me know if you need extensions or stuff or paperwork", so my supervisor's been really good.*

The absence of emotional support described in Chapter 7 for two students also

signified the importance of this aspect of supervision. However, as Lamm (2004b)

pointed out, balancing the provision of both emotional support (encouragement etc.)

and facilitation (challenging the student) is not always an easy task for supervisors.

Added difficulty also stems from the fact that students' needs vary widely and

supervisors may not always be able or feel it appropriate to provide emotional support

of a particular kind, as seen, for instance, in counselling roles (East et al., 2012).

However, as the results here and in Chapter 7 suggest this balance is paramount to

several students' well-being and progress and the presence of both these supervisory

practices is incredibly supportive and beneficial to students. If not able to be provided

by a supervisor, counselling or social support groups should fill this gap.

An example provided by Samantha perhaps best illustrates the emotional

position of students in the supervisory relationship and the tension in roles supervisors

must navigate to support students. Samantha spoke to the vulnerability she felt in the

relationship, a feeling she viewed as necessary to growth which was intimately linked

to experiences of receiving challenging feedback from her supervisor:

> *Samantha: I think it challenges you, after your 14th draft and "that's crap, that's crap, that's crap", and you just feel like "oh God, I can't even…" But that's why I did it, I have robust conversations with my supervisor and it does, it challenges the way you think, it challenges why you're doing it, "why are you doing this, why are doing it that way? Provide evidence, provide a reason, provide a rationale", so to me it's stretching you, that's why you do it as a researcher, that's why you do it because that's their responsibility, to make you better than you were before so I think you're in a very vulnerable place, I would call it very very vulnerable, that's how I feel, very vulnerable when I'm doing that.*

6.5.1.3   University staff and resources

On the whole, students felt that they were well supported by staff from

different departments at the university — though one student felt that it was difficult

for staff to provide support at times as a result of being overworked. Specifically,

students found the trainings run by the library and Office for Postgraduate Research

(OPR) to be "*fantastic*". The library staff were similarly described by one student as

"*phenomenal*" because "*they have so much time for you*", while another found the

inter-library loan system to be very helpful to his research. Physical resources such as

desks and printing facilities were also praised by several individuals while one

international student commented that "*this university is very good at providing some*

support with English", in the sense of providing feedback and support for writing and

editing of work.

6.5.1.4   Supports within one's centre or school

The centres or schools of a few students organised regular meetings for them

where they could discuss, present, and receive feedback on their work. For Max and

Sarah, these meetings were also attended by a supervisor with expertise in their field. Jade's group, which similarly discussed ideas and individuals' research projects and was helpful in the in the sense of social connections, did not have a senior researcher present, resulting in a sense that the group lacked a kind of "*deep knowledge*" and failed to provide her with the guidance or clarification she needed.

An important kind of support, and a significant example of well-timed intervention, was provided to Maria through her centre. During a prolonged paralysis in her work due to anomalies in her data — and little guidance from her supervisor — Maria was approached by her head of centre who enquired into her work and advised her how to proceed with her research. Maria described with great excitement how regular meetings that ensued between her and this individual provided her with concrete advice on what to read and how to move forward. Having spoken to her 3 months earlier (as she participated in brief MBI) it is questionable whether Maria, who described great difficulty concentrating and making progress, would have completed in time or at all if not for the efforts of this staff member. These occurrences highlight that both social and intellectual support/integration is integral and the absence of either one was keenly felt at some time by most students in this sample.

6.6 Social, Structural, and Material Level

The following section discusses those themes at the social, structural, and material level of analysis. It begins by describing how coming from a non-academic or blue-collar background benefitted several students in their studies and the types of financial supports which aided students. Next, the possibility that being a female

student provided some benefit is then explored within a section on gender before the importance of housing and workspaces on students experience is presented.

6.6.1   History, identity, and location

6.6.1.1   Benefits of coming from a non-academic or blue-collar background

Despite coming from a non-academic or working class background potentially impacting students' confidence in several negative ways, as discussed in Chapter 7, this personal history was spoken about as a foundation for positive experiences by two students. Kim found a deeper appreciation for her PhD as a result of previous work in a factory while also finding her new role as a PhD student quite unfamiliar:

> *Kim: I don't really have a boss per se over my head and I have always worked, or been in work environments, like I come from a very working class background, so this is unusual, this is cushy, you know, this is unusual, and I love the opportunity because I don't like authority but, so yeah, there's that, I'm working, changing patterns, I don't know how to work I've never worked like this before, this autonomously. It's alien and foreign to me, but what I've always wanted.*

She also stated:

> *Most people are in a grind going to work, as I said working class people, they go to put food on the table, this is just a luxury. I can really appreciate that side of it because I've seen [the other side].*

Samantha stated she was the first member of her family to go to university and as such would be termed a first-generation doctoral student (Holley & Gardner, 2012). She similarly expressed a great love for university and the PhD and that she also believed her eventual completion of the PhD might inspire other children from a similar background to attend university:

Samantha:…no one in my family had been to university, no one in my family had any concept of what it is, no one in my family even had a concept of what a PhD is, they haven't any concept whatsoever, but to me, being on a university campus and going to a library is like a lolly shop, it's like wow, I just love it…(7 lines) [Completing the PhD] will be a life achievement — definitely a life achievement for me. And this is at the pinnacle, this is the pinnacle of research skills, this is the recognised pinnacle and to think, you know, I did that, and here I came from this working-class background, little old me got there after all that. And that is amazing. And because of that, other kids will do it, other kids will have the opportunity.

Very few studies have examined the impacts of the sociocultural backgrounds of doctoral students beyond correlations with progress and attrition. However, the findings here suggest, much like those of Holley and Gardner (2012), that being a first generation student or coming from a working class background can in fact support students in some ways and provides evidence to the contrary of general deficit appraisals of such populations (Yosso, 2005).

6.6.1.2   Financial supports

Each student interviewed in this research was receiving a scholarship payment of approximately $22, 000 a year (pro-rated for those studying part-time). Differences in further financial support varied widely. Roughly half lived with or had a partner who worked (seven students), and five of these students also worked themselves (four as tutors, one in health services). Seven of the eight single students also worked as tutors to supplement their income, while the eighth student had the financial support of his parents in times of need – this eight includes those two who became single in the course of their studies. Therefore, the majority of students (12) received an income from work as well as their scholarship; however, as will be discussed in *Living on very little* (p. 248) in Chapter 7, several students also reduced their teaching load, suspended this activity, or subsisted completely on their scholarship from the

beginning of their PhD in order to increase the time available for their thesis or personal matters.

6.6.1.3 Gender

Comparisons between genders are made difficult in this research due to the sample being predominantly female, but by reflecting on the experiences of students in the context of the wider literature on gender provides some interesting areas for speculation and future research. For example, the majority of women in this study spoke of how they perceived social support to be available in their lives, a perception linked to the myriad ways they actively sought, received, and reciprocated support — a finding similarly mirrored elsewhere (Ptacek, Pierce, & Ptacek, 2002) . Kelly, for instance, discussed how joining an all-female sporting team made her feel cared for and part of a community:

> *Kelly: Ours is a women's league and so I've just found that being in a women's sport, and a women's contact sport, just amazing for supporting me through all the other stuff I've had to deal with (11 lines). And it's just a general sense of that, so even if you don't know that details we look after each other. So if someone's not training well one day you might check with "are you ok?", that kind of stuff. Very different to other sports where I haven't felt that kind of care.*

Other female students joined a dance class, a gym, a meditation group, or sought out the help of family members and friends. Some evidence suggests that females are more likely to perceive support as being available than their male counterparts (Demaray & Malecki, 2003; Reevy, 2007; Weckwerth & Flynn, 2006) and so there is a possibility, requiring further research, that this may offer some buffering against stress in the PhD context.

Some evidence for greater utilisation of social support by females is also evident in the numbers of individuals who expressed interest in and ultimately

participated in the brief MBI as part of this research. Of the enquiries into the intervention, the vast majority were female; in terms of participation, only females attended. The fact that far more women were curious and investigated avenues for support may also highlight a strength of female students, that is, they may be more likely to seek and receive help. Other research provides strong support for the tendency of women to be more likely than men to engage in help-seeking behaviours (Moller-Leimkuhler, 2002; Wimer & Levant, 2011), however, the extent to which this continues in the context of doctoral studies requires further investigation.

6.6.1.4   Housing and workspace

It is clear that for many students their housing and the location of their workspace had an important impact on their experience of the PhD. In terms of those six students who worked on their thesis at the university, the most primary reason given was they lived close to campus. For those who had both a workspace at the university and the proximity to make it accessible, this arrangement provided several positive outcomes. Kelly, for example, felt lucky and well supported by being quickly assigned a workspace at the university with printing resources and perceived this as being far more than what students at other universities typically receive:

> *Kelly: There's other things the university has done extremely well, on the whole, except for the recent stuff up with my computer, the uni is pretty good, I got a desk within two weeks of me enrolling, which is an experience unheard of with my non Vic uni friends. And getting access to those resources has been amazing, it meant that I had a place to come and study even if I was moving or had disruptions at home (laughs) it was invaluable, I don't know how to explain to people how valuable that is, to have a place to come and work – at some uni's you only get a desk in your final year – because there's such big demand, which makes it so much harder.*

For Jill, as described in the section *and resources*

Sense of community and belonging to the university (p. 191), studying on campus also connected her to people which in turn gave her a greater sense of "*commitment*" to the university and that she "*belonged here*". As evident in the case of Mary (discussed more in Chapter 7), having a workspace at the university did not provide this sense of connection where one felt they couldn't relate to their peers.

Three of the four students who mentioned working from home did so because they felt they lived too far from the campus. The time taken to travel to the university was seen to be a "*waste*". Brad felt this was also compounded by the university not providing him with the resources he required, and so having all his files and notes around him at home was preferable. Two others simply preferred working from home as it provided greater choice in how they could spend their work day. For example, Samantha spoke to the notion that working on campus took away from her freedom:

> *Samantha:...I don't want to come in here and work, people have said that, but I just think nah I don't want to sit in some little box, I just don't want to do it, I just want to have the freedom of being at home, so I guess freedom and flexibility.*

Students' preferences for how and when to study, and also their proximity to campus, determined where students worked. However, as will be discussed in the complementary section in Chapter 7, working from home proved challenging for several students even when they opted for that option voluntarily.

Chapter 7

Study 1: Experiences and factors which compromise well-being and academic functioning

7.1 Introduction

In Chapter 7 those experiences which were considered negative or to hinder students' well-being and academic functioning are described and analysed. As with the previous chapter, Chapter 7 has organised these experiences under the same major categories (e.g., supports to motivation in Chapter 6 is now hindrances to motivation in Chapter 7; supports to clarity and focus are now hindrances to clarity and focus etc.)—except where new information was better presented in a new category. For example, the information within the Interpersonal Level of chapter 6 dealt mostly with how social support and connection benefited students, and so the types of support (intellectual, emotional, therapeutic) were used to organise that information. Although social and intellectual isolation are featured in chapter 7, categories such as *relationship loss and strain* are added to capture other important aspects of students' experiences.

Within the individual level, the common perceptions and experience of the PhD task as being large and challenging is explored and how this jeopardised students' sense of balance. The impacts on students' sleep, health, and also attrition, are covered next. In all, many students spoke to great difficulty of the task and the toll it took on their well-being.

A further consequence of the difficulty of the task was the impact on students' motivation and persistence. How a lack of progress and social comparisons negatively impacted students motivation is presented before introducing the difficulties to clarity

and focus. From the perspective of hindrances and negative experiences, clarity and focus take on a wider meaning than that in Chapter 6. For instance, difficulties as result of the varying degrees of clarity and focus in respect to preparedness, expectations of the degree, the direction of one's research, distractions, and disruptions to one's concentration caused by the process of research itself (i.e., solitary, focussed study on personally related topics) are all reported and discussed in this section.

Still within the Individual Level, the hindrances to mental and physical health are then outlined, particularly those areas which compromise students confidence across areas such as their sense of competence, progress, and futures. Whereas the variety of ways students were supported made up much of the information in the Interpersonal Level in Chapter 6, here the social problems and difficulties students encountered are detailed. These include a sense of isolation and feeling as though others do not understand students' work, as well as experiences of loss, strain, and abuse within relationships during and before commencing the degree, which still affected some students.

At the Institutional Level of analysis, the sense of disconnection which several students felt towards the university and people there, as well problems with supervision, are explored. Although several students described difficulties with supervision, one student in particular, Jade, had quite a pronounced and prolonged negative experience in supervision and so an effort is made to understand this experience and what it may suggest about the importance of supervisory practices to students' well-being and progress.

Lastly, the difficulties and challenges students faced which were connected to the Social, Structural, and Material Level of analysis are presented. These areas

specifically related to students' socioeconomic backgrounds, their financial resources

(which appeared particularly challenging for several international students), gender

(in terms of past abuse and how being female may have impacted supervision and

support from partners), and finally, housing and workspace. Table 9 presents the

major themes and subthemes discussed in this section, as organised by ecological

level.

Table 9. Experiences and the factors which compromise well-being and academic functioning: Organisation of major themes and subthemes by ecological levels

Ecological Levels	Major Themes	Sub Themes
Individual level	Dissatisfaction and difficulties during the PhD	Feeling overwhelmed by the size and difficulty of the task Seeking balance: managing workload, responsibilities, and life events Sleep problems and physical symptoms Taking a break from the PhD
	Hindrances to motivation	Feeling overwhelmed and a lack of progress Not measuring up to one's social comparisons
	Hindrances to clarity and focus	Feeling unprepared: degrees of familiarity, experience, and clear expectations Uncertainty: working without clear direction Process of PhD brings out vulnerabilities and difficult memories Being distracted
	Hindrances to mental and physical health	Problems with confidence and doubt: worry and doubt about the future, one's work and abilities

		Difficulty gauging one's progress
Interpersonal level	Isolation	Social and intellectual isolation Others not understanding how hard the PhD is, or what the topic is about
	Relationship loss and strain	Death and illness of loved ones Relationship problems and abuse
Institutional level	Connections and resources	Sense of disconnection from the University and its people Supervision
Social, structural, and material level	History, identity, and location	The challenge of coming from non-academic or working class backgrounds Financial difficulties Gender Housing and workspace

7.2 Individual Level

7.2.1   Dissatisfaction and difficulties during the PhD

This section will present and analyse information relating to students dissatisfaction and difficulties during the degree, and the consequences of this. First, feelings of overwhelm and stress which were caused of the size and difficulty of the task are explored followed by experiences which speak to the difficulty of finding

balance given all the demands on students' time. For a few students, these challenges led to sleep difficulties and physical symptoms which are described next. Lastly, the experiences of two students who for very different reasons were considering taking time away from the degree are also discussed.

7.2.1.1   Feeling overwhelmed by the size and difficulty of the task

Several students found the large and difficult nature of the PhD to be overwhelming. Simone and Jade recounted times where they felt like they weren't capable of the work and might, in Jade's words, "*crash and burn*". Another student compared the PhD to previous degrees when explaining why she constantly felt stressed:

> *Maria: And maybe because to be a PhD student is different from being a masters or bachelors student because in masters or bachelors, they have a very big and stressful… They have to do an examination and you reduce the stress when you go on holiday, but with the PhD it's always in the peak.*
>
> *Robert: You're constantly stressed?*
>
> *Maria: Yes (laughs) it doesn't go down, it is always like this (raises a hand high).*
>
> *Robert: You feel stressed to a high degree.*
>
> *Maria: Yes, yes, yes. Before I applied for the PhD I thought it would be easy to be a PhD student, you don't have to do the class, but wow!*

Others have similarly found stress to be one of the most common and detrimental factors to PhD students' well-being (Juniper et al., 2012; Offstein et al., 2004). As in the previous studies, these feelings of being overwhelmed and stressed were found to be strongly connected to difficulties in thesis writing and the work of the PhD. For example, students mentioned being frustrated by areas such as structuring large amounts of information, creating coherence, writers' block, feeling

fatigue from rewriting sections several times, "*getting lost*" in one's thesis and not being able to gain perspective on its substantial content. Jade spoke to many of these issues:

> *Jade: So I'm finding the structure difficult, and it's such a big document, 290 pages or so, and you just sit there and get overwhelmed by it all, and I guess I'm at a point as well where I am tired of looking at it, I'm a bit over it. And so I look at the chapters and I go well this kind of sounds nice but after a while it becomes too much, and I can't actually take it in, it doesn't really flow, I can't step back from it and look at how does it actually read, I'm too much in it.*

Feeling a sense of exhaustion or boredom with one's work was also shared by Samantha:

> *I'm up to the fourth, fourth draft of my method! I feel I have gone about as far as I can with that and it's driving me crazy and I am hoping to get onto my fieldwork which I have a lot of passion for and I really enjoy. And I've got a lot of pressure on me because I have a progress report coming up at the end of the month.*

The problems Samantha and others described could be summarized as issues with workload and difficulty which also impacted on at least one student's self-esteem. When Simone was asked what had been most difficult for her since our first interview she responded:

> *Sometimes it was just, not being capable of doing the PhD itself. So not being smart enough, not being, whatever, bright enough, capable enough, of doing it.*

In addition to the factors already listed above, experiencing a lack of confidence in one's ability and feeling constantly run down by the difficulty of the PhD were part of the ten most common and important issues affecting students in one

direct study of students well-being (one data set analysed and published in two formats; Juniper et al., 2012; Walsh, 2009).

7.2.1.2 Seeking balance: managing workload, responsibilities, and life events

Given the limited time and energy individuals have, making room to work on the PhD while meeting responsibilities and dealing with unforeseen major life events was found to be one of the most common and difficult challenges facing nearly all students. Rarely was it found that students only had one major responsibility to deal with, rather a constellation of demands frequented their lives. Accordingly, as Chapter 3 demonstrated, a significant body of literature indicates that PhD students often report a low sense of balance in their lives (Mason et al., 2009; Offstein et al., 2004; Walsh, 2009; Wasburn-Moses, 2008). The demands, needs, and crises were primarily connected to PhD students' families, children, partners, work, and selling/moving homes. For example, Samantha described experiencing a number of painful events and the challenge to keep sight of her own goals while Catherine spoke of the effort needed to complete her PhD in spite of all competing demands:

> *Samantha: So I think overall its responsibilities on one hand and living a life, and making sure that if you've got extra responsibilities that they're not going to zap you, because if you go through deaths and illnesses and that that's very tiring, we just had one parent after another go through these huge journeys, crises, you know. Emotionally it exhausts you and you just have a little time or energy to devote to your own passions [like the PhD], to your own stuff.*

> *Catherine: So it's sort of, I think it's difficult for the university and the student as well, to make it easier because people have busy lives, ya know (2 lines). No matter what, it's climbing Mount Everest, no matter what strategies you put in, but if you don't work really hard on all those fronts, I think you'll end up in that 40-60% you mentioned (student's who've dropped out).*

Interpersonal difficulties such as dealing with a breakup or separation, and managing the needs of their partners, were also major draws on energy and time. The serious relationships of three students ended during the course of their PhDs while another two described experiencing a partners' resentment over the amount of time they spent working on their PhD but not with them — discussed more in section 7.5.1.3 on *Gender*. There was nothing said to suggest that the breakups were connected to students doing their PhDs although the experiences of several students suggests that undertaking a PhD can create significant tensions in some relationships.

> *Samantha: Like I remember one thing somebody brought up in [a discussion group at the university] was their husband feeling resentful of her working, and I thought that was really pertinent, like, because I've had that too where if you do work on the weekend or something and it's like, "oh you know, but you're not being with me, you're not spending time with me".*

As stated by Smith et al. (2006), many students are often navigating their own and others' needs, sometimes feeling guilt or concern about how their PhD work is affecting their relationships.

Another key source of stress for eight students came from concerns about finances, the time and energy spent making money (especially through teaching), and the difficulties that arose when some students chose to have more time to focus on their studies at the expense of income. Kirsten, Sarah, Jade, and Kelly all spoke about their enjoyment of teaching and the valuable break it provided them from their PhD, but it was an immense draw on their time as teaching also included preparation, travelling to and being in class, marking assignments, and meeting with students or responding to their emails.

Being torn between so many responsibilities did not only create lack of time for the PhD, for over half the interviewees this situation also created a lack of opportunity, money, and energy for other interests. Max found that between caring for a new born and working part time to support his family he could scarcely make time for anything at all:

> *...time is very very important at this time for me, especially in the last three or four months. I mean I wish I just could have more time to do something else like sleep or doing the research or everything, so yeah. But also at the same time I need the additional income to support the life here, life here is very expensive I guess, especially we be having a [baby].*

Perhaps best captured by Emily, having so many crises to deal with meant a decreased satisfaction with her PhD. She found that "*your interest gets stripped to stress and nerves, it becomes stressful as opposed to that beautiful thing you've been waiting for*", suggesting that perhaps for her — and Jade as well — not only does the time available for other activities or opportunities to work on the PhD decrease, so too does one's enjoyment of many areas.

The findings in this study and the extant literature places the issue of finding balance between the PhD, one's interests and desires, responsibilities and the vicissitudes of life, as a central concern for students. Although these challenges cannot be removed due the current structure and demands of the PhD and the unpredictability of events, support can be given to students through greater understanding and the support of family and friends (Spaulding & Rockinson-Szapkiw, 2012), as well as ongoing support from faculty and peers facing similar challenges, and maintaining a proactive attitude — on the part of the student and department — to ensure time is made for engaging important areas of students' lives (Barry, 2007; Gardner, 2008)

7.2.1.3 Sleep problems and physical symptoms

Three students who felt significant levels of stress reported sleep disturbances. As could be expected, the causes of stress for these students were all different: Maria had difficulty with her statistical analysis while caring for her children; Kirsten worked incredibly hard to meet her own and her supervisors' academic objectives; and Simone faced a fast approaching end to her visa, scholarship, and allocated time without feeling confident she could complete. Maria and Kirsten described difficulty falling asleep which, for Maria at least, was due to ongoing thoughts about her thesis. Simone also found that she would wake after a few hours' sleep and found it difficult to fall asleep again:

> *Robert: do you manage to do much work on those days when you're not feeling great?*
>
> *Simone: I force myself and if I really force myself I can work in the end but then I can't sleep at night. Because it would come out some way or somehow and generally it's at night-time, even once asleep I would wake up an hour after and be unable to go back to sleep for the rest of three, four, five hours.*

Maria and Kirsten also experienced physical symptoms connected to their stress. Maria felt physically ill like she might vomit due to the difficulties with her statistical analysis and the frustration at the lack of resolution. Similarly, Kirsten suffered from heartburn during a stressful period which she thought was also connected to poor eating habits at the time:

> *Kirsten: umm, well at as some point I did suffer from heartburn, because, ummm, probably too much coffee (laughs) and bad umm, you know, eating habits and stuff like that, so it was a bit hard at that time.*

7.2.1.4   Taking a break from the PhD

Two students mentioned they were considering dropping out of the PhD, partly because of the difficulties that arose from the size of the PhD task, competing responsibilities, major events they faced, and the stress this all caused — again, influences from many levels of analysis can be seen to contribute. Mary wanted a break from the added pressure that the PhD was causing her after a year which saw two family members having serious health problems, the family car being damaged, the separation from her supervisor who she viewed as unsuitable, and children who still relied quite heavily on her:

> *Mary: I've been thinking maybe it's just too big a thing at the moment and if I cut it down to size... (7 lines) I haven't given up on the whole research idea and I definitely want to do it, but for me it's kind of one of those bucket list things (laughs). So long as the proverbial bus doesn't come along tomorrow I reckon I've got a bit of time, you know. So I thought maybe I'll just wait this year out and then see what happens, and maybe take some of the stress off my plate.*

Simone, as mentioned, was an international student who was faced with fees she would not be able to afford after her scholarship and allocated time ran out, and so she considered transitioning to a masters which, similar to Mary, she felt would be more manageable:

> *Simone: Because with a PhD I was supposed to finish in, what was that umm July, January whatever, but when you run out of money from the school it means you have to pay $20,000 for renewing the enrolment so that [isn't] affordable to me, I couldn't live without a scholarship.*

The reasons for both Simone and Mary considering to leave their degrees are very different. Whether Simone might have felt more likely to complete with greater

support of some kind is speculative. As will be discussed in Chapter 8, one of Simone's favourite aspects of the brief MBI which she attended was the sense of camaraderie she shared with the other members: a feeling of facing the challenges together. In this way it is possible that greater social support and encouragement might have helped Simone, however, as McInnis, Hartley, Polesel, and Teese (2000) note, there is rarely one factor which ultimately causes students to depart from the PhD .

7.2.2 Hindrances to motivation

The ways in which motivation was hindered are described below. A common theme throughout is the interplay between psychological and social factors which, when threatening to students well-being, also have a negative impact on their work practices. The following will focus on this area in relation to students' feelings of overwhelm, concern that one is not progressing in their work, and through their social comparisons with other students.

7.2.2.1 Feeling overwhelmed and a lack of progress

Given that the PhD requires sustained attention and focus over such a significant amount of time it can be expected that motivation will naturally fluctuate during the course of the degree. In addition, many of the themes described above also influenced student persistence. For example, experiencing stress from managing multiple responsibilities or major life events detracted from students' emotional resources and ability to persist. In one case, the incredibly demanding task of teaching multiple subjects at university and raising young children impacted the energy available for Sarah to apply to her studies:

Robert: So what is the most challenging thing about doing a PhD?

Sarah: The most challenging? Probably managing my time to get it done, managing work, family and studying, and also keeping motivated, you know, just maintaining that motivation to keep going, to keep going.

A lack of progress also seemed to be associated with the motivation of three students. In one example of this relationship, the fatigue and frustration which Maria was experiencing when "*stuck*" with her statistical analysis contributed to a situation where she was easily distracted and avoided working on her thesis. In the second case, as discussed in the previous section, Simone developed serious doubts about her ability to complete a PhD during a period of stalled progress. This period was marked by Simone needing to repeatedly revise the same sections work for her supervisor, and feeling uncertain about how exactly to improve it.

The most vivid description of frustrated progress impacting motivation, however, came from the influence of the supervisory relationship on Jade's well-being. Jade felt the rapport between her and her supervisor – explored in greater detail in section 7.4.1.2.3 (p. 242) – deteriorated in the later stages of her research and she desperately craved more feedback on her work so that she could move forward. The absence of this feedback lead to many doubts regarding her content and severely decreased her confidence and motivation:

Jade: I've broken into tears many times coming back from work, it's completely… I've lost motivation for my thesis, I felt very alone and then when I've gone out to seek help elsewhere I've been told off for doing that, so it leaves you feeling like you just have to do it the way you can.

Although the causes of stalled progress in these situations are different, and the direction of causality is difficult to conclude, it is clear from these students and

those described in earlier sections (*6.3.3.1 Feeling determined and bolstered by achievement* in Chapter 6) that a feeling of moving forward with one's work and achieving satisfactory results for one's labour is an important factor in developing confidence and being motivated to continue. Conversely, although stress has been found to associated with higher academic motivation to a point (Struthers, Perry, & Menec, 2000) ongoing difficulties which are perceived to be beyond one's control can lead to feelings of helplessness and decreased motivation (Abramson, Garber, & Seligman, 1980; Sedek & Kofta, 1990). In this way, a feeling of fatigue and decreased motivation are understandable as Jade and Maria experienced stalled progress and a lack of support over a period of months.

7.2.2.2   Not measuring up to one's social comparisons

In contrast to Max who felt inspired to be more diligent and productive with his work when seeing his peers working hard beside him (described in *Social Pressure: Challenges and Comparisons* in Chapter 6), Maria experienced a more complex reaction. Although at times feeling motivated by her peers, Maria on other occasions felt stressed by the sight of PhD students who seemed to be working well over long periods. Through experiencing difficulty focusing after three to four hours of work, an unhelpful supervisor, and a very frustrating statistical analysis, the seeming productivity of others left her feeling demoralized about her inability to do the same:

> *Maria: But I'm not so good in there because in my office there are so many other students and they can study all day, they just stay studying, they even get lunch at their desk, and looking at them like that makes me stressful.*
>
> *Robert: Because you compare yourself to them?*

Maria: Yes, it's not good. But sometimes it makes me drive myself, I think "I have to be like that too!", so it's motivating, it's good. So sometimes when I'm feeling stressful I want to study at home so I don't see other people.

Just as the classroom behaviours of children and adolescents demonstrate that social motivational forces influence students' performance and adherence to standards (Wentzel, 1999), so too does research on PhD students' productivity where the shared commitments to goals and accountability of writing groups generates higher performance (Maher et al., 2013). However, the experience of Maria also points to a negative outcome of sharing a workspace with peers when one feels dispirited regarding their progress and ability to produce work. Social comparisons during such times adds to greater aversion to the task and one's peer group who, when appearing to be working well, reflect one's own perceived failing.

7.2.3 Hindrances to clarity and focus

Whereas the *Supports to Clarity and Focus* section in Chapter 6 also included themes around attentional focus and sustaining this over time whilst working on the PhD, the following section expands to include other aspects related to these terms. For example, challenges in relation to the clarity of expectations regarding the nature and requirements of doctoral study, as well as a sense of clarity and focus of the direction of one's research, are also included here.

7.2.3.1 Feeling unprepared: degrees of familiarity, experience and clear expectations

A theme raised by several participants centred on how they felt unprepared for doing a PhD. For two students this stemmed mainly from not having done a masters

while for others it was a more general sense. Jade found that not having completed a thesis previously left her in greater need of support:

> *Jade: I guess I've never done an honours thesis either, I did a masters by coursework, I've done some bigger assignments as part of that but not really big research projects, I did one research project as part of my bachelors, but no qualitative, much more quantitative, so I guess there's a lot of things that I didn't know and I feel like I could have had a bit more support.*

Conversely, two students who had worked on similar topics during their honours thesis felt that the prior exposure to their topic provided a great benefit, although one still realised "*how underprepared the undergrad makes you for the PhD, it's just a completely different ball game.*" This lack of experience contributed to some students procrastinating as they felt unsure of how to proceed, while others found parts of their PhD, particularly the first year, "*really difficult*".

A similar source of significant stress came from the experience of a PhD diverging quite dramatically from what students expected it to be like in terms of difficulty. Jill, for example, expected the process of completing a PhD to be "*linear*", where developments and writing progressed consistently. She spent between a year and two feeling frustrated about the progress of her work until a realisation adjusted her expectations and relieved her of a great deal of her stress: she became aware that the process of doing a PhD isn't linear, and that at times it felt circular, progressed from different sections of work and that overall this way of working was normal and "*fine*". Similarly, Sarah and Maria were both very surprised at how much more difficult and slow moving the PhD was compared to their initial expectations.

Of course the process of doing a PhD — the knowledge, insights, and experience — is not something that can be pre-taught to students before commencing their degree. However, it seems quite a few students had expectations which diverged

substantially from their experience about what it would be like and how it would get done. These results are similar to findings at Imperial College London where PhD students' "awareness about the basic nature of research as a highly challenging endeavour with unpredictable, nonlinear progress is low" (Juniper et al., 2012, p. 572). In addition to the significant detrimental impact these inaccurate expectations had on students' well-being at Imperial, Lovitts (2001) has found that many students chose to leave the degree due to the divergence between their expectations and the reality of PhD study.

Gardner (2012) suggests that greater facilitation of clear expectations and course requirements, and increasing students' orientation to the task of PhD research will likely support well-being and progress. In addition to the example of Jill given above, further evidence for the beneficial effects of more realistic expectations was observed in the present study where, after coming to view the difficulties she faced as normal, Sarah experienced less frustration:

> *Sarah: It's a journey because you have to go through all the stages, there are going to be stages where you feel lost, or where you don't progress, or that you might not have your model done, and I have friends in the city who don't have their model and they're all stressed and I say look, I've gone through that, that's how it is. And knowing that that is a normal process does help a lot.*

Addressing the difficulty which comes from not having experience with a particular topic is more difficult to address, but again, perhaps explaining to students that they will likely move between periods of confusion, overwhelm, productivity and insight might again, at least for some, remove some self-reproach for what is a natural part of the research process. As in the example of Jill, such efforts may have reduced her stress:

Jill: But we're never told that [there will be ups and downs], we're told that it's going to be a very linear thing, but it's not linear at all, it's actually uhhhh a lot of things come into it, it goes back and forth, back and forth, your thinking goes from left to right and centre, and you're bringing in new ideas, your data collection comes back and you rethink stuff or you talk to someone else and you get new ideas, it's very holistic. But I feel like I went into it thinking that it's going to be a linear thing instead of actually realising that it's going to be an experience, not just writing, it's the whole thing.

7.2.3.2   Uncertainty: working without clear direction

The uncertainty of how to move a research project forward came from several sources including having a difficult topic or being in a challenging part of the PhD process (statistical analysis or managing a very large document), or from having too little guidance from supervisors. Although several types of uncertainty and doubt were connected to being inexperienced in research which was reduced for several students as they gained greater exposure to research, the lack of direction about where and how to proceed with one's PhD appeared to be more enduring for others. This state was described as being "*daunting*", "*one of the hardest things to deal with*" and was closely tied to dissatisfaction over the assessment that one wasn't progressing. Jade provided an analogy to describe her experience:

I felt like I was out in the middle of an ocean and I was just treading water, I didn't know when it was going to end, when rescue was going to come. I didn't know who to ask for help, and so I felt like I was in the middle of an ocean just looking around and I didn't know which direction to turn. And just not knowing when I was going to get past that stage, and so that was quite uncomfortable.

Much like when students felt unprepared or that their expectations of the PhD journey were inaccurate, two students reported that the anxiety and stress of feeling directionless was helped through learning how to accept that "*ambivalence*",

"*procrastination*" or feeling that one is not progressing, are normal parts of the PhD journey.

7.2.3.3   Process of PhD brings out vulnerabilities and difficult memories

Four students described how working on their PhD created a space for personal issues to arise which at times acted as a distraction. No other research could be found which spoke to this process, that is, where the solitary and concentrated nature of PhD work provided the conditions for students to have traumatic memories or personal issues emerge. For example, one student found that after beginning work on her PhD, memories of sexual abuse began to resurface:

> *Um, mine was suffering from sexual assault when I was a teenager and never having really dealt with it properly, so we're talking over 20 years ago, and so yeah finding being that when in that concentrated head space it started bringing a lot of that stuff up as well.*

Similarly, Jill felt that working on the PhD elicited her vulnerabilities, partly because her topic was closely related to personal issues which then required time and energy to process:

> *Jill: I think the PhD makes you feel vulnerable or brings out the vulnerabilities in you because you have time to reflect on things, and when you have time to reflect on your PhD you're reflecting on other things of course, particularly if your PhD is close to home. So I think it opens up a lot of suppressed things... And I don't know what other people talk about, but this is what I think (laughs).*

Overall, it seems that for some students the process of working on their PhD — the time it allows for reflection, the solitary space where pain and vulnerabilities can surface, and the subject matter they focussed on — can be a cause of both

psychological strain and act as a serious distraction to their work. For these students, the process of study created or allowed things to emerge which then needed to be managed.

7.2.3.4   Being distracted

Although being distracted and procrastinating was a common experience for many in this study and amongst postgraduates generally (Onwuegbuzie, 2000) it was described as a significant disruption or source of guilt for two students. Maria felt she could only focus for three to four hours before becoming tired, bored, and found herself both actively and at other times unintentionally shopping on eBay, browsing the internet or engaging in other non-PhD tasks. Many factors may have contributed to Maria's difficulty with focus including an unresolvable issue with her data analysis which meant "*thousands*" of repetitive analyses and a lack of supervisor guidance.

Kim similarly described herself as finding distractions to be a major impediment to her work: "*it's always the busyness, finding other things to do, that's the problem.*" A range of psychological factors seemed related to Kim's distraction such as a desire to be "*a free-spirit*", having a "*lack of discipline*", "*laziness*", and a preference for using the pressure of deadlines to do work at the last minute. She also described a sense of ambivalence about her work. On the one hand, Kim spoke about the opportunity to do a PhD as a "*dream*", while on the other she found an "*immature*" part of herself, which, in her own words, felt a "*sense of entitlement that I don't think I need to work*".

Kim was interviewed at an early stage of her research and so her habits of becoming distracted and leaving things to the last minute will likely take on more significance should it continue through to later stages in her research. Perhaps, like

Maria, she too will come to feel the guilt that is a common consequence of procrastination when deadlines approach (Eerde, 2003).

7.2.4   Hindrances to mental and physical health

Although PhD students are a highly successful group in terms of past academic achievement, many of those who participated in this study described many examples of doubt and uncertainty which challenged their confidence. The following section highlights that this doubt and uncertainty for many students was in relation to their own abilities, their futures, and whether their work was progressing as it should.

7.2.4.1   Problems with confidence and doubt

7.2.4.1.1   Worry and doubt about the future, one's work and abilities

Another highly shared experience during the PhD journey was the vacillation between doubt and confidence regarding one's ability, work, and worries for the future. Brad worried about whether he was "*publishing enough articles and going to enough conferences*" while Simone expressed concern over the career prospects that a PhD offered: "*If you study to be a doctor then you end up being a doctor at a hospital, but with a PhD you never know. The path is not sure, where you're going to be, what you're going to do*". Kirsten worried about what prospective employers would think of her work, fearing it may be viewed as undeserving of a PhD.

This worry about one's work being questionable in some way and the fear that some knowing other will expose it was shared by 9 interviewees. Kirsten termed this insecurity as "*imposter syndrome*", and found that many of her peers felt similarly.

Even Amy, a student with several awards for outstanding academic achievement in the humanities, ranked her worry of whether her work is "*good enough*" and whether she might be "*underperforming*" as her primary source of stress. Jade was also afraid that others were "*going to find out that I'm not good enough*" while Maria was concerned she might unknowingly "*mislead with my thesis*". The experience of Kirsten, Amy and Jade in particular is consistent with the work of Clance and Imes (1978) on the Imposter Phenomenon where individuals feel undeserving, inadequate, and at risk of being discovered as incompetent, despite objective measures of achievement and success. Further work has found this phenomenon to be more prevalent with women and significantly correlated with perfectionism and test anxiety (Cusack, Hughes, & Nuhu, 2013), characteristics which Amy strongly identified with. However, in the case of Jade, it appears a lack of expertise, reassurance, and feedback from her supervisors also played a role.

Personal abilities and competencies were also frequently doubted by students, an experience which was quite surprising to some who felt like confident professionals in other work settings. In all, five students described recurring feelings and fears of not being either smart or capable enough to do the work at a perceived necessary standard. Similarly, other research has also found that doubts regarding one's ability to perform "research to the appropriate standard" is amongst the most common and detrimental factors to PhD students' well-being (Juniper et al., 2012, p. 572). The following quote by Amy emphasises her field as a potential source of her anxiety and doubt:

> *Amy: Yeah, like I feel that I might not know enough and I need to know more. And you know when you study [in the humanities] that there are multiple perspectives, and there are multiple interpretations, but when I speak to family and friends who don't have the same background in this area or don't have an interest in [my field] at all, they believe there is almost one [truth]. (2*

> *lines)Maybe it's that pressure that what I write is what people will believe and that's what they'll consider to be [true]. So to feel good about that I need to do a very good job of creating [knowledge]. So I might not have that same pressure in other subjects.*

A lack of confidence was also demonstrated by Catherine and Samantha who questioned their right to critique the work of others as they didn't feel "*worthy*" or knowledgeable enough to do so. Catherine reported that she did however feel more confident in engaging others' work two years into her studies.

The impact and frequency with which these doubts exist in students' lives speaks strongly to the need to address them. Of course, a certain degree of uncertainty about one's research and ability is a normal and unavoidable feature of exploring diverse areas of knowledge in creative ways, and in many respects it is a necessary path to gaining confidence in one's area. However, it seems for a few students their doubts are supported by factors outside of this normal process and they suffer needlessly. For instance, Jade's frustration over her supervisors' lack of expertise in her area and unwillingness to provide feedback on her thesis' content highlights the importance of well-matched student and supervisors according to areas of interest, as well as the value that must be placed on reassurance. Further, as stated previously, the knowledge and appreciation of these feelings as a normal part of the process may also ease these concerns, doubts, and worries, especially if students were to know that many of their peers also experience similar feelings and thoughts — as was the case for Kirsten, Sarah, and Jill.

7.2.4.1.2 *Difficulty gauging one's progress*

Another major theme related to students doubts and confidence stems from the difficulty in assessing one's progress. Unlike an undergraduate degree where "*you got*

assignments back and everybody could compare marks", the PhD does not provide this kind of feedback or opportunity, a drawback which Amy believes makes it difficult to know how she is doing:

> *Amy: Yeah, it's "what's normal?" And when you do meet another PhD student the first thing you ask is how many words have you written? Because you want to know, you want to feel like I'm doing the right thing. It's just really really hard, you're constantly playing the compare yourself to others game, and [asking] "should I be shitting myself? Am I safe?"*

Others described the experience of feeling as though they haven't done any work, despite the hours of effort put in. Two acknowledged that this is often a judgement that doesn't accurately reflect their actions or accomplishments, however, as Jill expresses, they find it difficult at times to acknowledge or see the fruits of their labour:

> *Jill: You make contacts, you're doing interviews, you're making notes, you're reading, and in hindsight you realise that you're working but while you're doing it you don't always realise that you're doing that work which is crucial anyway because you're so caught up in these feelings. So in hindsight you do think 'yeah, I actually did get some work done' and you forget to give yourself credit for that.*

This may come from the large amounts of time involved in searching for, organising and thinking through information as opposed to just writing, or from a lack of appreciation of tasks which are fundamental to the research process but because they are not assigned value, they are not regarded as important task to completion.

The consequences of this difficulty are significant. As seen in this research, the perception that one is accomplishing tasks and progressing is a fundamental component to motivation and satisfaction with one's work. If students are not perceiving or acknowledging their own progress — as a result of not defining and tracking goals or from excluding certain activities as not being *work* — then, as seen

with several students here, both satisfaction and motivation, and well-being, suffer. Conversely, preliminary evidence suggests that training in goal setting and planning skills can improve the well-being of individuals (MacLeod, Coates, & Hetherton, 2008) and that progress towards one's goals — when they are meaningful — can similarly increase well-being (Sheldon et al., 2010; Sheldon & Eliott, 1999). Greater emphasis in goal setting and tracking where one's effort is expended may therefore be an effective means of helping students gauge their progress — or work output — increase well-being, and support motivation.

7.3 Interpersonal Level

Whereas the experiences of PhD students at the interpersonal level in Chapter 6 predominantly explored the types of supports students experienced socially and the resulting benefits, the following section recounts the experiences of many students who felt isolated socially and/or intellectually. It also addresses the fact that students also experience relationship strain and loss during their degree, and these play an important role on both well-being and academic functioning.

7.3.1 Isolation

The majority of students who participated in this research described experiencing some form of isolation during parts or throughout their degree. This isolation could broadly be divided into two forms which often share some overlap, that is: social isolation, where students felt they were spending too much time alone or felt disconnected from others; and intellectual isolation, where there were few or no other individuals to discuss their work with at a satisfactory level. As the overlapping

nature of these experiences might suggest, some individuals experienced one form while many experienced both.

7.3.1.1   Social and intellectual isolation

The area of study students were engaged in was described by several individuals as being the cause of their isolation. Brad and Amy, for example, both in the humanities, stated there were very few other PhD students in their areas. Brad had an older female student who was also in his field while Amy had no peers in this way:

> *Brad: Apart from that (finding a research question) the worst bit is it's sort of lonely, there's not like a PhD community at VU sort of thing.*

Interestingly, as the above quote shows, Brad considered the social isolation as being one of the more difficult challenges he faced while Amy did not attribute as much significance, perhaps due to her being married while Brad was single. The experience of Brad and Amy is in line with research indicating that the process of study in the humanities and arts is more solitary than in the life and physical sciences where group work is more common (Wisker et al., 2007). In a similar vein, Mary felt both social and intellectual isolation and described feeling like *"a square peg in a round hole"* as the focus of her thesis differed substantially from the areas of inquiry usually found in her field, meaning she had little in common with others in her office or building. Kelly echoed this sentiment by describing her conversations with other students as being superficial as a result of this. The consequence of this dissimilarity in students' areas of study or lack of peers is likely to have a strong impact on students' sense of belonging (Spaulding & Rockinson-Szapkiw, 2012), or in Brad's experience, a sense of "*community*":

> *Brad: Uhm, there's not as many new students in my discipline to talk with or anything whereas at conferences I see other universities and they have like ten or fifteen people from the same faculty there, there's only me and an older woman sort of thing.*

For Maria and Jade, the sense of intellectual isolation was experienced not just at the level of peers but also with supervisors who were seen to provide insufficient guidance and support. Maria felt her progress was slowed due to the fact that she had no one to discuss her work with overall and her primary supervisor gave little help to her work. Instead, this supervisor would advise her to "*read read read*" while not giving "*any clue which book or which way*" she should focus. Jade felt similarly isolated from her primary supervisor who in the final stages of her thesis gave little feedback in terms of content and focussed more on her work's structure:

> *Jade: So in relation to these points that I'm saying here: are they valid or do I need to back them up further? Or that kind of thing, or in relation to the content, is my argument strong enough, can I bring in something else there? I don't know, I just find it difficult (1 line) I would just like a bit more support or some encouragement in relation to what I've written.*

Also, as will be discussed in the section on *Supervision*, her sense of intellectual and social isolation was compounded by the fact her relationship with this supervisor also deteriorated. She described how this experience made her cautious of a career in academia as working in isolation was not something she enjoyed.

Other individual reasons for social isolation included being restricted by responsibilities, being too busy, and a combination of feeling too old and preferring to work from home. While Amy's pet was recovering from illness she needed to stay with him, increasing her isolation. Catherine, on the other hand, organised a peer support group for PhD students and had roughly eight individuals interested, however, when it came time to attend she found that because of "*peoples' busy lives and all*

that, there was only one person left standing, and that was me." For Samantha, who also preferred the work environment of home, being older than many students and feeling disconnected from aspects of "*youth*" culture such as social media, she believed, interfered with her ability to connect with others:

> *Samantha: But I guess when you're older you feel more marginalised… I don't know, maybe from the University, the student thing, I don't know. You know, you're not a student, you're not groovy and you still have these archaic diaries (laughs) (1 line). And you know I'm not on Facebook, and I don't do Twitter, and you just feel so out of it.*

Much like the intellectual isolation some students felt with their supervisors, others also described feeling this in a more general way. For instance, Catherine and Mary both wanted to "*bounce ideas off*" other people and Brad described not having anyone, apart from his supervisor who he didn't want to overburden, to share exciting developments in his research with:

> *Brad: And also the subject matter, Uhm, you find something really cool and there's no one to really…someone to share it with, that understands how exciting it is. Uhm, sometimes your supervisor I guess, but uhm, but you can feel as though you're bothering your supervisor or something. Uhm, yeah, even though you're probably not but you feel like if you run to them with every little cool thing you find they'll soon get sick of you sooner or later.*

In connection with the commonly experienced uncertainty students felt regarding their work's accuracy, Kim and Jade both wished there was a place they could go to discuss their research with others and receive feedback, guidance, and gain confidence in their work. For both, the idea of feeling supported was central:

> *Kim: Like, I think when I come to the office here I think to myself it would be nice to have a forum of people to talk to about my actual project, maybe it's not even about "let's talk about each other's", to feel more supported in my project. That's, I think, the idea (1 line). I think I need some reassurance that I'm on the right path, and that what I'm thinking is okay.*

Jade: ...I actually do enjoy doing that (working on the thesis) but at the same time I was like, well, I would still like to have support, I don't want to sit and be doing things on my own for the rest of my life, working on projects on my own, so having teamwork...

An important aspect to note here is that these two students were at polar ends of the PhD process when describing these desires; Kim was still preparing for candidature while Jade was in her final 6 months of allocated time. The intellectual support they both desired is therefore important for many students at all stages of their PhD.

Overall, the causes for social and intellectual isolation stemmed from students' fields or areas of specialisation, personal characteristics (age), relationships with supervisors, and high demands on time, rather than issues connected to physical distance. The notion of students wanting to congregate around similar interests or characteristics seems central to many. Beyond creating opportunities for students to meet at one's university, online communities or networks that span beyond one's institution are also necessary given that the similarities students seek (age, situation, area of study etc.) are not always available at one's place of study. Addressing the intellectual isolation which students attribute to their supervisory relationships is also difficult. Although avenues exist for students to air such issues, some find it difficult to share criticism or concern regarding their supervisors for fear of ruining a relationship — sometimes further — or because no positive outcomes can easily be seen as a result of voicing problems as experienced by Jade. These difficulties had significant impacts on the well-being and progress of students in this study and have been found to be central in the decisions of many to drop out (Haksever & Ekrem, 2000; Lovitts, 2001). What is clear is that high levels of social and intellectual integration are imperative for the well-being and academic progress of students. The

ability to ask questions, share experiences, be supported and feel connected were themes that all students in this research spoke to and often felt were lacking.

7.3.1.2   Others not understanding how hard it is to do a PhD, or what the topic is about

Three students spoke about how their family and friends did not understand what their research was about or failed to appreciate the difficulty and effort that goes into doing a PhD, or both, contributing to a sense of intellectual isolation. Within Brad, Jade, and Amy's social networks there were many who considered doing a PhD was not *real* work, and that they must have a lot of spare time in their lives as a result; a perception that they are still "*just students*". Though all three laughed whilst speaking on this topic, especially Brad who felt that this was more amusing than serious an issue, Amy's tone was quite sombre at times when describing her wish for others to understand her situation and efforts:

> *Amy: Just thinking about other friends and family, I think I would like them to know that it is more of a challenge than they think it is. Or that it's harder work then they think it is (7 lines) I just think that sometimes the tag that I'm a full-time student means that I am (laughing) kicking back and I am, you know, fairly relaxed and I've got all the time in the world, and I can rock up to things whatever time I want and nothing matters, and that's not the case.*

Similarly, although many spoke of their university peers not understanding their research, Jade and Amy also found that apart from a few individuals, most friends and family also lacked an understanding of their work:

> *Jade: I do find some isolation in the content of what you're doing as well, and people don't always understand it, family or friends, they don't really understand it, what you're doing or what issues you face (1 line) ... or maybe they don't really understand what a PhD student does for work or that it is work, it's just that you're doing a PhD, you're just studying, so of course you can do this or you can do that, you're not working (laughs).*

Such experiences might be frustrating at times and cause a sense of disconnection from others, as a large part of a students' lives are compartmentalized, kept separate, and perceived to be not quite understood or appreciated by many of those close to them. Therefore, although overlapping with a sense of intellectual isolation somewhat, this experience also included a lack of social validation as well as a sense of disconnection. Gardner (2012) also found these themes to be present amongst several first-generation doctoral students where the families and friends of students, often from lower SES or minority backgrounds, similarly had little understanding of what PhD study entails and questioned its value compared to *real work*. Two of the three students in the current research who spoke to these themes were also from working-class backgrounds and as such highlight a need to increase the sense of social and intellectual integration of these students — especially given that these same students also work in more solitary fields and reported general social and intellectual isolation.

7.3.2 Relationship loss and strain

7.3.2.1 Death and illness of loved ones

One of the most emotionally trying experiences which demanded significant time from students was managing the loss and illness of loved ones. In other research, these themes are often discussed in terms of balance and the difficulties of managing responsibilities in addition to the PhD (Lovitts, 2001; Spaulding & Rockinson-Szapkiw, 2012). For example, three students had to spend significant amounts of time caring for and going to appointments with family members. One student had two family members suffer strokes within 6 months of each other. In addition, because of

her proximity, she also had sole responsibility of visiting and managing the health affairs of an elderly family member. Samantha similarly had to take her seriously ill father to a host of hospital appointments, making it quite difficult to find "*blocks*" of writing time for her thesis.

> *Samantha: Emotionally it exhausts you and you just have a little time or energy to devote to your own passions, to your own stuff.*

Amy also experienced a great deal of worry over her elderly dog who required a general anaesthetic for an operation. Given the dog's age, there were higher risks associated with the operation and as a result she felt that her focus was not the same during that period. Max similarly experienced a large draw on resources due to his newborn's health problems.

Compared to family members with illness, fewer students reported having had family or friends pass away during their studies. Samantha lost a parent and Kim a grandfather. Kim's loss was described as particularly painful for her as she shared a close bond with him, in her own words "*my grandfather was a key figure in my life (teary), one of my only supporters.*" Overall, the experience of having a family member fall ill, require care and assistance, or have someone pass away, exacted a significant toll on students emotional lives, focus, and time for their degree. Such occurrences are of course inevitable and it seems where students did seek assistance from the university by requesting sick leave or a transition to part-time status, support was provided and students felt grateful.

7.3.2.2   Relationship problems and abuse

Although being married or having a partner were found to be a great support for PhD students in this research and others (Nettles & Millett, 2006; Price, 2006), a

third of students described having serious relationship problems with a significant other during their degree. However, apart from Samantha whose husband sometimes felt neglected due to the time she spent on the thesis, no students spoke of their primary relationships actually being strained by the PhD — although they did desire more time for relationships — a finding which stands in contrast to several studies (Gold, 2006; Katz et al., 2000). For example, one student who chose to work from home was faced with a highly distressed partner for several months after losing his job, a situation which was very stressful. Two students described breakups with long term boyfriends while another went through a divorce. Though one student left her boyfriend just prior to commencing the PhD, the trauma of the relationship stayed with her at the point of our interview. After escaping from the relationship due to escalating physical abuse, she described experiencing what she termed "*post-traumatic trauma*" which included a preoccupation with and fear of death, an obsessive tendency which she continued to cope with:

> *I was assaulted, I was assaulted and the person was escalating their violence, the only reason I'm telling this story is because I escaped the situation. It's not like the person stopped and let me go, I fled for my life. So it was the 'what if', it was the haunting feeling of I don't want to die, and suddenly and unexpectedly and at a young age. So no wonder I went into all these, and all that stuff came up.*

Similarly, as described in the sections *Distractions* and *Process of PhD Brings out Vulnerabilities and Memories* earlier in this chapter, another female participant experienced sexual abuse as a teenager and found that the environment of "*concentrated study*" was causing memories and difficult emotions to resurface. A third female student hinted at being treated badly as a child though it is unclear whether she was referring to some form of abuse.

Throughout all the descriptions of separation and examples of strained relationships — despite differences in each circumstance — a common thread of support given by family, friends or therapists emerged as a significant coping strategy and source of help. This again signals the importance of social and professional support for students in general but especially for those who have suffered abuse or major relationship difficulties.

7.4 Institutional Level

7.4.1   Connections and resources

The following section will focus on primarily two major areas. The first, although sharing some similarity with the theme of isolation at the interpersonal level, describes a sense of disconnection that several students felt in relation to the university as a whole, its culture, and its people. The second major area concerns negative experiences in supervision which were found to have important consequences for students' well-being and academic performance. This was especially true for one student, Jade, and so the final parts of this section will focus on her experience in particular.

7.4.1.1   Sense of disconnection from the university and its people

Another dimension of social integration was the degree to which students' felt a sense of belonging or connection to the university's culture and people. Four students described a sense of disconnection from these areas and agreed that they often didn't know what was "*happening*" at the university in terms of events and academic activities (e.g., forums, discussions, debates). It was common for these

students to compare this to their experiences at other universities where greater

interaction with people and involvement fostered a sense of connection to the

institution. However, two students did wonder whether this was potentially a result of

doing a PhD as opposed to a masters or undergraduate degree, or from being older.

Samantha captures this sense of disconnection, and also uncertainty regarding its

cause:

> *Samantha: How is it you can become part of the culture at the university and I don't feel that at all? I just come into the library occasionally, I come in to see my supervisor every few weeks but I don't know this place, I don't even think it's particularly interesting, which is probably really sad because I'm sure it is, you know? I mean, I did my undergraduate at Melbourne and I got into everything there, I mean I know I was in a different stage of my life I suppose, but I really enjoyed getting into stuff whereas here I don't know what's on, I don't know… You know? I don't know anything.*

For three students who felt a sense of disconnection from the university

(Samantha, Kelly, and Mary), there appeared to be frustratingly little opportunity for

them to connect with students and staff in different faculties or within their own.

Kelly was critical of this as she believed many types of research are now cross-

disciplinary. Mary felt as though the location of students and lack of opportunities to

interact with peers in her faculty created a sense of being hid away:

> *Mary: [My] faculty seems to break their students into little units and they don't seem to mix, they put them away in the dark. Well that's what it feels like. Because when I go to stuff around the campus it's mostly Arts students I meet.*

The literature on student involvement which shows a positive relationship

between participation in events and activities and also student progress and retention

casts the experiences of students above as worrying (Bair & Haworth, 2004; Girves &

Wemmerus, 1988). These students expressed a desire for a greater sense of

connection with the institution, events, and students in their own and other disciplines, but were unsure of how to proceed. Research suggests that supervisors have an important role to play in encouraging involvement (Gardner & Barnes, 2007) but so too do students, student associations, faculties, and institutions in creating research and social cultures which are well advertised and provide opportunities for involvement and a sense of belonging.

7.4.1.2   Supervision

7.4.1.2.1   *Importance of informed and open feedback and guidance*

In an interview with Jade six months before she needed to complete, she described herself as lacking confidence and motivation, unsure of whether she wanted to continue in academia, and incredibly frustrated in large part due to her supervisors not providing satisfactory feedback on her work — particularly her primary supervisor who she had greater contact with. She felt they had "*never really talked or asked me questions about my data*" and so desperately desired greater guidance in terms of her content. She felt the lack of support she received became clearer in the later stages of her research and had the following to say on her expectations and experience of supervision:

> *Jade: I've never been in a PhD supervisory relationship before, I don't know what to expect, but I would have expected more. I felt there would have been more support, more help going through that thought process and the writing.*

For her, the relationship with her supervisor was central to her feeling of confidence:

> *Jade: And so yeah, confidence and the supervisor relationship go hand in hand I would say. Because you also go to your supervisors and talk about things, and if they don't encourage you or say this is good work then you go, okay, well, how can I do a better? But if you don't have a good relationship you might not get that next step, that next direction of where to go. And your confidence will just go downhill from there because you don't get the guidance and the direction that you need.*

Maria experienced a similar effect in her confidence, motivation, and felt quite "*alone*" as a result of unsatisfactory feedback. Her supervisor kept asking for progress in a long stalled statistical analysis, a problem which he did not offer a way forward from, and despite Maria wanting to feel that other aspects of her research where progressing, she similarly felt a significant lack of reassurance regarding her thesis' content:

> *Maria: I mean, at least look at my writing. Give me some feedback. I want to do some progress in there!*

In extreme cases where students felt their supervisors did not have adequate knowledge of the areas they wished to research and could not, therefore, provide satisfactory guidance, one considered taking leave from the PhD while another sought alternative supervision.

Mary found the experience "*quite stressful*" but was afraid that continuing in her PhD with a supervisor who could not support her, and a topic which she felt little passion for, would make the process of completion difficult Although she stated this was her primary reason considering taking leave from the PhD, a host of personal difficulties in her life (e.g., illness of family members) also contributed to the decision. Emily similarly found that having a supervisor who didn't share her passion or understand her area of interest was quite demoralizing and wished that she had made the decision to change supervisors sooner:

I really regret not going back to that time and saying "you're not right for me, it's clear as day you don't know what my interests are and you are not going to be able to help me explore this issue appropriately, I'd like another supervisor".

She also recounted an experience which provided a powerful contrast between, on the one hand, feeling inadequately supported by her first supervisor, and receiving positive feedback from experts in her field:

Emily: I really felt voiceless with my previous supervisor, just voiceless, like I was this silly little girl. She really brought out my insecurities you know, and these people (journal article reviewers) make me feel like a confident woman, like I've got things to say and actually my voice means something, and my thesis is my voice in many ways. I think it is amazing how in the right hands I flourish.

A final perspective on the provision and openness of feedback comes from Kim who described feeling as though there was a culture of secrecy or reticence in academia. She felt frustrated over what she perceived to be her supervisor's reluctance to provide direct guidance on issues, a feeling which was also shared by Maria who believed it "*slowed [her] progress*". In this case, however, Kim alluded to this behaviour as being a feature of academic culture, as opposed to just the practice of her supervisor:

Kim: And also I feel like there's something hidden about academia, it's always a secret, you've got to find everything yourself, things aren't open and on the table (laughs).

Rob: Is that like if you asked your supervisor a question they might sort of beat around the bush?

Kim: Yeah, beating around the bush. I've had the beating around the bush with so many academics, it's like," cut the shit!", this is my grassroots background but it's "like cut the shit!" (laughs).

Overall, the interviewees attributed a complex range of academic and supervisor characteristics as having significant impact on their sense of progress and well-being. Where supervisors were not viewed as open, knowledgeable, interested in the research subject, or willing to provide feedback on content or guidance, students experienced decreased confidence and greater uncertainty. As the corresponding section in Chapter 6 and other research shows (Tahir et al., 2012), a more open relationship with one's supervisor where specific and clear feedback is provided — assuming one's supervisor has knowledge in the relevant field — are central characteristics valued in supervision resulting in beneficial outcomes for students.

7.4.1.2.2 *Provision of non-academic support*

Several students found that their needs for greater emotional support from their supervisors were not being met. Kim described how although her supervisor provided feedback on her work, she needed more support and discussion around her personal experience of the PhD:

> *Kim: So maybe I sort of want a more counselling, I want him to play a counselling role as well, possibly.*
>
> *Rob: ...a more emotionally supportive role?*
>
> *Kim: Yeah, I think that's what it is (laughs). Yeah, emotional support. That's it.*

Jade also found this aspect of her supervision wanting and, in addition to many other problems in the relationship, described frustration over not being understood or having appropriate support offered to her:

> *Jade: So if you're not happy in life in general, or you're not… You might need some extra support to be able to get through things, and so there might be more issues in that working relationship than a person who is perfectly happy*

where he or she is. (9 lines) But what does it really matter [how you compare to other students] because the supervisor is supposed to give you the support that you need to be able to get through it.

As mentioned in *Provision of Non-Academic Support* in Chapter 6, an argument can be made that it is not always possible or appropriate for supervisors to provide emotional support or counselling, for example as Kim desired, given their abilities and how they see their role. However, as virtually all research on the desired and effective attributes of supervisors shows, the ability to support students emotionally is a highly valued and helpful characteristic. Given its importance, where supervisors feel it is not within their role or ability to provide such support students, should be connected with other resources for support (e.g., counselling, support groups etc.). Further, clarity of expectations on roles may also reduce frustration over feeling one's needs are not being met, nonetheless, sensitivity is still required when supervisors are working with students to avoid discouraging and deflating students well-being — as was seen with Jade and is described in more detail below.

7.4.1.2.3   *Jade's difficulties in supervision:*

Jade, more than any other interviewee, reported having a wide range of serious difficulties with her supervisor. These difficulties, although idiosyncratic in the sense that they were not reported by others in the sample, provide valuable insight into the challenges that some students may face, or find difficult to share during an interview.

7.4.1.2.3.1 *Receiving unhelpful and unpalatable feedback*

Jade described how her supervisor on several occasions compared her and her work to other students. It was a practice of feedback which was hurtful when casting

her in a negative light and which then left her with mixed feelings when compared

positively:

> *Jade: I haven't really said that to him (that I need more guidance), but just the fact that he compares us and says "well, I've had many issues with you", and I say "well yeah, but we're different people, that person comes from a different background, that person might have different financial circumstances", so there's a whole range of factors that play into your well-being and how you approach things. (3 lines) So I really don't like the comparisons within that supervisor relationship, because really, what does it matter, we're all different people, and we all work on different projects and how can you compare. And I know, yes sure, we all compare somehow, but making it really obvious, I don't like it (becomes teary).*

This might also be seen as part of a broader issue of communication

difficulties within Jade's relationship with her supervisor. She was not sure of why

such difficulties, like the comparisons, featured in their relationship but she thought it

may be related to her gender (discussed in section *7.5.1.3.2 Gender underlying*

problems with a supervisor) or cultural background. She believed her cultural

background may have played a role in making her a very direct person, and that this

directness may have also caused tension in the relationship.

Similarly, Jade described how the manner in which her supervisor gave

feedback deflated her confidence and well-being, and that what she really needed was

> *Some encouragement, to say that "what you're doing is good". Or, if you come with an idea to your supervisor and they don't agree with it, they shouldn't just say "that's a shit idea, that's not good, you're not good", they should more say: "well, okay that's an interesting point, but I'm not sure I agree with that" or something like that. Or, "have you thought about doing it that way", so you feel like, "okay, that wasn't a great idea", but you have that discussion, because by discussing it and actually talking about it in a two-way conversation you might actually get to another idea.*

As stated in Chapter 6, many of the features of effective and helpful feedback

which Jade desired are frequently cited in research; that is, students find feedback

which is balanced with encouragement and critique within a friendly context to be most helpful (East et al., 2012; Tahir et al., 2012). Further, the financial and personal stressors Jade was facing (e.g., a separation and reduced income) added to the vulnerability she felt and thus making the unhelpful supervisory practices particularly hurtful at that time.

7.4.1.2.3.2 Ineffective problem resolution

During an earlier period of Jade's candidature, she was experiencing a great deal of stress due to unclear boundaries between her PhD research and other commitments. She expressed her frustration to her supervisors but even after the problem was resolved she found her primary supervisor continued to raise the issue for some time after: "*My supervisor's still two months later saying "we let you down", and I was ready to move on then, and he was still commenting on this period, and I was like "can we just let it be"*"". As a result, Jade described how that initial experience prevented her from wanting to raise any other issues with her supervisor, as he may similarly dwell on the "*new*" issue. As a result she found it very difficult to know what to do to resolve issues with her supervisor:

> *Jade: But in relation to the supervisor relationships, you're put in a really tricky position because you're like "am I going to say that I've got issues?", and you know you can't change supervisors, I can't change supervisors, if they can find out it's just going to make the relationship worse so there is no immediate benefit to me. So I feel a bit like I'm between a rock and a hard place because I need to get the help, but if I go say I need help it's going to make the relationship worse, and so it makes it difficult to know how to address it and how to talk about it.*

She similarly felt hesitant to raise any issues in her progress report regarding problems with her supervisor in case he somehow learnt of her complaint. Overall, she thought students needed to be better supported in these situations and felt quite stressed and unsure of how to resolve the relationship difficulties. Jade's experience highlights a need for avenues to explore and resolve such problems which are sensitive and discreet, and more importantly, that provide a sense of solutions being a possibility. This situation highlights an important difficulty in PhD degrees as access to supervisors with knowledge of relevant fields may be limited.

7.5 Social, Structural, and Material Level

7.5.1 History, identity, and location

This section begins by exploring some of the difficulties which are associated with students coming from a blue-collar or working class background before describing the financial hardships that several students experienced during the PhD. Many issues relating to gender are then presented, including the impacts of sexual and physical abuse on students, and the possible role and implications of gender influencing the supervisory relationship and the support received from male partners. The final part of gender explores the question of whether female PhD students are in a particularly challenging position if they have children or family to care for as the burden of such responsibilities may not be evenly shared by partners. This section then concludes by discussing several issues connected to students housing and workspace.

7.5.1.1 The challenge of coming from non-academic or working class backgrounds

There are at least three clear avenues in which coming from a blue-collar or working class background impacted students in a negative way. The first, as discussed above in *7.3.1.2 Others not understanding how hard it is to do a PhD, or what the topic is about,* is an increased likelihood that family and friends may not have a strong grasp of the research process students are engaged in or the topic they have chosen. This may be particularly relevant for many PhD students at Victoria University as it is situated within a largely migrant and working class area of Melbourne (i.e., the Western Suburbs), and so there may be less likelihood of students having tertiary educated networks. This sense of disconnect between students, their PhD work, and their family and friends, left at least two students feeling intellectually isolated and, with a mix of sadness and amusement, without recognition for their effort.

The second impact is to students' own identity in terms of confidence, familiarity, and the need to challenge old habits in order to engage in academic work, areas all related to this groups' challenges in gaining socialization to academic roles and competencies (Warnock & Appel, 2012). The journey of the PhD for three students, especially during the first year and second year, elicited a range of doubts and perceived deficits in their skill which they attributed to their working class backgrounds. For example, one student felt that in previous jobs her opinions and views were not asked for or valued, and so the shift to independent thought and work required some adjustment. The same student similarly described that she wasn't "*brought up*" in an environment which fostered attitudes of self-guided support or action, and so the PhD represented a challenge "*because I'm doing this PhD for myself, really, so I've got to do something for me, its caring for myself...[and] I've*

struggled with [it]". Two other students similarly described a process of change or adjustment as they developed more skill and personal belief in themselves as researchers. In addition to her background, Catherine also believed that time away from study contributed to her diffidence:

> *Catherine: I suppose for me, I guess a lack of confidence — and that would be probably the ten year gap of study, and probably a little bit of working class roots I suppose in a way.*

Despite the examples above, not all students who came from a working class background explicitly mentioned its impacts on their identity or experience. Brad, for instance, finished his PhD within the allocated 3 years described the experience as quite "*easy*". However, Brad, like the other students mentioned above, did experience a sense of intellectual isolation and lack of appreciation for his work, which taken together signals important implications for students. Having friends and family who are tertiary educated or who even hold PhDs themselves would not guarantee their understanding of the highly specialised areas in which PhD students research, although it might provide a frame of reference to appreciate the work involved in a PhD. From this perspective, it seems imperative to students' self-confidence and esteem that they be encouraged and provided with the opportunity to join social networks in which the difficulty of their task is appreciated and where they can share their intellectual developments and insights. Indeed, Holley and Gardner (2012) argue that universities have a significant ability to improve the experience of first-generation students through specific programs of support. An effort in this way would provide students from working class backgrounds in developing their academic identities and providing a deeper form of social connection and support, one which is rooted in

shared experience and which many of these students may not have access to otherwise (Warnock & Appel, 2012).

7.5.1.2   Financial difficulties

7.5.1.2.1   *Living on very little*

As discussed earlier in *Managing a Large Workload, Responsibilities, and Major Life Events,* students needed to compromise many areas (e.g., hobbies, time with friends) to allow more time for priorities. This compromise can be seen as part of the wider task of managing many areas with limited time and resources and is a major contributor of stress to students (Smith et al., 2006). In the area of personal finances, two students decided to limit their incomes to just their scholarship payments in order to give more time to the PhD, which also limited their ability to engage in other life pursuits. Jade found that her sacrifice of teaching income in her final year significantly reduced her ability to find enjoyment, an experience which contributed to her questioning the appeal of continuing with the PhD:

> *Jade: …[reducing my teaching load] also means I don't have that extra bit of money to make life fun so it kind of goes two weeks and then all the money in my budget account and then two weeks and all of the money goes into the budget account, and so you don't have that money to have fun on the side as much.*

Brad, who only had his scholarship and family for financial support throughout his degree found that "*it's pretty depressing having no money for pretty much the whole thing*" and that "*It feels like your life is sort of on hold until you finish the PhD.*" He described having to forego many of the pleasures and goals those around him pursued such as starting relationships, travelling, or saving for a house.

This need to sacrifice relationships and valued activities due to insufficient finances has also been found to be a common experience elsewhere (Leonard et al., 2005). Although expressed light-heartedly, Brad also alluded to some frustration over others not appreciating the financial sacrifice he made: *"…the perception that you're not actually working or anything (laughs) is troubling, because you're surviving on nothing*".

In those instances where life circumstances required more time than the PhD allowed, two students put their scholarships on hold before returning to their studies at a later date. Both individuals expressed how valuable an opportunity it is to receive a scholarship whilst studying and did not want to waste that by being too distracted or by continuing down an unsatisfactory research path. One student wanted to resolve some of the resurfacing trauma which came from being sexually abused and the ending of a relationship while Mary was unsatisfied with her research direction, supervision, and was also managing the difficulty of having family members fall ill. Both described being incredibly stressed during those periods, with Kelly calling it a "*nightmare*" and Mary stating *"…if you wanted to tick the box (on a stress measure) I'd be at a 10+*". In both these cases, financial concerns were part of these students' difficult situations.

Considering the contexts of the students who chose to reduce income for greater time for the PhD raises considerations about what is lacking for students. For example, Brad felt quite isolated from other PhD students and wanted more income partly to be able to go out with friends and pursue relationships. Jade desired more money to be able to increase her well-being through activities or travel, perhaps to cope with and counterbalance the stress she felt with her PhD and supervisors. The question remains, if these aspects of well-being and social connectedness were met

through other means, would their low levels of income still have seemed as significant? Further research comparing students with similar levels of income who experience different means of support and engagement (e.g. through student associations, writing/support groups, or supervisory relationships etc.) is needed to answer this question. However, it remains possible that a wider focus on student well-being by universities — including greater social connection and opportunities for fun — may have potential in alleviating some of the sacrifices connected to lowered income.

7.5.1.2.2 *The financial pressures associated with being an international student*

Two students experienced significant difficulties connected to their status as international students. Max found, as domestic students also expressed, that the amount paid to students through their scholarship was quite small for one person, and certainly not sufficient for a couple. His wife also initially worked to supplement their income, however, once their first child arrived and she took to care for him it was no longer possible for her to contribute financially. This was a stressful period and through the help of his supervisor Max gained additional work at the university to better manage. These same financial pressures might also face domestic students but the lack of family or other close support networks to help in caring for a newborn makes the task of finding additional time to work particularly challenging for these students.

Simone also experienced significant financial difficulties but this was more a result of work restrictions and the approaching end of her allocated time for completion. Simone's experience also illustrates how government policy can impact

on international students as she was only legally allowed to work 20 hours a week according to her visa restrictions. This caused her significant stress as she would likely not able to afford the re-enrolment costs once her deadline was reached. Unable to afford this cost, and from assessing the amount of work which remained in her PhD, Simone considered that maybe *"it looks like a better option for me to go to the masters, and even in terms of the amount of information I have to manage compared to the PhD, I feel like the masters is more affordable".* These restrictions and potential fees once deadlines are reached represent a unique challenge for international students in Australia compared to domestic students, although research suggests that the high rates of timely completion for international students may also be attributable to these same time and financial pressures (Nettles & Millett, 2006; Rodwell & Neumann, 2008a). Both Max and Simone found the greatest support to come from loved ones (family, close friends) which in addition to support mechanisms within international students' departments have also been found to reduce and buffer against stress elsewhere (Mallinckrodt & Leong, 1992).

7.5.1.3   Gender

The role of gender in influencing students' experiences can be seen in cases of sexual or physical abuse, in the attempts of a student to understand communication difficulties with her supervisor, in the way several women were supported by their partners, and potentially in the division of labour in caring for family members.

7.5.1.3.1   *Sexual and physical abuse*

As discussed previously within the section *Relationship Problems and Abuse*, two students reported being abused at different stages of their lives. One was sexually abused as a teenager and the other was a victim of physical abuse by her partner just prior to commencing her PhD. Both these students were managing strong emotions and difficult memories connected to these traumatic events, and a host of experiences and symptoms which interfered with both well-being and their studies. A third woman also hinted at some kind of difficult upbringing where, although abuse was not explicitly mentioned, she felt she needed to grow from in order to live well as an adult:

> *I think a lot of it probably goes back to my childhood and how I was treated, so I've always been one to say no it doesn't have to be this way, it can be my way, and so I've really rejected a lot of things from my childhood and really lived my life as an adult very differently from anything I knew…*

Rates of abuse in this sample are similar to the proportion of abuse estimated to occur within Australia, that is, one in five women are thought to have been sexually abused since the age of 15 while experiences of physical violence since 15 are one in three (Phillips & Park, 2006). Both women who experienced abuse, and the third who may have, were receiving support from a psychologist in addition to social networks and other personal strategies of coping e.g., meditation, sport, humour. The significant trauma which stems from sexual and physical abuse, coupled with its high rates of occurrence — though whether these rates are reflected in the wider PhD population requires further investigation — speaks to the need for sensitivity and support for such students. Though the victims of abuse in this study all found support through psychologists and friends, perhaps greater explanation during orientation sessions of the difficulties such histories can create during PhD study may create even greater transparency and understanding of these issues.

7.5.1.3.2   *Gender underlying problems with a supervisor*

In trying to understand the deteriorating relationship Jade had with her supervisor she considered gender to be a possible factor. This stemmed from her supervisor making disparaging comparisons between her and other male students:

> *Jade: So he would mention a PhD student of male gender and say "that person, well I never had any issues with that person but I've had so many issues with you".*

It is also possible that gender played a role in influencing the supervisor's beliefs or expectations about the provision of support. For example, Seagram et al (1998) found that women within a chemistry department experienced the culture to be dominated by traditional male qualities of competitiveness, aggression, and experienced a lack of supervisory support. In the same way, it is possible that Jade experienced a type of supervision underpinned by similar values and lacking in support and encouragement. Moreover, Lovitts (2001) also found far higher proportions of female doctoral students (22%) compared to males (3%) expressing they had been discriminated against because of gender by supervisors, faculty, or peers.

Further research into communication and relationship difficulties between students and supervisors from both perspectives would provide insight into the values and beliefs which underpin such problems. Such work is significant as Jade's experience was one which prompted thoughts about dropping out of the degree, and so increasing understanding of such experiences is vital in understanding how to increase well-being and potentially reduce attrition.

7.5.1.3.3   *The role of gender in influencing partner support*

Gender differences may also play a role in students' intimate relationships where the ability or need to persevere through difficulty is brought into question. Two female students described that when experiencing stress and difficulty with their PhD, their male partners suggested they leave the degree and return to their usual occupations and lives. Although the comments of one partner were not highlighted as being serious or heavily weighted, it is interesting to note the differences between Maria's determination and her husband's advice:

> *Robert: So the challenge [and difficulty of the PhD] motivates you, as something to overcome?*
>
> *Maria: Yes yes yes. Even if I talk to my husband he says "okay, you give up and come home", I say "no no" (laughs).*

Samantha described a very similar dynamic in her relationship where, despite incredible personal difficulties and a partner who recommended she leave the degree, she remained resolute in continuing:

> *Samantha: That intention in me is very very strong, it is extremely strong and I don't know if that's good or not, but I have been challenged in every possible way you can imagine to let that go and it just makes me more and more and more determined to keep moving forward. So I would say, that in fact, it's exactly the opposite to confidence. I don't know if it's a positive thing, it's like a grrrrrr (thumps table) I will do it! Don't you dare say I can't do this, don't you dare. You know, my husband is always going on about it: "it's not going to get you a job, it's not going to get you more money", but I'm not doing it for that, I'm doing it for me. I don't know, it's just something I want to do for me, this is just a precious gift for me.*

Lovitts (2001) similarly found that when a student was a married man who experienced difficulties in their home or personal lives they were met with support from their partners whereas these same problems where often viewed by spouses of women as indicating divided loyalties. Ahern and Manathunga (2004) discuss this

same phenomena occurring within Australian universities and highlight that jealousy of female doctoral students' may underpin some of this lack of support.

Although the advice to consider dropping the PhD may come from a desire to reduce the suffering of a loved one, the question must be asked: are men as likely to receive this same advice when they encounter difficulty and stress during their PhD? This study and others suggests not, and some female students have the option of dropping out promoted as a result of this gender bias. Two implications stem from this finding. Firstly, making female students (and males) more aware of this bias may support greater determination to continue. Secondly, this finding also highlights a specific area of support that some women may need when undertaking their PhD, that is, navigating and managing the lack of encouragement from their partners, especially, it seems, in times of difficulty.

7.5.1.3.4   *Uneven division of caring and labour*

Another area where gender potentially influenced the experiences of students came from instances where three female students spoke about needing to care for family members and children. These themes were often spoken about in regards to the difficulty of finding time to manage all the responsibilities in the students' lives in addition to the PhD. For example, Sarah taught several subjects at the university, was completing her PhD, and also was responsible for dropping off and picking up the children from school, preparing meals, and house work— while her husband's contribution in these areas was unclear. Another interviewee, an international student, did not have the physical support of her partner at all as he remained in their home country:

> *Well I come here from my country just me and my kids so I have to look after*
> *them too. It takes my time a lot because they are young so that affects my*
> *studies because I have to cook, you have to look after them for everything.*

For one student, the responsibility of the caring for others extended beyond

just children. This student also, in addition to working part time and completing the

PhD also looked after her

> *kids, parents, partner, a [family member] needing to be picked up an placed in*
> *a nursing home, whatever*

To manage not only one's own work responsibilities and needs but also those

of children or family members represents a significant challenge. The question of

whether these women were engaged in more of these kinds of responsibilities than

their male partners or family members (e.g., brothers), or whether the division of

labour was somehow fairly distributed in other areas to account for any potential

inequity, remains unclear in this research. However, a large amount of evidence

illustrates that women, as faculty members in universities and also more generally in

the population, commonly contribute to these important and time-consuming areas to

a larger degree than men (Craig, 2006; Kyvik & Teigen, 1996; Mason, Wolfinger, &

Goulden, 2013; Misra, Lundquist, & Templer, 2012). These findings raise an

important line of inquiry in the context of PhD students in particular, specifically: to

what degree may gender inequality make the already challenging task of the PhD even

more difficult for women with children or other family members in need of support?

7.5.1.4   Housing and workspace

Although working from home provided benefits to many, as indicted in section 6.6.1.4 on page 201, this mode of study was also associated with negative experiences for several students. Brad — in addition to Catherine — who already felt isolated due to the lack of other similarly aged students in his field, found that working from home also compounded his isolation from individuals at the university and in general. Maria also experienced this isolation and was torn between sacrificing the additional travel time to reach her campus, where she felt more focussed due to social pressure, or saving that time and remaining at home where she felt incredibly distracted. These experiences demonstrate that isolation and difficulties in self-regulation (i.e. overcoming tendencies to procrastinate) may make studying at home more difficult for some students.

Mary described an experience connected to her changing from full-time to part-time which might also hold significant implications for students. Once her status changed, Mary lost her desk at the university and printing facilities, a change which made her feel devalued as a student, added to her financial pressure as she had to pay for her own printing, and created more stress :

> *Mary: What has changed is that while I was full time I had a desk and I had a place I could work at the University but now because I'm part-time I don't, so I had to hand back my keys. So I'm a real second-class student now being a part-timer, which is hard as well.*

This raises important questions regarding how students without allocated workspace at the university feel the university views them: is the perception of being a "*second-class student*" common to these students or only relevant to cases were a transition highlights a loss of resources? This feeling of being "*second-class*" might similarly compound feelings of separateness and isolation from the university

common to those who, like those in this research, work from home. As such, integrating full-time and part-time students who work from home can also be seen as helping to establish feelings of being valued at one's institution, a dimension which has been found to be connected to employee engagement, productivity, and determination in organisational contexts (Frank, Eileen, & James, 2007) and will therefore likely be important in doctoral studies as well.

7.6 Study 1 Conclusion: PhD student well-being

This conclusion provides a synthesis of the findings from Study 1 by providing a model of well-being which attempts to capture the major themes from the sections on what supports and hinders PhD student well-being and academic functioning. This model of well-being is situated across ecological levels which are detailed further below. The conclusion begins by summarising students motivations before introducing an important concept for student well-being, that is, balance. Next, because satisfaction and academic functioning were found to be central themes connected to well-being, these concepts are also discussed before the model of well-being is introduced. The model itself consists of several *needs* which are fundamental to well-being and academic functioning in this context, that is: *personal and academic growth, personal and academic competence, rest and rejuvenation, social integration, intellectual integration, and material and cohort specific supports*. Each of these needs are described and their implications for students are discussed.

This research has found that for many students the opportunity and act of completing a PhD is a highly rewarding endeavour, one which allows individuals to fulfil their intellectual potentials, builds on past achievements and supports movement towards desired careers. The deep satisfaction that many of the students in this

research experienced came from the fact that the PhD was indeed a project they themselves desired for personal reasons — most often a love of learning — reflecting an intrinsic and self-determined motivation for growth and development (Ryan & Deci, 2001). That said, most students spoke to the difficulty and stress involved in completing the PhD which exacted a high toll on their well-being. These findings add to previous research by highlighting the importance of balancing fundamental areas of student well-being, and how this balance is intimately linked with academic functioning (Kirsi et al., 2012; Shutler-Jones, 2011).

Balance in this research is defined as being the goal of students' self-regulating behaviours to satisfy multiple needs of their well-being, across ecological levels, to a personally satisfactory degree. Therefore, seeking balance is the process through which students aim to reduce the discrepancy between their needs, desires and expectations, and their current reality. Several other studies highlight the importance of balance and the difficulty PhD students face in attempting to satisfy various areas of importance (Mason et al., 2009; Wasburn-Moses, 2008). In this research, the needs which students sought to balance were those areas interviewees desired and valued experiencing (supports and positive experiences) but also in what many felt was difficult or missing (hindrances and negative experiences). In this way, important aspects of well-being, which can also be described as needs, require balance (i.e., for *personal and academic growth, personal and academic competence, rest and rejuvenation, social integration, intellectual integration, and material and cohort specific supports*. These aspects of both subjective and objective well-being are interrelated across all ecological levels (individual; interpersonal; institutional; social, structural, and material). This was seen, for instance, where finances had implications on a student's ability to find rest and rejuvenation or where a student's professional

competence was influenced by their interpersonal and institutional environment. Importantly, these needs capture and summarise the central findings from this research.

These needs were found to be closely linked to students' satisfaction and academic functioning. For example, if all areas of well-being are met except for intellectual integration, then a student may feel academically competent, have connections with peers, and yet feel intellectually isolated and therefore less satisfied with their academic experience. Similarly, a student may have all aspects of well-being met except for the need for personal and academic growth, in which case they would feel competent in their task, be well supported intellectually and socially, find opportunity for rest, but may not be satisfied that they are being "stretched" and, therefore, lose interest and motivation in their work. In understanding these areas of well-being and their implications, the terms satisfaction and academic functioning require elaboration.

It is evident in this research that when students spoke of satisfaction during their degree they referred to a range of areas both within and without the university — again, across ecological levels. It appears that an ideal experience where student satisfaction is high would involve the appraisal by students that their major needs or areas of personal importance are being met, which is in keeping with many conceptualisations of well-being where cognitive evaluation is a feature (Diener, 2013; Keyes, 2013). Therefore, satisfaction can be seen to be the positive evaluative appraisal of each individual area of well-being but also of the PhD student experience as a whole. For example, a low appraisal of any well-being area, such as social integration, will likely create a sense of imbalance (e.g., isolated, disconnected, unsupported) and result in decreased overall satisfaction. To some degree, this reflects

the proposition of self-determination theory where many primary needs (autonomy, competence, relatedness) are each fundamental to overall satisfaction (Ryan et al., 2008). It is important to note that at times *imbalance* was required, during deadlines when greater importance and focus is needed for the PhD, however, such imbalance over longer periods evoked negative appraisals, reduced student satisfaction, and impaired academic functioning.

Academic functioning is a broad term used to refer to a range of processes and behaviours which are connected to the task of completing a PhD. These include the motivation to work on the PhD and the ability to persist through challenges; productivity in terms of achieving outcome goals (achievement of tasks) and process goals (engaging necessary work practices, which may not lead to completion of goals within a set time); and progress in the PhD as experienced by the student and as evaluated through elapsed time. Together, the areas of student satisfaction and academic functioning were found to be related to both each other, and to the areas of well-being.

As reflected in the wider research on PhD student motivation and persistence, the first area of well-being at the individual level, the need for *personal and academic growth*, was mentioned by almost all students as the underlying drive for undertaking the PhD and as a need that remained throughout their degrees (Dinham & Catherine, 1999; Hodsdon & Buckley, 2011). For example, the high value placed on receiving feedback, gauging progress — both individually and in relation to others — and experiencing progress, can be viewed as dimensions of this central need for students. Of course, growth did not only refer to the development and progress of the research, but also students' personal growth. It involved feeling as though one's potential was being fulfilled, that through sustained effort there was reward in the development of

their own abilities and identity (see also Schmidt & Umans, 2014). These two types of growth, academic and personal, appear linked as the lack of progress in the PhD was also seen as reflecting concern over students' abilities. The need for growth, and particularly the dimension of this need which desires academic progress, therefore, shares overlap with the need for competence.

A strong desire for *competence* to be able to progress and complete one's PhD and feel in control of this process also emerged as a central need, also at the individual level. In the broader research, a feeling of competence is posited as being central to well-being, motivation, and academic success (Grover, 2007; Ryan & Deci, 2001; Zimmerman, 2000). In this research, this was seen through the development of skills, work practices, increased experience, and the adoption of more adaptive perspectives towards the research and the research process (e.g., it is not a linear or easy task). From one perspective, the development of competence is also necessary to ensure students view the tasks of the PhD as a challenge — within their abilities and resources to manage — and not as sources of stress (Lazarus, 1999). Therefore, the development of competence results in a corresponding sense of pride and confidence in ability, so long as this development is noticed and appreciated. Where competence was not felt or experienced, particularly over longer periods as was seen in a small number of cases, there was a devastating impact to self-esteem, confidence, and overall research experience as stress became a larger feature of students' lives.

The second major dimension of *competence* relates to the management and fulfilment of personal roles and responsibilities. There was a need for most students to, in addition to being effective in their research, maintain relationships with friends, family, significant others, and to provide financially either for themselves, others, or both, and to care for children or family members. In this regard, the act of seeking

balance involved students feeling competent in their ability to navigate these broader

areas whilst also allowing time for their PhD and other areas of well-being. This

dimension of competence shares some overlap with the description of environmental

mastery, where an ability to function adaptively and navigate responsibilities, external

challenges and the requirements of living have a large impact on individuals

psychological well-being (Ryff & Keyes, 1995).

Another major requirement for PhD student well-being in this research, the

last from the individual level, regards *rest and rejuvenation*. These encapsulate all

those activities, resources and supports which allowed students some respite from

their work, constant thinking about the thesis, and feelings of fatigue or stress. Social

support, sport, prayer, holidays, pets, and getting out into nature were all examples of

meeting these needs, and often entailed an element of fun and enjoyment. Having this

need met may also be, as was evident in a few cases in this study, a feature of more

productive PhD work and higher levels of satisfaction. Studies on the PhD student

experience have frequently mentioned that time for rest and relaxation are difficult but

important for students to find (Barry, 2007; Mason et al., 2009). However, given the

salience of these behaviours and the stated importance of them by students, it is

surprising that larger *direct* studies on PhD student well-being have not identified this

need or related behaviours as central to students' well-being (Juniper et al., 2012).

Certainly, the fact that the focus of this study was on an intervention where notions of

rest and rejuvenation were at its heart surely influenced this construction and analysis.

Social and intellectual integration are both highly connected and are better

viewed as existing on parallel continua than as mutually exclusive needs. For

example, a peer can provide a sense of social integration and may also offer a high

degree of intellectual support. A supervisor may similarly provide intellectual support

as well as a degree of emotional support. In this way, each relationship was shown to contain the potential to satisfy a range of needs from both these areas of well-being and, therefore, these needs are also heavily influenced at both the interpersonal and institutional level.

Social integration encompasses socioemotional needs for affiliation, connection, and support from members of a community who share similar interests and concerns (Spaulding & Rockinson-Szapkiw, 2012; Tinto, 1997). Many participants spoke to the desire for greater opportunities and connections with peers who were similar (e.g., in field, age, or coping with similar responsibilities) and to feel a greater sense of belonging and community at the university. A significant outcome of greater social integration was the normalisation and increased coping with the difficulties and doubts inherent in the PhD journey, or conversely, a sense of isolation and disconnection from university culture and the institution itself. The importance of this need can be seen in other research linking its absence to rates of attrition (Lovitts, 2001) or its presence in supporting persistence (Hoskins & Goldberg, 2005; Spaulding & Rockinson-Szapkiw, 2012), and in the considerations of a student in this sample who felt unsure about a future in academia if such work meant continuing this isolating experience.

Greater *intellectual integration* also promotes a greater sense of community and belonging (Tinto, 1993; Tinto, 1997) but as a distinct need for students' well-being this concept emphasises those relationships more specifically positioned to understand and influence students' work — and therefore, their academic competence and growth. Intellectual integration can been seen as a primary function of graduate education (Golde & Dore, 2001), representing the process of interaction with faculty and peers in relation to developing one's academic capacities and identity. Having

strong connections with peers, supervisors, and faculty who could share excitement and understanding of their research, extend understanding across disciplines, celebrate developments or insights, and guide the process of research by offering direction and support were experienced as incredibly helpful or highly desirable. Indeed, the desire for greater integration in this regard was even voiced by those students with strong social networks and supports outside the university and with excellent supervisors, underscoring the unique contributions that both academic communities of peers — in addition to supervisors and wider faculty — have on student well-being. However, of these various relationships it is clear in this research, as it is in many other studies (e.g., Bair & Haworth, 2004), that the supervisor relationship and the qualities of the supervisor (being supportive, knowledgeable, encouraging, and available) are particularly significant to student well-being and academic success and, again, disastrous when absent.

Lastly, the final major requirements to student wellbeing come from the social, structural, and material level of analysis, namely: *material and cohort specific needs*. The material needs, which were evident for all members of this sample, included the requirement for adequate levels of financial support or income, work spaces such as desks or offices, and printing and library facilities, features commonly considered important for doctoral students although not always evenly distributed across departments (Lovitts, 2001). Such discrepancies across departments were not evident here, instead, most of these factors were considered satisfactory for several students and were not as salient within interviews with others — they seemed more contextual or as 'taken for granted' features of experience. However, financial strains or the absence of these material resources, either during parts their PhD or through

comparison with previous university experiences, placed these needs as important to overall satisfaction and academic functioning of students and, as a result, wellbeing.

Cohort specific needs, in contrast, were those requirements evident within the experiences of particular groups of students. This study found evidence that some female students, international students, and those from blue-collar or non-academic backgrounds have specific needs due to their socio-historical and demographic identities. For instance, because of experiencing abuse and trauma, several female students were faced with challenges to their concentration and ability to focus — a finding not evident elsewhere in the PhD student literature. There was also some evidence of female students having their partners offer "support" by recommending dropping out of the degree. International students faced financial and time pressures, and lowered levels of community/family assistance, due to studying within Australia under visa restrictions and away from their networks of supports. Lastly, those from blue-collar or working class backgrounds faced challenges to the development of their academic identity as well as their need to be understood by family and friends, and have their work valued. Whereas the previous identified needs can be seen to be applicable across all students, it is clear at this level of analysis that in terms of supporting an ideal PhD experience including high well-being and academic functioning, attention must be given to the specific challenges of student cohorts.

Chapter 8

Study 2: Experiences of Participation in the Brief MBI

8.1 Introduction

This research sought to investigate two major areas regarding PhD students. The first, which enquired into the supports and hindrances to student well-being and academic functioning was presented in the previous two chapters. The following, chapter 8, addresses the second major area, the experiences of PhD students in a brief MBI. This intervention was selected as PhD students reportedly experience high levels of stress — MBSR is effective at reducing stress — and there is evidence to suggest that shorter versions of MBSR may be as helpful in providing many of the same benefits as the longer traditional format.

This chapter begins by providing context of students' mindfulness practices, that is, their frequency of attendance in classes, adherence to homework and also ongoing efforts to meditate following the program. Next, a detailed description and analysis of students' experiences of the program will be presented in terms of how student well-being, their studies, and relationships were impacted. These sections will include data from both the one and four month interviews to provide clarity regarding any enduring or varying experiences over time. Lastly, this section concludes by presenting students' evaluations of the program and a summary of changes observed throughout the one month and four month interview points.

The intervention used in this research, a shortened Mindfulness-Based Stress Reduction program called the brief mindfulness-based intervention (brief MBI), ran on three separate occasions with a total of 10 PhD students participating — however, three participants attended only one session and were excluded from the analysis.

Each session lasted 1.5 hours and ran over 4 weeks (details of the program protocol can be found in section *5.3.4 The brief MBI* , on page 124), after which participants were interviewed both at one month and four month intervals. Despite significant impacts on students' stress levels and a range of benefits being reported by all at one month, most of these outcomes were spoken about as substantially reduced at four months. All students described a desire for ongoing sessions to consolidate confidence with the mindfulness techniques and regain the benefits they experienced during and immediately following the program, suggesting that a four week MBSR program can be helpful to students but some degree of ongoing sessions to consolidate learning and maintain outcomes is also required.

8.2 Class attendance and adherence to homework during brief MBI

The brief MBI was met with high rates of attendance throughout the four sessions by seven participants. Two participants missed one session whilst the remainder attended all four. In terms of compliance to homework (which was recommended to participants as 15 minutes of practice four days a week) two participants practiced mindfulness formally at least twice a week, three practiced between three to five times a week, while two students practiced only once a week on average, and sometimes not at all:

> *Emily: I would always fuck up the homework. Like sometimes I would try and do it, I would do it for a few days, but only for two, three days a week. Whereas I felt if I had gone to a group [to do the homework with] I would have done it all the time. I never would've missed it, unless something happened.*

Overall it was found that informal practices such as being mindful of a routine activity were practiced more often by all participants, for example, during activities such as showering, patting one's dog, or listening to birds. It was recommended to participants that informal practice could be done whenever they had opportunity, and given the time restraints of this group, it is interesting to note that this form of practice was fit into their busy lives more often.

8.3 Maintaining a mindfulness practice after brief MBI

8.3.1 Frequency of practice

To avoid confusion, the term *practice* will refer to formal meditation practice (e.g., sitting meditation, body scan, yoga) for the remainder of this thesis unless otherwise specified as informal practice (bringing mindfulness to everyday experiences). All seven participants at the one month follow up spoke highly of the brief MBI and reported benefits as a result of participation. However, individuals varied in the manner and how often they continued to practice after the program concluded. When asked how often she meditates, Sarah responded "*every day I will try and do something. I have to. And I notice if I don't — that's when I start feeling more agitated*". Of the group, Sarah practiced, formally and informally, most often and had continued to maintain this regularity up to the four-month follow-up.

At the one month follow-up, Maria, Kim, Emily, and Jill all had continued to practice intermittently, both formally and informally, approximately once or twice a week following the program. For instance, Maria practiced "*about once a week now, just because I feel it helped me so, I just feel better after it*". However, at the next interview three months later, Maria had rarely practised and described having little confidence in her ability to meditate — which is discussed in more detail in the next

section. Kim continued her mindfulness practice and engaged roughly once a week in formal or informal meditation at four months. Emily often practiced informally up to the point of the one month follow-up, for example, whilst in the shower, but unfortunately was not available to provide information at the four month follow up. However, this tendency towards informal home practice highlights the importance of using routine moments as opportunities for mindfulness as opposed to taking time away from studies and responsibilities for formal practice, something which was found to be challenging for many students at one and four months. Lastly, of this group who practised once or twice a week, Jill continued a similar frequency of practice at four months and found the lessons she had learnt in brief MBI, particularly around self-compassion and enjoying the present moment — again, used as an informal practice — had a strong impact on her day to day life.

Simone and Amy both expressed a desire to practice more but had mixed success and strength of motivation in this regard, a theme which continued at the four month follow-up interview. Initially, despite Simone experiencing difficulties in practicing by herself for the first two weeks after the program she found that by keeping herself accountable through the use of a diary, she had engaged in mindfulness practices (walking meditation and body-scan) five times in the two weeks prior to our first interview:

> *Simone: I always try and do it when I'm done with studying so maybe around 6:30-7, depending on the day, just to have the studies out of my mind. So generally I don't study after meditation. But it does help me to clear out my mind and just be.*

However, despite believing in the efficacy of mindfulness meditation to reduce stress and improve her mental health, Simone had rarely practised at the four-month follow-up for a range of reasons — also discussed in the next section. In

contrast, Amy had not engaged in any formal practice at either interview but did use some short informal practices such as the STOP breathing technique and a focus on imagery during difficult times: "*So I haven't used the recordings on a regular basis but I have done it when I felt mentally overwhelmed or felt actually stressed, I've kind of used parts of the techniques*". Also, Amy found that notions of acceptance and compassion which were emphasised in brief MBI continued to influence how she coped with medical problems she spoke about in the interview she did four months after undertaking the brief MBI.

8.3.2 Difficulties and reasons for not maintaining a mindfulness practice

Although three participants (Sarah, Kim, Jill) varied in how often they practiced mindfulness between the conclusion of the program and the one month follow up interview, only the remaining four participants, Amy, Emily, Simone, and Maria, described experiencing difficulties during this time in terms of meditative experience or frequency of practice — that is, only these students felt they were practicing less than they desired or believed they *should* be practicing, or lacked confidence in how to practice.

Many of the reasons for Amy and Maria's difficulties in maintaining a practice connected with themes of discipline, insufficient practise, and difficulty integrating mindfulness practices into their lives. For instance, both students commented that they would like to meditate more because, in Maria's words, "*it's very good for me*", but both found it difficult to form a habit or make time for the practices. Amy spoke to this point and to the tension between her need for the benefits

she experienced in the program and difficulty in integrating them during a busy and stressful period of her life:

> *It's weird, I know they're there to help me manage stress and just to manage my well-being, I know that's why they're there, but I feel like I need to practice them so that when I do feel stressed I can just go and do a 15 min meditation and be great or feel that that would really help me, because I know it works, that's what the classes showed me, that these techniques work… for me that make me feel really calm.*

Amy clearly felt that she did not have the competence in technique to actively regulate her emotions during a stressful period, a theme which continued for her at the four-month follow-up:

> *I really enjoyed the sitting meditation of all the techniques, just sitting, or even just picturing that mountain, that peaceful mountain. Those techniques I found really helpful and I thought I should get back into that and get into a habit of practising the techniques more often so that when I need to call on them I can call on them, they're not unfamiliar, which they still are to me to some extent because I haven't practised them, if you get what I mean, and I thought I really should get back into that.*

For Maria, time pressures and some degree of procrastination played a part in preventing more frequent practice as she often told herself, "*I'll do it later, I'll do it later*":

> *Maria: I don't practice it because, you know, "I have to do this, I have to do this". I think it depends on my discipline too, maybe if I can discipline myself I can do it, because I think it's only 5 min or 10 min to do the meditation and I think it's very good for me but sometimes I forget and think "oh I need to do the meditation".*

Despite this, Maria stated that she still did practice approximately once or twice a week at one month follow-up, although given the above reasons this was difficult for her. At four months, Maria rarely practised at all. She had great difficulty

meditating as she viewed the inability to stop thoughts as a failure. For example, thoughts regarding her thesis were seen to intrude "*in meditation or prayer*" and her sleep was also disrupted:

> *I tried to just sit and be quiet for a while but I can't do it perfectly because I always think of something, I can't release it totally so I think it doesn't work.*

In addition to this desire for a thought-free mind — a common misconception in mindfulness and meditation practices — the time pressures which added difficulty for Maria also caused Simone difficulty in practising more, as she reported at the one month and the four-month interviews. Both found it difficult to justify spending time meditating when they felt they had so much work to do on their theses. Simone highlighted a distinction she found interesting where she might spend an hour procrastinating and not give it a second thought but "*the idea of just accepting for 30 minutes that you are sitting there and being quiet, relaxed, and not doing anything you are doing before — it's very hard.*" Maria responded in a very similar way when asked if she had been meditating since our first interview, stating "*I tried it a few times but because I always think 'oh, my time is almost finished, I have to do this, I have to do this'*".

As mentioned, Simone struggled to meditate for the two weeks after the program until she began using a diary to schedule and track her practice, a tactic which helped her meditate five times in two weeks prior to our first interview. However, at four months, the time pressures mentioned above and several other factors meant Simone had rarely practised despite, again, a desire to meditate more. She found that when she did try to meditate by herself, she could not practice for more than a few minutes before a strong desire to discontinue interrupted her session. She did not understand the cause of this feeling although it may have been connected to

other beliefs regarding necessary conditions. Simone found that practicing alone was not desirable or effective for her to overcome or manage difficult emotions, and she believed that the "*energy*" of others or a facilitator was needed to transcend or influence her own mood:

> *Because it's me, by myself and I have to do it, and I use the CD recording, but it's different. It's not another person guiding me through. It's just you and a CD. And at the same time if you are with someone else there is an energy that is shared, but by yourself it's just you and your own energy so if you are in a bad moment and your own energy is really low and black, you need to be finding the energy to change that energy which obviously you don't have in that moment, so it's a really vicious circle in a way. While if you're forced to go into something or someone else is helping you to do it, then it might work.*

Implicit in the above example is the notion that Simone didn't feel that she could be a catalyst for emotional change without engaging in, or being helped by someone external to herself when in a negative mood. In a similar way, Simone also felt that the routine and structure of attending a meditation group was important in overcoming procrastination and "*laziness*" to practice:

> *It was easier [during the actual program] because, as I said before, there were people doing it with other people and there was a schedule so you do it at a certain day on a certain time and you make sure that you say that time for that thing for yourself, while in daily life, I don't know, I'm just bad at organising my life probably, so I'll just keep on working or working and doing other things until I'm exhausted and that's it, it's the end of the day.*

Understanding this about herself, Simone also intended to join a meditation group but did not because of procrastination:

> *I tried to find a meditation course but then again I was like, I'll do it tomorrow, I'll do it next week, and then it was a holiday around Christmas and whatever and came back and was like right, I am at the same point (Laughs).*

Emily described very similar reasons for also struggling to maintain at the one month follow-up. For her, having a "*routine*" of having to go to each session of brief MBI made it easier for her to make time for formal meditation and the lack of this weekly structure following completion of the program made formal practice more difficult. However, she did practice informally during "*everyday activities*" such as showering:

> *When I'm at home on my own, I find excuses not to do it, "oh I'm busy", whereas if I was in that group I wouldn't say "oh I'm busy", I've gone there for that reason. This is my time to relax. (1 line) And that's what these other groups have taught me too: it's a place to go — no excuses.*

For both Amy and Simone, it is clear that the brief MBI course, despite giving them positive experiences of relaxation and some success in coping with difficulties, did not create an enduring sense of self-efficacy in applying mindfulness techniques in their busy and at times stressful lives at one month following the program. In addition to the length of the course (considered too short by most participants, discussed in section 8.2.1 on page 313) this lack of self-efficacy might also signal that too little emphasis was placed in developing a strong home practice during the program. Therefore, a question requiring further research is whether more home practice might better support this population. It is possible that reducing the homework component from what is normally expected within the traditional format — from 45 minutes, six days a week to 15mins, four times a week — prevented some students from developing habits necessary to practise and increase this skill. On the other hand, given the experiences of Simone and Emily, it appears that ongoing sessions are important, at least to some, in supporting both ability and motivation for practice, and so whereas assigning more homework may deter students from joining brief MBI, providing students with ongoing sessions may be a potentially more

helpful avenue. Taken together, it appears that a lack of practise both at home and through ongoing sessions may have prevented some students from consolidating the skill of mindfulness.

Further, Sarah's ongoing home practice and the benefits she sustained over time suggest that increased frequency of practice may be associated, at least for some people, with stronger outcomes. Research into this area remains mixed with several studies finding no relationship between frequency of home practice and outcomes (Carlson, Speca, Patel, & Goodey, 2003; Davidson et al., 2003; Gross et al., 2004) while a positive relationship has also been observed (Pradhan et al., 2007b; Shapiro, Bootzin, Figueredo, Lopez, & Schwartz, 2003; Speca et al., 2000). In the case of this research, students' comments suggest that greater practice is desired, at home or through additional sessions, and would be likely to support positive outcomes.

8.4 Supporting well-being

8.4.1 Experiencing positive affect with increased mindfulness

Most participants described having experiences of peace, feeling a sense of happiness, or finding greater enjoyment in many aspects of their lives as a result of the brief MBI at the one month follow up. The experience of increased positive affect resulting from MBSR participation is a commonly reported outcome (Malpass et al., 2012). The following gives examples of several students' experiences of positive affect and also, for Sarah, a sense of being able to decrease the sense of compulsion within her busy life:

> *Emily: I just felt so good after I left [the MBSR session], so in peace. I went for a really long walk and was mindful the whole time. I haven't felt that great in... well, ever! I think I'm finally in the right place to appreciate mindfulness.*

Jill: It makes me feel happy. It makes me feel more relaxed and, not relaxed physically, but more at the way I look at things.

Sarah: Like I said, there were times when I felt I needed to get a red Bull or Coffee and I constantly needed that, and sometimes I think "oh my God, how have I been living?" You know? Because there's so much…I have to keep on working, I'll keep on studying, I'll keep on trying to be the best mother, the best wife, the best I can, but then you've got all of that in your mind so you're exhausted. (1 line) But I suppose the difference is that by doing these practices you're more in control, I feel more in control whereas before I had more fear, a little bit more fear. (1 line)But now I know that I am more in control and I don't have to be in that push and that hard and it can be more peaceful, and I'm enjoying peace more whereas before I think I didn't have peace.

Sarah also described how this sense of peace would dissipate when she didn't make time for mindfulness practice and would return once her practice resumed.

Many students also recounted an increase in the enjoyment of a range of experiences as a result of greater mindfulness. The most common, reported by five students, was an increase in the enjoyment and pleasure of eating. Eating with greater mindfulness was an explicit homework task during the program and so these reports could be expected, however, these experiences were quite surprising for many students:

Sarah: Like with mindful eating I'd try to enjoy food now, whereas before I would always be eating and doing something else. And when we had that in the workshop, I got home and started paying attention to how my kids ate, and how do they eat? Just like me: fast, quick, and I thought 'oh my God, they're learning it from me!' That's how I eat and that's what they're picking up on. So I started saying okay we have to calm down, enjoy the food, and they go "mmmmm" (noise of something being tasty; laughing) so it's helped us as well.

This increased sense of presence and enjoyment through the practice of mindfulness resonated deeply with Sarah as she had often heard of the importance of

being present in one's experience but lacked a practical understanding of how to achieve such a state:

> *I have read many books about how important it is to be in the present, and so you might know it in theory, yes you shouldn't be worried about the past and you shouldn't be stressing about the future, you have to live in the now, yes, that's how you have to live, but how do you do it? So by doing the mindful stress reduction program now I've got strategies.*

This benefit was also maintained at the four-month follow-up for Sarah where she continued to find greater pleasure through being present with food and other experiences.

Four participants similarly described how experiences of the natural environment were heightened or found to be more pleasant through mindfulness. Jill described how she told her children to be mindful whilst floating in the water at a beach, and was relishing the experience of the water and sun. Similar to Emily's experience of walking in the park in a peaceful state, Sarah also spoke of a heightened appreciation for her surroundings, for example, *"…[without being mindful] you might go for a walk in the park and think oh that's nice but really not stopping and thinking 'oh my god that tree is beautiful (laughs). Wow, I'm in love with that tree*!'" Kim considered the appreciation she gained for "*simple things*" to be one of the most beneficial aspects of the program:

> *Rob: And if there was a most important thing, that's what you would take away from it (the feeling of being curious and childlike)?*
>
> *Kim: it was that, it was definitely that, and appreciating simple things, like the breeze blowing, making life more enchanting by looking at the…the experience of the wind blowing.*

In contrast, although Simone did not describe this aspect of the program as being a benefit at the one month interview, at four months she found that the course

did support greater enjoyment by providing awareness of rumination and some means

to shift more attention to her current experience:

> *It's more about the suggestions I still recall from the course about living in the moment. So for example when I'm doing some sports like swimming, I sometimes have the tendency of taking to the swimming pool my problems so while I'm swimming I'm still thinking about my thesis so I'm swimming and still thinking about my chapter, so what I'm doing in that case is just trying to just disconnect those thoughts and just be in the swimming pool, be in the water and just trying to focus on the temperature of the water, the fresh water on my skin, the smell of the chlorine or whatever is involved with that specific activity and not with other things, the thoughts linked to my thesis.*

Similarly, Simone stated at four months that one of the aspects of brief MBI

she remembers most was the "*sense of peace*" that followed from it, which,

unfortunately, she was not able to replicate often leading up to the four months.

The experiences of Simone, Emily, Kim, Jill, and particularly Sarah, highlight

greater present moment awareness with a transition from thinking, planning or

distracted activity to a more focused and enjoyable sensory experience of the present

moment. At times, being mindful allowed individuals to become more aware and

savour experiences already enjoyable to them but it also appears that the intentional

application of mindfulness also increased the pleasure of other more ordinary

moments. This increased awareness and enjoyment of experience is also a finding

repeatedly reported in MBSR research with a wide range of individuals (Morone,

Greco, & Weiner, 2008; Moss, Waugh, & Barnes, 2008; Sibinga et al., 2008) and

seems to be of important benefit to PhD students.

8.4.2   Feeling refreshed, alert, and focused

Four of the brief MBI participants spoke of how mindfulness practices left

them feeling psychologically rejuvenated, that is, feeling refreshed, alert, and focused.

Jill compared meditating to a short sleep which, unlike a nap which can leave one "*groggy*", instead provides

> *A restful period where your mind is just still. It's like your mind has recharged in that couple of minutes. And the feeling is the same for me during meditation in the classes and when I have done it at home…*

Sarah and Maria also described how both meditation practice and being mindful during their day increased their feelings of energy and motivation. Maria found that her "*burdens*" seemed to diminish, as did her tiredness: "*I feel a little bit fresh after I do the meditation.*" The impact of mindfulness was more pronounced for Sarah who discontinued her reliance on energy drinks as a result of applying mindfulness to her thoughts:

> *Sarah: I think I'm able to have more energy because I am in more control of my thoughts. Whereas before I would feel like my mind is running 100%, with things from the past and all these things, oh my god this is going to happen and what if that happens and all these other problems that might be affecting you, but now I need to be present and by being more present I'm able to let go of that so then I have more energy.*

From a psychological perspective, Sarah can be seen to have developed self-efficacy reducing the stream of thoughts which sapped her energy. As the literature suggests, she most likely achieved this through the ability to decenter from or reperceive her thoughts (Fresco et al., 2007; Shapiro et al., 2006), that is, she is able to observe her thoughts with emotional equanimity and a detached perspective which reduced their proliferation (Coffey & Hartman, 2008).

In addition to Sarah, Amy also spoke of how mindfulness practice increased her alertness and concentration. Two different examples were given by Amy to illustrate this experience: the first followed from meditating in the morning and left her feeling "*focused, like I could concentrate*" with a "*non-caffeinated*" alertness; the

second came from moments where Amy needed to regain her focus, and so she would call to mind an image of a mountain which was used as part of a guided meditation during the program:

> *So I have hijacked the mountain image and just use it when I need to bring my attention or focus back, and my attention and focus is usually all over the shop if I'm not feeling very calm about stuff, so in some sense it's like a super quick meditation.*

These examples of increased alertness, focus, and energy may speak to the effects of mindfulness practice, whether the object of focus is an imagined mountain or one's breath, to elicit the relaxation response (Benson, 1975). Such a response is described as comprising "physiological changes [which] are consistent with generalized decreased sympathetic nervous system activity" (Benson, 1983, p. 282). In this way, mindfulness meditation has been observed to provide a physiologically restful period characterised by reduced heart-rate (Zeidan, Johnson, Gordon, & Goolkasian, 2010) and decreased heart pressure (Carlson, Speca, Faris, & Patel, 2007). Similarly, neurophysiological changes such as reductions in the mass of the basolateral amygdala — correlating with reductions in perceived stress — (Hölzel et al., 2010) and increases in the grey matter of the left hippocampus, posterior cingulate cortex, temporo-parietal junction and cerebellum — areas associated with learning, memory and emotion regulation, amongst others — (Hölzel, Carmody, et al., 2011) may all help explain the experience of students in this study feeling more refreshed, alert, and focused following mindfulness practice.

The most striking example of how brief MBI impacted a student's ability to concentrate in this way came from Kim who was suffering a host of symptoms following an abusive relationship she escaped from just prior to the PhD:

Kim: You know, I've had post-traumatic stress disorder, complex post-traumatic stress disorder, so my ability to concentrate and be able to get involved in something has taken a long time and I think this is a skill (mindfulness) that really enables you to concentrate and to really focus on something.

Several processes were described by Kim which might have bearing on this increased level of concentration including better self-regulation of thoughts as well as increased acceptance or compassion towards her ability and work. In addition to the neurophysiological changes mentioned previously, studies have also found increased activity of the rostral anterior cingulate cortex in meditators compared to controls, that is, in an area involved in executive attention and processing of distractions (Hölzel et al., 2007). Moreover, the experience of increased concentration and present moment awareness is a commonly reported outcome of mindfulness training (Jha, Krompinger, & Baime, 2007; Sibinga et al., 2008; Tang et al., 2007) and for Kim, a student managing trauma in the context of PhD study, this skill was found to be helpful.

8.4.3   **Managing difficulties**

As could be gleaned from parts of the above discussion of experiences of positive affect, some of the perceived benefits were closely tied to reducing and managing difficulties. The following section highlights these instances where students specifically found that mindfulness could be used to help with facing the stressors in their lives.

Jill: The issues are still there obviously, but I feel like they're not dominating me.

8.4.3.1   Increased ability to cope

Several students described either a general increased ability to cope or gave specific instances of how brief MBI supported coping. Jill, for example, spoke during the one month interview about how the notion of being kind to herself was something she considered almost daily, stating it has

> *become a way of dealing with things now. It's crazy isn't it, and I don't think I've ever thought about things in that way before. I mean you hear it and I read about it, but I know because it felt real while I was doing it and it will be real in other situations.*

At four months, despite Jill only formally practicing mindfulness a handful of times since the first interview, she found that the messages or "*philosophy behind meditation*" had continued to have significant impact on her coping potential and strategies, describing that it gave her "*hope*" in dealing effectively with difficult thoughts and emotions:

> *I realised I had to rework how I respond to things, or approach things, or think about things, and rather than trying to defend myself or protect myself to stop these feelings or trying to fix what's provoking me, I mean, you have to do what you can do, you can't accept everything but at the same time accept what you're feeling so it doesn't debilitate you. So rather than getting caught up in the mind argument and trying to suppress or control your feelings, knowing that it's okay to feel like that... when I get like that I think about meditation.*

It is important to note that Jill describes thinking about meditation when she becomes stressed, and the memories of the practice and lessons are what support her more adaptive coping strategies, not an ongoing practice. This indicates that a resonance with the lessons of the program and initial practice may be enough to support a shift in coping behaviours which, at least for some students, is maintained four months post intervention.

Amy similarly felt that is was "*reassuring*" that she had some ability to gain calm and relax herself at the four month follow up, again, despite not having

maintained a mindfulness practice. At that time, she was undergoing medical tests in attempts to identify the source of some troubling physical symptoms, and whilst lying in her hospital bed recovering from one such test she experienced the situation differently from what it might ordinarily have been:

> *I think the program really helped me in that sense, just to be, you know? Even the whole notion of just sitting in the room and just being there. You know, that's not something that I would have normally done, I'd be like "this is downtime, what can I do?" So in that sense it's been liberating.*

Simone also spoke of a similar sense of calm when facing difficulties which came from practicing mindfulness during the actual program. She described how her problems "*don't disappear, they are always there, of course. It's just that it looks like things can be done instead of panic*", however this was not maintained at four months.

Sarah described a more consistent benefit from brief MBI which for her came from practicing the techniques regularly: "*mindfulness helped me a lot, to cope with everything that was going on.*" Overall, at the second interview, improvements in the coping potentials of several students (Jill, Sarah and to a far lesser degree, Amy and Simone) were still supported by techniques or lessons learnt from the brief MBI course, and these were described as connected to many facets of mindfulness such as acceptance, compassion, present moment awareness, and an ability to let go of difficult thoughts and emotions.

8.4.3.2   Reductions in thinking, distractions and worries

Several participants found that mindfulness practices reduced overactive and worrisome thoughts. As previously stated, Amy found the STOP breathing technique

and the image of a mountain to be helpful in maintaining and regaining focus and emotional composure. Similarly, Kim, also found mindfulness to help in bolstering concentration and managing incessant thoughts regarding death which stemmed from her experience of abuse: "*the mindfulness group came for me at a time where I was looking around for ways to get more out of this thinking, this incessant thinking.*" A related experience was had by another student who became less embroiled with thoughts of her past: "*I also feel calmer, more peaceful, but I also feel more disconnected from the past, again, it does come up but it doesn't seem as important and I try and let go.*" More generally, students also described how the program supported a reduction in their worries:

> *Sarah: And I do feel different, I feel very different. It's like, I suppose it's like because I've disconnected myself from worrying so much about things that I have no control over, I feel more at peace. It's like, ok, I'm just going to live my life, my work, doing what I have to do.*

Reductions in rumination are commonly reported as outcomes of mindfulness training (Jain et al., 2007; Oman et al., 2008; Shapiro et al., 2007) and, as described in the section on mindfulness's mechanisms of action as well as from this research, these reductions are linked to identifying less with ones' thoughts — especially through reperceiving or decentering. This ability may be particularly helpful and important for PhD students as the vastness of the doctoral research can lead to rumination, worry, and frequent thoughts regarding their thesis over long periods of time, and as seen for some students, can also adversely impact sleep.

8.4.3.3 Changed relationship to expectations, doubts, and uncertainties

Students reported that mindfulness practices changed their relationship with thoughts that demanded high performance or caused feelings of pressure and stress. Amy in particular identified these types of thoughts as a central cause of stress in her life and stated that certain discussions around awareness of one's thoughts, feelings, and sensations resonated with these issues. The following quote illustrates that even though Amy may experience perfectionistic thoughts relating to her performance, they can be related to differently and thus engender a sense of relief:

> *…it felt like she was talking about me, the things she was talking about really rang true for me about my feelings of underperformance with my studies…I guess the reassurance there was knowing that I am not underperforming, I might just think that I'm going to be or that I might be but I don't actually know that. And I have to accept that as long as I have tried my best, that's all I can ask myself and whatever happens will happen.*

At four months, when Amy was facing uncertainty around her undiagnosed medical problem, her primary source of stress had shifted. During this time acceptance was something that Amy was "*thinking a lot about*" and, despite not practising any formal mindfulness techniques, she demonstrated creativity by "*practising acceptance*" with this uncertainty, mostly by repeating a phrase which captured the sentiment:

> *I guess acceptance for me is translated as "it is what it is". I've been saying that a lot lately, I've been saying it to other people too. So I haven't been practising any techniques but I've kind of manipulated what I've learnt from the program into a technique. Not manipulated, I've adapted a message or a learning from the program into a way that works for me, that's meaningful for me; which has been really really important and helpful for me at this point in time.*

For others, doubts could also at times manifest as uncertainty regarding one's ability or competence to *measure up* to an internalized standard. For example, Sarah felt apprehensive about her competence as an engaging teacher but managed to

distance herself from these thoughts and refocus on more interested students. Jill

found that brief MBI reinforced a more helpful attitude regarding her doubts and their

place in the process of completing a PhD:

> *...there's something about safety in all that, like, making sense of stuff, but in order to make sense of stuff, particularly with the PhD, you have to give it time to develop. So rather than thinking "oh fuck, I'm not good at this", or "I can't do this", or maybe "I'm not cut out for this" — which I think are thoughts that are going to cross your mind — but realising that, yeah, this is the actual process, am I not realising that for me? That's what it was, and that was reinforced particularly in the meditation, that particular comment.*

Jill also found that a mindful orientation to her desire for control and certainty

provided her with greater flexibility in how to respond to these expectations:

> *So it was like, that's a way of dealing with the ambiguity sometimes, it's like, I've got these uncertainties and I don't know where I'm exactly heading, but it's all right, I'll be kind to them so they can be kind to me. So for me it was like to have these thoughts in my mind, but it's okay, I'm all right. (3 lines) So I think for me it was like, learn to live with ambiguity or learn to live with uncertainty, and that it's alright not to have control, if that makes sense, or want a predictable outcome, it's alright to be like that, to feel like that. The acceptance of that feeling, I guess, and not fighting it, because without fighting it you grow more.*

In all the above cases, a change in orientation towards students' thoughts,

expectations and desires is evident. This change is underpinned by greater

compassion, acceptance, and dis-identification with their thoughts, a shift which

allowed students to cope with and reduce the discomfort and stress associated with

them. Interestingly, the skill of mindfulness does appear well suited to PhD students

in this respect as this is a cohort which may be prone to the high expectations of

perfectionism as demonstrated by Amy and argued by others (Ahern & Manathunga,

2004; Kearns, 2002; Kearns et al., 2008). Further, as this is also a group who will

naturally feel uncertainty and doubt given the large, long, and difficult nature of their

work (Juniper et al., 2012), the development of mindfulness — and especially compassion towards and decentering from one's thoughts and emotions — is shown here to be well placed to support students in this way.

8.4.3.4   Reductions in fear and anxiety

A similar process was used by Sarah and Amy in dealing with anxiety and fear. Sarah described feeling anxious whilst her husband was overseas and also in terms of possible problems that might arise during her day, however, she felt that because of her mindfulness practice "*I'm able to let go more easily than before.*" Amy's fear and anxiety was more focused on her much loved and elderly dog. The next quote highlights how a mindful orientation supported Amy in differentiating between what she could and could not control, and allowed her to be more present with her affection, appreciation, and enjoyment of this "*family member*":

> *Because he is so old now I know the moment is coming and that's why it's hard not to think about it, and so what that mindfulness helped me with was just to accept being with him, being in that moment, and just enjoying that moment with him, and not having to add all of this other stuff onto it, about losing him. And accepting that I can't control that, I want it all to be positive, and I can't control any of what will happen or when, so I should just enjoy it.*

Jill similarly found the attitude or practice of acceptance to be very helpful. She stated that she had been thinking about the program often, especially

> *when I feel anxious now or when I'm feeling overwhelmed or even if I'm feeling uncomfortable for an unknown reason that I would label anxiety but you know, like a general anxiety thing, it's like I think to myself "it's alright, because now you know how to make yourself feel better", or one way to make yourself feel better is through accepting how you feel. And I think that's one of the main things that I understand from meditation, it's the acceptance of the feeling and not fighting it and accepting it.*

Jill found mindfulness to support her anxieties in a different fashion at the four month interview. She had experienced a long period of what she termed "*stagnation*" for about a year where she felt quite "*stuck*" with her PhD and uncertain and anxious about herself, and her progress. The brief MBI was said to have coincided with other factors such as "*maturity*", but a shift occurred for her during the time of the program that seemed to still resonate with her months later:

> *With my PhD, I did go through this really really rough, really…It wasn't self-hate, more hopelessness that I was stuck, and I still do get stuck, sometimes I get unstuck and I move on. But I went through this really long phase of getting stuck, I reckon it lasted at least a year, and I didn't know how to deal with it, I was probably not looking at the right places to work it out. And then I realised that, it's here, that I have to sort of work on. The acceptance of how I'm feeling rather than controlling or trying to change these things and the way they make me feel…(5 lines) You start thinking 'I've been going through this tension and anxiety and it's been debilitating, how am I going to work with it?', and for some reason it did coincide with me going to meditation (laughs), the training, and I remember thinking 'oh my God, I feel good', and that feeling good, I haven't felt good in a long time.*

Although sharing many similarities with Amy, Jill's change in orientation towards her experience was seen by her as also containing an important element of "*being kind to your thoughts, and kind to yourself.*" This kindness was seen as an alternative and a means to manage "*that harsh critical voice towards yourself.*" In both cases however, compassion and present moment awareness could be seen to both identify unhelpful thinking patterns and provide a more adaptive response.

8.4.3.5   Managing stress and other difficult emotions

Stress, of course, is connected to many of the topics discussed above such as when being driven by high expectations, experiencing fear, or feeling thoughts are intrusive — wherever one appraises the demands of a situation to exceed their resources to cope (Lazarus & Folkman, 1984). The following provides details

regarding instances where students spoke of stress in particular and how the brief MBI affected this.

All participants at one month described experiencing stress reduction either during the brief MBI or as a result of applying the principles and techniques learnt there at another time. Two students described how experiencing deeper states of relaxation served as a basis for comparison through which they realised how stressed or "*highly-strung*" they might normally be. Sarah used an analogy to highlight this increase in awareness regarding her stress levels:

> *And what I'm noticing is that the more that you meditate, because you're able to feel that peace, that calmness, that when you don't feel it you miss it. It's like you are wearing a pair of shoes that are too tight that you are used to and so you walk in pain that you don't feel anymore because it's always there, but then you put on another pair of shoes and it feels comfortable, and you go "oh my God, how could I have been wearing those shoes" and then when you go back and put those shoes on you think "oh my god this doesn't feel right, I need to do something!" (laughs). Know what I mean?*

The second student, Amy, was surprised to find that the facilitator and the program were able to relax her in the way it had:

> *There was just something about the program and her (Michelle) that was inherently calming, and it made me think that maybe I am walking around more highly strung than I think I am because I felt calm, does that make sense? And just relaxed and yeah, and it was unexpected and unusual but a great feeling. So I guess Michelle's classes showed me that there was a more relaxed version of me.*

As both Sarah and Amy's comments indicate above, there are students who have habituated to some degree of stress and the contrast of a relaxing experience provides a perspective to more accurately assess their emotional state.

For Sarah, this ability to recognise and regulate stress and difficult emotions continued to hold significance at four months. For example, she had become more

aware of symptoms of stress such as tightness around her neck, and also when tapping

her foot or moving her leg. An increased awareness of one's body which then leads to

coping has also been reported in studies of other groups, for example, older adults

with lower back pain (Morone, Lynch, Greco, Tindle, & Weiner, 2008). However,

this increased awareness also allowed Sarah to notice features of stress in her son and

others, as well as acting as a personal "*sign*" that she needed to turn towards and cope

with her emotions and thoughts:

> *Michelle said just watch your feelings and just allowing them to be. I think*
> *that's very strong because when you just allow them to be, what used to affect*
> *you a lot, just by letting it be and not denying it and saying things like "I*
> *shouldn't be feeling like that", just allowing it to be, it doesn't seem to affect*
> *you as much.*

Jill similarly spoke of how *"letting go"* of efforts at control made her feel

more in control, and that the program had made a "*significant*" impact on her stress up

to the one month follow up. At four months, Jill continued to derive relaxation and

support with stress from the program. For example, she recounted an experience

where she felt incredibly stressed by the many chores and tasks she needed to

complete in addition to work on her PhD. Believing she could not work effectively on

her thesis whilst in this state of mind Jill meditated, that is, she "*stayed present and*

listened to sounds and was aware of everything that was happening". By taking this

time, Jill reduced her mind's preoccupation with the many tasks in her day and

changed her emotional state. For example she described a day when she had many

tasks to complete and took time to me mindful:

> *So, I parked my car and I thought "I'm going to meditate", and I don't do this*
> *often though, and I did and I felt better. I don't know if I managed to meditate*
> *but I did something (laughs) but it was more like, I don't know, it calms me*
> *down, it settles me down. Rather than having these issues that are trying to*

come at you because you're so overworked, it's like, bring them down. You sort of calm it down. And that's what changes.

By taking 20 minutes to stop and disengage from the reactivity and automaticity of her thoughts by intentionally regulating both her attention and attitude, Jill managed to regain a composure she felt was necessary to reengage with her work. She stated that she "*felt happy to go and do what I needed to do instead of rush rush rush getting everything done, working myself up to a point where I get a headache*". It is interesting to note that Jill, who found the messages and lessons from brief MBI helpful but did not formally practise a great deal at four months, was still able to reduce her stress.

Three other students also spoke about instances at the one month interview where mindfulness was used to either release difficult emotions or where the practice uncovered sadness that was not previously recognised. Maria found more generally that mindfulness meditation relieved her some of her "*burdens*" and gave her an avenue to dissipate some strong emotions:

> *Robert: So for you it was mainly the sitting meditation that you found helpful?*
>
> *Maria: Yes, I feel so full of emotions, before I unload on my kids so just I do my meditation and it reduces my emotions (laughing).*

Sarah similarly described how she applies mindfulness to feelings of anger or frustration and how this skill helped her with her family and relationships:

> *And not only has it helped me in my studies but it's also helped me in my personal life, as a mother and as a wife, there will be times where I just want to go (argh growling sound) (laughing) but you just sort of calm down. I say "yes, I am angry". One of the things Michelle taught us in one of the meditations is just to feel the emotions, not just lash out, so if you're angry, okay why am I angry? Just start to go into it, and then you might realise you're sad, and so letting it be and feeling that it's been covered by anger and blame, and by doing that you are able to release that emotion.*

This change in orientation which Sarah is describing marked a significant change in how she dealt with emotions, one characterised not by immediate expression or distraction but rather a direct and honest investigation into the components of her emotional experience, a change in orientation which is central to mindfulness (Gunaratana, 2011). Several studies on mindfulness have similarly reported participants' increased ability to both face and investigate difficult experiences (Morone, Lynch, et al., 2008; Moss et al., 2008) and may reflect decreased experiential avoidance (Chiesa et al., 2014). This notion of uncovering emotions was also described by Amy during a discussion at a later session of the program. Amy was surprised when

> *just out of nowhere all the tears came, and I was like "where the hell have these come from?". I didn't even think that I was emotional, like I didn't even think that what I was talking about bothered me to the point of tears. And maybe for me it's taking this time out to think about mindfulness and myself and why I do what I do, maybe that's just enough for me to drop my guard. And I think it's good if it does because I think it needs to, every now and again.*

Amy's experience of strong emotion may also be a feature of a supportive group environment rather than the skill of mindfulness. However, as Amy's reflection suggests — as well as Sarah regarding her stress levels — taking time to process their emotional states might reveal stronger feelings than some students realise they have.

8.4.3.6   Support in getting to sleep

The impact of stress in disturbing sleep is a well-documented occurrence (Lee, Wuertz, Rogers, & Chen, 2013) and as previous MBSR studies have shown, participants often report improvements in their sleep post-intervention (Carlson & Garland, 2005; Gross et al., 2011). In this research, some evidence also emerged that

the shortened program provided some students with tools to assist falling asleep. For example, Amy used the mental image of the mountain as an object of focus to calm herself down prior to sleep:

> *When I've gone to go to bed and [am] laying there and I'm tired but I can't sleep because I'm thinking about [...] my dog and things are running through my mind and so I've just tried to lay there really still and just pictured that mountain so that I could actually just focus on one thing before I went to sleep so that I wasn't thinking of like, my mind was running at 1,000,000 miles an hour, you know what I mean? And it worked because I don't remember thinking of anything else after that, I went to sleep. So it was enough to calm me and get me focussed ready for sleep*

Jill, who described having difficulty falling asleep unless she "*pushed*" herself to feel tired, found the body-scan to be a helpful alternative:

> *And so meditation was another way of helping me to understand or to accept and deal with my issues. For example, I hate going to bed and not sleeping so when I go to bed I have to sleep, so I pushed myself until I'm really tired and can fall asleep by watching television, and now when I need to go to sleep and its late I know I can do a body scan, it's all right to do that and fall asleep in that way.*

Both Amy and Jill used different objects of attention as a means to reduce restlessness and cognitive activity to fall sleep, again highlighting the utility of attention regulation for the busy minds of some PhD students.

8.5 Impacts on academic functioning

8.5.1 Improvements in ability to work on thesis

More than half of the brief MBI participants at one month described improvements in their ability to study and work on their PhD as a result of using mindfulness practices — though by four months, only two students spoke of these benefits (Sarah and Jill). In all cases, mindfulness supported students in regulating

their emotions and attention to study effectively. Sarah noticed that with her new found lower levels of stress, her readings made more sense and she felt more creative in her work, a finding consistent with the adaptive cognitive abilities associated with increased positive affect (Fredrickson & Branigan, 2005). She also believed that the PhD and general life responsibilities — specifically, the management of studies, family, and children — were made easier through mindfulness practices, and wondered whether

> *maybe some students who are thinking of quitting might think otherwise because they are able (with mindfulness). A lot of the time when students can't progress it's not because they don't want to do it it's because they can't manage. They can't manage their emotions or they can't manage sometimes family issues, it might be overwhelming.*

Similarly, at four months, Sarah continued to think of MBSR's relevance and importance for herself and others, especially when viewing how other students struggle:

> *I do think a lot about it, because I have a lot of friends who are doing their thesis and I think that this will help you too (laughs), it's so good!*

A similar sentiment expressed by Jill echoed that being "*caught*" in difficult emotions makes studying more difficult, and indeed, even the same amount of work or the same challenge appears more manageable when one is calm or more emotionally balanced:

> *… I was feeling really really flustered because I had to get my presentation done, because I had two presentations in a week. And that's when we were in meditation, and I remember going in there and I felt like this is not a waste of time because I'll walk out thinking I feel better. So other times you think it's a waste of time, "I should just stick with my work", but you're so caught up in your feelings that you're not really productive, and then when I walked out of meditation I thought, 'yeah, I feel good'. It's like, yeah, I still have the same amount of work to do, but it's alright.*

Maria also described an increased sense of confidence and determination after gaining calm through meditation:

> *When I feel helpless, when I have no motivation and I feel tired and awful I just do the meditations that Michelle taught me and it works because after that I feel something like "ahh (sound of relief), I can do it", because maybe after that I feel fresh and I can release a little bit of my, not only a little bit, maybe about half of my stress, so after that I can "ah ok, I can work again". It's really helpful.*

Compared to the one month interview, Jill at four months spoke more of the lessons she took from the program and how they continued to influence better management of difficult emotions and stress — though Maria did not maintain these benefits at all. Jill described her new and more helpful perspective as stemming from a greater

> *understanding that the anxiety and stress you feel around writing and structuring and planning and moving ideas around is normal. And that until you see it as a normal and part of the process you might want to hide yourself from it or protect yourself from it, so to work you have to learn how to live with those feelings, accepting those feelings as part of the PhD process; because at some stage I really did try and hide from those feelings and could not be with them. I think my way of coping with that was to be around a lot of people and that wasn't working, it was more about coming to terms with yourself, myself.*

This example also highlights a new orientation for Jill towards her difficult emotions, one where she faces her feelings more directly with an accompanying attitude of compassion. It is important to note that Jill attributes this change in perspective in large part to the messages and experiences of the brief MBI, but not exclusively. Her reading of Sufi philosophy similarly expressed messages around acceptance and compassion towards oneself, and this too played a role.

Two students found meditation increased their ability to concentrate and regain focus. Although this was achieved in different ways — Amy concentrated on an image of a mountain and her breathing while Kim only used her breathing — both described an ability to use mindfulness techniques to better regulate their thoughts and emotions:

> *Kim: But in terms of how has it helped my PhD, I think with that ability to concentrate, the ability to not be as nervous about things or to worry about things too much, just to say I'm going to do the best that I can do.*

> *Amy: I just got all the tears out and I didn't feel like I was ready to turn around and get straight back into my computer and start writing again so I just sat there for a few minutes and just literally stopped, like, stopped crying, stopped the working, just stopped everything I was doing and just took a few deep breaths, closed my eyes, and just let it go. Because I was still highly strung from getting emotional so I just had to let it go and accept that I actually could do this, that it's not actually as bad as I am telling myself, but I still needed to get that out of my system, but I felt the breathing helped me to get me back from being upset to getting me able to go back to work again, so that was good.*

The reductions in stress, thoughts, and greater emotional and attentional regulation which students described above were shown to be associated with improved comprehension, creativity, focus, and well-being. Other studies have similarly found that stress reduction interventions can improve academic performance (e.g., Keogh, Bond, & Flaxman, 2006) and the findings here similarly suggest that brief MBI training is able to provide several avenues of support to PhD students' academic functioning.

8.5.2 Changes in perception of the university

Two students reported that participating in the program impacted their experience of the university itself. Simone's account of this effect was more

pronounced and involved a change from viewing the university as a place that caused

stress to a place of "*relief*":

> *Simone: [it changed the way I]Perceive the building itself and the energy coming from the building, like you walk in and you walk fast because you have to do things, so walking into a room and actually sitting down on the floor and feeling relaxed is very unusual for that type of environment, generally. (4 lines) Like this year when I come back after the course, I actually started liking it. It was like, ok, it's not that bad, good things happen at uni.*

For Jill, who described herself as a socially oriented individual, the act of

coming together with other participants in the group for social support also added to

her sense of "*belonging*" to the university as "*it makes you feel connected to the

institution.*" Whether it be an increased sense of connection or believing that

university can be more than a place of stress and work, these comments speak to the

importance of providing students with access to resources, groups, and activities

which foster well-being beyond academic supports.

8.6 Interpersonal benefits

Two participants reported benefits or positive experiences relating to the brief

MBI and their relationships with others in their lives. Jill described teaching her

children and other family members how to meditate and to be mindful during certain

moments, a process they all enjoyed:

> *Jill: ...we tried it with my sisters and my children have tried it as well and they loved it, they actually enjoyed it, they actually took it seriously, you know a child mentality though, not always going to take it seriously, but they really enjoyed it. One of them fell-asleep and the other one thought, "that was really nice mum".*

Sarah taught mindfulness to her children as well, stating that in addition to "*love and support*", teaching children mindfulness is important. She also described how the lessons she learnt about herself from her own practice created greater awareness of her and her son's emotional state:

> *With my son I can see sometimes that he's moving around a lot, and I say calm down, whereas before I would have thought maybe he is just active, I would have not noticed that but by doing this (mindfulness) I'm aware of how I'm moving my body when I'm stressed and so now that I've noticed that about myself I can see that he's stressed when he is doing homework or other times.*

She also found the mindfulness practice helped her to manage and reduce her occasional anger with her husband:

> *And when you don't meditate you don't feel the peace but when you do you think "is it worrying really worth it, is it really worth arguing?" I'm not saying that I don't get angry at or anything else, I have my moments, but overall I am more calm. It's helped me to let go.*

Finally, Sarah also recounted an episode where during a class she taught at university, she was able to let go of doubts that were triggered by a few unengaged students and refocus on those who were paying attention and showing interest. This change was attributed to a greater awareness and flexibility in attention which resulted in her feeling more confident.

8.7 Appraisal of the program and its parts

8.7.1 General appraisals of the program

There was broad praise for the program and what it did for participants, or what participants believed it could do for others. No participants were critical of the program's overall value or relevance for PhD students both at one and four months. To the contrary, several students stated that others would benefit from participation:

Sarah: yes, if I was to put it into words, before, it didn't matter what struggles I had I would always keep going but it was harder, it just felt harder. But now it's feeling easier and more enjoyable. And I really really hope you can provide it to other students. (1line) I think it would be an investment for the university, it definitely would help.

Jill: The experience of it was just all positive. I would recommend meditation to others.

All students expressed gratitude and satisfaction for having participated in the program and experiencing their individual benefits:

Amy: I'm really glad I got the opportunity to do the mindfulness course, it's nothing I've really ever done before so I think it's great that I got an opportunity to do that or to do it so early on in my degree because I was doing it for preventative reasons, and it drew other things out that I might not have really [faced].

As was also demonstrated in the section *8.3 Maintaining a practice after the brief MBI* (p. 269), all students expressed a desire to practice more and reconnect with or sustain the benefits they had experienced during the brief MBI, especially at four months.

8.7.2   Valued features of the program

8.7.2.1   Valued social and group features

8.7.2.1.1   Discussions and group rapport

Several students commented on the helpfulness of hearing other group members' experiences during the program. This was most commonly expressed in terms of which practices the other students preferred and the challenges they had with various practices, but also in regards to students' struggles with the PhD:

Emily: I think that it was important to see how other people applied it, and also to see the difference in what was really useful for me, for example, the breathing, and for someone else could be the walking meditation. Everybody will take in what is useful.

Simone: The fact that it was not only based on exercises but on talking and confronting things, and sharing things, so I liked that. And everyone was pretty open to talk about whatever.

Simone's statement highlights that sharing social support while discussing MBSR topics but also "*PhD things*" was an important feature for her. As mentioned above, the social environment also provided Simone with motivation and the conditions she felt were necessary to overcome difficult emotional states. This remained salient for her at four months:

I remember the sense of peace, after it. And the sharing with people; there was a sense of having the same or similar problems, and the idea that if you shared those problems or tried to find a common solution or common therapy or whatever is going to work for all of us, so there was an us versus me alone.

Emily was similarly motivated to participate due to the appeal of the group format, and even found that the brief MBI experience lead to her considering participation in other groups:

The thing about it for me was going to the group and I think that's what stuck with me, going there, being with other people who are respecting your feelings and relaxing. That's what I think prompted me to want to join more groups to be honest.

She and Jill both described how pleasant it was to routinely meet with the other participants of the program:

Emily: Another thing that I enjoyed was being around people that I didn't know — I really liked that.

Robert: What was it about that that you liked?

> *Emily: Well, these are other people who were studying the same things as me, I mean, they're doing the same degree as me, they are friendly and they want to learn about this just like me and you go there every week and they smile at you and say hello, that's really lovely.*

> *Jill: I think the social things always stand out for me. Sharing that space with people or that experience with people, and have people that you think are nice, and to have that positive interaction.*

The importance and benefit of social support and connection was clearly observed with this group of PhD students. In general discussions of their experience before speaking about how they found the program, it was also clear that peer support was a highly valued feature of PhD study, and so the provision of this through brief MBI and the high rates of agreement regarding its value are understandable. However, the context of this support being provided through the brief MBI and also the routine interactions which the program provided cannot be separated. That said, whereas the mindfulness skills and lessons from brief MBI still supported a few students in some ways at four months, it did not appear that the benefits of social support, or the relationships formed within the group, continued at this later time; although the motivation for ongoing sessions certainly also reflected, in part, a continued desire for interaction, connection, and support. Indeed, McCown and Reibel (2010) state that the discussions which take place during sessions are "an extremely important and dynamic element in participants' experiences of MBSR that has not been adequately addressed as part of the process in MBSR research" (p. 50). For PhD students at least, the import of discussions and building of rapport appear an integral part of positive experiences in the group and is also likely linked to the well documented levels of isolation and needs for social integration amongst this cohort.

8.7.2.1.2   Small group size

Linked to the building of rapport mentioned above, two participants enjoyed

the small size of their group which created a comfortable atmosphere conducive to

open communication:

> *It was good on the day of the program, like I was really looking forward to going to uni and to doing it and to the kind of relaxed feeling I had at night, and it was cosy so I like the fact that there weren't too many people. Because you're actually sharing in a way your fears, your anxiety, so it is nice when you feel cosy and welcomed, that was really nice about it.*
>
> *And it was a very small class and I thought that was good, the size was good.*

This theme speaks to characteristics which allowed social support and

connection to develop. It is possible that a smaller sized group may also be necessary

for rapport to develop more quickly given the fewer number of sessions in this format

of MBSR. Further research would be needed to evaluate this relationship.

8.7.2.1.3   The facilitator

Michelle, an experienced facilitator and a long-time meditator herself,

modelled many of the qualities inherent to mindfulness practice — for example,

patience and calm — and nearly all brief MBI participants praised her and how she

inspired relaxation in the class:

> *Jill: Michelle was a wonderful instructor, very… I think when you see her she just looks so peaceful (laughs).*
>
> *Robert: so was there anything else you really liked about the group?*
>
> *Kim: Michelle, she was lovely. I liked her. She was really nice and put everyone in the mood.*

Robert: How did she do that?

Kim: She was very relaxed and very calm, and so that's something you see as something you want to achieve and that's good.

Amy in particular felt that Michelle's manner and presence relieved her own stress after entering the program:

And I even said this to Michelle on the first class that you have this really calming energy, there was something just about being in that room with her and her speaking that has made me feel like ahhh (sound of relief) like this weight had just come off me, I don't recall ever feeling like that with someone else. It was like I walked in with all this baggage and she had just lifted it off.

Several authors speak to the importance of MBSR facilitators having a strong practice to ground both their understanding and teaching of mindfulness (McCown & Reibel, 2010) and to embody the central "therapeutic ingredients" which the program teaches (Crane, Kuyken, Hastings, Rothwell, & Williams, 2010, p. 3). These facilitator characteristics are reflected in participant accounts and did indeed play an important role in the brief MBI experience.

8.7.2.2   Valued features of the brief MBI format

8.7.2.2.1   Learning a variety of techniques

In the same way that participants enjoyed hearing about how different students reacted to the various practices, they themselves also appreciated being exposed to the variety of mindfulness techniques:

Simone: And I like the fact that she was showing us different techniques, to be doing the same thing because of course the meditation is really hard for me, I can't stay still too long and get very impatient blah blah blah so maybe the walking meditation is more my style or type of thing, at the moment, and now. So I liked that she was showing us different things. It was fantastic. The problem with it is that it's finished.

Amy: I think it's practically got really good strategies and exercises, and I think the fact that you've got mindfulness for the body and breathing or you're walking meditation or yoga, it depends on the individual, I think, some people might prefer one more so than the other. So by having the different things that people can do, then they can use what is most beneficial. I try whenever I can, I might not be able to practice every single day, but you have it in your mind and you think it can be applied and it can be used.

By experimenting with different techniques, students were able to test which best suited their dispositions and circumstances. For example, Simone felt restless during the still practices and so preferred a movement meditation whereas Sarah, who leads an incredibly busy life, seemed to enjoy those which allowed her to slow down completely and be still:

Sarah: My favourite was the breathing meditation, the eating meditation, and the other meditation where I think you are at the sea and you imagine the sea, by going inside within yourself. That was a really good meditation. So like I said before, I might not meditate for 45 min but I do just take a little short ones when I feel that I need it and when I can, because I'm always doing things.

In the following example, Emily describes why the body-scan was one of her favourite aspects of the program which came not from an ability to find calm or peace like those students above but more from the personal insights it revealed:

Emily: I loved… You know what I really loved, the body scan. Because I noticed blocks.

Robert: Areas that you couldn't feel?

Emily: Areas that freak me out that I never would have noticed if I hadn't done the body scan. We were lying on the ground, Michelle was telling us to focus on our toes and she kind of went individually and was so intricate and detailed and I was focusing on all these parts of my body, and when she said focus on your heart, I went into this panic. And that says something to me, that for me says I fear this part of my body. Instead of questioning it at the time I should have just felt it but that's [what I did then].

8.7.2.2.2   Acceptance, compassion, and mindfulness

For some students, the themes or ideas spoken about during the brief MBI course were also regarded as highlights, at both one and four months post-intervention. In fact, there was a high degree of similarity amongst reports from students   which seemed to cluster around ideas of acceptance, compassion, letting go, and non-identification. For Sarah, learning of the interrelated nature of thoughts, sensations, and emotions, and how to relate to these with an attitude of acceptance proved useful for her:

> *Sarah: Again, we all know about thoughts, but by linking them [with sensations and emotions], you're able to change it, you might be able to change your emotions if you are aware of the way you are thinking. And also all of the discussions we had about non-judgement. So when things happen don't jump straight away into judging, because when you start judging it might make you upset or, I suppose judging and letting go kind of go together.*

Similarly, Jill found the message of self-acceptance to be one of the most important features of the program at the one month interview, stating that she had thought of that lesson almost daily since the program had finished*: "thoughts come into your mind, thoughts that are bothering you and that's all right, and to be kind to them and to let go."* At four months, when Jill was asked what the most important part of the program was for her, she answered:

> *I think for me at first it was the philosophy definitely, because that made sense to me and that's probably what I needed to hear and that's probably what drew me. But the process, like physiological, like the actual process of meditating is the next step for it, and I have meditated a few times and when I do I enjoy it. And I always feel really good about it but for me it's remembering the notion of acceptance and that sort of giving you hope or calmness or peacefulness, that is probably more crucial.*

She found she would reflect on this message and memories of brief MBI during times of stress, anxiety, or discomfort — that is, when she needed to cope with difficulty.

Amy found that brief MBI expanded her understanding of how far-reaching the practice of acceptance could be. For instance, she previously held a belief that it wasn't helpful to control things she couldn't influence, but found the brief MBI expanded this attitude to a broader range of experiences, particularly when facing the uncertainties around her health:

> *I guess what I've realised is what that really means is just to accept it whether you have control over it or not, just accept things for what they are. And I think by realising that I realised that notion of acceptance is a hell of a lot broader in its application.*

Of course, the personal challenges that these students were experiencing played a significant role in why these particular messages had such resonance and lasting impact. However, given that PhD study does involve a great deal of uncertainty, doubt, and stress, as Chapter 6 of these results and other studies have demonstrated (Juniper et al., 2012; Walsh, 2009), it is understandable why the attitudes of acceptance, compassion, and creating space for thoughts without identifying with them has been found to be so helpful for these students. Moreover, these results may also add support to other preliminary findings which suggest self-compassion plays a significant role in the well-being of university students (Neely, Schallert, Mohammed, Roberts, & Chen, 2009). However, taking into account the high value students also attributed to discussions and group rapport, it is likely that sharing their difficulties, doubts, and challenges also lead to a depathologizing or normalising of their experience, providing another route through which greater acceptance and compassion were also learnt and applied.

8.1 Mechanisms of action

Many positive outcomes resulted from the brief MBI — particularly at one month — including reductions in negative affect (stress, anxiety, fear), increases in positive affect (happiness, enjoyment, pleasure), and an increased sense of control in the management of thoughts and emotions. These benefits had consequences on students' general well-being as well as academic functioning. However, by what mechanisms did these benefits arise? This research explores this question by analysing students' accounts and considering previous research in this area. These mechanisms, rather than just stemming from the practice of mindfulness or resultant psychological processes also included social factors, all of which can be seen to have influenced the experience and outcomes of this intervention.

From a psychological perspective, this research supports Shapiro et al's., (2006) assertion that reperceiving (decentering) is a mechanism by which individuals derive benefit — however, it was not found to be an overarching mechanism for all students as these authors propose. Again, reperceiving is defined as a shift in perspective where what was subject becomes object, for example, rather than identifying with or getting caught up in their emotional or cognitive experience individuals learnt to distance themselves from this phenomena and let go of it. Several students spoke to changes in how they related to their experience, and the concept of reperceiving captures this process by subsuming many of the other processes students described (e.g., attentional and attitudinal changes). For instance, Jill spoke to how she was able to experience and accept her thoughts of uncertainty and ambiguity with less avoidance and as a result experienced greater calm. Amy similarly became aware of her thoughts which centred on her fears for losing her dog and was then able to choose to enjoy his company, rather than ruminating. These examples and others

highlight a greater awareness of one's thoughts and emotions as phenomena which are able to be related to differently than one may automatically.

Although this change in perspective also entails a shift in attention, it was the emotional or attitudinal shift where students *related to their experience differently* which was most common and pronounced. For instance, rather than this change in perspective being detached or critical it was described as an orientation imbued with qualities of kindness, acceptance, and gentleness. Self-compassion is defined as having kindness for oneself when facing difficulty and holding an appreciation for the shared experience of suffering as part of the human condition, rather than viewing one's suffering as an isolating event or personal failing (Neff, 2003). Neff (2003) also states that self-compassion involves being able to experience difficult thoughts and emotions without over-identifying with them, that is, by remaining mindful of them. This definition blurs the contribution of mindfulness and self-compassion as distinct mechanisms of change which is not surprising as these constructs have been found to be significantly correlated (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). As other research with university students has also found, MBSR appears effective at increasing levels of mindfulness and self-compassion (Shapiro et al., 2007) and this self-compassion may in turn be a central avenue for less reactivity, disturbance, and higher levels of well-being. Overall, increased self-compassion — which was attributed to the brief MBI — continued to be used by several students at four months. These benefits, lasting four months, have important implications for the needs of PhD students as well as the structure of the program's format. However, the degree to which this increase in self-compassion stemmed from social support from the group as opposed to the practise of mindfulness remains unclear.

This research gives some evidence for social support being a mechanism of change for this cohort. If an aspect of self-compassion is a view that one's suffering is a common human experience, then this change in perspective also helps to explain how the challenges of students — both academic and in terms of the mindfulness practices — were normalised during the program and how a sense of camaraderie developed. By sharing their difficulties and offering support students gained greater self-compassion, a reduction in isolation, and continued to highly value this aspect of the program at four months post intervention. Social support is considered an important feature of MBSR (Kabat-Zinn, 1990) and for PhD students at least, it appears this aspect of a brief MBI is very important. Strengthening this feature of the program to specifically support developments in self-compassion may also improve future iterations.

As increases in self-compassion can be viewed as a change in how students view their situations and emotions, it can also be considered a form of cognitive reappraisal — an aspect of emotion-regulation (Gross & John, 2003). Cognitive reappraisal involves altering how one perceives a stimulus, and therefore the emotional reaction, by changing cognitions (Lazarus & Alfert, 1964). This cognitive element is highlighted here as it appears that although increases in acceptance and self-compassion were at times connected to the practice of mindfulness and the mechanism of reperceiving, the changes in students' appraisals also stemmed from the messages or lessons taught within the program. For example, Amy developed a more compassionate view towards her perfectionistic standards as a result of the facilitator's discussion of this human tendency, not through applying mindfulness. Similarly, at four months, Amy as well as Jill continued to derive benefits of increased self-compassion and acceptance despite little mindfulness practice, and

attributed these outcomes to the lessons from the brief MBI. Of course, these lessons may have been made more powerful through being associated with the experiential learning of mindfulness practice as suggested by Sarah, however, this finding highlights the pivotal importance of the psychoeducational component of the brief MBI — especially in regards to content which fosters greater compassion towards the challenges common to the PhD experience.

An interesting outcome for several students was a reduction in the perceived aversiveness or difficulty of challenges they faced following practising mindfulness. A similar theme in these descriptions was that the students *felt* differently and so therefore appraised their tasks differently. Relaxation may be a mechanism which altered this appraisal and might do so by influencing perceived self-efficacy, that is, beliefs about one's ability to manage prospective tasks (Bandura, 1982), by reducing physiological and affective arousal that follows from the relaxation response (Benson, 1983). For example, Bandura (1982, p. 127) states:

> *People rely partly on information from their physiological state in judging their capabilities. They read their visceral arousal in stressful and taxing situations as an Ominous [sic] sign of vulnerability to dysfunction. Because high arousal usually debilitates performance, people are more inclined to expect success when they are not beset by aversive arousal than if they are tense and viscerally agitated.*

Relaxation and stress-reduction, of course, are frequent outcomes in research on MBSR (e.g., Oman et al., 2008; Shapiro, Astin, Bishop, & Cordova, 2005) and studies also report increases in their abilities to regulate and manage their emotions (e.g., Coffey, Hartman, & Fredrickson, 2010; Vujanovic, Bonn-Miller, Bernstein, McKee, & Zvolensky, 2010). However, recent mindfulness research does not emphasise relaxation as a mechanism by which changes come about, which stands in

contrast to literature on meditation as a broader topic (Everly & Lating, 2013; Schuman, 1980).

Several reasons explain why relaxation is perhaps discounted as a mechanism in recent research on mindfulness and why it is a helpful concept in relation to PhD students. First, a frequently mentioned feature or tenet of mindfulness meditation is that individuals are "not trying to produce a particular state such as relaxation" and that "Mindfulness approaches are not considered relaxation or mood management techniques" (Bishop et al., 2004, pp. 231, 233), even though relaxation often occurs (Kabat-Zinn, 2005). Therefore, relaxation, if it does occur, is viewed a by-product of mindfulness. This important instruction in mindfulness practice may cause hesitance in emphasising relaxation as an important mechanism — even though it is commonly arrived at indirectly.

Second, there are also conceptual issues when considering what may be a mechanism as opposed to an outcome of mindfulness. For instance, relaxation could certainly be viewed as an outcome of mindfulness, or an outcome of other mechanisms of action such as reperceiving and compassion, rather than a primary mechanism. Relaxation could be argued therefore, in quantitative terminology, to play a mediating role between mindfulness and other outcomes such as increased self-efficacy (Kazdin, 2007). Though this is a possibility which would require further research to untangle, it appears to certainly be a valuable line of questioning as relaxation may warrant greater theoretical emphasis than it is currently afforded.

Lastly, relaxation may be considered an important mechanism in the context of PhD students due to the specific nature of their task and challenges. For example, this research and others have shown that a common problem for students is managing multiple responsibilities and the size of the task, all of which contribute to feelings of

overwhelm and stress (Juniper et al., 2012). However, this cohort is clearly an

intelligent and capable group who have likely faced and overcome many challenges to

be given the opportunity to undertake a PhD (Golde, 2000). It is therefore likely that

students are left in an emotionally advantageous position following mindfulness

practise, a position where their abilities to meet these challenges are less burdened by

psychophysiological experiences of stress and overwhelm.

The final mechanism of action within brief MBI spoken about by the

participants was mindfulness itself. By intentionally bringing their attention to the

present moment with qualities such as openness, receptivity, and curiosity, many

students reported experiences of positive affect and greater levels of enjoyment whilst

engaging in ordinary activities. Swimming at the pool, floating in the water with one's

family, eating, feeling a breeze and walking in nature where all given as examples of

activities which provided greater pleasure and enjoyment through the application of

mindfulness. Even at four months whilst formal mindfulness practice became a rarity

for most, many still occasionally used mindfulness informally highlighting a very

important consideration for supporting this group of students. Informal practice

requires less time and effort to initiate than seated meditation or yoga might, for

example, and therefore appears to be a particularly important aspect to emphasise with

PhD students who already feel time poor.

8.2 Criticisms and suggestions to improve the brief MBI

8.2.1 The program was too short

The most consistent criticism, mentioned by all but three brief MBI

participants, was that "*it was too short*", and that the students would have preferred

more or ongoing sessions. Several students expressed this sentiment and also gave an

idea of how often they would like to attend or how many extra sessions they would

have preferred:

> *Amy: I really believe it is something that should be made available to students, and maybe even more often, because if they want to do it in a more preventative sense and they haven't had any exposure to it like me then maybe I would benefit from a once a month session with Michelle or every couple of months to touch base.*

> *Emily: So the groups helped me. I wished it went for longer, I really do wish it went for longer. I would go to that group weekly.*

> *Robert: Yeah?*

> *Emily: Yeah! I would go to that group weekly. If it gets me out of my stuck mind and my victim mentality of errr (mocking self-pitying noise) "but I've got so many things to do, I don't have time to meditate for 15 min", I wouldn't complain if I went to a group because I look forward to it.*

Simone did not give a specific detail of how many more sessions she would have

preferred; she simply stated that that the program was, again, "*too short*" and

excitedly exclaimed *"I want more!"*

At four months, the program being too short for Simone also related to her

needing greater guidance from a facilitator. Using an analogy of an alcoholic living in

a situation which makes sobriety difficult, Simone also felt that the ongoing support

of a facilitator would help in sustaining motivation to practice mindfulness during the

stressful and time poor conditions of completing her PhD:

> *The only thing is, if that thing (MBSR) wants to be very efficient it has to be guided through. Like, to be able to analyse the results of it, it's a matter of people going through it, and I know that's a matter of motivation to go through it but it's like for an alcoholic to motivate the person not to drink while leaving a person in a house with a credit card and the bottle shop next door to their house, it could happen but if it was possible for someone to actually check on the person on a regular basis and help that person into a program, that would probably help.*

The criticism that the program was too short is important for this research as one of the aims was to assess the impact of the shortened MBSR format. Given the time poor nature of PhD students, making the program longer by adding sessions may dissuade students from attending. Further, given that most participants found the program was helpful in reducing stress and managing difficulties at the one month interview indicates that four weeks was sufficient to confer benefits to students. However, offering optional ongoing sessions fortnightly or monthly after the four week course concludes, as some students suggested, appears to be a potentially important way of consolidating skills. Many students did not maintain their benefits or continue to practice mindfulness at four months, and so providing ongoing, structured sessions for some length of time — how long or often is a question requiring attention — are needed to fulfil the potential of a brief MBI to support students over longer periods.

8.2.2 Preferences in course content

A few students would have enjoyed greater discussion of a few areas while another thought a part of the program could have been left out. Sarah has an interest in psychology and would have liked a greater focus on "*how the brain works*" while Jill, conversely would have preferred less of

> *the science stuff. But other students were interested in that, so that's fine too. But for me, I don't know, I didn't want to connect the meditation stuff with scientific models. I mean, it made sense, it does relax the sympathetic system and how that's related to stress, release of hormones and all at. But again, others liked that.*

Amy felt that more attention could have been given to defining mindfulness in the first session, although she felt the 'information to participants form' did provide a good level of detail regarding the concept and the practices.

Finally, when Simone was asked if anything could have been changed to improve the program she replied:

> *No, honestly, nah, nah. It was short, so in that time, in 4 weeks, there was nothing that was superficial or not necessary. Everything was just like "I need to know this, I need to do that", so I never had the perception of something being useless.*

Although there are differences in how much *science* content students desired in the program, even Jill appreciated the relevance and the others enjoyed it. However, it does raise concerns that a participant felt the concept of mindfulness itself needed to be better defined or explained as it is the central skill being taught. More time on this topic in the initial session, greater repetition throughout the program, or encouraging students to revise the course manual would likely resolve this.

8.3 Negative experiences and difficulties during the brief MBI

Two students described having negative experiences during the brief MBI. Amy found, for reasons that are unclear to her, that doing the body scan relaxed her too deeply on one occasion, to a point where it impaired her ability to then function and concentrate on her work:

> *[seated meditation] worked better than the one when we laid down, because they did that in the class and then I practised that at home and I actually wasn't functional for the rest of the day. I had to go get a coffee. Like I relaxed to a point where I should have gone to sleep (laughs) when we did it in the class I was so relaxed, it was the most relaxed I felt in ages, and I think that was because I was still quite highly strung...(2lines) I was too relaxed, too tired to concentrate…I couldn't pick that back up again*

.

During a meditation on the breath, a metaphor involving ocean waves was used to teach participants how to experience turbulent emotions and thoughts (stormy waves) whilst imagining themselves deep beneath the water, detached and safe from the vantage point of the observer self. This metaphor, however, triggered anxiety in one student who had previously had a near drowning experience when caught in a rip at a surf beach:

> *I mean, my phobia for water came up, or my anxiety around water and the ocean, that sort of came up during the meditation. Because when there was a focus on breathing, I couldn't do that, I just felt overwhelmed by it, it was like I didn't know how to breathe because I was made aware of my breath.*
>
> *Robert: So what's the connection?*
>
> *well when you're drowning you can't breathe so when you think of breathing, you can't breathe. I don't know. It's a bit of a mixed up relationship, I guess. But when I was asked to focus on my breathing these thoughts of drowning started to come up, and I thought "oh my God, I'm not over my drowning experience, am I?"...So I had that realisation during meditation.*

One participant described having difficulties with the mindfulness practices during the brief MBI. Simone struggled to be mindful of her body and thoughts when restless, focussing on parts of her body during the body-scan, and also not being able to meditate when feeling stressed. This final challenge seemed to be only present during times of high stress whereas the practices were helpful in instances which lacked this intensity:

> *Sometimes it does [help], and sometimes not. I think it also depends on how stressed I am, if I'm really stressed it doesn't help, if I'm stressed a little bit then it does, I feel better.*

Simone's experience may reflect the common view of several mindfulness meditation teachers that learning to regulate one's attention and attitudes when confronted with unpleasant emotional states requires ongoing practise (Gawler & Bedson, 2010; Gunaratana, 2011; Rosenberg & Guy, 1998). As equipping students with this very skill is largely the purpose of MBSR, it appears again that ongoing sessions to provide support, guidance, and structure in developing this ability is warranted.

8.4 Summary of changes between the one and four month follow up interviews

At the four month interval, all still regarded the brief MBI and their experience of it highly. However, whereas at one month the students recounted many instances of positive affect and benefits as a result of mindfulness practice both during and following the program, at four months these instances were reported as being less frequent and, apart from Sarah who developed a routine practice, came from occasional instances where mindfulness was used to cope with difficulties.

Four students at four months desired more ongoing support and MBSR sessions, either weekly or fortnightly, to develop more confidence in their skills and regain the experiences of positive affect and stress reduction they had felt during the program. This was especially pronounced for Maria and Simone. Both these students were experiencing high levels of stress at the four month follow up but felt they neither knew how to meditate competently without the influence of a facilitator or without the routine of further sessions. This desire for more sessions was also connected to the difficulty for several students to allow themselves time to meditate and not focus on their work, whereas scheduled sessions overcame this tension and removed options for procrastination.

What mostly remained with students at four months was a tendency to practice mindfulness informally, that is, bringing present moment and nonjudgmental awareness to routine activities or pleasurable moments (e.g., eating, swimming, being in nature), and for three students who displayed a better grasp of the skill of mindfulness, a new orientation towards their thoughts and emotions. This orientation was characterised by increased acceptance and compassion whereby students allowed their doubts, anxieties, emotions and judgments to be experienced more directly and with greater understanding before allowing them to pass. This finding is particularly interesting as only one of these three students continued to maintain a consistent mindfulness practice at the time of the second interview, suggesting that the initial program and occasional informal practice was sufficient to maintain these effects at four months post-intervention.

8.5 Study 2 Conclusion: Impacts of the brief Mindfulness-Based Intervention

The following conclusion summarises the findings from study 2 which explored the experiences of PhD students in a brief mindfulness-based intervention. First, how mindfulness may help students increase their ability to find balance is discussed before changes in how students related to themselves and tasks, and impacts to academic functioning, are presented. How the results from this study (Study 2) fit within the model of PhD student well-being from Study 1 are then given attention, specifically, how the needs for social integration and rest and rejuvenation were satisfied for several students. As such,the themes which emerged from Study 2 largely related to the individual, interpersonal, and institutional levels of the ecological model. Lastly, the ways in which the experience of the intervention changed between

the one to four month interviews is summarised and followed by discussion of potential mechanisms of action.

This study investigated the experiences of and the impacts that participation in a brief MBI may have on research PhD students — a population that has not yet been given exclusive focus in studies of MBSR — with particular focus on their well-being and academic functioning. The brief MBI aimed to provide students with psychological skills to better manage their emotional and cognitive experiences whilst undertaking their studies.

At the broadest level, mindfulness may help PhD students achieve a greater sense of balance in their lives, a finding which may have implications for many in this cohort (Mason et al., 2009; Smith et al., 2006). Again, if seeking balance is defined as those self-regulating behaviours a student engages in to decrease discrepancy between their needs, desires, expectations, and their current reality, then there is some evidence mindfulness offers an avenue for support in this way. For example, almost all students in this study spoke to the wide range of responsibilities and work they needed to complete on a regular basis, a state of affairs that meant they were quite stressed. Students spoke of headaches that would emerge when facing so many challenges, a need to consume coffee and Red Bull to keep up, and feelings of overwhelm and mental fatigue which at times interfered with quality of sleep.

The difference which mindfulness practices made for several students involved not removing any of the tasks they needed to complete but rather altering their perceptions of those tasks, and how they related to their own cognitive and emotional reactivity. Tasks and responsibilities were seen to be more manageable after practising mindfulness (see also Christopher, Christopher, Dunnagan, & Schure, 2006; Shapiro et al., 1998) and the sense of compulsion and stressed urgency was

reduced through finding greater freedom from their thoughts (demanding expectations, worries) and emotions (stress, anxiety, fear). In this way, mindfulness gave greater composure to the task of seeking balance. For example, a student reported being able to remove a headache before it developed into a commonly experienced migraine; others attended the brief MBI sessions despite being busy because they believed it would help them to better manage their tasks; and one student was able to swap her reliance of caffeine and energy drinks for moments of mindfulness practice.

Mindfulness supported students developing as researchers by increasing awareness and understanding of their emotional states, providing a more helpful perspective on their overall emotional experience. This was especially true for one student working with feelings of ambiguity and confusion, another with anger, and others with fear, anxiety, and overwhelm. Such development was described across personal and academic domains and can be viewed as significant when considering the inevitability of such feelings during the PhD. For instance, Charmaz (2014, p. 212) states "Grappling with analytic problems is part of the research process. Feeling confused and uncertain — but learning to tolerate the ambiguity — shows your growth as a researcher." If "learning to tolerate the ambiguity" and other difficult emotions is a sign of growth as a researcher, then mindfulness is a skill with which to view such emotional states without suffering losses to esteem and confidence, and provides an alternative to avoidance. Instead, mindfulness therefore can be seen as a way of actually developing greater confidence — to manage not only a task but one's cognitive and emotional experience — an attribute central to the development of researchers (Akerlind, 2008) and to well-being. Whether it is the ambiguity and confusion which precedes the clarity of connections and development in ideas, the

stress of overwhelm when considering the scope of the task, or the doubts students may have regarding their abilities when progress is difficult to gauge or see, mindfulness offered a means of making this emotional reality explicit, manageable, and an avenue for development.

From the perspective of social integration, quite a few students who participated in the brief MBI did speak of feeling a sense of connection or camaraderie with the other participants in terms of experiences in the program and the PhD itself — a finding commonly reported in mindfulness-based groups (Malpass et al., 2012; Wyatt et al., 2014). A particularly helpful aspect to this social integration was the structure of a regular schedule that the program followed, which precluded procrastination or the urgency of other tasks taking priority. Of course, a similar connection may be gained through any number of programs for PhD students including general writing groups, social support groups, or sporting teams. However, the focus on stress reduction and normalisation of these experiences in the context of doing a PhD — in addition to the benefits of developing mindfulness skills — may position brief MBI as a particularly useful program for PhD students in this regard: to connect, to share, and to support one another.

Spending large amounts of time on their theses and tackling the substantial task meant some students found their minds were often occupied and restless due to the stream of thoughts about their work (e.g., while trying to sleep, pray, or swim) and faced high degrees of stress. This research found some evidence that a brief MBI can be effective in supporting students in managing many of these difficulties, eliciting experiences of positive affect, and enabling students to find respite and rejuvenation. This finding is significant because although MBSR and its adaptations have been found to help other university students in similar ways (e.g., Chang et al., 2004; Jain

et al., 2007; Murphy, 2006), PhD students have not previously been investigated in this regard. Specifically, at one month all participants recounted experiences of substantial stress reduction and increases in positive affect (e.g., feeling happy, peaceful, calm). For several, these experiences of stress reduction were quite pronounced and lead to surprising realizations about the high levels of stress they had habituated to. There were also examples of finding some respite and rest from their busy minds which lead, in fewer instances, to helping students fall asleep at night. Overall, this study found mindfulness provided students with some opportunities for personal and academic development, increases in feelings of confidence regarding the regulation of thoughts and emotions, social integration, reduced negative affect and increased positive affect at the one month follow-up.

At four months the reports of positive affect and rates of mindfulness practice decreased markedly. However, several students did still derive benefits from occasional formal and slightly more frequent informal practice, or from reflecting on the lessons learnt in the brief MBI — particularly around the themes of acceptance and compassion. Overall, however, despite the significant and consistent benefits one student experienced through to four months, the four week MBSR program was not highly effective in conferring confidence in the formal skill of mindfulness or benefits for the majority of students over longer periods of time. That said, all participants highly valued the program and expressed a desire to regain the benefits they experienced during and soon after the program.

The mechanisms by which students experienced their benefits, particularly at one month post-intervention, included aspects of mindfulness theory and practice as well as of the group. The skill of mindfulness was important to the benefits students experienced, particularly the change in orientation towards their experience

(reperceiving; Shapiro et al., 2006) which was also characterised by greater present moment awareness, compassion, an ability to let-go of unhelpful cognitions and emotions, and experiences of positive affect. Although this change in perspective was at times associated with mindfulness practice, it was at other times associated with messages or lessons learnt from the class. Relaxation also was reported to have played an important role in supporting positive affect and decreasing perceptions of task aversiveness or difficulty, leaving students feeling more able to cope with their responsibilities. Lastly, consistent with the high value students generally gave in this research to aspects of social integration is the finding that students also attributed part of their enjoyment of and benefits from the program to the connections they felt with other group members. The rapport, support, and connection students felt allowed them to feel a sense of belonging and shared experience, which normalised their problems within the PhD as well as their experiences of the various mindfulness practices.

In regards to the program's structure and the features most valued by students, there was broad agreement regarding what worked and what could be changed to better support students. Students thought the program was too short and wished for more ongoing sessions. Having a variety of mindfulness techniques within brief MBI — breath meditation, body-scan, walking meditation, yoga — provided students with opportunity to find a practice that resonated with them and was similarly highly valued. From a social perspective, students also greatly enjoyed time given for discussion with their peers about their experiences in the program and praised the facilitator for embodying qualities such as calmness and friendliness which added to an enjoyable, restful atmosphere.

Chapter 9   Conclusions

The following chapter begins by reiterating the aims of this research before describing the limitations of this research and the areas which could be strengthened. Recommendations for future research and applications for the findings are suggested with hopes of improving the experience and success of PhD students before a final conclusion is offered which provides a brief summary of findings from Study 1 and 2 and emphasises the key and important findings from this research.

9.1 Aims of the study

This research has satisfied the aims of:

- Investigating and developing knowledge about the subjective experiences of PhD students in regards to what they have found to be supportive or a hindrance to their well-being and academic functioning during their PhD.

- Administering and investigating the impacts of a brief Mindfulness-Based Intervention (brief MBI) on PhD students' well-being and academic functioning.

- Investigating which parts of the brief MBI students found helpful and beneficial, allowing further revision to the format to increase satisfaction and effectiveness for future groups.

- Developing recommendations and contributions to knowledge that might be useful for future research and program developments aimed at assisting PhD students to experience higher levels of well-being, academic functioning, and potentially higher completion rates.

9.2 Limitations

The central limitation of the current study is the small number of participants in the brief MBI groups. Having data available for seven participants makes claiming theoretical sufficiency difficult — despite the findings themselves revealing interesting possibilities for PhD students. For example, different issues will arise for students in different disciplines and for those of various ages, genders, or ethnicities, and a small sample size prevents generalizability. Future studies may wish to increase the likelihood of gaining participants by using quantitative measures as the requirement of participating in interviews may have dissuaded some busy and stressed students from participating.

Secondly, due to the inability of recruiting sufficient numbers of participants for an originally intended social support group, there was no control group with which to compare results. The social support group was planned to allow an assessment of whether training in mindfulness meditation techniques provided additional benefits beyond what could be expected from social support alone. Without such a control group for comparison, it is difficult to conclude more accurately on the influence of brief MBI on the student experience. However, the qualitative method did provide a depth of data from interviews to understand how brief MBI impacted students' and what they attributed this to, and mindfulness or lessons from MBSR were more often stated as the sources of benefits.

A third limitation pertains to the lack of precise data on the frequency and length of students' home practice. Students were asked during their interviews about how often they practiced formally and informally, however it is impossible to know whether these accounts reflect participants' objective efforts or if some bias influenced their responses. The use of home practice logs, incentives to report practice

more frequently, or some manner of journal would provide more clarity to this issue and allow the impacts of home practice — whether more or less reflects movement in outcomes — to be better analysed. Further, although a qualitative methodology allowed an exploration of students' experiences, the addition of quantitative measures of well-being and academic performance — as well as more frequent interviews — at different time points would add further clarification to any lasting impacts and how they varied over time.

Lastly, the fact that no data on male participants within the brief MBI was able to be obtained limits the value of these results to some extent. It is difficult to know how mindfulness may have been helpful or used by male participants, and whether the same needs or problems would have been amenable to this intervention. It is possible that cultural norms (e.g., attitudes to help seeking) may have precluded male PhD students from considering brief MBI as appealing. As is discussed in recommendations next, this may be overcome through more clever marketing of the program for PhD students.

9.3 Recommendations

Based on the findings of this research, several potentially helpful strategic actions can be recommended. This section will outline these recommendations for supporting students, first in terms of their general experience and well-being, and then with regards to the brief MBI and how it may be delivered in this context. Important questions for future research to investigate will also be included.

9.3.1 Address well-being and academic needs across ecological levels

In considering how students could come to experience higher levels of well-being and academic functioning it is apparent from this research that the student experience must be understood in the context of several ecological levels. Because many of the themes found to be important across ecological levels are interrelated, acting to improve the well-being of students in one area will likely provide benefits to other areas as well. In this way, this study contributes to the efforts of many researchers who have provided suggestions on how the experience of PhD students may be improved (Bair & Haworth, 2004; Gardner, 2012; Kearns et al., 2008; Lahenius, 2012; Lovitts, 2001; Nettles & Millett, 2006; Spaulding & Rockinson-Szapkiw, 2012; Tinto, 1997).

9.3.2   Support greater balance and needs of students through groups

To continue from the summary of findings in the previous section, one major recommendation relates to the notion of balance. In an ideal PhD student experience, the multiple needs for well-being would be met (i.e., personal and professional growth, personal and academic competence, rest and rejuvenation, social and intellectual integration, and material and cohort specific needs). However, with limited time and resources for both students and institutions, such balance may be difficult to achieve and so the question must be asked: what approach would best support students across the several areas of well-being found to be important here? This research suggests that group based initiatives would be the most fruitful avenue to provide support to students across several important areas. For instance, social support was found to be an incredibly helpful resource for students' personal and academic growth. A sense of competence, social and intellectual integration are also

directly amenable to the influence of belonging to some form of group, and these may also address cohort specific needs (e.g., gender, age, socioeconomic background) if these topics were a feature of discussion or if groups themselves were based on some demographic characteristic. The exact form of these group initiatives will of course vary by fields and circumstances, however, the criteria for their success may be in their ability to address the areas of well-being identified here. Many of the recommendations that follow reflect the importance of this socially or group oriented approach to supporting students.

9.3.3   Support the needs for growth and competence

At the individual level, the needs for growth and competence can potentially be addressed through good work practices, supervisor feedback, and having students' stage of research and professional development normalised through peer interaction. In terms of work practices, teaching students to set both process and outcome goals, and to keep track of adherence to these goals, will address the issue of feeling like no work was done despite engaging in tasks for hours. Such practices will likely foster a sense of progress by increasing awareness of adhering to process goals, even if task objectives or outcomes take longer. Supervisor feedback is also very important in this regard as both their guidance in moving tasks forward and their acknowledgement of students' efforts and progress will support students' sense that they are developing as researchers and advancing in their degree. Peer interaction is also necessary to highlight the difficulties and challenges to students' growth and progress are normal features of the PhD journey. Such peer interaction could be gained through a variety of communities of practice such as support or writing groups.

9.3.4   Support the needs for rest and rejuvenation

Because students are so time poor and move through stressful periods many find it difficult to prioritise or find time for rest and rejuvenation, which places supervisors and institutions in an important position to help address this need. By providing frequent and scheduled activities which provide students with mental and physical respite – and having supervisors encourage students to attend – the likelihood that this need is being met will be increased. That said, students themselves also need to attend to this aspect of themselves in spite of the pressures of the PhD, which of course is difficult. However, as students in this study reported, taking time to recuperate often actually improved their ability to work well.

9.3.5   Support the needs for social and intellectual integration

At both the interpersonal and institutional levels there are many opportunities for increasing students' sense of social and intellectual integration, and along with them, students' feelings of competence, progress and well-being. Again, ensuring there is ample opportunity for student interaction and collaboration with peers and faculty through physical arrangements of work stations, the formation of groups, and structural features of the PhD course itself (e.g., coursework, workshops, retreats) are vitally important for both forms of integration and a sense of belonging to the institution or faculty. This is especially needed for those in the social sciences and humanities, and because having similarity between students is important (e.g., demographics, research areas), it may be necessary to actively support students in making connections with peers and faculty from other universities. The lack of such connections makes for a lonely journey where one's well-being, and confidence and development as a researcher are compromised.

9.3.6 Encourage professional support and improve supervisory practices

Another important area for intervention at the institutional level concerns students' perceptions of professional support and the support they actually receive from supervisors. Several participants in this study utilized the counselling services of the university when the emotional difficulties they faced reached high levels. It is possible that some students may avoid the escalation of such emotional difficulties or challenges with the PhD if they viewed the counselling service as supporting students with more than just high levels of distress. In this way, orientation sessions and supervisors can alter this perception by framing counselling services as a way to improve academic performance (e.g., through reducing causes of procrastination or teaching work practices) and provide help with issues concerning well-being at lower levels of distress. Given the difficult nature of the PhD and the experiences of most participants in this study, perhaps students should come to view such services as a necessary component of the degree.

In a similar way, the qualities, skills and practices of a supervisor are very important in supporting students emotionally. Many students desire supervisors who are able to listen, understand, and assist with the many personal and academic challenges they face. To meet these needs of students, how well prepared are supervisors for providing this form of support? It is recommended that supervisors have basic practice and knowledge in supportive communication skills/counselling (e.g., active listening, empathy, respectful communication, normalising) so as to make students comfortable to share their experience and feel well supported in this pivotal relationship. Dealing with this aspect of the relationship may not be a familiar process

for supervisors from a range of fields but it is essential to the well-being and academic interests of students.

9.3.7 Support cohort specific needs

At the social, material, and structural level, giving attention to the cohort specific needs of students and supporting them with sufficient levels of material and financial resources would also improve the student experience. Specifically, the well-being and academic functioning of students will benefit if they are integrated with peers who share commonalities and, therefore, experience similar issues. Institutions, supervisors, and future research needs to enquire into what the specific challenges of different groups are in efforts to then provide particular kinds of support. This study suggests that the development of academic identities and confidence could be supported through normalising the self-doubts common to first-generation students. Some female students may need greater encouragement due to a lack of support they receive from partners and therapeutic support if having experienced abuse, while international students with families may require more financial and interpersonal assistance than their domestic counterparts. Material resources such as desks and printing facilities should be viewed as fundamental to the academic functioning of students.

9.3.8 Improve the brief MBI format

In addition to understanding student needs, this research also contributes to the work of supporting students by way of a novel intervention. A brief MBI is an effective means of providing stress reduction, increased positive affect, and support to academic functioning in the short term for PhD students. However, the four week (six

hour) format seems not enough for most students to gain long term benefits. Therefore, future iterations should include ongoing "booster sessions" to continue to provide benefits over longer periods of time. Further, it is possible that the program may attract more students if called something more relevant to the general PhD student experience. Managing doubts, anxieties, uncertainties and thoughts were all outcomes of the program, as well as increasing occurrences of positive affect, and so other names which speak to these wider benefits would likely appeal to a wider student population.

The brief MBI content and format was found to be generally desirable and helpful for students and so no recommendations for omitting sections can be made, however, components may be added. The fact that several students derived benefit from the normalisation of their PhD experience during the program suggests that conversations specifically on this topic may further foster well-being. Also, it was clear for this sample that students struggled to find time for formal mindfulness practice, therefore, it will be beneficial to encourage greater informal mindfulness practice during their everyday lives. Also, based on the comments of participants, offering more ongoing scheduled and structured group sessions for formal practice following the completion of the program is highly recommended.

9.4 Areas for future research

Overall, the ecological analysis of this study may support individual students, supervisors, and institutions in developing an awareness of the areas important to student well-being and academic functioning. Such an awareness could guide participation and action on the part of students while universities themselves may use this framework to consider avenues for better supporting students. In terms of future

research in this regard, many important questions remain. Investigating the areas of well-being identified here and how they contribute to and are associated with important outcomes such as student satisfaction, persistence and motivation, intention to complete the degree and pursue an academic career, rates of progress and completion, and other measures of well-being, is needed to verify their importance beyond the small sample in this research. Indeed, although generalising the results of this study to other contexts was not a primary aim, the findings of this study have the potential of contributing to this direction of research and support.

Areas for future research in regards to using a brief MBI with PhD students concern validating the primary recommendations made in this thesis. Firstly, whether increasing the appeal of this intervention is possible by changing the name of the program — to capture the wider benefits to students, beyond just stress reduction — requires further study. The possible impacts of offering ongoing sessions for students after the completion of the four week program also requires attention, including what would be the optimal frequency and duration of such ongoing support. Lastly, as it may be helpful to add content to the brief MBI protocol which emphasises informal mindfulness practice and normalises the difficulties inherent in the PhD degree, these possible changes must also be evaluated in future research.

9.5 Conclusion

This thesis consisted of two studies aiming to better understand the subjective experiences of PhD students, their well-being, and how a brief mindfulness-based intervention (brief MBI) may help. Overall, the model of PhD student well-being which was derived from Study 1 frames the contribution this research makes to the field by also providing a model to understand the findings in Study 2. That is, the

identification of areas pivotal to PhD students' well-being—including the needs for personal and academic growth, personal and academic competence, rest and rejuvenation, social and intellectual integration, and material and cohort specific supports—provides a lens to understand what many students may be going through, including why certain interventions may prove useful. I argue that my research provides a comprehensive perspective in this regard through consideration of students' experiences in Study 1 and 2 via ecological levels (i.e., individual, interpersonal, institutional, and structural, material, and social levels). Because sections 7.6 and 8.5 provide detailed conclusions to both Study 1 and Study 2 respectively, the reader is referred there for details regarding those results. The following will provide only a brief summary of Studies 1 and 2 before highlighting and emphasising key findings from this research.

Study one concluded that the majority of experiences which hinder and support PhD students can be understood as reflecting key areas of well-being. At the individual level of analysis, the first is a need for academic and personal competence where students feel a degree of control, efficacy, and confidence in their ability to manage academic and personal challenges. The second need at the individual level is for rest and rejuvenation (i.e., finding respite, distraction, and satisfaction of interests outside the PhD) while the third is for personal and academic growth (i.e., feeling one is fulfilling their potential and developing as a researcher). Spanning both interpersonal and institutional levels, the needs for social and intellectual integration refers to students needing to feel connected to and supported by others as well as having connections (i.e., peers and supervisors) with whom they can discuss their academic progress, achievements, difficulties, and find guidance. Lastly, at the structural, material, and social, level of analysis, the needs which were specific to

different cohorts emerged. For instance, in terms of gender, several females reported a history of partner abuse which interfered with their ability to concentrate and conduct research and highlights the particular supports certain students may need.

Study 2 found that a brief MBI shows promise in equipping students with skills to further manage the difficulties of their PhD, particularly their emotional and cognitive experiences during the degree. Moreover, many of these benefits support key areas of well-being including those for social integration, personal competence, and rest and rejuvenation. Students reported increases in positive affect, stress reduction, social connection, and changes in how they relate to their experience at the one month interview. Proposed mechanisms of change include mindfulness itself, social integration and self-compassion. However, at the four month interview, many of these benefits dissipated and only a few continued to practice mindfulness formally, despite all participants describing a desire to regain the benefits they experienced during the program. It is therefore recommended that changes to the program's structure (e.g., more emphasis on informal practice) and length (e.g., more ongoing sessions) will likely sustain positive outcomes over longer periods.

An important contribution this study makes is the finding that students need to feel satisfied in all of the areas of PhD student well-being in order to function academically and feel psychologically well. For example, all participants in this research identified areas they may be lacking and the significant difficulties this caused them. Intellectual integration, for instance, was not sufficient without social integration; experiencing personal growth was not sufficient to replace the need for rest and rejuvenation; and having material and cohort specific supports meant little if students did not feel satisfied with their sense of academic and personal competence. What these findings suggest, therefore, is that the model of PhD student well-being

may represent not only the desires or needs of students which if satisfied provide an optimal PhD experience, but also that they represent the bare minimum of what students require to avoid dissatisfaction, anxiety, and low mood over the long and difficult process of completing their degrees.

It is perhaps not surprising that many of the themes identified to be important to PhD students are reflected in the models of well-being developed by such researchers as Ryff (1989), Keyes (2013), and Seligman (2011). These themes or areas of well-being include feeling that one is developing well and fulfilling their potential, improving their abilities in managing the difficulties of their work, and feeling socially integrated into places where they spend time. However, the current research provides insight into areas not illustrated through previous models of well-being that seem more specific to the task of completing a PhD. These include the needs for academic integration and also needs that are specific to particular cohorts or groups of students which, although described in brief above, represent a unique contribution of this research and warrant more attention here.

The first need, for intellectual integration, seems logical as the primary task of PhD students is the completion of their academic research. However, a further important finding is that this intellectual integration refers not only to having access to a helpful and competent supervisor but also peer relationships with whom students can discuss their academic challenges, insights, and topics of research. For instance, several students felt well supported by their supervisors and also had many friends and family for support, but felt disconnected and lonely because they did not have more individuals to share their academic journeys with. The need for support in areas specific to cohorts or groups of students, although similarly being described in the

wider PhD literature, is also unique within a model of well-being for students and holds important implications.

Conceptualisations of well-being often attempt to be universally applicable to all individuals (e.g., Ryff, 1989; Seligman, 2011). However, I argue that such a perspective is limiting in this context as the challenges students faced, and therefore areas which were key to their well-being, were linked to characteristics at the social, structural, or material level of analysis. Therefore, attention must be given to the challenges inherent in specific groups. For example, the finding in this study and other research that indicates female students may be encouraged to leave their PhD by partners rather than persist has important implications for female students. Similarly, coming from a non-academic or blue collar background appears to help and hinder students as they grapple with issues connected to identity, confidence, and social contexts which leave some feeling intellectually isolated.

Overall, the task of undertaking a PhD was found to be both highly difficult and rewarding, and many factors hindered and supported students' well-being and academic functioning. Many of these factors are not within the scope of intervention such as family illness, relationship difficulties, or financial responsibilities. However, the areas important to PhD student well-being identified here are all within the power of institutions to improve.

I hope this research contributes to fewer students suffering needlessly and dropping out of PhD programs. By doing so, in addition to producing graduates who are academically competent and more likely to complete their studies, it is my hope that students will likely feel better about themselves, their degree, and be more inclined to continue making important contributions in academia and beyond.

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Appendices

9.6 Appendix A: Consent and Information to Participants forms Group 1

CONSENT FORM
FOR PARTICIPANTS
INVOLVED IN RESEARCH

INFORMATION TO PARTICIPANTS:
We would like to invite you to be a part of a study investigating the experience of PhD students.

Overall, the research aims to investigate what hinders and supports PhD students at Victoria University, whether participation in one of two programs can decrease stress, increase well-being and also increase intention and confidence to complete one's degree, and lastly, to also better understand how one of the programs in particular, actually effects positive outcomes for participants.

However, this phase of the research simply involves investigating your experience as a PhD student. To participate in this research, you would elect to participate in either a focus group or private interview, in person or over the phone, where the student researcher would inquire into the following areas: What supports your well-being during this process of study? What hinders you or makes this more difficult? What do you think would need to change in order for your degree to continue less stressfully? What are the greatest factors influencing your intention and confidence to complete your degree?

The risks involved at this stage of the research include other participants breaking confidentiality and sharing information from the group elsewhere, and also the potential of other participants forming value judgements. However, given the uncontroversial nature of the topics discussed these risks are minimal. Further, it will be explained to participants at the beginning of the focus group that any information shared during the session is to remain completely confidential and that respect should be given to all the varieties of experience facing students. Similarly, to ensure anonymity and confidentiality, at no time will your name be asked for, mentioned, or included in any part of the write up for this research.

The information you provide in this research will be audio recorded, if your consent is given, before being analysed for any emerging themes. The recordings will remain safely secured and only ever accessed by the student researcher and principal researchers (the PhD student's supervisors).

CERTIFICATION BY SUBJECT

I, "[Click here & type participant's name]"
of "[Click here & type participant's suburb]"

certify that I am at least 18 years old* and that I am voluntarily giving my consent to participate in the study:
"PhD Students' Personal and Academic Well-being: Exploring Resources, Stressors, and Two Interventions" being conducted at Victoria University by: Adrian Fisher.

I certify that the objectives of the study, together with any risks and safeguards associated with the procedures listed hereunder to be carried out in the research, have been fully explained to me by:

Robert Kaczan,

and that I freely consent to participation involving the below mentioned procedures:

- Participating in a focus group or interview exploring the PhD student experience.
- Having the information I provide form the data which will be analysed and used as the basis of a PhD thesis.

I certify that I have had the opportunity to have any questions answered and that I understand that I can withdraw from this study at any time and that this withdrawal will not jeopardise me in any way.

I have been informed that the information I provide will be kept confidential.

Signed:

Date:

Any queries about your participation in this project may be directed to the principal researcher:
Associate Professor Adrian Fisher: 9919 5221, or associate researcher: Dr Liz Short:
Liz.short@vu.edu.au

If you have any queries or complaints about the way you have been treated, you may contact the Ethics & Biosafety Coordinator, Victoria University Human Research Ethics Committee, Victoria University, PO Box 14428, Melbourne, VIC, 8001 phone (03) 9919 4148.

[*please note: Where the participant/s are aged under 18, separate parental consent is required; where the participant/s are unable to answer for themselves due to mental illness or disability, parental or guardian consent may be required.]

INFORMATION
TO PARTICIPANTS
INVOLVED IN RESEARCH

You are invited to participate

You are invited to participate in a research project entitled: The PhD Student Experience: Exploring Supports, Hindrances and Two Interventions.

This project is being conducted by a student researcher, Robert Kaczan, as part of a PhD study at Victoria University under the supervision of Associate Professor Adrian Fisher and Dr. Liz Short from the Faculty of Arts, Education, and Human Development.

This project is being conducted by Associate Professor Adrian Fisher from the Faculty of Arts, Education and Human Development at Victoria University.

Project explanation

Several studies have revealed two disconcerting trends regarding PhD students both here in Australia and internationally: 1) many suffer high levels of stress, and 2) they dropout in large numbers before completing their degree. So, to gain a better understanding of these issues and find more effective ways of helping these individuals, this research wishes to explore what it is that supports and hinders Victoria University PhD students and how these factors influence students' intention and confidence to complete their degree.

What will I be asked to do?

If you wish, you could participate by taking part in a focus group or a private interview, either in person or over the phone, to discuss issues concerning your journey of completing a PhD. In particular, the questions which will be asked of you include: What supports or helps you whilst working on your research, both academically and in terms of your well-being and stress? What hinders or makes this process more difficult? To what degree do those hindrances influence your intention and confidence to complete your degree? What do you believe is needed to help resolve or overcome some of these difficulties? In total, the time needed for this discussion will be between 15-45 minutes, depending on the numbers of participants and whether you choose to be part of the focus group or have a private interview (the private interview requiring less time).

In addition you will also be asked to fill out a simple demographic questionnaire so that descriptive data about those students who participate can be gained. This will help illustrate whether participants are very different from each other or whether they share certain characteristics such as being from the same faculty or campus.

What will I gain from participating?

You will benefit in several ways by participating in the focus group to discuss your experience as a PhD student. You will learn a great deal about others in a similar situation as yourself, have a chance to make your own experience known in a supportive and accepting environment, and feel pride in contributing to a body of knowledge that will help other researchers and universities better understand and help their PhD students. Similar benefits will also come to those who participate in the private interviews, of course with the exception of hearing about the experiences of others.

How will the information I give be used?

The information you provide will always remain completely confidential and anonymous, no participants will be named in anyway. The information from the focus group or interview will be audio recorded only with your permission, securely stored and accessed exclusively by the student and principal supervisor. These audio recordings will then be transcribed and analysed for emerging themes, forming the basis of data for interpretation and discussion in this research.

The information you provide through the demographic questionnaire will allow for a description of the shared and different characteristics of students, for example, the ratio of males to females.

All voice recordings and completed demographic questionnaires will be securely locked in facilities provided by the School of Psychology.

What are the potential risks of participating in this project?

As with any research were individuals share information in a group format, there is a small risk of participants forming value judgements of what others say. However, the subject matter of this research, that is, PhD students' experiences, is very unlikely to contain any controversial or contentious information, so this risk is very limited.

Of course, should you feel there is anything you would like to discuss at greater length or depth than is possible in the group then the Counselling Service at the University can be contacted on: 9919 8801.

How will this project be conducted?

This part of the research involves recruiting participants for, and running, a focus group and interviews. These interviews and focus group will simply inquire into what it is that supports and hinders the academic and personal well-being of PhD students, and whether these factors influence students' intention and confidence to complete their degree.

Who is conducting the study?

Principal Researcher: Associate Professor Adrian Fisher: 9919 5221, Adrian.Fisher@vu.edu.au
Associate Supervisor: Dr Liz Short: Liz.short@vu.edu.au

Student Researcher: Robert Kaczan: 0424 964 050, Robert.Kaczan@live.vu.edu.au

Any queries about your participation in this project may be directed to the Principal Researcher listed above.
If you have any queries or complaints about the way you have been treated, you may contact the Ethics and Biosafety Coordinator, Victoria University Human Research Ethics Committee, Victoria University, PO Box 14428, Melbourne, VIC, 8001 phone (03) 9919 4148.

[*please note: Where the participant/s are aged under 18, separate parental consent is required; where the participant/s are unable to answer for themselves due to mental illness or disability, parental or guardian consent may be required.]

9.7 Appendix B: Consent and Information to Participants forms for Group 2

(MBSR)

CONSENT FORM
FOR PARTICIPANTS
INVOLVED IN RESEARCH

INFORMATION TO PARTICIPANTS:

We would like to invite you to take part in a shortened version of a program called Mindfulness-Based Stress Reduction (MBSR) to investigate its efficacy with PhD students. It is also an aim of this particular study to better understand what other aspects of this program, apart from the training in mindfulness skills, might be responsible for the benefits participants often experience.

Overall, this study fits within broader research involving PhD students at Victoria University. Other aims include the investigation of which factors support and hinder the stress, well-being, intention and confidence to complete this particular degree, and how the results of the Mindfulness-Based Stress Reduction program compare with those who will participate in another program.

However, the extent of your participation in the research, as is described in the following, will only relate to your being a part of the Mindfulness-Based Stress Reduction (MBSR) program. The MBSR program will run for 4 weeks with one session per week lasting 1.5 hours. Each session will be focused on teaching you a different mindfulness technique starting with seated meditation, followed by mindful yoga, the body-scan technique (moving awareness progressively over one's body), and ending with instruction on how to integrate mindfulness into your study, relationships and daily life. Some benefits participants are likely to experience include stress reduction, a decrease in distracting thoughts, an increase in well-being and greater ability to concentrate.

You will be asked to fill out a demographic questionnaire just once before you begin MBSR, and also to fill out two questionnaires regarding your own your stress levels and well-being both before and after completion of the program. Lastly, you will be asked to participate in a focus group or interview one month and six months after the programs completion (if you wish) to discuss the benefits you may have gained, whether you still practise mindfulness techniques and which ones, what aspects of the program you believe were responsible for the benefits you experience, and how participation may have, if at all, influenced your stress, well-being, intention and confidence to complete your degree.

The risks involved at this stage of the research include the following: the potential of some minimal stress or anxiety whilst first learning the mindfulness techniques, the slight potential of injury during the second session on yoga if stretches are executed beyond ones comfort level, the potential of group members to break confidentiality and share information from the group elsewhere, and the risk of participants forming value judgements of other group members.

To address these risks several methods will be employed. First, the potential of stress in learning the techniques will be offset quickly by ongoing support and guidance from an experienced group facilitator, as well as your own practise and growing skill.

Second, the yoga stretches are gentle in nature, and it is fundamental to the practise that individuals do not push themselves too far, but rather, work within their own limits to slowly develop greater strength, balance, and flexibility. This will be reiterated throughout the session and also on the home practise CDs given to participants. However, in the unlikely event that injury does occur during the session, the student researcher will be present to apply ice and take participants to receive medical attention if need be.

Finally, given the uncontroversial nature of the program and topics discussed, the risk of individuals breaking confidentiality or forming value judgements is minimal. It will, however, be explained to participants at the beginning of the program and focus groups that any information shared is to remain completely confidential and that respect should be given to all the varieties of experience facing students. Similarly, to ensure anonymity and confidentiality, at no time will your name be asked for, mentioned, or included in any part of the write up for this research. The information you provide in this research will, with your permission, be audio recorded before being analysed for any emerging themes. The recordings will remain safely secured and only ever accessed by the student and principal researcher.

CERTIFICATION BY SUBJECT

I, "[Click here & type participant's name]"
of "[Click here & type participant's suburb]"

certify that I am at least 18 years old* and that I am voluntarily giving my consent to participate in the study:
"PhD Students' Personal and Academic Well-being: Exploring Resources, Stressors, and Two Interventions" being conducted at Victoria University by: Associate Professor Adrian Fisher.

I certify that the objectives of the study, together with any risks and safeguards associated with the procedures listed hereunder to be carried out in the research, have been fully explained to me by:

Robert Kaczan,

and that I freely consent to participation involving the below mentioned procedures:

- Participating in the Mindfulness-Based Stress Reduction Program which consists of the following sessions:
    - Seated meditation.
    - Mindful yoga.
    - The body-scan technique.
    - Integrating mindfulness into your studies, relationships and daily life for greater health and well-being.
- Filling out a demographic questionnaire and two others which aim to measure stress and well-being.
- Participating in either a focus group or interview one month and six months after the programs completion.

I certify that I have had the opportunity to have any questions answered and that I understand that I can withdraw from this study at any time and that this withdrawal will not jeopardise me in any way.

I have been informed that the information I provide will be kept confidential.

Signed:

Date:

Any queries about your participation in this project may be directed to the principal researcher: Associate Professor Adrian Fisher: 9919 5221, or the associate researcher Dr Liz Short: liz.short@vu.edu.au

If you have any queries or complaints about the way you have been treated, you may contact the Ethics & Biosafety Coordinator, Victoria University Human Research Ethics Committee, Victoria University, PO Box 14428, Melbourne, VIC, 8001 phone (03) 9919 4148.

[*please note: Where the participant/s are aged under 18, separate parental consent is required; where the participant/s are unable to answer for themselves due to mental illness or disability, parental or guardian consent may be required.]

INFORMATION TO PARTICIPANTS INVOLVED IN RESEARCH

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This project is being conducted by Associate Professor Adrian Fisher from the Faculty of Arts, Education and Human Development at Victoria University.

Project explanation

Several studies have revealed two disconcerting trends regarding PhD students both here in Australia and internationally: 1) many suffer high levels of stress, and 2) they dropout in large numbers before completing their degree. So, to find more effective ways of helping these individuals, this research wishes to explore whether participation in a program can help students reduce stress, increase well-being, and also increase their likelihood of completing their degree. Further, it is also of interest which parts or aspects of the program participants enjoyed the most and believe are responsible for their benefits. Identifying these aspects will allow the programs to be reviewed and potentially redesigned to increase their effectiveness.

The program being offered to students is a shortened version of a successful stress reduction program called **Mindfulness-Based Stress Reduction**, or **MBSR** for short. The MBSR program aims to teach participants how to better manage their stress, emotions, thoughts, and increase their ability to concentrate by developing the skill of mindfulness. Mindfulness is a skill that involves individuals regulating their attention whilst fostering certain attitudes such as openness, non-judgement and patience. There is a large body of research suggesting mindfulness can have a significant impact on participants across a great number of areas including stress, anxiety and well-being.

What will I be asked to do?

If you choose to participate in the MBSR program you would be asked to attend all four sessions, which last 1.5 hours and are run once a week. You would also be asked to practise the techniques taught in the program at home for 10-15 minutes a day, 4 days a week. Each session will teach you a new mindfulness technique, these include: seated mindfulness meditation; mindful yoga; the body-scan technique (moving your awareness over your body whilst deeply relaxed and concentrated); consolidating a personal practice and integrating mindfulness with work, relationships, and daily life.

You will also be asked to fill out two short questionnaires (approx 10 items each) before and after the program. These questionnaires simply ask you to rate yourself on scales in response to various questions regarding your stress levels and well-being. This aims to show whether MBSR had an impact on you across these two factors (stress & well-being). In addition, you will also be asked to fill out a simple demographic questionnaire so that descriptive data about those students who participate can be gained. This will help illustrate whether participants are very different from each other or whether they share certain characteristics such as being from the same faculty or campus.

Lastly, to gain further information about your experience you will also be invited to participate in a focus group or a private interview, over the phone or in person, both one month and six months after the program is completed. Specifically, the questions you will be asked include areas relating to: how, if at all, the program has influenced your stress levels, well-being, intention and confidence to complete your degree? Whether you continued to use the techniques from MBSR and which ones in particular? Whether the program was beneficial and which factors you believe led to those benefits?

What will I gain from participating?

A great deal of research indicates that by participating in the Mindfulness-Based Stress Reduction program, and practising the techniques taught there, you will likely experience a significant reduction in stress, a decrease in distracting thoughts, a greater ability to concentrate, and a greater sense of well-being.

Also, as suggested in the title of the research, there are two programs being offered to students, MBSR and another which cannot be mentioned at this time (to protect the validity of this research). However, should it be found that the other program helps PhD students more than MBSR does your group, then that other program will be offered to your group later in the year as well.

How will the information I give be used?

The information you provide will always remain completely confidential and anonymous, no participants will be named in anyway. The information from the focus groups or private interviews, one and six months after the program, will be audio recorded only with your permission, securely stored and accessed exclusively by the student and principal researchers. These audio recordings will then be analysed for emerging themes and topics and form the basis of data for interpretation and discussion in this research.

The data which comes from the two questionnaires (stress and personal well-being) will be pooled with the other students in your program so that it can be seen whether participation influenced these two factors.

Similarly, the information you provide on the demographic questionnaire will help to both describe and assess whether participants vary across several characteristics e.g. gender, faculty of study. This will help to give greater validity to the results if the various groups show a greater degree of variability

What are the potential risks of participating in this project?

As with any research were individuals share information in a group format, there is a small risk of participants forming value judgements of what others say. However, the subject matter of this research, that is, PhD students' experiences of their own studies and their participation in the programs, is not controversial and so this risk is very limited.

Secondly, the yoga session of the MBSR program (Day 2) uses very gentle stretches designed to increase flexibility and strength with progressive practise, however, there is of course a risk of injury should participants push beyond their limitations and attempt too much too soon.

However, should you feel there is anything you would like to discuss at greater length or depth than is possible in the group or with the facilitator then the Counselling Service at the University can be contacted on: 9919 8801.

How will this project be conducted?

First, participants will be recruited for the MBSR group. Then, just before the program commences students will be asked to fill out the demographic, stress and well-being questionnaires. The program will then run for four weeks, at the end of which participants will be given the measures of stress and well-being once more. Students would then be contacted 1 and 6 months later and asked to schedule either a short interview, in person or over the phone, or be asked to attend a focus group. The data from the questionnaires and interviews would then be analysed and interpreted.

Who is conducting the study?

Principal Researcher:

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Any queries about your participation in this project may be directed to the Principal Researcher listed above. If you have any queries or complaints about the way you have been treated, you may contact the Ethics and Biosafety Coordinator, Victoria University Human Research Ethics Committee, Victoria University, PO Box 14428, Melbourne, VIC, 8001 phone (03) 9919 4148.

9.8 Appendix C: Outline of MBSR Sessions in the traditional format

McCown, Reibel and Micozzi (2010), in their manual for teaching mindfulness, provide an overview of the MBSR program which is summarized below. The authors were trained through the centre established by Kabat-Zinn and so follows the format of the original template (Kabat-Zinn, 1990).

Influenced by its delivery in medical settings, the first week introduces the idea that if people are still breathing there is ultimately more right with them than not. The concept of mindfulness is introduced — that is, a combination of intention, attitudes, and attention — as a method to gain greater physical and mental health. The technique taught the first week is the body scan which involves lying down and systematically moving one's awareness over the body mindfully. This allows individuals to develop a closer awareness of the interaction between their body, feelings, and thoughts (called the triangle of awareness) whilst remaining present. Ultimately this week is intended to give participants a greater sense of the potential in improving their health whilst introducing mindfulness.

In week two, the role of appraisal in eliciting emotions is discussed. Participants learn that it is the interpretation of an event rather than the event itself which gives rise to various emotions and the concomitant consequences for health. This knowledge coupled with the skills being taught gives individuals the sense that their responses to events — and learning how to respond more effectively — will have an impact on their health and well-being. The body scan is also reinforced while the new practice of sitting meditation (breath awareness) is introduced.

Mindful Hatha yoga (floor postures) is taught as a means to promote strength, flexibility, and balance in week three. The discussion this week centres on the advantages of fostering present moment awareness, such as a clearer observation of

aspects in the triangle of awareness and a greater ability to notice and take pleasure in one's experience. As many participants suffer from illness or pain, this lesson tries to demonstrate that pleasurable experiences are still present in the midst of difficulties and that greater present moment awareness can influence the degree of suffering i.e., by preventing the flow of catastrophizing thoughts.

A formal presentation on the physiological processes of stress is delivered during week four as well as how mindfulness helps to diminish the harmful effects of stress reactivity on the body. Hatha yoga postures from a standing position are introduced this week while instructions are given for participants to expand their awareness during sitting meditation to include sounds and bodily sensations as well.

In week five, focus is given to viewing thoughts as events in the mind. Participants are encouraged to take a view of these events as being impersonal and without any need to identify with them, therefore preventing the cascade of thought and feeling that is tied into one's conditioned responses to these processes. This lesson brings together the concepts of appraisal, perception and mindfulness to demonstrate how greater room can be made by disidentifying from thoughts to create greater space for options and choice to emerge. Instruction is given this week to practice choiceless awareness during sitting meditation where one opens awareness without focusing or restricting attention to any one thing; instead, awareness is allowed to move freely to whatever stimulus appears in one's perceptual field.

The theme of week six is "working with difficult situations" (McCown et al., 2010)p. 141) and focuses on using mindfulness to enhance coping and increase choices during stressful encounters. This involves helping individuals to recognize habitual patterns of relating as well as fostering a sense of mental balance or equanimity within those moments. As with all sessions, week six uses a combination

of a didactic presentation and experiential exercises to enable learning which in this case involves examples of possibilities in both verbal and nonverbal communication. The practice of walking meditation is also introduced this week.

The next session is the all-day retreat where participants engage in mindful activities over a full day (seven hours), trying to maintain moment to moment awareness throughout (Kabat-Zinn, 2005). Sitting meditation and yoga begin the day followed by walking meditation. Lunch is eaten mindfully: that is, slowly, quietly, and with an intention to bring full awareness of each bite and sensation. In addition to the other techniques, the group also practices the mountain meditation where, by bringing an image of a mountain to mind, participants gain inspiration through contemplating parallels between it and their seated meditation. For instance, the mountain is always grounded and firm in the earth, not moved by the changing seasons which move around it; it is still and peaceful — much like one's awareness remains despite the content of thoughts or emotions. The group also practises a technique called loving-kindness meditation during the full day session, where particular qualities of mind are fostered, centred on well-wishes, compassion, love, and forgiveness towards themselves and others. More interpersonal communication exercises are also used to support this theme of loving-kindness along with the continued practice of sitting meditation (choiceless-awareness).

Session eight, the final meeting, is geared towards helping participants to develop a self-sustaining practice outside of the program. This is achieved by supplying support and links to further information as well as details of groups to join in order, if desired, to continue the practice with others.

Brief Mindfulness-Based Stress Reduction

A program for managing the stress and challenges of PhD study and everyday life

Introduction

Mindfulness has become an increasingly popular concept in health care and psychology, based on clinical trials which have shown its effectiveness in helping people deal with stress in a wide range of settings. But what exactly is it, and how can we use it to help us in daily life?

This course, called Mindfulness-Based Stress Reduction (MBSR), will explore mindfulness in its many facets, drawing together material from ancient wisdom cultures to the latest findings in neuroscience. Originally developed by Jon Kabat-Zinn at the University of Massachusetts, MBSR has been used with numerous groups internationally. However, the program has been shortened for this context to more appropriately reflect the time constraints of PhD students. You will be invited to deepen your practice of mindfulness through daily exercises, reflection, group discussion and learning.

Mindfulness is a skill which, once learnt, and when practised regularly, has the potential to enhance all aspects of our lives. It is not a magical quick fix, but neither is it just the latest fad. Mindfulness has been practised and researched for thousands of years, and it stands up well to modern scientific research. Through the latest imaging techniques we can now witness what happens in the brain during mindfulness meditation, and we can understand how such a deceptively simple method has the potential to bring about many lasting changes in our day to day lives.

Week 1 – Being in the present moment

Definitions of mindfulness

❖ "Awareness that arises through paying attention on purpose, in the present moment, and non-judgmentally to the unfolding of experience moment by moment" (Jon Kabat-Zinn)

❖ "Any practice that elevates concentration power, sensory clarity and equanimity" (Shinzen Young)

❖ The art of 'presencing'. "Meditation is not a process of getting rid of something but one of opening and understanding" (Jack Kornfield)

❖ Thich Nhat Hanh describes mindfulness as a miracle in which we master and restore ourselves, call back our disbursed mind to wholeness so that we can live each minute of life with a tranquil heart and clear mind.

Automatic pilot

❖ Mindfulness begins when we recognise the tendency to be on automatic pilot, and commit to learning how best to step out of it and become aware of each moment

❖ By shifting from automatic pilot to awareness, we disengage from our habitual patterns

❖ The Mindfulness Eating Exercise is a good example of how rarely we are being present, and how rich our experiences become when we are

Core attributes of mindfulness

Adapted from Jon Kabat-Zinn *Full Catastrophe Living*

Non judging

An attitude of not labelling experience as good or bad, to be a fair witness to events. Bringing an attitude of kindness, friendliness and curiosity to all our experiences

Acceptance

A willingness to see things as they are. Bringing a sense of openness to our experience

Patience

To be completely open to each moment, accepting it in its fullness

Beginner's mind

To see everything as if for the first time, to experience the richness of the present moment – this develops our capacity for appreciation

Trust

Developing trust in ourselves and our own feelings and experience

Non striving

A paradox – the way to achieve goals in meditation is to let go of striving for results and instead focus on seeing and accepting things as they are moment by moment – to 'be here now'

Letting go

An attitude of non attachment, letting things be, accepting things as they are

Benefits of mindfulness

The regular practice of mindfulness has been shown to have a number of health benefits, including:

- ❖ Lower blood pressure
- ❖ Deeper breathing
- ❖ Increased immune response
- ❖ Increased connection between left and right brain hemispheres
- ❖ Regulating hormonal output
- ❖ Improved cognitive functioning
- ❖ Increased calm, concentration, clarity, equanimity
- ❖ Increased capacity for appreciation
- ❖ Decreased suffering – working skilfully with emotional and physical pain
- ❖ Increased self regulation, empathy, compassion: a flexible and friendly mind.
- ❖ Improved relationships
- ❖ Enhanced creativity
- ❖ Increased self attunement – becoming ones "own best friend"

The Body Scan

The body scan is a powerful way to reconnect with your body. It develops sensitivity to body sensations, and helps us to anchor our attention in the present moment. It cultivates concentration and flexibility of attention, within an attitude of awareness and acceptance. It is important not to try to get anywhere, nor try too hard to relax. Paradoxically, the best way to get results is to practise the body scan in the spirit of non-striving.

Two Kinds of Intelligence

There are two kinds of intelligence: One acquired,

as a child in school memorises facts and concepts

from books and from what the teacher says,

collecting information from the traditional sciences

as well as from the new sciences.

With such intelligence you rise in the world.

You get ranked ahead or behind others

in regard to your competence in retaining

information. You stroll with this intelligence

in and out of fields of knowledge, getting always more

marks on your preserving tablets.

There is another kind of tablet, one

already completed and preserved inside you.

A spring overflowing its spring box. A freshness

in the centre of the chest. This other intelligence

does not turn yellow or stagnate. It's fluid,

and it doesn't move from outside to inside

through the conduits of plumbing-learning.

This second knowing is a fountainhead

from within you, moving out.

Rumi

'The past is history,

The future a mystery,

This moment is a gift.

Which is why it is called the "present."

Homework Week 1

1. Do the body scan for 15mins over four days in the next week, recording your experiences on the homework record form

2. Choose a routine activity (such as brushing your teeth, washing dishes) and allow yourself to bring mindfulness awareness to this activity

3. Eat at least one meal mindfully (in silence, without distractions), and become more mindful of eating in general

4. Pay attention to your experiences of stress this week. What does stress feel like to you?

Date	Practices	Notes					

Week 2 – Awareness of breath

Harnessing the power of breath can become a powerful ally in working with cognitions, emotional states, and the healing process. In mindfulness, the emphasis is not on controlling the breath, but on using it to connect us to an awareness of our body through the sensation of breathing, as well as an anchor bringing us back to the present moment. Abdominal, or diaphragmatic breathing, is very calming, and, since the breath is always with us, mindfulness of breathing is a wonderful tool for connecting us to the present moment at any time.

The STOP breathing space

S Stop and interrupt your thoughts

T Take a breath

O Observe what is happening around you and inside you.

What can I see, hear, sense, smell, feel?
What am I thinking?

P Proceed and reconnect with your surroundings and activity

Sitting meditation

Our posture in sitting meditation is very important, signalling to our mind our intention for the period of sitting. The spine should be straight, indicating alertness, but not stiff. Both sides of the body should be balanced, chin tucked in slightly, eyes closed, or half open with a soft gaze. Hands can be resting on the thighs, or else cupped in the lap, with thumb tips lightly touching.

When we examine the actual characteristics of sitting meditation, the traditional posture of practising mindfulness, we see that the act of sitting upright and still, silent, and focussed on the moment to moment flow of experience for sustained periods of time, is a powerful antidote to the impatient grasping nature of the mind.

When we just sit, there is no where to go and no one to be and nothing to do except taste each miraculous moment of being alive - even when that moment touches our core pain or the profound loss of a loved one. In time we realise it is the only place to be.

"In the hopes of reaching the moon men fail to see the flowers that blossom at their feet."

Albert Schweitzer

Triangle of awareness

These three experiences (thoughts, sensations and emotions) can all become entry points for stopping and becoming aware. They can flow into each other – for example, an awareness of the sensation of tension in the shoulders can lead to awareness of the thought, 'I'm feeling pressured and overworked'. Being able to separate and become conscious of each of these three aspects of our experience can help us feel more in control, with greater calm and clarity, at times when we may be feeling overwhelmed.

Thoughts

Sensations   **Emotions**
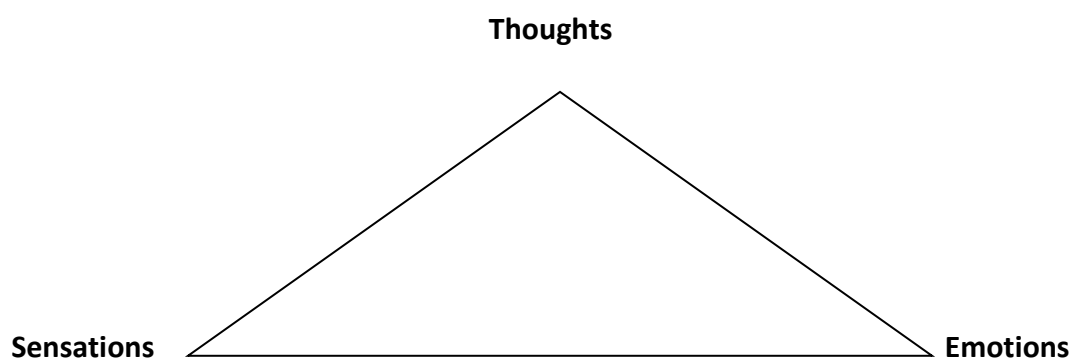
Dealing with barriers to practice
Adapted from Segal, Williams and Teesdale

1. **Attitudes and reactions to the practice: "Am I doing it right?"**

This theme may emerge if emotions, thoughts or body sensations arise which we may experience as "unpleasant", such as anger or sadness. Frequently losing concentration or falling asleep can also lead people to think they are getting it wrong. As we practise meditation, a wide range of feelings and thoughts can arise. The mindfulness approach is to give ourselves permission to experience these states, then gently return our awareness to the object of meditation rather than getting caught up in reactivity.

It is important to remember you do not need to enjoy the practice, just do it!

"A good meditation is one that you have done."

Shinzen Young

2. Painful sensations

When tensions or strong sensations are experienced in the body scan, the instruction is again to briefly note the sensations and thoughts associated with the pain, and then to gently bring awareness back as best as we can to the focus of our meditation.

3. Conditions not conducive to meditation

A compelling barrier to practising meditation is the idea that conditions need to be calm, with no distractions. Distractions caused by "unpleasant" noise or a wandering mind are frequent themes. In mindfulness we notice the thoughts or feelings in reaction to the distraction, and then return to the practice.

4. Wandering mind

When people first begin to practise meditation they often become aware of how busy and easily distracted the mind is.

This is often described as the monkey mind. There is a common misconception in our culture that the mind should be blank during meditation. The aspiration is not to try and stop thoughts, but to develop a different relationship to them by noticing the nature of our thoughts and then gently bringing awareness back to the breath or body focus. Repeatedly returning to the object of meditation *is* the meditation, not a break from it, and, as long as it is done with kindness, this helps to develop our mindfulness skills.

5. **Unable to find time to do the home work**

Home work is central to this program, and your commitment to daily practice corresponds directly with the amount of gain you can hope to make. If this theme comes up, bring an inquiring mind to this difficulty. Notice any thoughts or feelings which might be impacting on you making time to do practice.

6. **Doubts and lack of motivation**

Reactions such as boredom or irritation can undermine motivation to continue practising. Such experiences can provide opportunities to work with "negative" emotions in a new way, so we are increasingly less dominated by them. This can lead to the skill of responding to negative thoughts or feelings with acceptance and curiosity rather than aversion.

The Guest-House

This being human is a guest-house
Every morning a new arrival.
A joy, a depression, a meanness,
some momentary awareness comes
as an unexpected visitor.
Welcome and entertain them all!
Even if they're a crowd of sorrows,
who violently sweep your house
empty of its furniture,
still, treat each guest honourably.
He may be clearing you
out for some new delight.
The dark thought, the shame, the malice,
meet them at the door laughing,
and invite them in.
Be grateful for whoever comes,
because each has been sent
as a guide from beyond.

Rumi

Homework Week 2

1. Practise the sitting meditation (awareness of the breath) for 10 to 15 minutes a day over four days this week

2. Take note of a pleasurable experience each day and write it down on the pleasant experiences form, noting your thoughts, feelings and sensations

3. Practise the STOP breathing space three times a day

4. Choose a new activity to be mindful of

Date	Practices	Notes					

Date	Situation of pleasant experience	Bodily sensations, thoughts, emotions

Week 3 – Mindfulness and the stress response

We all need a certain amount of stress to function. However, a chronic state of stress leads to health and psychological problems.

Stress is an imbalance between the sympathetic (aroused) and the parasympathetic (resting and regenerating) state.

When confronted with a stressor we respond with fight, flight or freeze:

- ❖ Heart pumps faster
- ❖ Blood pressure is up
- ❖ Breathing is fast and shallow
- ❖ Less peripheral circulation
- ❖ Release of stress hormones
- ❖ Digestion slows down

Our body is mobilised for immediate action.

Our body responds to real or imagined threat with the same physiological response.

Chronic stress therefore causes ongoing physiological arousal, potentially leading to exhaustion, burn-out, chronic anxiety, depression and ill-health.

The Brain:

Brain stem (reptilian brain): controls vital functions such as heart rate, breathing, body temperature

The limbic brain (mammalian brain): learnt behaviours, likes and dislikes, appraisal of meaning, the seat of our emotions, hormone regulation. Rigid, relies on formed habits

Together, the **brain stem** and the **limbic region** regulate our levels of arousal, activate basic survival needs and are responsible for our need for affiliation and meaning

The neo-cortex:

What makes us human – much larger than in mammals, especially the pre-frontal cortex

Higher order functions: language, abstract thought, empathy, balancing emotions, insight, intuition and morality

Unlike the limbic system, it is flexible, and can modulate fear and other emotions.
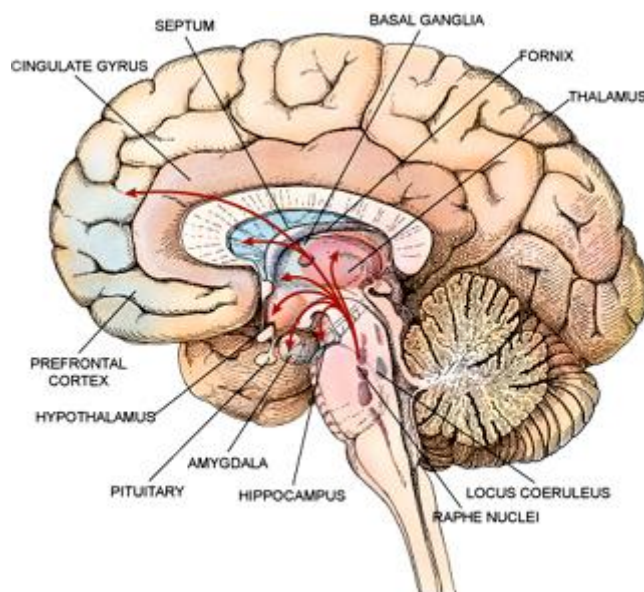
- ❖ When faced with a danger, our body mobilizes the brain stem and limbic system, and activates the sympathetic nervous system
- ❖ We respond instinctively, without higher order thinking
- ❖ Our bodies are flushed with stress hormones such as adrenaline and cortisol
- ❖ Stress decreases activity of pre-frontal cortex, which affects our ability to make decisions and think clearly
- ❖ This is a useful short term response to immediate threat
- ❖ When threat is over, the parasympathetic nervous system should activate, allowing our body to rest and regenerate

Modern life is generally a series of minor stresses interspersed with some major ones.

Unfortunately, chronic minor stresses can be more damaging to long-term health than the occasional acute, major stress.

In the modern lifestyle, the parasympathetic (resting) nervous system may not be activated between stressors.

Neuroplasticity:

- ❖ We have approximately 100 billion neurons. Those that fire together, wire together; therefore, practising anything will strengthen the neural pathways involved in the activity
- ❖ Under stress we respond habitually, in a rigid manner, without stepping back and considering alternative responses

Mindfulness…

- ❖ Creates a balance between sympathetic and parasympathetic arousal

- ❖ Engages the pre-frontal cortex (body regulation, self-awareness, empathy, morality)
- ❖ Activates left pre-frontal cortex (positive emotions)
- ❖ Calms down limbic system and integrates it with higher brain functions
- ❖ Enables us to recognise thoughts and feelings as events in the mind, not reality
- ❖ Interrupts the 'automatic pilot' response, spiraling unconscious negative thoughts
- ❖ Allows us to consciously open to new experiences
- ❖ We become more attuned to self and others through recognising body sensations, frontal lobe activation

Responding vs. reacting

When life is going well, the majority of us find it easy enough to act in a kind, considerate and well-adjusted manner. In highly charged and stressful situations, however, the picture can be less pretty! The instinctive reaction when we are feeling threatened in some way is to act out of the limbic 'fight, flight or freeze' arousal state, usually with little awareness of what is actually going on, which can lead us to cause hurt to ourselves and others.

Mindfulness, by bringing awareness to our bodily and mental reactions, interrupts this 'automatic pilot' response, and thus gives us time and space to respond in a more considered manner. By recognising thoughts and sensations for what they are, rather than 'reality', and by reducing our arousal through awareness, we now have a choice on how we may wish to act – or not act, for that matter.

By learning to stay with difficult thoughts, sensations and emotions during our formal mindfulness practice instead of immediately trying to escape from them, we are in a

position to use the mindfulness techniques even in the midst of very difficult situations. This *stress response* rather than *stress reaction* enables us to more quickly return to a state of emotional and physical equilibrium, leaving us less dependent on maladaptive coping strategies in order to deal with stress.

Selected clinical studies on mindfulness and meditation

- ❖ Results from a study showed that the **frequency of visits** made by patients to their healthcare provider was **substantially reduced** following the completion of a MBSR program (Roth & Stanley, 2002)

- ❖ The combination of conventional treatment and MBSR produced complete **clearance** of **skin lesions** in patients with the stress related skin disorder psoriasis in a much shorter period of time than conventional therapy alone (Kabat-Zinn et al., 1998)

- ❖ Meditation has been shown to significantly **reduce the heart rate** of experienced meditators (Solberg et al., 2004)

- ❖ A **meta-study** by Grossman, Niemann and colleagues (2004) into the health benefits of Mindfulness Based Stress Reduction which looked at 20 published and unpublished studies of MBSR found that MBSR is an effective method of stress reduction, with **clear benefits in terms of overall health**, as well as enabling people to cope better with illnesses

- ❖ In a study of women with **breast cancer**, regular meditation practice was shown to significantly **increase the levels of melatonin**, which fights breast cancer cells (Massion et al., 1995)

❖ A long term study of patients with **anxiety disorders** showed **significant improvements** in both subjective and objective measures of anxiety levels following three years of MBSR practice. (Miller, Fletcher, & Kabat-Zinn, 1995)

Mindful movement

Yoga is a Sanskrit word that means "yoke". Yoga is a practice of yoking or bringing together body and mind, which means experiencing them as not being separate, realising and remembering connectedness and wholeness.

It cultivates strength, balance and flexibility, and is a direct way to connect with body awareness. Doing the posture slowly fosters this.

Yoga helps us come home to our bodies and back to the present moment. It teaches us to listen carefully to our bodies, be aware of our limits, and dwell in the creative place between holding back and pushing ourselves too far.

Practise yoga with the same attitude as for the body scan and sitting meditation, with moment to moment awareness and non-striving, bringing acceptance to your body as it is while noticing any judgments which may arise. Mindful yoga is very different from aerobic exercise which focuses on doing and progress.

Homework Week 3

1. Practice the mindful movement (yoga) postures four days this week

2. Practise the STOP breathing space regularly throughout each day

3. Take note of one unpleasant experience every day and record this in the form provided.

Date	Practices	Notes					

Date	Situation of unpleasant experience	Bodily sensations, thoughts, emotions

Week 4 – Mindfulness of feelings

Acceptance vs. experiential avoidance

- ❖ Is hard-wired into our brains
- ❖ A useful short-term response
- ❖ As a life strategy, it limits our options
- ❖ Can lead to addictions
- ❖ Can prevent us from fulfilling our potential

The mindfulness approach helps us to consider a wider range of responses and possibilities.

'Resistance causes persistence'

(Shinzen Young)

The meditative view is that only through acceptance of the actuality of the present moment, no matter how painful or frightening or undesirable it may be, can change and growth and healing can come about (Jon Kabat Zinn).

The dark side of stress

People can try to escape from their stress by

- ❖ Addictive behaviours
- ❖ Scapegoating
- ❖ Voluntarily limiting their options

❖ Restricting their authentic self e.g. fear of criticism, don't have voice. Lose contact with self

❖ Repression/suppression of feelings– internal conflict, unconscious expression

What is stress?

Stress can be described as not getting one's own way. It ties into our expectations of how life 'should be'.

RAIN

Jack Kornfield outlines the four principles for mindful transformation in the acronym RAIN: recognition, acceptance, investigation, and non identification. The Zen poet tells us that "the rain falls equally on all things", and like the nourishment of outer rain, the inner principles of RAIN can transform our difficulties.

Recognition. When we feel stuck, in order to move toward freedom, we must first be willing to pause and acknowledge our experience as it is.

Acceptance. This principle is important as recognition can be accompanied by aversion. "Acceptance is a willing movement of the heart, to include whatever is before it." With acceptance, difficulties which seem insolvable often become workable.

Investigation. This principle is called "seeing deeply" by Thich Nhat Hanh. By looking more deeply we can become unstuck. We investigate our experience of body sensations, feelings and mind (thoughts, images and beliefs), and the elements and patterns involved.

Non-identification. I can have having feelings, thoughts and sensations but I am not my thoughts, feelings and sensations. We let go of holding on to the experience as our identity. We can inquire of our experience or story about ourselves, "is this really who I am?" Then we are more able to be detached from this identification and "rest in awareness itself".

Stress and the emotions

- ❖ Feelings are our signals – giving us information
- ❖ It makes sense to pay attention to these signals
- ❖ Cultivating being able to tolerate unpleasant feelings builds resilience
- ❖ Avoidance may mean not receiving necessary information about a situation
- ❖ 'Control' or avoiding doesn't work – 'cat ignored becomes the tiger' (Carl Jung), (i.e. 'don't think about elephants', like fighting a rip)
- ❖ Learn how to regulate feelings by attending to them mindfully
- ❖ Staying with feeling – if you are accepting of the feelings and explore them, there's usually a change

Emotional experience is shaped by:

- ❖ Inherited constitution
- ❖ Memory (implicit and explicit)
- ❖ Current signals

Thich Nhat Hanh's five stages of dealing with feelings:

- ❖ Recognition
- ❖ Acceptance

- ❖ Embracing
- ❖ Looking deeply
- ❖ Insight - understanding

Working with difficult feelings:

- ❖ Feel the feeling
- ❖ Identify the emotion – naming
- ❖ Recognise the impermanence of emotion
- ❖ Pay attention with curiosity
- ❖ Open to the feeling, soften into it, be a witness to the feeling
- ❖ With strong emotion – get as close as possible, slowly and gently, knowing you have permission to ease off if you need to
- ❖ Be open to the outcome
- ❖ Riding the wave of feelings in formal practice

Nature images – the mountain

Imagine being a mountain, strong and stable, still and unmoving in the face of the constant changing of the weather, like our life conditions, which can be sunny and warm, or else storms of various intensity. You can be completely what you are, beyond thoughts; simply a grounded, centred presence.

'By becoming the mountain in our meditation, we can link up with its strength and stability, and adopt them for our own. We can use its energies to support our efforts to encounter each moment with mindfulness, equanimity and clarity.'

Jon Kabat-Zinn

Metta

May I be filled with loving-kindness
May I be well.
May I be peaceful and at ease.
May I be happy.

Jack Kornfield

You may like to imagine positive images with the words, such as being held and supported in loving-kindness. Allow yourself to feel the feelings in your body, letting the images permeate your body and mind. Feel free to adjust the words to suit you, but try to keep the words positive. Don't suppress difficult thoughts and feelings if they arise, but choose to focus on the words of the metta meditation during this practice.

The meditation can begin by focusing on yourself, then a benefactor, family or friends, next a neutral person, and finally a difficult person in your life. With the difficult person,

you may wish to choose someone who is mildly irritating rather than your worst enemy as you start out in this practice!

Metta practice helps us to reduce our fear and feeling threatened, and increases our sense of connection to those around us. It also helps to cultivate a sense of forgiveness.

'My religion is kindness.' Dalai Lama

Praise & Blame

Praise & blame,

gain & loss,

pleasure & sorrow

come & go like the wind.

To be happy,

rest like a great tree

in the midst of them all.

The Buddha

Wild Geese

You do not have to be good.

You do not have to walk on your knees

for a hundred miles through the desert, repenting.

You only have to let the soft animal of your body love what it loves.

Tell me about despair, yours, and I will tell you mine.

Meanwhile the world goes on.

Meanwhile the sun and the clear pebbles of the rain

are moving across the landscapes,

over the prairies and the deep trees,

the mountains and the rivers.

Meanwhile the wild geese, high in the clean blue air,

are heading home again.

Whoever you are, no matter how lonely,

the world offers itself to your imagination,

calls to you like the wild geese, harsh and exciting over

and over announcing your place

in the family of things.

Mary Oliver

Appendix A

— A different way of relating to thoughts

'Thoughts are not facts, even the ones that say they are.'

Segal, Williams and Teasdale

'The range of what we think and do is limited by what we fail to notice.'

R.D. Laing

What drives our habits of thinking?

❖ Automatic pilot

❖ Drives to get rid of needy mood, attachment to goal of feeling happy

❖ Constant monitoring/comparison of current state and desired state

❖ Reliance on verbal problem solving techniques

'Research and clinical experience suggests only when people learn to take a different stance in relation to the 'battlegrounds' of their thoughts and feelings will they be able to recognise difficult situations early and deal with them skilfully, replacing old modes of fixing and repairing problems with modes of allowing things to be just as they are, in order to see more clearly how best to respond' – <u>different way of relating to experience'.</u>

Segal, Williams and Teasdale

People, especially those who are vulnerable to depression, may often interpret events in ways which are self denigrating. In such cases, thoughts are like propaganda directed against ourselves. Ruminating on the situation is not helpful. Mindfulness helps to interrupt the negative downward spiral which rumination can pull us into.

In mindfulness we are not trying to change thoughts by doing more thinking. Rather, we watch and observe our thoughts with curiosity, openness and acceptance. This opens up a more spacious state of mind where emotions and difficult thoughts lose their intensity.

As we become more familiar with our thought patterns, we can learn to recognise our favourite patterns, what Jack Kornfield describes as out 'Top Ten Tunes', the insistent visitors which play like repeating records. Exploring our thought patterns further, we may come to see that these repeated thoughts and stories are almost always fuelled by some unacknowledged emotion or feeling underneath. When we encounter an

'insistent visitor', we can acknowledge the thought or emotion as asking us to give it more attention and acceptance.

Our task is not to stop negative thoughts, but to recognise them early so we can respond differently – to acknowledge and recognise them, but not engage with them.

Dealing with thoughts by trying to control/suppress them is likely to make them stronger. Mindfulness is about bringing curiosity and kindness to our experiences, freeing ourselves of the attachments and aversions which drive our thinking patterns.

What to do when difficult thought patterns or strong emotions arise:

- ❖ shift to bodily awareness – into different mode of being
- ❖ STOP breathing space
- ❖ Watch thoughts without following them. Write down thoughts
- ❖ Do a mindfulness practice which has been helpful in the past
- ❖ Use one of the nature metaphors
- ❖ With kindness explore feelings connected with negative self talk
- ❖ Act mindfully – stay present

'It is the continued attempts to escape or avoid unhappiness, or to achieve happiness that keep the negative cycles turning. The aim of the program is freedom, not happiness, relaxation, and so on although these may well be welcome by-products.'

Segal, Williams and Teasdale

Labelling

'When we know our minds well and the emotions that our thinking creates, we tend to see better what our lives are about and what needs to be done, which is generally just the next task under our nose… But our actions must be based on reality.'

Charlotte Joko Beck

The practice of labelling our thoughts during meditation enables us to see thoughts 'as just thoughts', rather than reality. It reduces the emotional overlay which is carried within the thought. At the same time, we pay attention to our bodily experiences, noticing where the emotion 'sits' in the body, its quality and sensation. Doing this aids the observing process, and develops clarity of thinking and sensitivity. It assists with relaxing the hold of thoughts and feelings, unlocking energy and allowing it to flow again. It also enhances understanding and self attunement. Initially it may feel uncomfortable or a little difficult, until it becomes more automatic.

The stream of life

'When the transient stream of life is frozen into a block of ice, the frozen block of ice no longer knows that its true nature is water. It becomes hard and unyielding and clashes up against other ice blocks. Practice is about melting the frozen block of emotion/thought in the fire of attention. When we do this we return to our original nature, the stream of life – soft, transparent, bubbly, fluid and adaptable. This moment to moment stream is happiness itself.'

Geoff Dawson

Ocean metaphor

adapted from Daniel Siegel

Imagine the mind is like the ocean. Deep in the ocean it is calm and tranquil, no matter what the conditions are on the surface. There may be small waves, it may be choppy or even a raging storm, but deep down in the ocean it is peaceful and calm. From the depth of the ocean you can look up and notice the activity, like the brainwaves on the surface of the mind – thoughts, feelings and sensations. Follow your breath, to help connect you with this still and peaceful place.

It may be helpful to name the different types of thoughts or feelings which arise, like 'thinking', 'remembering', 'planning', 'worrying', 'fantasising', and then return to the awareness of breath and the ocean metaphor.

The Waterfall

When difficult thoughts are overwhelming, the waterfall metaphor may be helpful. Imagine standing behind a cascading waterfall, in a place which feels safe. Your thoughts are like the water rushing down in front of you. You can see them, but they are separate to you, and you are not being dragged down by the power of these thoughts.

Appendix B
– Applying mindfulness

Beginner's Mind:

"In the beginner's mind there are many possibilities, but in the expert's there are few"

Taking care of yourself

Use this simple exercise to look at possibilities for making positive changes in your life:

What nourishes you?

What depletes you?

Which nourishing aspects can you include more of in your life?

Which depleting aspects can you have less of in your life?

Shin Zen Young – mindfulness in daily life

- ❖ Start with a simple activity – for example, cutting vegetables, walking, brushing your teeth
- ❖ Move on to more complex situations, such as during conversations
- ❖ Eventually, we can apply mindfulness even during the most challenging experiences, such as illness or interpersonal conflict

Planning mindfulness

Try to build little 'mindfulness moments' into your daily life, such as:

- ❖ When stopped at a red light in the car, ease back into your seat, take a deep breath, and relax
- ❖ Be mindful of sounds, smells, the movement of your hands, as you make yourself a cuppa
- ❖ Notice the sensation on the palm of your hand as you open and close doors
- ❖ Practise walking meditation as you walk to the photocopier
- ❖ Set up the mindfulness bell on your computer
- ❖ When you answer the phone, take a moment to 'check in' to your body before you pick it up
- ❖ Eat one meal a week in silence
- ❖ Drive without the radio from time to time
- ❖ During meetings, tune into your body sensations – are you bored, frustrated, impatient, eager?
- ❖ Take a mindful shower

Appendix C

— Mindfulness in daily life

'Everyday life is our richest source of practice material. Every emotional reaction is grist for the practice mill – road rage, computer rage, feelings of unfairness or victimisation, vulnerability, boredom, being ignored, being abused, being praised, falling in love, making a mistake – the list goes on endlessly.

With a shift in perspective, we can see these events, not as obstacles to our happiness, but points in our life where we have an opportunity to wake up to who we really are. We can see them as a teaching that we can be grateful for rather another road hump that we resent. The greatest teacher is the suchness of life itself, that teaches us openhandedly every moment of our lives.'

Geoff Dawson

Bringing Mindfulness to any activity transforms it into a kind of meditation.

Ways of bringing mindfulness into daily life:

❖ STOP breathing space

❖ The mindfulness bell: http://mindfulnessdc.org/mindfulclock.html

❖ Taking mindfulness into your broader world by 'coming to your senses'

Little Gidding

We shall not cease from exploration

And the end of all our exploring

Will be to arrive where we started

And know the place for the first time.

Through the unknown, remembered gate

When the last of earth left to discover

Is that which was the beginning;

At the source of the longest river

The voice of the hidden waterfall -

And the children in the apple-tree

Not known, because not looked for

But heard, half-heard, in the stillness

Between two waves of the sea.

Quick now, here, now, always- ,~~..

A condition of complete simplicity

(Costing not less than everything)

And all shall be well and

All manner of thing shall be well

When the tongues of flame are in-folded

Into the crowned knot of fire

And the fire and the rose are one.

T. S. Eliot

Resources

Books:

- *Full Catastrophe Living: Using the Wisdom of Your Body and Mind to Face Stress, Pain and Illness* – Jon Kabat-Zinn (1990), Random House

- *Wherever you go, there you are* – Jon Kabat-Zinn (1994), Hyperion Books

- *The Mindful Way Through Depression: Freeing Yourself from Chronic Unhappiness* – Williams, Teasdale, and Segal (2007)

- *Mindfulness in Plain English*- Bhante Henepola Gunaratana

- *Mindfulness Based Cognitive Therapy for Depression: A New Approach to Preventing Relapse* – Williams, Teasdale & Segal (2002), Guilford Press

- *The Mindful Brain* – Daniel Siegel

- *Mindsight* – Daniel Siegel

- *The Miracle of Mindfulness* – Thich Nhat Hanh (1975), Beacon Press

- *Anger: Buddhist wisdom for cooling the flames* – Thich Nhat Hanh (2001)

- *The Meditative Mind: the Varieties of Meditative Experience* – Daniel Goleman (1998)

- *Essential Spirituality: The 7 Central Practices to Awaken Heart and Mind* – Roger Walsh

- *A Path with Heart: A Guide Through The Perils And Promises Of Spiritual Life* – (2002) – Jack Kornfield, Random House

- *Meditation Research: The State of the Art* – Roger Walsh in Paths Beyond Ego

- *Mindfulness and Psychotherapy* – Ed. C.Germer R. Siegel P.Fulton

- ❖ *A Gradual Awakening* – Stephen Levine

- ❖ *Heal Thy Self : Lessons on Mindfulness in Psychotherapy* – Saki Santorelli (2000), Random House

- ❖ Mindfulness@Work by Jon Kabat-Zinn and Daniel Goleman - Audio book

Websites:

- ❖ Centre for Mindfulness in Medicine, Health Care and Society; University of Massachusetts Medical School: <http://www.umassmed.edu/cfm>

- ❖ Mind and Life Institute: http://www.mindandlife.org

- ❖ Mindsight Institute (Daniel Siegel): http://mindsightinstitute.com

Mindfulness downloads

- ❖ Malhuxter.com – free downloads of mindfulness meditations
- ❖ I-tunes – Mindfulness of Breath podcast

- ❖ Mindfulness clock

http://mindfulnessdc.org/mindfulclock.html

Mindfulness Based Stress Reduction Course in Melbourne

- ❖ At Livingstone Community Centre, Ivanhoe

www.mindfulnessmeditation.com

9.10   Appendix E: Interview Schedules

Group 1: interviewing students about what they have found be helpful or a hindrance in their studies and well-being.

1. What has it been like for you to do a PhD?
2. What have you found helpful in regards to working on and progressing with your PhD?
3. What have you found challenging in regards to working on and progressing with your PhD?
4. What have you have found helpful to your wellbeing while you have been doing your PhD?
5. What have you have found challenging to your wellbeing, while you have been doing your PhD?
6. What are some changes or things that might help make this process easier?
7. Is there anything else you would like to add about anything at all? Anything we haven't covered or that you would like to add to?

Group 2, one month post brief MBI

1. What are the things you find helpful and challenging in regards to working on and progressing with your PhD?
2. What are some things you have found helpful and challenging to your wellbeing, while you have been doing your PhD?

Introduce MBSR Questions

3. How, if at all, did participating in MBSR affect you?
   a. Areas to probe: wellbeing, academic functioning.
4. What aspects or parts of MBSR did you find most beneficial? Why? How?
5. Do you attribute your benefits solely to these aspects or were there other helpful things in the program? - If group factors not mentioned:
   a. What about the group? Did you feel that anything about the group that was helpful, or was it mainly those other things?
6. Were there any aspects or parts of the program that did not help you or that you didn't like? Anything that could be removed or changed, for example?
7. Do you still practice any of the techniques and if so, which ones?
8. How many sessions were you able to attend?
9. In terms of the homework, home many times a week did you do the exercises?
10. So, just thinking over all we've spoken about, is there anything else that we haven't touched on, or anything that comes to mind that you'd like to discuss?

Group 2, four months post brief MBI

1) (Enquire into areas which were affecting well-being and academic functioning). Is there anything new or different now?
2) Do you still think about the brief MBI?
3) Are there any ways in which the brief MBI continues to affect you now?
    a. If so, what do you attribute these benefits/effects to?
        i. Probe: mindfulness (aspects of), group (aspects of), practices, lessons.
4) What do you remember being the best part of the program? Why?
5) Were there any aspects or parts of the program that did not help you or that you didn't like? Anything that could be removed or changed, for example?
6) Do you still practise any mindfulness techniques? If so, which ones and how often?
7) So, just thinking over all we've spoken about, is there anything else that we haven't touched on, or anything that comes to mind that you'd like to discuss?