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Title	Exploring the daily life experiences of UCC registered doctoral [PhD/ MD/ Practitioner Doctorate] students and how the UCC "Everyday Matters: Healthy Habits for University Life" digital badge impacted their daily life and well-being
Authors	Skipp Prendergast, Alison
Publication date	2022
Original Citation	Skipp Prendergast, A. 2022. Exploring the daily life experiences of UCC registered doctoral [PhD/ MD/ Practitioner Doctorate] students and how the UCC "Everyday Matters: Healthy Habits for University Life" digital badge impacted their daily life and well-being. MSc Thesis, University College Cork.
Type of publication	Masters thesis (Research)
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Download date	2026-11-16 08:33:09
Item downloaded from	https://hdl.handle.net/10468/14966



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Exploring the daily life experiences of UCC registered doctoral [PhD/ MD/ Practitioner Doctorate] students and how the UCC "Everyday Matters: Healthy Habits for University Life" digital badge impacted their daily life and well-being

Thesis presented by
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December 2022

Declaration

This is to certify that the work I am submitting is my own and has not been submitted for another degree, either at University College Cork or elsewhere. All external references and sources are clearly acknowledged and identified within the contents. I have read and understood the regulations of University College Cork concerning plagiarism and intellectual property.



Date: 14/12/2022

Acknowledgments

Completing this research thesis would not have been possible without the help of many. Firstly, I want to thank my supervisors, Eithne and Ruth, for their helpful advice, words of encouragement and continued support throughout this journey. I felt truly supported and encouraged and appreciate everything they have done for me and this thesis.

I would also like to thank Bank of Ireland, whose sponsorship of the *"Everyday Matters: Healthy Habits for University Life"* digital badge (2021-2022) provided a fee scholarship for this research to be undertaken.

My sincerest thanks also to Professor Jeanne Jackson and the staff of the Department of Occupational Science and Occupational Therapy, UCC. Thank you for the opportunity to complete this thesis as well as for sharing resources, providing advice, and offering support during the journey.

I am extremely grateful for the support I received from my family and friends. They were always there to listen, share words of wisdom and support me in any way that they could.

Finally, I would like to thank all of the individuals who participated in this study. I appreciate them spending their time and sharing their opinions, thoughts, and feelings with me. It was a privilege to speak with each participant and I truly endeavoured to represent their voices through this thesis.

Abstract

Background - Poor mental health and well-being among university students, including doctoral students, is a growing concern globally. Engaging in occupations every day and maintaining occupational balance is believed to improve health and increase well-being. However, little is currently known about the daily life, occupational balance, and well-being of doctoral students. Whole university approaches to promoting student well-being and success are urgently needed, along a continuum of support including universal, targeted, and intensive interventions. The *"Everyday Matters: Healthy Habits for University Life"* digital badge (EMDB) is an occupation-based time-use and well-being universal intervention offered to doctoral students as a co-curricular micro-credential at University College Cork (UCC). This study explored and described the daily life experiences of doctoral students and how pursuing their degree impacted their occupational balance and well-being, as well as examined doctoral students' experience of participating in the EMDB.

Method - Purposive sampling methods were used in this qualitative interpretive descriptive study to recruit 10 UCC PhD/MD/Practitioner Doctorate students who completed the EMDB. Data were generated through individual semi-structured interviews and thematic analysis was completed.

Findings - Doctoral students have a range of roles, responsibilities, and occupations that they need to and want to engage in on a daily basis. For many, balancing their daily occupations and roles alongside their doctoral degree is challenging. Undertaking a doctoral degree can have both

a positive and negative impact on well-being. The EMDB successfully supported the daily lives and well-being of doctoral students.

Conclusion - Obtaining an insight into the perspectives and experiences of students allows a better understanding of the students' doctoral journey. Supporting the well-being of doctoral students is essential to enhance their doctoral journey and assist them in successfully completing their degree.

Key Words - doctoral student, daily life, time-use, well-being, occupational balance, occupation-based intervention

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Thesis Overview

Chapter 1: Introduction - The introductory chapter provides the background and context for this study. Information on doctoral education in Ireland is presented. The term well-being is defined, and international and national data related to the mental health and well-being of doctoral students are considered. Selected national and international well-being policies relating to doctoral education are reviewed. The underpinnings of this study in relation to an occupational perspective of health and the definitions of occupation, activity and occupational balance are detailed. Finally, the research questions of the study are presented.

Chapter 2: Narrative Review - The first literature review chapter is a narrative review that uses the Person Environment Occupation (PEO) model (Law et al., 1996) as a guide to explore selected literature relating to the well-being of doctoral students, with a particular focus on factors that contribute positively or negatively to the well-being of this population.

Chapter 3: Scoping Review - In the second literature review, the tiered public health approach to mental health proposed by Bazyk (2020), as guided by the The World Health Organisation (2001), was used to frame a scoping review, which sought to map the extent and nature of occupation-based interventions reported within the occupational science and occupational therapy literature as well as identify to what extent the identified studies are of a universal, targeted or intensive nature.

Chapter 4: Research Design - This chapter describes this qualitative research study, which utilises an interpretive descriptive approach. This study has a total of 10 participants, who are UCC-registered doctoral students who participated in the *"Everyday Matters: Healthy Habits for University Life"* digital badge (EMDB). Data were generated through online individual semi-structured interviews and analysed using the six-step approach outlined by Braun and Clarke (2021). The ethical considerations and methods of improving trustworthiness that shaped how the research was conducted are also detailed.

Chapter 5: Findings - This chapter describes the findings of the study. Four main themes, with their subsequent subthemes, are presented. The four main themes are; 1) More than a PhD student; 2) Doctoral degrees are all-consuming; 3) Doctoral degrees can have a positive and negative impact on well-being; 4) Everyday does matter.

Chapter 6: Discussion - This chapter discusses the findings of this research in light of the existing literature, in order to answer the research questions of the study. The PEO model (Law et al., 1996) is used to frame this chapter. Implications for national and international education policies, higher-level institutions and occupational therapy practice are also described. The limitations of this study as well as areas for future research are outlined. A concluding statement which summarises the key ideas of this thesis is included.

Chapter One: Introduction

1.1 Introduction to Chapter One

The purpose of this chapter is to provide the background and context for this study, which seeks to explore and describe the daily life experiences of doctoral students and how undertaking a doctoral degree may impact their occupational balance and well-being. This research also aims to examine doctoral students' experience of participating in a new universal occupation-based time-use and well-being intervention available at University College Cork (UCC), the *"Everyday Matters: Healthy Habits for University Life"* digital badge (EMDB). In this chapter, the context of the study is provided by presenting information on doctoral education in Ireland. The terms well-being and occupational balance are defined, and international and national data related to the mental health and well-being of doctoral students are considered. Selected national and international well-being policies relating to doctoral education are reviewed. The underpinnings of this study in relation to an occupational perspective of health and the definitions of occupation and activity are detailed. Finally, the research questions of the current study are presented.

1.2 Doctoral degrees and students in Ireland

A doctoral degree is the highest degree recognised in Irish universities (National Framework of Qualifications, 2021). For this award, students are required to complete a series of challenging academic tasks which may include mandatory course work and modules, competency examinations and producing a research dissertation in their area of academic interest (Moate et al., 2019). Doctoral degrees are important for higher-level institutions, the economy and wider society. Many doctoral students contribute to higher-level institutions financially through fee

payment, through knowledge advancement by publication of their research (Moate et al., 2019), or through an academic career following graduation (Ruano-Borbalan, 2022). They benefit wider society by generating both basic and advanced knowledge, from which all can draw (Casey, 2009; Hancock & Walsh, 2016; Lariviere, 2012; Neumann & Tan, 2011; Ruano-Borbalan, 2022), and make a large contribution to their area of interest in terms of research output (Lariviere, 2012; Moate et al., 2019). Graduates who leave academia following graduation make a substantial contribution to industries and organisations within the labour market (Diamond et al., 2014; Garcia-Quevedo et al., 2012), namely due to their enhanced skills (Diamond et al., 2014; Lauder & Mayhew, 2020; Ruano-Borbalan, 2022), and their ability to transfer these skills and acquired knowledge to others (Casey, 2009). Despite the value that doctoral students have across a variety of setting, they often feel that information, resources and services are directed towards undergraduate students, and therefore this population are advocating for attention to be directed towards developing specific supports for the doctoral student population (Jackman et al., 2021a; Mousavi et al., 2018; Waight & Giordano, 2018). In order to develop these supports, research focusing on this population is timely and necessary.

There are 17.5 million students in higher-level institutions across the European Union (EU), of whom 3.8% are registered for doctoral degrees (Eurostat, 2020). In recent years, Ireland has continued to develop a highly skilled and educated population, with increasing numbers of individuals choosing to continue their education beyond an undergraduate degree. According to Lawlor and Burke (2020), the number of students undertaking postgraduate degrees in Ireland, including doctorates, has increased rapidly. In the 2016 census, 28,759 individuals indicated they possessed a doctorate level qualification, which is an increase of 99.5% from the 2006 figure of

14,412 individuals (Central Statistics Office, 2016). With increasing numbers of doctoral students in the Irish context (Central Statistics Office, 2016; Lawlor & Burke, 2020), an increased focus on how their roles, responsibilities and experiences differ to that of other student populations would be beneficial in order to understand their reality and assist them in successfully completing their degree (Levecque et al., 2017).

In University College Cork (UCC), doctoral degrees can be undertaken part-time or full-time for a minimum of 3 years or a maximum of 6 years (UCC, n.d.). There are a range of doctoral degrees including PhD by Research, thematic PhDs, practitioner doctorates, or PhD by prior published work. In UCC, doctoral candidates undertake a workload of 90 credits for each year of full-time research, or a proportional equivalent for part-time students, resulting in a minimum of 270 credits and a maximum of 360 credits over the course of their studies (UCC, n.d.). All doctoral students are supported by a supervisory team which typically consists of two supervisors. Prioritising research across the institution and investing in doctoral degrees and doctoral scholarships are strategic priorities for UCC (UCC, 2020), as the university aims to produce highly skilled graduates to meet local and national skill needs, as well as contribute to wider society and the economy. At UCC, the student population registered for the 2021/2022 academic year was 22,337, where 5,959 individuals were registered for postgraduate courses, 1,074 of whom were undertaking a doctoral degree (UCC Data Warehouse, 2021). As universities are a main setting in the lives of doctoral students, where some of their main daily activities, social networks and support services are located, obtaining an insight into the perspectives and experiences of students is essential in order to try and understand the reality of students in their educational environment (Busher, 2012).

While the data show a growth in the number of doctoral students in Ireland and internationally, not all students progress through their doctoral degree to completion. Depending on the country and academic discipline, attrition rates from doctoral degrees can range from 30% to 50% (Stubb et al., 2011). Doctoral attrition rates in the United States (US) are high and are estimated to be around 40% to 50% (CGS, 2009 & MERS, 2013 as cited by Litalien & Guay, 2015). In the United Kingdom (UK), the doctoral non-completion rate is 19.5%, where 16.2% of doctoral students leave their degree early and 3.3% fail their viva (UK Research and Innovation, 2011). The possible financial and creative implications, as well as reduced research activity due to attrition is considerable (Barry et al., 2018; Guthrie et al., 2017; Mackie & Bates, 2019), as attrition has a direct impact on the quality of academic research and discipline advancement (Levecque et al., 2017), and is financially costly for higher-level institutions, particularly when the doctoral degree is funded (Gardner, 2009; Smallwood, 2004). In the literature, a variety of causes of attrition have been explored including negative departmental cultures and practices (Barnes & Randall, 2012; Gardner, 2009), particularly poor supervision practices and infrequent meetings Corner et al., 2017; Levecque et al., 2017; Travaglianti et al., 2018), as students have little or no guidance or feedback to carry out their doctoral roles and responsibilities (Wang et al., 2019). Financial difficulties during a doctoral degree can also cause doctoral students to depart their programme due to an inability to live on their finances leading to a poor quality of living (Gardner, 2009; Van der Haert et al., 2014). Many doctoral students can also experience loneliness during their doctoral degree, which can sometimes lead to attrition (Smith et al., 2006). However, the cause of attrition for many doctoral students can be linked to decreased

mental health and well-being (Eisenberg et al., 2009; Hunter & Devine, 2016; Levecque et al., 2017).

1.3 Well-being

Well-being is an experience with multiple layers and aspects (Dodge et al., 2012), and has been given attention across many disciplines, and therefore, has been described and defined in several ways (Bradburn, 1969; Orem, 1985; Shin & Johnson, 1978). Dodge et al. (2012) attempted to define well-being, encompassing previous definitions and current understandings of this term. They assert that well-being is when a person possesses the physical, psychological, and social assets they require when encountering a challenge. Schmidt and Hansson (2018) said that defining well-being is mainly problematic as there is confusion around the different concepts of well-being such as mental well-being, emotional well-being, psychological well-being, socio-psychological well-being, and subjective well-being. These terms are often used interchangeably within the literature, making it difficult to discern what each article is referring to or examining (Aldrich, 2011). For the purposes of this study, the term well-being will refer to mental well-being. In social and psychological sciences, mental well-being has mainly been thought of as 'subjective well-being', which is considered to be a person's own internal evaluation of their quality of life (Thieme et al., 2015). However, the most widely accepted definition of mental well-being is 'feeling good and functioning well' (Stewart-Brown, 2015; Tennant et al., 2007). This refers to a state that is more than just the absence of disease or illness and is therefore a positive concept, suggesting that a person can experience ill health but still have a sense of well-being (Law et al., 1998).

1.4 The mental well-being of doctoral students

Barkham et al. (2019) view student well-being as holding constructive and positive feelings about oneself and an ability to manage the pressures and challenges of education. There is concern regarding the increased levels of student mental ill health and declining well-being internationally (Auerbach et al., 2018; Pereira et al., 2019). In particular, a large and growing amount of literature has reported a rise in the poor mental health and well-being of doctoral students internationally (Berry et al., 2021; Evans et al., 2018; Hazell et al., 2021; Ogilvie et al., 2021; Woolston, 2019). Eisenberg et al. (2009) suggests that understanding the connection between doctoral degrees and mental health is valuable as universities are a main setting in the lives of students, where some of their main daily activities, social networks and support services are located. Enhanced understanding will also contribute to addressing both the causes and consequences of poor well-being.

Sverdlik et al. (2018) argues that in comparison to research on attrition from doctoral degrees, the mental health and well-being of this population remains underexplored. The recent literature on doctoral mental health and well-being highlights that it is an expanding topic of research, but also a growing problem as the prevalence of mental health and well-being difficulties in doctoral students is high. Large scale studies with high response rates have been conducted internationally, in the UK (Berry et al., 2021; Hazell et al., 2021), the US (Ogilvie et al., 2021), Belgium (Levecque et al., 2017), and one study included participants from every continent across the globe (Woolston, 2019). These studies contained large sample sizes of doctoral students, with the smallest including 3,500 participants (Ogilvie et al., 2021) and the largest with over 6,300 participants (Woolston, 2019). All of these studies were cross-sectional in nature and used a

range of standardised questionnaires and self-report surveys to gather data. All of these studies found that high proportions of doctoral students reported clinically relevant symptoms of depression and anxiety as well as low well-being (Hazell et al., 2021; Levecque et al., 2017; Ogilvie et al., 2021; Woolston, 2019). In some studies, this was in comparison to working professionals (Hazell et al., 2021) or the general population (Levecque et al., 2017).

Ireland has one of the highest rates of mental health difficulties in Europe, with 18.5% of adults reporting that they experience mental health difficulties (OECD, 2018). There are few recent studies reporting the prevalence and range of mental health issues amongst doctoral students in an Irish context. Two large surveys of university students from higher-level institutions across Ireland were conducted (Karwig et al., 2015; Price et al., 2019) and found that there was a high prevalence of anxiety, stress, and depression amongst the study population. While these studies had a large sample size, results must be interpreted with caution as neither were conducted solely with doctoral students and findings primarily represented the views of undergraduate students. Despite this, Irish grey literature has also reported the negative impact of doctoral study on mental health and well-being in Ireland, concluding that the Irish doctoral student population is at a high risk of developing mental health difficulties (Pollak, 2017).

1.5 Improving student well-being: overview of national and international policy

Health and well-being can be greatly affected by policy decisions taken by international and national governments, as policies provide society with the guidelines and goals in order to achieve their vision of overall health. Looking at international health policies, the Ottawa Charter for Health Promotion (World Health Organisation, 1986), has been used across the globe to

shape health practice for many years as it focuses on promoting health through public policies and creating healthy environments and communities to manage any challenges to public health. The European Union (EU) are also committed to prioritising overall health throughout the life course by improving access to a range of healthcare options in order to prevent, detect and treat ill health (European Commission, 2022). Looking at policy approaches in Ireland, *Healthy Ireland: A framework for improved health and well-being 2013-2025* (Department of Health, 2013), is a core national health policy aiming to achieve a healthy Ireland and increase the proportion of individuals who are healthy at all stages of life from prenatal through to old age. As well as a focus on physical health issues, this framework also highlights the importance of addressing the mental health of the Irish population by stating that mental health is a growing issue, where approximately one person out of every four will experience mental health difficulties during their lifetime (McManus et al., 2009). A healthy society and workforce are beneficial for all sectors, so it is essential to support lifelong health and well-being by addressing risk factors and promoting protective factors, particularly at key points of transition for individuals (Department of Health, 2013). Similarly, *Sharing the Vision* (Department of Health, 2020), an update of the *A Vision for Change* policy (Department of Health, 2006), focuses on developing a whole-system mental health policy for the whole Irish population, where primary prevention of mental health difficulties and positive mental health are prioritised. This highlights that policymakers in Ireland are committed to a whole-system approach, where the policies are intended to support the needs of each individual and benefit the health and well-being of all members.

A whole-system approach is underpinned by a population-based planning approach that aims to develop and offer a range of mental health services and supports to cater for the needs of the

entire population. This is considered to be a tiered approach, where individuals move through a continuum of support from universal to intensive services, based on their needs. This approach has been recommended internationally for higher-level institutions (Brown, 2018; Duffy et al., 2019; Hill et al., 2020), where students can be directed to appropriate services and resources on campus based on their needs (Duffy et al., 2019). Informed by international recommendations, tiered approaches have also been endorsed within the primary and secondary level education system in Ireland through the National Educational Psychological Service (DES & NEPS, 2007, 2010a, 2010b).

Figure 1
A tiered public health approach to mental health



Bazyk (2011) proposes a whole-population, multi-tiered system of interventions and supports that is designed to meet the mental health needs of children and youth in particular. However, AOTA (2016) advocates for this model to be used within mental health occupational therapy services across the lifespan. Guided by the public health approach articulated by the World Health Organisation (2001), in the tiered model by Bazyk (2020), tier 1 represents the universal services or supports that are in place for all individuals, whether they are experiencing mental ill

health or not. The focus in this tier is on promoting positive mental health and preventing mental ill-health in a range of settings. Tier 2 focuses on the targeted services and supports which are designed specifically to prevent mental illnesses in individuals who may be more at risk of developing a mental illness (Bazyk, 2020), and involve a more direct role in the evaluation and intervention of mental health difficulties. There are many student groups that have been flagged as more at risk of developing mental health difficulties such as individuals who identify as LGBTQ+, individuals from disadvantaged socioeconomic environments, ethnic minorities, international students, asylum seekers and refugees, mature students and students studying remotely (Higher Education Authority, 2020). Finally, tier 3 refers to an approach for the relatively few individuals where intensive individualised interventions are needed by individuals who are experiencing mental health difficulties that interrupt or limit their daily functioning and well-being (Bazyk, 2020).

The health and well-being of students is a key priority for policy makers both internationally, and nationally. As completing a doctoral degree typically is expected in order to pursue an academic career, researchers, higher-level institutions, and government agencies are focusing more on doctoral programmes and their outcomes (Jones, 2013). The *Okanagan Charter* (The International Conference on Health Promoting Universities and Colleges, 2015) is an international charter designed to promote health and well-being in universities by providing them with a universal language, principles and framework for health and well-being promotion on their campuses. It has two calls to action; encouraging higher-education institutions to embed health into every part of campus life and to lead health promotion action both locally and internationally. A UK policy, *Stepchange: Mentally healthy universities* (Universities UK, 2020) also reflects the vision and calls to action of the *Okanagan Charter* (The International

Conference on Health Promoting Universities and Colleges, 2015). While there are few frameworks and policies to guide the implementation of a healthy campus in Ireland, the recently published *Healthy Campus Framework* (Department of Health, 2021) is also directly aligned with and draws upon the policies, aims and guidance set out by the *Okanagan Charter* (The International Conference on Health Promoting Universities and Colleges, 2015). This policy has three principal aims; to generate an understanding of a healthy campus for higher-level institutions, to recognise and encourage the work of these institutions in improving the health and well-being of students across their campuses and to create and share knowledge on the promotion of health and well-being across university and college campuses. Similarly, The Irish *National Student Mental Health and Suicide Prevention Framework* (Higher Education Authority, 2020), consists of nine themes which aim to provide Irish higher-education institutions with the opportunity to reflect on their current student supports as well as assist them in identifying areas that require improvement in order to support the mental health of students.

Similar to a whole-system approach, in order to achieve their aims, a whole-campus approach is endorsed in these educational policies (Department of Health, 2021; The International Conference on Health Promoting Universities and Colleges, 2015; Universities UK, 2020), where they seek to transform universities into healthy settings by providing appropriately resourced and effective support services for both prevention and early intervention of mental health difficulties as well as encouraging open conversations about mental health and well-being. Overall, in line with international policy approaches, it is apparent that Irish policies are committed to improving the health and well-being of the general population and specifically students within higher-education institutions. The vision of these policies confirms the

importance of not only understanding, but addressing the health and well-being needs of doctoral students.

1.6 An occupational perspective of health

The current research study is informed by an occupational perspective and further by the idea proposed by Moll et al. (2015) that everything an individual does each day matters and is important to health and well-being. The discipline of occupational therapy has a major and unique role in contributing to the health of the population by promoting healthy lifestyles and highlighting occupation as a necessary contributor to health and well-being (Scaffa et al., 2008; Wilcock, 1993). An occupational perspective of health is grounded on the assumption that occupation is an essential prerequisite for health and well-being (Hocking, 2013; Townsend & Polatajko, 2007; Wilcock, 1993; Wilcock, 2001). Previously, Whalley Hammel and Iwama (2012) cited a lack of evidence to support the claim that occupation has a positive impact on health and well-being. However, others (Creek & Hughes, 2008; Hocking, 2014; Law et al., 1998; Stav et al., 2012) argue that there is enough evidence to state that engaging in occupations is essential to enhance health and well-being for individuals across every age and stage of life, whether they are experiencing ill health or not.

Further to this, engaging in a variety of occupations is also essential as individuals strive towards occupational balance. Occupational balance has a long history within the literature of occupational science and occupational therapy (Meyer, 1977). Occupational balance is often considered to be an individual's perception of having the correct amount and variation of occupations in their daily life, or an individual's sense of harmony between the range of

activities they participate in daily, whether they be in compulsory or elective occupations (Backman, 2004). More recent research on occupational balance has centred on the connection between categories of occupations and how engagement in a range of occupations influences health (Dhas et al., 2022; Liu et al., 2021; Morrison et al., 2021). Occupational balance has also been shown to be related with positive health and well-being (Håkansson et al., 2009; Larson & Zemke, 2003; Wagman et al., 2012; Wilcock, 2006; Wilcock et al., 1997), which makes occupational balance a core feature in the research of everyday occupations (Eklund et al., 2017). For example, doctoral studies are often associated with long working hours and mental exhaustion (Metcalfe et al., 2018), where students are expected to juggle the demanding nature of doctoral work alongside their other life roles and responsibilities (Metcalfe et al., 2018; Schmidt & Umans, 2014). This makes it challenging for students to maintain a sense of occupational balance in their daily lives (Wilcock, 2006).

Within occupational science and occupational therapy, an occupational perspective is extensively used to shape research (Njelesani et al., 2014). Taking an occupational perspective in research is distinctive as occupation is the unit of analysis, and research of this nature is focused on how occupations are detailed and understood (Njelesani et al., 2013). Research studies informed by an occupational perspective often are conducted in order to generate knowledge about human occupations (Yerxa et al., 1989), increase awareness and understanding of the benefits associated with occupation or how occupation can be a useful tool in health promotion (Moll et al., 2013). This idea aligns well with the overall goal of the current study, as by adopting an occupational perspective of health, this research will not only present an overall view of occupation in the lives of doctoral students, but also potentially encourage an understanding of the benefits associated with occupation and well-being.

1.7 Defining occupation and activity

Occupation and activity are two central ideas in occupational therapy and occupational science. Despite being two separate concepts, the terms are often used interchangeably (Fidler, 2000; Golledge, 1998). Bauerschmidt and Nelson (2011) found that the use of the terms occupation and activity have fluctuated greatly over the last 9 decades within the occupational therapy literature. The word occupation is often defined using the word activity (Barrett & Kielhofner, 1998; Christiansen & Townsend, 2004; Levine & Brayley, 1991; Yerxa, 1994), which can cause confusion. According to Dickie (2014), it is essential for occupational therapists and scientists to base their work on a thorough understanding of both occupation and activity and their role in health.

Pierce (2001) attempted to untangle the terms occupation and activity, and therefore, this study is aligned with the definitions she proposed. According to Pierce (2001), an occupation is an individual's "personally constructed, non-repeatable experience" (p. 139), and an activity is a culturally shared idea, not experienced by a specific person but rather experienced by all as a generalised category of occupational experience. It is apparent from these definitions that occupations are grounded on being unique to an individual, are detailed, have associated meanings to the person, and include their personal and environmental contexts that will never recur in the flow of time. In comparison to occupations, activities are more broad, general, and accessible, where meanings are culturally shared rather than personal, where expectations vary from person to person.

1.8 Research questions

In this chapter it became evident that there are increasing numbers of doctoral students across higher education settings nationally and internationally (Central Statistics Office, 2016; Eurostat, 2020; Lawlor & Burke, 2020), and a decline in the mental health and well-being of doctoral students has been noted (Evans et al., 2018; Levecque et al., 2017; Woolston, 2019). With potentially negative personal (Levecque et al., 2017; Smith & Brooks, 2015) and academic (Eisenberg et al., 2009; Hunter & Devine, 2016) consequences, universities are being urged to consider how best to respond (Leshner, 2021). Furthermore, supporting the mental health of doctoral students is essential not just to improve their well-being, but also to assist them in successfully completing their degree (Levecque et al., 2017).

As engaging in occupations is viewed as essential in enabling health and well-being across every age and stage of life (Hocking, 2013; Wilcock, 1993; Wilcock, 2001; Wilcock, 2006), equally, a lack of engaging in occupations can contribute to ill health (Hocking, 2014). Further to this, according to Moll et al. (2015), everything a person does each day matters and is important to health and well-being. However, little is currently known about the daily life experiences, occupational balance, and well-being of doctoral students in Ireland and beyond. Therefore, in order to take the following steps to prevent, detect and treat well-being issues, it is essential to explore their daily lives and how undertaking a doctoral degree can positively or negatively impact their daily life and well-being (Torka, 2020). Students are experts in the student experience (Busher, 2012), as they are living the experience themselves. Busher (2012) states that obtaining an insight into the perspectives and experiences of students is essential in order to

try and understand the reality of students in their educational environment. Therefore, the following research questions were established;

1. What are the daily life experiences of doctoral students, and how do these impact occupational balance and well-being?
2. How did participation in the *"Everyday Matters: Healthy Habits for University Life"* (EMDB) digital badge impact the participants' daily life and well-being?

Chapter Two: Narrative Review

The well-being of doctoral students as framed by the Person Environment Occupation (PEO) model

2.1 Introduction to Chapter Two

The well-being of doctoral students has been the subject of limited inquiry to date (Stubb et al., 2011). This chapter presents a narrative review of selected literature within the field of doctoral education that examines the well-being of doctoral students. The doctoral experience is complex and multifaceted (Hughes & Tight, 2013; Schmidt & Hansson, 2018), therefore, it would be impossible to report every study that has been conducted with doctoral students. Rather, the aim of this chapter is to present a selection of the studies in order to offer an overview of the personal, environmental, and occupational factors of doctoral students and how they can contribute positively or negatively to the daily lives and well-being of this population. The Person Environment Occupation (PEO) model is introduced and used to frame this review (Law et al., 1996). The PEO model is a useful lens through which to examine occupational performance for different populations (Ambrose et al., 2020) by recognising the multiple ecological systems that influence doctoral students' daily experiences and well-being (Jackman et al., 2022; Schmidt & Hansson, 2018).

2.2 Method

Rather than presenting new data (Ferrari, 2015), a narrative review presents a summary and assessment of the current available literature on a particular topic (Ferrari, 2015; Gregory & Denniss, 2018; Noble & Smith, 2018). While there are no formal guidelines for conducting a narrative review, reviews of this nature can provide new insights, highlight where there is a gap

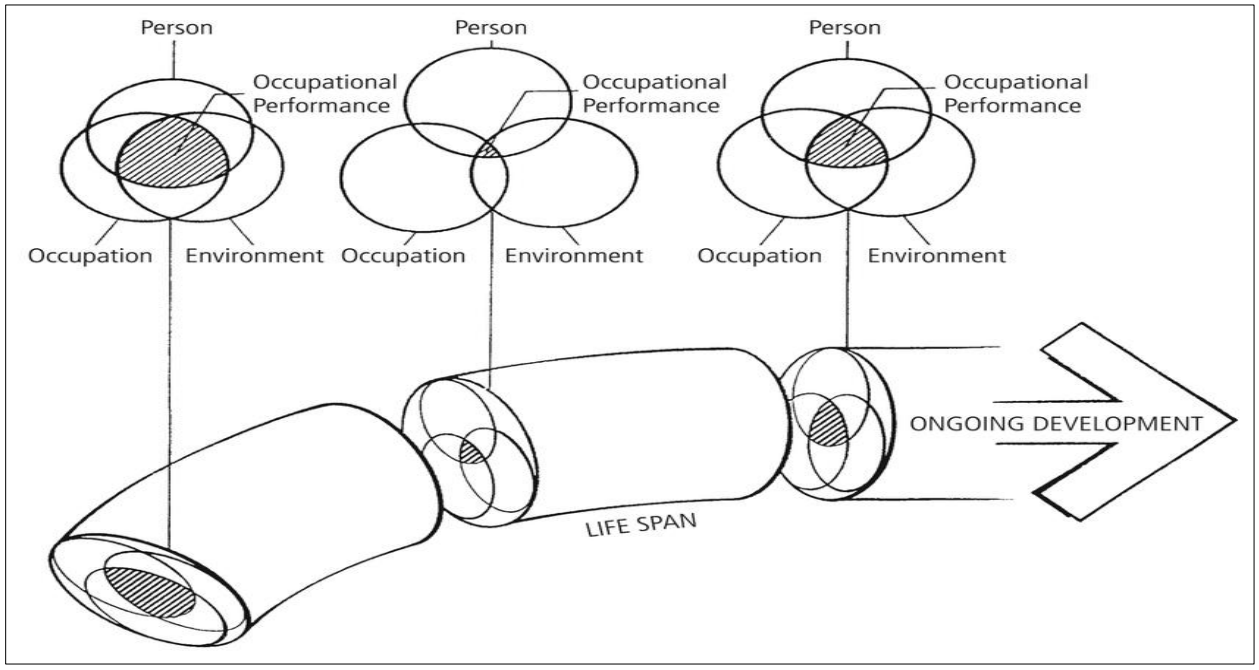
in the evidence, offer an interpretation of the findings in a contextually appropriate manner (Sarkar & Bhatia, 2018), as well as provide future research directions (Gregory & Denniss, 2018). Subjectivity in study selection is a weakness of narrative reviews, which can lead to bias (Ferrari, 2015), however the flexibility in how the information gathered is presented is of benefit (Noble & Smith, 2018; Sarkar & Bhatia, 2021). In an attempt to reduce bias, descriptions on how the articles were sought and sorted is provided.

To gather the literature, the following databases were searched: Medline (EBSCO), Academic Search Complete, ERIC, CINAHL Plus, APA PsychInfo, APA PsychArticles, Social Sciences Full Text and Scopus. The following keywords were used; doctoral, PhD, student, pupil, well-being, and Boolean operators were used. Articles written in the English language and that were from the year 2007 onwards were included to allow a 15-year span and ensure that findings were as up-to-date as possible. Due to the large volume of papers, articles were screened for inclusion by the title and abstract only. Some studies were excluded due to focusing on service evaluations or intervention programmes, the perspectives of undergraduate students or the well-being of departmental staff. Articles focused on the impact of the Covid-19 pandemic were also excluded in order to narrow down the topic. The researcher reviewed the relevant articles generated from this search and reviewed some of the research that was referenced in the found articles in order to obtain further relevant studies that were not found on the databases. The selected literature was grouped by the researcher using the PEO model.

2.3 The PEO model

The PEO model is an occupational therapy model of practice that has been used across acute, community, academic and research settings (Strong et al., 1999). As illustrated in Figure 2, the PEO model (Law et al., 1996) comprises three main dimensions (person, environment, occupation), which are typically represented by three interacting spheres across the lifespan. The quality of an individual's experience with occupation at a given point in time is a direct result of the level of congruence between the person, environment, and occupation components (Turpin & Iwama, 2011). The degree to which the person-environment-occupation relationships are compatible is highlighted by the degree of overlap between each of the spheres. This means that the closer the spheres overlap, the greater fit there is between each of the dimensions. The overlap in the centre of the three spheres represents the occupational performance of an individual engaged in a particular occupation within their environment at a point in time (Law et al., 1996).

Figure 2
Person Environment Occupation Lifespan Diagram (Law et al., 1996)



2.4 Person

The person is defined as a unique individual who undertakes several roles simultaneously, where each role varies greatly across contexts and time (Law et al., 1996). The person is viewed holistically as a combination of qualities, where the person has a set of attributes and life experiences that impact their occupational performance (Law et al., 1996). Therefore, the person dimension of the model includes aspects such as gender and age, roles, personality, and health.

2.4.1 Gender and age

Female doctoral students experience poorer well-being than their male colleagues (Hargreaves et al., 2017), and doctoral attrition rates are higher for women than for men (Castro et al., 2011; Gibbs et al., 2014; Mansfield et al., 2010). While research on gender differences in doctoral well-being is limited, researchers have begun to question why this is the case. Small qualitative studies of female doctoral students in Sweden (Schmidt & Umans, 2014) and Iran (Behboodi Moghadam et al., 2017), found that their well-being was impacted negatively by a conflict between their personal values and priorities and the external roles they must fulfil simultaneously. Women also report lower satisfaction within their doctoral degree (Gibbs et al., 2014), as well as having a negative view of their abilities and competencies (Ülkü-Steiner et al., 2000).

Very few studies examined the impact of age on doctoral student well-being. However, one study in the UK found that younger doctoral students report greater mental health difficulties (Milicev et al., 2020). There is a higher prevalence of mental health difficulties amongst younger age groups as the adolescent period is a specific time of

onset risk (Kessler et al., 2007), and this is the time in which many doctoral students begin their degree (O'Shea, 2021), which may explain these findings. In contrast, another study concluded that age was negatively related to decreased well-being and intentions to drop out of their doctoral degree (Hunter & Devine, 2016). Contrary to these findings, a larger longitudinal study of 336 participants across 53 institutions in the United States (US) found no gender or age differences in mental health and well-being among doctoral students, suggesting that students experience similar mental health and well-being regardless of gender or age (Zhang et al., 2022).

2.4.2 Roles

Roles are an individual's set of behaviours and aspects of their identity that are expected by society, though defined by the individual themselves and shaped by culture and context (AOTA, 2020). One of a doctoral student's main roles is that of being a student which involves academic tasks and responsibilities (Moate et al., 2019). Beyond this role, doctoral students also have a range of personal roles such as being a friend, employee, or volunteer, as well as family roles such as being a son or daughter, sibling, grandchild, spouse or partner, or a parent (Martinez et al., 2013).

Although somewhat limited by measurement and methodological challenges, there is some evidence that balancing personal and academic roles and responsibilities can be overwhelming and stressful as it results in greater role conflict (Dabney & Tai, 2013; Pocock et al., 2011), which can then negatively impact well-being (Martinez et al., 2013; Pocock et al., 2011; Smith et al., 2006; Wang et al., 2019) and quality of life (Brown &

Watson, 2010; Pocock et al., 2011). Some doctoral students dedicate a large amount of time and work to their academic roles rather than personal roles (Wang et al., 2019). In contrast, for others, personal life roles such as being a parent, daughter or son, or spouse tended to supersede their role as a student (Martinez et al., 2013). Through trying to maintain their healthy life balance and use their time efficiently, students felt that dividing their time between all their tasks was extremely difficult (Schmidt & Umans, 2014).

2.4.3 Personality and mindset

The personality and mindset of doctoral students has also been discussed within the literature. Some doctoral students lack confidence in their skills and abilities and think that they do not have the necessary qualities to complete a doctoral degree (Byrom et al., 2020; Hargreaves et al., 2017), and may potentially be experiencing imposter syndrome, which is well recognised amongst doctoral students (Byrom et al., 2020; Cornwall et al., 2019; Hargreaves et al., 2017). Some students may have perfectionist tendencies, where they set exceedingly high standards for themselves (Casey et al., 2022; Kearns et al., 2008; Moate et al., 2019; Park & Jeong, 2015). Setting high standards has been associated with improved well-being (Moate et al., 2019; Park & Jeong, 2015), suggesting that these students then may be better able to thrive in the challenging environment of doctoral study. However, students may feel extreme disappointment and be self-critical if they do not reach their own high standards, potentially causing stress, anxiety, depression, and poorer well-being (Kearns et al., 2008). Students may report feeling envy when they see peers achieving their goals but could not fully meet their own

expectations or academic commitments (Wang et al., 2019). Students may also display behaviours such as procrastination and taking on too many responsibilities at once, contributing to anxiety and poor well-being (Kearns et al., 2008). These difficulties may be occurring in part due to a mismatch in expectations of what a doctoral degree entails between the student and the department (Ali & Kohun, 2006; Casey et al., 2022; Garnder, 2010; Lin, 2012), which may have been caused by a lack of sufficient information at the offer or admission stage of the doctoral journey.

2.4.4 Overall health

A significant proportion of the 431 UK doctoral students in Byrom and colleagues' (2020) study considered their health to be poor or very poor. Doctoral students have reported experiencing negative physical health symptoms such as respiratory infections and sleep difficulties as a result of their doctoral degree (Juniper et al., 2012; Kernan et al., 2011). Poor overall health has been strongly associated with a decrease in mental well-being (Byrom et al., 2020; Gardner, 2009; Hopwood et al., 2011). Health issues, physical or otherwise, can contribute to a decrease in well-being and cause difficulty in pursuing doctoral degrees (Byrom et al., 2020; Gardner, 2009; Hopwood et al., 2011), due to difficulty in managing their health difficulties as well as a demanding workload (Cowling, 2017; Gardner, 2009). Doctoral students also reportedly experience a number of pressures related to their academic work resulting in elevated levels of stress (Jairam & Kahl, 2012; Kernan et al., 2011; Kurtz-Costes et al., 2006; Martinez et al., 2013; Virtanen et al., 2016; Wyatt & Oswalt, 2013). For most doctoral students, stress is caused by multiple triggers, where the more stressors experienced, the more stressed they tend to

feel (Wang et al., 2019). Stress for doctoral students is typically caused by upcoming deadlines, experiencing financial constraints, a lack of time, personal issues and taking on additional academic responsibilities in order to develop their career and advance their academic experience (Jairam & Kahl, 2012; Martinez et al., 2013). High levels of stress can be damaging to well-being and potentially result in student burnout and neglect of academic work (Perepiczka & Balkin, 2010; Stubb et al., 2011) or even consideration of discontinuing their doctoral degree (Anttila et al., 2015; Hazell et al., 2021; Stubb et al., 2011).

2.5 Environment

According to Law et al. (1996), the environment is considered to be the context in which occupational performance occurs. Environments can also be seen as contexts or situations which occur for individuals and evoke responses in them, where environments have the potential to help or hinder engagement in meaningful occupations (Law, 1991). While this definition is over thirty years old, it is still being used within the current literature. As environmental factors have such power to cause dysfunction in occupation for individuals, there is a need to review individuals within their environmental contexts (Law, 1991). Environmental contexts may include physical, social, socioeconomic, cultural and temporal dimensions.

2.5.1 Physical Environment

The physical environment includes natural and built non-human areas and the items or objects in them (AOTA, 2014). The physical environment of doctoral students would typically refer to their university campus including the physical resources they have

access to as well as their study spaces and in some cases, accommodation. Resources will vary greatly from campus to campus and very little literature is available regarding the physical environment of doctoral students. Pragmatic issues can sometimes cause difficulty for doctoral students such as not being able to access resources including books, hardware, software, equipment, information, or fieldwork sites (Hopwood et al., 2011).

2.5.2 Social Environment

The social environment refers to the "people or animals that provide practical physical or emotional support, nurturing, protection, assistance, and relationships to other persons in the home, workplace, or school or at play or in other aspects of their daily activities" (AOTA, 2020, p.38). Students access many sources of support during their doctoral degree including from within their department and research community including their supervisors and fellow doctoral students (Pyhältö et al., 2009; Vekkaila et al., 2016), as well as outside the research community through family and friends (Hopwood, 2010).

The relationship between supervisor and student is essential during the doctoral journey (Schmidt & Umans, 2014; Zhao et al., 2007), as supervisors are central sources of support for doctoral students (Devos et al., 2017; Hunter & Devine, 2016; Metcalfe et al., 2018; Schmidt et al., 2014). Supervisors have a key role in the satisfaction and academic achievement of students, where they can hinder or facilitate student success (Solem et al., 2011; Zhao et al., 2007). A longitudinal narrative inquiry study of two universities in the UK found that student and supervisor interactions were largely positive (McAlpine &

McKinnon, 2013). Similarly, positive relationships with supervisory teams appear to be key in successful doctoral completion (McCallinn & Nayar, 2012; Zhao et al., 2007), with students valuing the advice, connections and support they receive from their supervisors. Positive supervisory relationships can involve precise and timely feedback, frequent supervision meetings, a supportive relationship and encouragement (Sverdlik et al., 2018). Taken together, these findings emphasise the essential nature of a collaborative supervisory relationship based on shared goals, support and agreed responsibilities. Nevertheless, some doctoral students cite issues with their supervisory teams, where supervisors can be distant, uninterested, and unsupportive (Byrom et al., 2020; Jairam & Kahl, 2012; Wang et al., 2019), potentially creating a negative doctoral experience for students (Moxham et al., 2013), and leaving students with little or no guidance. In some cases, supervisors may lack academic expertise in the research area of the doctoral student, which has an impact on the work and well-being of the student (Casey et al., 2022). Supervisors themselves often report feeling overworked (Wisker & Robinson, 2016), and therefore may perceive this as a normal part of the academic experience.

Connecting with other students who are undergoing similar experiences is highly valued by doctoral students as they feel understood, receive advice and guidance (Jairam & Kahl, 2012; Jazvac-Martel, 2009; Schmidt & Umans, 2014), as well as support to negate loneliness (Casey et al., 2022), all of which can contribute greatly to student well-being (Schmidt & Umans, 2014). Furthermore, the positive social connections that doctoral students accrue during their degree typically transfer to post-doctorate life (McAlpine & McKinnon, 2013; Wisker et al., 2017). However, peer groups may also be a source of

conflict (Boud & Lee, 2005), by creating issues such as creating anxiety, peer pressure and competition to obtain more lucrative academic positions (Boud & Lee, 2005; Jairam & Kahl, 2012), which have the potential to hinder degree completion and negatively impact well-being. Many students from across the globe have also reported a lack of an academic community within their campus (Cornwall et al., 2019; McAlpine et al., 2009; Pyhältö & Keskinen, 2012; Sakurai et al., 2012; Trout, 2018). This may be due to the fact that not all doctoral students have equal access to social support (Lahenius, 2012; Waight & Giordano, 2018) as part-time students, those at a distance from campus or students doing their degree remotely may miss in-person interactions.

The social environment of doctoral students also extends to include close friends and family members (Hopwood, 2010). Support from family and friends helps to reduce stress (Hazell et al., 2020) and maintain well-being (Martinez et al., 2013; Schmidt & Umans, 2014) as students have others to listen to their concerns and provide feedback (Smith et al., 2006). However, not all doctoral students experience a positive social environment. Doctoral students report that it is difficult to maintain their social relationships (Dabney & Tai, 2013), and engage in social occupations (Juniper et al., 2012). Peltonen et al. (2017) found that many doctoral students did not have a supportive social environment when undertaking their degree, which had a negative impact on academic performance and well-being. Loneliness is a strong predictor of mental health symptoms (Berry et al., 2021), and attrition (Smith et al., 2006) among doctoral students.

2.5.3 Cultural Environment

The cultural environment has been described by the AOTA (2014) as the customs, beliefs, patterns of activity, behaviours, and expectations accepted by the community of which an individual is a member. For doctoral students, this would refer to the culture of their academic community. Despite research on doctoral education increasing over the last number of years due to concern over the mental health and well-being of doctoral students, some topics such as the role of academic cultures are still being examined. However, a large US-based mixed methods study by O'Meara et al. (2014) using both surveys and interviews, focused on the departmental environment of doctoral students. Findings suggest that departments have a major role to play in the experiences of doctoral students through socialising them into the department as well as managing the opportunities available to students in terms of skills and resources (O'Meara et al., 2014). The cultural environment of universities can sometimes be a negative experience for doctoral students, particularly if departmental politics filter down to the students (Gardner, 2009). In doctoral degrees, there is an expectation of sustained mental effort and long working hours (Metcalfe et al., 2018) which can lead to conflicts between work and personal time (Metcalfe et al., 2018; Sverdlik et al., 2018) and therefore a decrease in occupational balance and well-being (Wagman et al., 2012; Wilcock, 2006). Doctoral students have also identified a lack of collaboration between staff and students, which they cite as impeding their academic progress (Sverdlik et al., 2018). Departmental cultures and practices play a role in doctoral attrition (Barnes & Randall, 2012; Gardner, 2009). However, some supervisors and departmental staff tend to attribute student failure

due to the personal characteristics of students themselves (Ali & Kohun, 2006; Gardner, 2009). While this could be caused by the student departing their studies without giving a reason, this perspective may discourage departments from reflecting on their existing structures and practices, which could benefit future students. In order to be alleviated, this culture needs to be challenged. Hargreaves et al. (2017) believe that improving the cultural environment of institutions will encourage all individuals to feel like they belong to the community and assist both staff and doctoral students to increase their well-being. Contrary to the narrative that doctoral study is challenging and a negative experience, Byrom et al. (2020) found many positive experiences such as a positive academic network and feeling well prepared to carry out their academic work. Highlighting these positive experiences is essential to challenge cultural narratives that may not be experienced by all (Guthrie et al., 2018).

2.5.4 Temporal Environment

The temporal environment has been defined as the experience of time as it is moulded by engagement in occupations (AOTA, 2014). While some doctoral students perceive time as a positive aspect of their degree in terms of autonomy and flexible working hours (Schmidt & Umans, 2014), time constraints are more often reported within the literature (Levecque et al., 2017; Mantai, 2019; Martinez et al., 2013; Metcalfe et al., 2018; Schmidt & Umans, 2014). Within doctoral studies, it is considered that the main work of the student is completing course work, research and writing their thesis (Stubb et al., 2011), which can result in long working hours and conflicts between work and personal time (Casey et al., 2022; Metcalfe et al., 2018; Sverdlik et al., 2018). Time management

is also a large challenge for doctoral students (Martinez et al., 2013). While they make great efforts to manage their time and prioritise different tasks, doctoral students can still find it difficult to complete work within the time they have. Time is a fundamental aspect to balancing education, work, and personal life, and balancing these roles is a central challenge of doctoral study (Levecque et al., 2017; Martinez et al., 2013; Metcalfe et al., 2018; Schmidt & Umans, 2014). Students have reported a lack of time for leisure or social occupations, which correlates with high levels of burnout (Galdino et al., 2016) mental health difficulties (Uqdah et al., 2009), lower well-being (Pocock et al., 2011) and occupational imbalance, with negative implications for well-being (Håkansson et al., 2009; Larson & Zemke, 2003; Wilcock et al., 1997).

2.5.5 Socioeconomic Environment

Socioeconomic status, or environment of an individual, can be seen as a combination of an individual's economic and social status (Baker, 2014). While issues around the financial environment of doctoral students are still in greater need of attention, financial constraint is a reported stressor for doctoral students which can impact their well-being (El-Ghoroury et al., 2012; Wang et al., 2019). Doctoral degrees do not typically offer students large financial incentives (Casey, 2009). For example, the basic stipend equates to less than the minimum wage in the UK (Cornell, 2020). Some doctoral students must take a pay decrease or depart paid employment roles during their doctoral journey (Bryan & Guccione, 2018). This may pose more of a difficulty for those who are self-funded or approaching the end of their funding period (Metcalfe et al., 2018; Wang et al., 2019). Others are forced to juggle multiple paid employment roles as well as their education to

financially provide for themselves (Metcalfe et al., 2018; Wao & Onwuegbuzie, 2011), creating a greater demand on their already limited time. Financial difficulties during a doctoral degree can have several negative consequences such as attrition due to an inability to live on their finances (Gardner, 2009; Van der Haert et al., 2014), even if holding esteemed scholarships (Wendler et al., 2012), experiencing low mood and depressive symptoms (Ali & Kohun, 2006), unhealthy eating habits and a lack of disposable income for leisure or social occupations (Metcalfe et al, 2018). These consequences can also extend beyond the doctoral degree as there may be outstanding fees or loans to be paid (Bryan & Guccione, 2018), further impacting the student's lifestyle and well-being. There is scattered existing research on how financial opportunities affect the well-being of doctoral students. However, improved access to funding through grants or scholarships has been found to correspond with higher levels of satisfaction within the doctoral experience, as well as lower attrition rates (Ali & Kohun, 2006; Leijen et al., 2016; Litalien & Guay, 2015).

2.6 Occupation

Occupation can be defined as groups of tasks and activities that are self-directed and functional to the person engaging in them over their lifespan (Law et al., 1996), and which are a vital part of human development and lived experience (Law, 2002). A person engages in occupations in order to meet their needs for self-maintenance, satisfaction and expression, where their occupations occur in the context of their personal aspects and roles and multiple environments (Law et al., 1996). Occupations are often classified into three broad domains; self-care, productivity, and leisure (Christiansen et al., 2005). This categorisation of occupation has been considered to be

problematic (Hammell, 2009a; Townsend & Polatajko, 2007) as occupations can differ in their meaning to individuals at different times (Primeau, 1996). Moreover, these categories suggest that the values of occupational therapy reflect political and economic agendas rather than human development or well-being (Hammell, 2009b). Many occupations also may not fit within these three categories and may not be divisible concepts for some individuals (Hammell, 2009a). Hammell (2009b) advocates that an individual's diverse perspectives on defining occupations should be accounted for and therefore, proposes a new categorisation of occupation in four domains; doing occupations, restorative occupations, occupations fostering belonging, connecting and contributing, and occupations reflecting life continuity and future hope.

2.6.1 Doing occupations

Doing occupations refer to occupations that individuals feel provide them with a sense of purpose and meaning in everyday life, therefore contributing to their well-being (Hammell, 2009b). They might include activities that are related to self-care as well as productivity like paid employment, volunteering opportunities, education, and home maintenance (Hammell, 2009b). Doctoral students experience several competing demands which they must juggle, many in the form of doing occupations. Stubb et al. (2011) considers the main work of the doctoral student to be completing academic work associated solely with their degree. Therefore, the doctoral degree itself can be considered a main doing occupation of this population. For many, this may include engaging in mandatory course work, attending lectures and seminars, completing competency examinations and overall, producing a research dissertation in their area of

academic interest that will make a significant contribution to their field of work (Hopwood et al., 2011; Moate et al., 2019).

Doctoral students also have a variety of non-academic doing occupations. It is not uncommon for doctoral students to engage in paid non-academic work as it is necessary for these individuals to support themselves and perhaps their families financially (Martinez et al., 2013; Smith et al., 2006; Usher & McCormack, 2021). Doing occupations may also include caring for others including children, spouses, parents or relatives, household chores and managing finances (Hopwood et al., 2011; Smith et al., 2006). These extra roles, responsibilities and commitments place great demands on the time and energy of doctoral students and can result in lower levels of satisfaction, and difficulties with motivation and completing research-related work (Martinez et al., 2013; Smith et al., 2006). Juggling the multiple demands of a doctoral program with other life responsibilities can cause doctoral students to experience high levels of stress and frustration (Metcalfe et al., 2018; Schmidt & Umans, 2014), making it challenging for individuals to maintain a sense of occupational balance (Wilcock, 2006) and well-being (Stubb et al., 2011).

2.6.2 Restorative occupations

Restorative occupations are occupational experiences that contribute to an individual's well-being (Hammell, 2009b). These occupations may not be purposeful but can be experienced as meaningful and rewarding (Jonsson & Persson, 2006). In one study, moments that are relaxing and stress free were classified as self-care or restorative

(Martinez et al., 2013). Restoration can range from smaller moments like watching television (Martinez et al., 2013), to going abroad on holiday (Hopwood et al., 2011). Exercise, such as biking, walking or yoga, has also been discussed by doctoral students as meaningful and a vital restorative occupation to maintain health and well-being (Byrom et al., 2020; Hopwood et al., 2011; Kumar & Cavallaro, 2018). Individuals who practise continuous and ongoing engagement in restorative and self-maintenance practices, have shown to have lower stress levels and improved mood and well-being as well as enhanced professional functioning (Creely & Laletas, 2020; Martinez et al., 2013; Zahniser et al., 2017). However, some doctoral students have identified that they feel when they are participating in other occupations or activities outside of their doctoral degree, they experience feelings of guilt and that their time away from their work would hinder their progress (Cornwall et al., 2019; Dabney & Tai, 2013; Schmidt & Umans, 2014).

Sleep is also an important restorative occupation (Hammell, 2009b). While there is no ideal amount of sleep each night that can apply to all (Chaput et al., 2018), there is a general recommendation that adults should be sleeping for a minimum of 7 hours per night to promote optimal health (Watson et al., 2015). However, studies have shown that doctoral students report sleeping less than this recommendation (Levecque et al., 2017; Panger et al., 2014). In several studies, doctoral students reported sleeping for approximately 6 hours each night, where some reported sleeping for less than 6 hours nightly (Allen et al., 2020; Byrom et al., 2020; McKinzie et al., 2006). Although there was a lack of consistency with the measures used for sleep within these studies,

potentially limiting how they can be compared, insufficient sleep among doctoral students is associated with fatigue, lower mood, and poorer daytime functioning (Chaput et al., 2018) as well as stress (McKinzie et al., 2006) and poor mental well-being (Byrom et al., 2020; Marais et al., 2018).

2.6.3 Occupations that foster belonging, connecting, and contributing

This category of occupation is associated with experiencing belonging, connecting, contributing, and caring for others, where these occupations are associated with feeling valued and valuable to others (Hammell, 2009a). The commitments of doctoral students, whether academic or not, play a large and significant role in their well-being (Hopwood et al., 2011). Firstly, connecting with and receiving support from family and friends has been highlighted as essential for the success of doctoral students and their well-being (Dabney & Tai, 2013; Martinez et al., 2013; Schmidt & Umans, 2014). Breitenbach et al. (2019) found that students mostly reported positive experiences of family support as family members took care of responsibilities such as household chores or engaging in regular phone calls if living far away. Many of these studies were conducted in a qualitative manner, therefore providing student-centred insights into their own experiences, allowing for a deeper and nuanced understanding of their lives within their doctoral journey.

As discussed previously, supervisors are key individuals and have an essential role in a doctoral student's journey due to the support and academic guidance they can offer (Devos et al., 2017; Hunter & Devine, 2016; Metcalfe et al., 2018; Schmidt et al., 2014).

Supervision is a core occupation in the lives of doctoral students and is one of the most researched factors in terms of doctoral student well-being. Poor supervision practices and infrequent meetings have been linked with stress, burnout, mental health difficulties as well as attrition (Corner et al., 2017; Levecque et al., 2017; Travaglianti et al., 2018), as students are left to carry out their various responsibilities themselves with little or no guidance or feedback (Wang et al., 2019). In contrast, positive supervision practices such as increased frequency of meetings (Hunter & Devine, 2016) have been linked with reduced attrition and better mental health (Begin & Gerard, 2013; Hunter & Devine, 2016; Levecque et al., 2017), as supervisors share instrumental expertise, advice, and knowledge during these meetings (Jairam & Kahl, 2012). Currently, there are no standardised courses, training, or policies to become a research supervisor within Ireland. It is the responsibility of institutions to set their own guidelines for academic staff, meaning supervisors often must learn through experience (Grant et al., 2014).

Students can connect with one another and contribute to their research community by exchanging information, providing feedback, and sharing their feelings in order to receive support and guidance from others who were undergoing the same experience (Jairam & Kahl, 2012; Jazvac-Martel, 2009). Students who perceive themselves as belonging to their research community tend to have a positive doctoral experience, lower levels of stress, higher levels of interest in their studies and are less likely to consider leaving their studies (Gardner, 2010; Pyhältö et al., 2009; Stubb et al., 2011; Wisker et al., 2007). Belonging is a basic human need, and is directly linked with well-being (Ryff, 2013), and has been cited as an essential requirement for success at higher education

(Chapman, 2013). However, the experience of belonging is an essential but not sufficient element for the development of positive well-being among doctoral students, meaning that having a sense of belonging did not guarantee well-being (Stubb et al., 2011), but belonging can increase well-being (Ryff, 2013). Aiming to acquire a sense of belonging is part of human occupational nature, as complex or challenging occupations, such as completing a doctoral thesis, often require skill-sharing and collaboration with other individuals (Sadlo, 2016).

2.6.4 Occupations reflecting life continuity and future hope

This category of occupation may refer to an individual's dreams, aspirations, goals, and their abilities (Hammell, 2009b). Doctoral students' motivation for undertaking a doctoral degree greatly varies, and subsequently has an impact on their well-being and how they progress in their degree. Many students cite academic goals as a core motivator for pursuing their doctoral degree (Wao & Onwuegbuzie, 2011), however, some have an interest-oriented motivation and want to receive an academic title (Wang et al., 2019). This may cause these students to become stressed by focusing only on the benefits and neglecting to consider the difficulties associated with obtaining this title. A large study conducted by Levecque et al. (2017) in Belgium has highlighted the many similarities between European doctoral programs and those across other continents and found that doctoral students who expressed a high interest and confidence in achieving an academic career following their degree appeared to experience higher levels of positive mental health and well-being.

While some doctoral students feel adequately prepared to carry out their doctoral studies (Byrom et al., 2020), interviews with career advisors across several higher-education institutions in the UK highlighted that many doctoral students were seeking assistance as they were experiencing stress due to concerns regarding the next steps in their careers (Metcalfe et al., 2018). There are few academic positions available for doctoral graduates (Cyranoski et al., 2011; Mason et al., 2009; Sauermann & Roach, 2012), meaning there is greater competition between doctoral students to acquire a position following degree completion. Earning potential post-doctoral degrees is not correspondingly high (Casey, 2009), where several are left to enter jobs that are unrelated to their degree or below their qualification level (Auriol, 2010; Lauder & Mayhew, 2020). Poor long-term career prospects can cause stress (Byrom et al., 2020; Cornwall et al., 2019; Metcalfe et al., 2018; Pommier et al., 2022), and have a negative impact on well-being (Walsh & Juniper, 2009).

Extra opportunities and experiences also offer doctoral students a chance to fill gaps in development and skills and were cited as important post-graduation (Bryan & Guccione, 2018). Many students undertake extra occupations in an attempt to be involved in the department research culture and advance their career as they may feel under pressure to develop their skills and connections and pursue career advancement and future collaborations (Mantai, 2019; Metcalfe et al., 2018). Many students participate in other research projects or teams, in research committees, engage in university teaching or provide tutorials and less often, some students conduct institutional administration or committee work (Hopwood et al., 2011; Moate et al., 2019; Smith et al., 2006).

2.7 Conclusion

Using the PEO model, the various personal, environmental, and occupational aspects of doctoral students were explored, with a key focus on how they contributed either positively or negatively to the well-being of this population. This review highlighted that doctoral student well-being is both complex and multi-faceted. It is also apparent that the negative impacts of doctoral study are more often reported within the literature in contrast to the positive impacts. This can create negative connotations with undertaking a doctoral degree and can be misleading and a misrepresentation of all doctoral student experiences. It became apparent while reviewing the literature that while there is international evidence around doctoral student well-being, there is a significant gap of doctoral literature within the Irish context. There is also very little evidence around the daily life of doctoral students, the occupations they engage in and how they impact well-being, which is what the current study aims to study.

Chapter Three: Scoping Review

A scoping review of occupation-based interventions reported within occupational science and occupational therapy

3.1 Introduction to Chapter Three

Much of the research conducted on the well-being of third-level students is centred around the prevalence of mental ill-health (Evans et al., 2018; Levecque et al., 2017; Woolston, 2019). There is noticeably less research on the measures that universities are implementing to promote positive mental health and well-being within the university environment alongside supports provided for students experiencing mental ill-health (Baik et al., 2019). Occupational therapy can contribute to addressing health difficulties at all three levels of the public health model, including universal, targeted, and intensive approaches (Bazyk, 2011). Therefore, in this chapter, the tiered public health approach to mental health proposed by Bazyk (2020), building on the World Health Organisation (2001), is used to frame a scoping review on occupation-based interventions within the occupational science and occupational therapy literature. Higher-level institutions have an obligation to provide their student populations with high-quality education as well as adequate well-being support during the course of their programmes (Baik et al., 2019; Hill et al., 2020; Litwiller et al., 2018). Therefore, higher-level institutions must consider how to support their student populations (Leshner, 2021). Appropriate programmes and supports for doctoral well-being needs to be in place to support student mental health and well-being, as well as support their smooth transition through their degree (Levecque et al., 2017; Jackman et al., 2021a; Mousavi et al., 2018; Waight & Giordano, 2018). This scoping review, therefore, seeks to map the extent and nature of occupation-based interventions reported within the occupational science and occupational therapy literature as well as identify to what extent the studies are of a

universal, targeted, or intensive nature. Clustering interventions according to their universal, targeted, or intensive nature can help to provide a clear and comprehensive overview of how occupation-based interventions are being delivered to different populations across the lifespan.

3.2 Occupation-based intervention

A defining trademark of occupational therapy is the emphasis on the power of occupation in health and well-being (Meyer, 1922, 1977; Slagle, 1934), where orchestrating daily occupations that are health promoting is a core goal of occupational therapy (Christiansen & Matuska, 2006; Meyer, 1922,1977; Wagman et al., 2012). Occupational therapy contributes to health promotion of the population by reducing risk factors and symptoms for ill health through participation in occupations, adapting the environment if necessary, and providing skill training in the context of daily occupations (Tokolahi et al., 2014). Successfully engaging in meaningful occupations provides individuals with purpose, meaning and structure in their daily lives (Kielhofner, 2002), as well as assisting in the development of skills for everyday occupations and consequently, affects well-being (Arbesman et al., 2013).

Within occupational therapy literature, three unique occupation-related terms have been used interchangeably, and not clearly defined; occupation-centred, occupation-based and occupation-focused. In 2013, Fisher untangled these three terms to offer definitions of and distinctions between them, concluding that each is a unique concept that is fundamentally different from the others (Fisher, 2013). Fisher considers occupation-centred to be a profession-specific perspective that holds occupation as a core focus of therapy and occupation-focused to be focused on occupation, where occupational engagement is the intended therapeutic outcome. Occupation-based practice then refers to using occupation as the therapeutic medium to assess and intervene

with individuals (Fisher, 2013), where the person is engaged in occupation. A scoping review focused on how occupation-centred, occupation-focused and occupation-based were represented within the literature (Ford et al., 2022). Findings from this review highlighted that there is an emerging body of research using these terms. However, some research papers have adopted Fisher's (2013) definition of these terms, whereas others did not define the terms they used or used the terms interchangeably (Ford et al., 2022). Having unclear and inconsistent definitions can result in a limited understanding of occupation is used in practice. Therefore, it is important that there is a common understanding and definition of these terms, such as those proposed by Fisher (2013).

Using occupations as tools of change to foster positive mental health and well-being has the potential to be meaningful and support better outcomes (Tokolahi et al., 2016). Due to this, it is necessary to both develop and evaluate interventions that are occupation-based; centred around individuals participating in daily occupations and activities (Fox et al., 2019). Therefore, this scoping review will focus on occupation-based interventions reported within the occupational science and occupational therapy literature, rather than those that are occupation-centred or occupation-focused. Furthermore, conducting research on occupation-based interventions, and their effectiveness, is a top research priority for occupational therapists across a range of healthcare settings (Mackenzie et al., 2017).

3.3 Method

The first framework for scoping reviews was provided by Arksey and O'Malley (2005). This scoping review follows the updated framework outlined by Levac et al. (2010), which is informed by Arksey and O'Malley (2005). Scoping reviews are an appropriate way to determine

the scope, body and volume of literature available on a particular topic, as well as illustrate a clear overview of the topic, and is therefore helpful to examine emerging evidence (Arksey & O'Malley, 2005; Munn et al., 2018). As this topic has not yet been explored in detail, a scoping review is warranted. From this, gaps in the literature can be found easily. The core goal of the scoping review presented in this chapter is to map the extent and nature of occupation-based interventions that have only been reported within the occupational science and occupational therapy literature. Only studies that specifically state that the intervention provided was occupation-based, as well as include detail about the occupation-based intervention and were carried out by occupational therapists, were included. The aim is not to assess the findings in detail or the quality of the included studies, therefore a scoping review is appropriate. From conducting a scoping review on this topic, it will allow for key factors and concepts in relation to occupation-based interventions for the student population to be clarified, as well as any knowledge gaps to be identified. The steps of the process are outlined below including; identifying the research question; identifying relevant studies; study selection; data charting; and collating, summarising and reporting results.

Identifying the research questions

This scoping review sought to address the following three questions:

1. What is the extent and nature of occupation-based interventions reported within the occupational science and occupational therapy literature?
2. To what extent are the identified studies of a universal, targeted, or intensive nature?
3. To what extent do the identified studies address the mental health and well-being needs of doctoral students using a universal approach?

Identifying relevant studies

The following databases were searched: Medline (EBSCO), Academic Search Complete, CINAHL Plus, APA PsychInfo, with the keywords: occupation-based, occupation-focused, lifestyle redesign, lifestyle design, occupational therapy-led, intervention, program, group. Boolean operators were used. From this search, 162 results were yielded, which reduced to 79 after exact duplicates were removed.

Study selection

There was no specific review period for articles, any article that fit the inclusion criteria was considered up to October 2022. Due to the large volume of papers, articles were screened for inclusion by the title and abstract only. Studies were selected using the inclusion and exclusion criteria detailed in Table 1. Thirty-five articles were then reviewed by full-text. Following this, three articles were excluded as one detailed the historical underpinnings of an intervention, rather than the intervention itself and two were poster presentations of research, not full articles. One further article was included as it was found to be the first study of a follow-up study found within the databases (Keptner et al., 2016), and was necessary to be included as it fit the inclusion criteria of this review and is required to preface the found follow-up study.

Table 1

Scoping review inclusion / exclusion criteria

Inclusion Criteria	Exclusion Criteria
Published in English language	Articles not focused on occupation-based intervention
Published in Occupational Science Occupational Therapy (OSOT) journals	Literature Reviews, Scoping Reviews, Narrative Reviews, Systematic Reviews
Published academic articles	Book Reviews, Intervention Protocols, Conference Presentations, Poster Presentations

Data charting

Thirty-three articles were thus included in the review. The data charting form captured information relating to the author(s) and year of publication; geographical location of the study; study population; sample size; if the intervention was of a universal, targeted, or intensive nature, using Bazyk's (2020) definitions; the intervention provided (type, duration and frequency) and the outcome of the intervention.

Collating, summarising, and reporting the results

An analysis of the extent, nature and geographical spread of the included studies was carried out, where results are synthesised and discussed below, as well as presented in tables. Articles were categorised according to their universal, targeted, or intensive nature, as decided by the researcher.

3.4 Findings

Thirty-three studies published between the years 1998 and 2022 met the inclusion criteria for this scoping review. Details of the studies are presented in Table 2. All occupation-based

interventions within these studies were conducted by at least one occupational therapist, where some also involved occupational therapy students, volunteers, or multidisciplinary team members.

Table 2
Information on the included studies

Tier, n (%)	Geographical Location, (n)	n of Participants	Year Range	Studies
Tier 1: Universal, 9 (27.3%)	US, (6) Canada, (2) UK) (11)	Between 7 and 361	1998-2022	• Cassidy et al., (2017) • Jackson et al., (1998) • Keptner et al., (2016) • Keptner (2017) • Leland et al., (2016) • Levasseur et al., (2019) • Levasseur et al., (2022) • Mountain et al., (2008) • Scurlock (2015)
Tier 2: Targeted, 16 (48.5%)	US, (4) Ireland, (4) Sweden, (2) Israel, (2) Canada, (2) China, (1) New Zealand, (1)	Between 4 and 113	2001-2012	• Boland et al., (2019) • Fabrizi et al., (2016) • Hersch et al., (2012) • Hynes & Forwell (2019) • Mangum et al., (2019) • Newman et al., (2019) • Ng et al., (2013) • O'Toole et al., (2013) • Olsson et al., (2020) • Orban et al., (2014) • Rebeiro et al., (2001) • Rebeiro et al., (2021) • Reilly et al., (2018) • Rotenberg & Maeir (2018) • Steinhart et al., (2021) • Tokolahi et al., (2013)
Tier 3: Intensive, 8 (24.2%)	US, (5) Australia, (3)	Between 1 and 38	2010-2022	• Hermann et al., (2010) • Morgan & DiZazzo-Miller (2018) • Schindler (2010) • Shea & Jackson (2015)

				• Skubik-Peplaski et al., (2012) • Spalding et al., (2022a) • Spalding et al., (2022b) • Spalding et al., (2022c)

3.4.1 Universal

Nine studies reporting interventions of a universal nature were found in this review, which were published between the years 1998 and 2022. The study participants were reportedly in good health, the interventions were designed for all, whether participants had a disability or not, and interventions were designed to be preventative or health promotion programmes. In terms of the geographical location of these studies, the United States of America (US) contributed the most studies (n = 6), followed by Canada (n = 2) and the United Kingdom (UK) respectively (n = 1). Sample sizes ranged from smaller studies with 7 participants, to larger studies with 361 participants. All interventions were conducted in community settings.

The participants of the universal studies were mainly individuals who had engaged in Lifestyle Redesign ® intervention, who were well, community-dwelling older adults (Cassidy et al., 2017; Jackson et al., 1998; Leland et al., 2016), as well as samples both with and without disabilities (Levasseur et al., 2019; Levasseur et al., 2022; Mountain et al., 2008). Here, participants developed customised plans of lifestyle redesign and occupation was used in a personal way to navigate any difficulties they were experiencing with ageing. In the original programme (Jackson et al, 1998), participants engaged in the group for 2 hours per week alongside a 1-hour individual intervention

session per month, over a period of 9 months. However, replicated studies often took place over a shorter period including 3 months (Cassidy et al., 2015), 6 months (Levasseur et al., 2019, 2022) and 8 months (Mountain et al., 2008).

Two studies were conducted with 14 full-time first year university students (Keptner et al., 2016; Keptner, 2017), where occupational therapy services were provided for 1 hour per week over 5 weeks, and each session was based on an occupation-specific topic including leisure, sleep, work and education, instrumental activities of daily living (IADLs) and social participation. Another was conducted with well younger children between the ages of 5 and 8 (Scurlock, 2015), where the children engaged in physical activities and crafts, where activities focused on self-concept and positive social participation and teamwork.

3.4.2 Targeted

Sixteen articles described occupation-based interventions of a targeted nature, which were published between the years 2001 and 2012. The interventions targeted specific cohorts of individuals who were typically already receiving occupational therapy services, or who were at-risk of requiring occupational therapy services. Interventions were not intensive in frequency or duration and were typically community-based or outpatient in nature. Many interventions also did not aim to address individual needs specifically and typically took an education, self-management, or lifestyle approach. The US (n = 4) and Ireland (n = 4) contributed the most studies, followed by Sweden (n = 2), Israel (n = 2) and Canada (n = 2), and finally China (n = 1) and New Zealand (n = 1). Individuals across the lifespan were represented in these studies. Sample sizes were

generally small but varied greatly between each study and ranged from 4 participants to 113 participants. All groups took place within the community within outpatient clinics, residential facilities, and primary care centres, or online via telehealth.

A total of four studies were conducted with child participants and included children with anxiety (Tokolahi et al., 2013), children with obesity (Orban et al., 2014), young children with special needs (Fabrizi et al., 2016), and adolescents with myelomeningocele (Steinhart et al., 2021). Some studies also contained data from parents of the children (Fabrizi et al., 2016; Orban et al., 2014). Children in these studies represented a range of ages across childhood and adolescence, from 18 months to 18 years old and gender was typically equally represented in these studies. The largest cohorts receiving targeted occupation-based interventions were adult populations, as 9 studies of this nature were found in this review. Adult populations included mental health service users (Rebeiro et al., 2001; 2021), stroke survivors (Ng et al., 2013), individuals with multiple sclerosis (Hynes & Forwell, 2019; Reilly & Hynes, 2018), adult breast cancer survivors (Boland et al., 2019; Newman et al., 2019), survivors of sex trafficking (Mangum et al., 2019) and women at risk of or on sick leave (Olsson et al., 2020). While not every study reported the age of participants, participants tended to be middle-aged, and age ranged between 22 and 87 years old. Some studies were represented equally by males and females, whereas for the majority, the study participants were adult females. Three studies were conducted with older populations and included older adults transitioning to long-term care facilities (Hersch et al., 2012), older adults living with chronic disease (O'Toole et al., 2013) and elderly individuals with memory complaints (Rotenberg & Maeir, 2018). Participants in these studies would be considered elderly, where the average age of participants were

between 60 and 80 years old. Women accounted for a significant proportion of the participant population in each study, with 75%-80% of participants identifying as female.

While some studies did not mention the duration or frequency of their service (Rebeiro et al., 2001; 2021), many of the interventions were conducted for similar lengths of time. Sessions of a targeted nature lasted between 30 minutes and 2 hours, with the average session duration 1 hour. The frequency of groups varied, where many typically took place either once per week or between one to two times per month and were conducted over a period of between 8 weeks and 15 weeks for weekly sessions, and across one year for monthly sessions. Few programmes also offered 2 individual intervention sessions alongside their group sessions. Occupation-based sessions within these group interventions aimed for individuals to achieve their occupational goals and typically involved the use of occupation to learn new skills or enhance existing skills, revise lifestyles, and alter daily routines, rehabilitate, and educate participants.

3.4.3 Intensive

Eight studies reporting occupation-based interventions of an intensive nature were found, which were published between the years 2010 and 2022. These studies were conducted with cohorts who were experiencing more severe difficulties due to their diagnosis or multimorbidities. The interventions were of a greater or more intensive frequency and duration, with the intervention typically being individualised to the participants' particular needs, goals, and deficits. The US and Australia were the only locations represented, with

the US contributing the most studies (n = 5), followed by Australia (n = 3). Sample sizes were significantly smaller than universal or targeted interventions and ranged from smaller studies with 1 participant, to larger studies with 38 participants. Interventions of this nature were often conducted within the home of the participant, or within an inpatient rehabilitation hospital or at a location within the community.

Some of these intensive occupation-based interventions focused on providing services to individuals with severe physical diagnoses including stroke survivors (Hermann et al., 2010; Skubik-Peplaski et al., 2012), acute hospital inpatients (Spalding et al., 2022a, 2022b, 2022c), or individuals with multimorbidities (Morgan & DiZazzo Miller, 2018). In addition, some interventions were designed for individuals experiencing severe mental health difficulties including adults between the ages of 18 and 62 with psychiatric diagnoses (Schindler, 2010), and adolescents aged 15 to 18 with severe emotional and behavioural difficulties (Shea & Jackson, 2015).

These interventions were intense in terms of frequency and duration, where participants engaged in occupation-based functional activities multiple times per day or per week, for approximately 60 minutes each time, and many participants engaged in intervention until they had reached their identified goals. Occupation-based therapy was a core component of intervention, and whether intervention was conducted in a group or individual format, an individual and personalised approach was adopted, and used skill building or mentoring to achieve occupational goals and enhance competence in life roles.

3.5 Discussion

Evidently, occupation-based intervention is of sustained and growing interest to occupational therapists. This scoping review demonstrates that occupational therapists are delivering and evaluating occupation-based interventions with a wide range of populations across the lifespan. Over the last five years in particular, the number of publications has grown considerably as the majority (n = 28, 85%) were published in the last ten years since 2012, and almost half (n = 15, 45%) in the last five years since 2018. Studies also represented populations internationally. That said, there is an evident lack of representation of these studies in an Irish context, as only 4 out of the 33 studies were located within Ireland, and all of them were of a targeted nature. Occupation-based interventions for younger members of the population also appear to be underrepresented in this review. Of the nine universal studies, a significant proportion were focused on older adults. Only three studies were not, with one focused on children, and the remaining two on first-year university students. While participants of targeted studies did include a large range of ages and stages across the lifespan, a significant proportion were still adults or older adults, with only four of the sixteen studies focused on children and youth. Similarly, intensive interventions were conducted mostly with older populations with only one study focused on younger participants.

Whether occupation-based intervention was conducted at the universal, targeted, or intensive level, studies reported intervention to be successful and beneficial for participants. Engaging in occupation-based intervention resulted in goal achievement, increased occupational engagement and statistically significant improvements in occupational performance and performance satisfaction. A range of physical benefits were also noted including improved sleep, reduced Body Mass Index (BMI), reduced symptoms of anxiety, reduced impairment, and increased

function. Psychological benefits were also discussed including improved self-concept, increased expressions of hope and goals for the future, and developing a new network of peer support. Overall, participants experienced an improvement in perceived overall health, well-being, and quality of life. Many studies also found that these benefits were maintained over time. The positive results highlighted from each of the studies within this review suggest that regardless of age, gender, background or diagnosis, occupation-based interventions can provide a wide variety of benefits for those who engage in them. Moreover, this review provides evidence that occupational therapists have the knowledge and skills to deliver and evaluate these interventions successfully.

Interventions that were targeted in nature made up a significant proportion of this review (n = 16, 48.5%), with universal (n = 9, 27.3%) and intensive (n = 8, 24.2%) occupation-based interventions less reported. Targeted and intensive interventions are typically conducted with unwell populations, or those who are at risk of becoming unwell. Therefore, this finding is not surprising given that much occupational therapy intervention is situated within largely medical model contexts (Ahn, 2016; AOTA, 2015; Colaianni & Provident, 2010). Another reason for the smaller number of intensive studies could be due to these occupation-based interventions being provided to a smaller proportion of the population, as their needs are more complex. This perhaps also reflects the challenges in funding research that is not associated with particular diseases, and lifestyle interventions generally as complex interventions, and therefore studies on their effectiveness, are also costly to run (Faria et al., 2015; Wagner et al., 2020). There are also many methodological challenges with complex intervention studies such as occupation-based interventions (Datta & Petticrew, 2013). Regarding universal interventions, Moll et al. (2013)

and others (Hocking, 2013; Townsend & Polatajko, 2007; Wilcock, 1993; Wilcock, 2001) call for the benefits associated with engaging in occupation to be promoted within public health, where all members of the population can benefit. It is important for occupational therapists and occupational scientists to share how occupation has positive implications for health at the personal, community, national and international level (Wilcock, 2006). Therefore, occupational therapists and occupational scientists could focus on designing large scale, empirical studies of occupation-based interventions at the universal level.

Two universal studies were conducted with university students (Keptner et al., 2016; Keptner, 2017). Both studies highlight the benefit of occupation-based intervention in supporting students to successfully transition into university. No occupation-based interventions with doctoral students were found. According to Watson and Turnpenny (2022), postgraduate students are a population that can often be overlooked, as they are typically not considered to be staff and often represent a smaller proportion of an institution's student body. Universities have a role and responsibility in supporting the mental well-being of their students in order to fulfil their core mission of providing students with high-quality education and positive outcomes in terms of graduation (Baik et al., 2019; Hill et al., 2020; Litwiller et al., 2018). Early intervention strategies have the potential to identify doctoral students who may require support and enable them to access this support if they are concerned (Jackman et al., 2021b). Early intervention strategies could be considered part of a universal approach as they relate to health promotion and preventative healthcare. Health promotion is a key concept of occupational therapy (Wilcock 1998, 2002), where occupational therapists are encouraged to be involved with promoting health amongst the public (Scriven & Atwal, 2004). Occupational therapists offer preventative

healthcare services to all individuals as well as promote the health and well-being of whole populations by delivering interventions designed to include all, whether they are experiencing ill-health or not (Filiatrault et al., 2015). The well-being needs of doctoral students are only being recognised relatively recently (Berry et al., 2021; Evans et al., 2018; Hazell et al., 2021; Ogilvie et al 2021; Woolston, 2019). While doctoral students typically can access the same supports as undergraduates, such as disability support services, counselling and career advice services, there is typically a lack of dedicated supports, services, and interventions for doctoral students within universities (Waight & Giordano, 2018). Doctoral students have concerning difficulties and distinct needs and so merit more interventions to support well-being (Watson & Turpenny, 2022; Worsley et al., 2020).

3.6 Limitations

This review has some limitations. The choice to exclude articles that were not published within occupational therapy and occupational science journals meant that occupation-based interventions published to a wider audience within interdisciplinary journals (for example Hunt & Coombes, 2021) were not included. The geographical spread of the articles may reflect the limits applied during searching in terms of including studies written in the English language only, or the Western perspective, which are more often reported within the occupational science and occupational therapy literature (Hammell, 2013, 2018; Mahoney & Kiraly-Alvarez, 2019).

3.7 Conclusion

This scoping review builds on the existing literature by identifying and mapping occupation-based interventions reported within the occupational science and occupational therapy literature

as well the extent to which the identified studies are of a universal, targeted, or intensive nature, and involve doctoral students. Thirty-three studies were identified for this review. This review highlights that occupation-based intervention can be successfully used with a range of individuals across the lifespan. However, occupation-based interventions for university students are limited. Moreover, there are no such studies targeting doctoral students. Encouraging positive student mental health and well-being involves a whole university approach and coordinated action plan through a range of approaches (Leshner, 2021; Worsley et al., 2020), including occupation-based interventions (Hunt, 2021) and targeted supports for doctoral students.

Chapter Four: Research design

4.1 Introduction to Chapter Four

The aim of this study is to explore and describe the daily life experience of doctoral students and how undertaking a doctoral degree may impact their occupational balance and well-being, as well as their experience of participating in the "*Everyday Matters: Healthy Habits for University Life"* digital badge (EMDB). This chapter outlines the design of this research study, the decisions made during the research process and how the research was carried out. Qualitative research is discussed in terms of its suitability for this research study. The methodology adopted for this study is informed by an interpretive descriptive approach, which is also justified in this chapter. The sampling and recruitment of participants, as well as methods of data collection and data analysis are also described. The EMDB is also presented. The ethical considerations that shaped how the research was conducted are also detailed. Similarly, methods of improving trustworthiness are described.

4.2 Qualitative research

While student experience has previously been studied both qualitatively and quantitatively, or by mixed methods, this research study encompasses a qualitative research design. The purpose of qualitative research is to explore and understand the meaning of human actions through describing human experience (Denzin & Lincoln, 2011 as cited by Tomaszewski et al., 2020; Hammersley & Traianou, 2012). According to Lincoln and Guba (1985), qualitative research relies on the research participants and their in-depth responses to open-ended questions about how they experience a particular phenomenon, and how this is understood by them. Considering

each individual's experience and perspective is unique, this design assists researchers in accessing the thoughts, opinions and feelings of participants (Sutton & Austin, 2015). Therefore, the researcher can gather more information about this particular phenomenon due to the richness, detail and descriptive nature of the conversation (Jackson et al., 2007). Qualitative research methods are often used in medical and health research as they provide several ways for researchers to explore and understand the contexts and environments in which individuals function, enabling a clear and comprehensive understanding of several aspects of health (Kuper et al., 2008).

4.3 Methodology

The research methodology refers to identifying and using the most suitable approach in addressing research questions (Kaplan, 1964 as cited by Jackson et al., 2007). Research methodologies propose how studies should be carried out through specifying what research gaps should be identified and examined, how these gaps should be explored and also how suitable data generation methods should be developed (Jackson et al., 2007). There are a multitude of qualitative approaches to guide carrying out research such as phenomenology, ethnography, grounded theory, and case studies. While each of these approaches were considered for this research, this study is informed by an interpretive descriptive approach.

4.3.1 Interpretive description

Interpretive description (ID) is a qualitative research methodology, originally developed within nursing science (Thorne, 2016), that aims to advance and expand clinical understanding and practice in a holistic and interpretive manner (Thorne et al., 1997). An

ID approach is being used by researchers more frequently across a wide variety of health disciplines (Thompson Burdine et al., 2021), as this approach is a method of addressing complicated experiential research questions that are applicable to a variety of health disciplines (Hunt, 2009; Thorne et al., 1997).

ID allows qualitative researchers to examine a particular phenomenon and gain a deeper understanding of the subjective reality of an individual or group of individuals (Hunt, 2009; Thompson Burdine et al., 2021; Thorne et al., 1997). ID is aligned with the idea that realities are subjective to the individual person and therefore, studies of this nature are focused on the interpretive nature of human experience, where the constructed and contextual nature of an individual's experience is accounted for and varying contexts and concepts can be re-evaluated (Thorne, 2016). This approach is centred on the understanding that an individual's experiences are made up of complex interactions between both biological and psychosocial phenomena (Thorne, 2016). Through this approach, rich descriptions and interpretations of the participant's reality can be generated, while taking a host of factors such as experience and context into account.

Qualitative descriptive studies aim to discover, explore, and understand experiences and perceptions on a particular phenomenon (Bradshaw et al., 2017; Doyle et al., 2020; Kim et al., 2017). Descriptive studies should result in a rich and clear description of the experiences, perceptions or events of the participants and should directly come from the language used from the data collected (Sandelowski, 2010). An interpretive descriptive design then moves beyond the literal description of the data and attempts to interpret the

findings without moving too far from that description (Sandelowski, 2000). The findings of ID studies are not just a list of themes, they should create a narrative of the research topic being studied, yielding a deeper insight and account of participant experience and perspectives, where findings can inform clinical practice (Thorne et al., 2004). Therefore, this study will not only aim to provide rich descriptions of the perspectives of doctoral students, it will also seek to interpret the data collected to produce a comprehensive account of doctoral student experience, as well as engagement in the EMDB, and the meaning and implications it has for both higher-level education and occupational therapy practice.

4.4 Study design

4.4.1 Participants

The participants of this study included UCC-registered doctoral students who also registered for the *"Everyday Matters: Healthy Habits for University Life"* digital badge (EMDB). In ID studies, the participant population should consist of individuals who are knowledgeable about or experienced with the topic being studied (Thompson Burdine et al., 2021). Therefore, doctoral students themselves are best placed to speak about their own experience. Regardless of their full-time or part-time status or year of study, any UCC-registered doctoral student, who also registered for the EMDB, could participate in this study.

Sandelowski (1995) advises that sample sizes of qualitative studies should be large enough to provide a new and rich understanding of the phenomenon being studied, but also small enough to encourage a deep analysis of the data. Qualitative studies usually have smaller sample sizes than quantitative studies as they focus on an in-depth meaning of the phenomenon (Dworkin, 2012). Therefore, this research study aimed to have a sample size of 8 - 10 participants, to gather a variety of opinions and experiences. This also allowed for a detailed analysis of each case to be conducted (Robinson, 2014). The sample was predetermined and was defined by an inclusion and exclusion criteria, as demonstrated in Table 3.

Table 3
Participant inclusion / exclusion criteria

Inclusion Criteria	Exclusion Criteria
A full-time or part-time doctoral [PhD/MD/Practitioner Doctorate] student within University College Cork	Not a full-time or part-time doctoral [PhD/MD/Practitioner Doctorate] student within University College Cork
Is over the age of 18	Is under the age of 18
Is at any stage of their doctoral degree	Is not currently completing their doctoral degree
Has registered for the *"Everyday Matters: Healthy Habits for University Life*" digital badge	Has not registered for the *"Everyday Matters: Healthy Habits for University Life"* digital badge
Is fluent in English	Is not fluent in English

4.4.2 Methods

In ID research, data generation and data analysis occur simultaneously as they inform one another (Hunt, 2009; Thorne et al., 1997). ID studies do not aim to achieve data

saturation as this type of study is grounded on the belief that experience can have infinite variations and therefore, no participant will have the exact same experience. Rather, the focus is on generating a deeper understanding of each participant's perspective and experience, while also acknowledging that variations and outliers exist (Thompson Burdine et al., 2021). While focus groups may be used, the main method of data generation in ID studies is through interviews with individual participants (Thompson Burdine et al., 2021). Research interviews are also appropriate as they involve gathering information from the participants by eliciting stories and exploring the meanings and emotions associated with their experiences, where a deeper understanding of the topic can be generated (DeJonckheere & Vaughn, 2019; Rosetto, 2014; Targum, 2011). Therefore, the method of data generation for this study was carried out through the use of individual interviews with each participant.

Semi-structured interviews are often used within healthcare research as they have several central questions which define and guide the areas that the researcher wishes to explore, but also allows the interviewer or participant to deviate slightly from the topic to pursue ideas or responses in greater detail (Gill, 2008; Jamshed, 2014; Kallio et al., 2016). To explore the research topic systematically and comprehensively, a semi-structured interview guide was used. Consideration was given to the development, formulation, and sequencing of purposeful and focused questions (DiCicco-Bloom & Crabtree, 2006), that were open-ended in order to gather as much information about the topic as possible (Jamshed, 2014). The interview guide was informed by the study aims and explored how the participants experienced daily life while being a doctoral student, how being a

doctoral student can positively or negatively impact daily life and meaningful activities and how participation in the EMDB may have impacted their daily life and well-being. The impact of the Covid-19 pandemic on doctoral student life was not examined specifically.

Interviews were carried out online via Microsoft (MS) Teams as this video conferencing tool has been approved by UCC. Video-call has been identified and used as an appropriate alternative to face-to-face interviewing (Janghorban et al., 2014; Sedgwick & Spiers, 2009). The decision to use online methods was mainly due to the Covid-19 pandemic, which has not only changed society and the way people live their daily lives, but it has also changed the way that qualitative research can be conducted (Sah et al., 2020). As well as following guidelines, participants may be nervous or hesitant to meet in person to conduct interviews face-to-face (Sah et al., 2020). The use of virtual platforms to communicate have served as reliable, socially distant alternatives for researchers to continue in their data collection process (Chia et al., 2020; Lobe et al., 2020; Sah et al., 2020).

4.4.3 Pilot interviews

Before data collection commences, it is often recommended that researchers conduct at least one pilot interview in order to establish that the interview schedule is clear, understandable and will generate relevant data to the research questions (Kallio et al., 2016). A pilot interview can help to improve the interview guide (Jamshed, 2014), and allow the interviewer to practise their timing and conversational tone and techniques prior

to data collection (DeJonckheere & Vaughn, 2019). The researcher completed four pilot interviews with four doctoral students at various stages of their degrees. These doctoral students were recruited by the main researcher and one research supervisor via email by asking doctoral students within the School of Clinical Therapies, as well as other students the research supervisor was supervising. The main researcher did not have any previous contact with these students before the pilot interviews were arranged and conducted. This firstly involved trialling the research methods by conducting them using Microsoft Teams to ensure use of this platform was suitable for data collection interviews. Two of these pilot interviews were recorded to ensure that using an online platform would be compatible with recording devices for transcription, as well as facilitating reflection for the researcher upon listening back to the interviews. The pilot interviews were conducted to assess the accuracy and appropriateness of the interview guide, as well as for the interviewer to practise her interviewing style and gain confidence in the questions and layout of the interview. The intended interviewing method was semi-structured with questions to be asked in the form of a conversation with the participants, so it was essential to assess whether the questions followed one another in a logical manner and whether they promoted dialogue and could be easily understood by participants. For the purposes of the pilot interview, the interviewees were only asked the questions around daily life, occupational balance, and well-being, as none of the interviewees had participated in the EMDB. The review of the pilot studies revealed that some questions were similar and gathered the same information and therefore some questions were removed, and others were reworded to ensure they were seeking the appropriate information. The pilot studies also highlighted that the sequence of questions was not

optimal, meaning that topics had to be revisited later in the interview, therefore the sequence was changed to facilitate better flow in the interview.

4.5 Recruitment process

Ethical approval for this study was granted by the Social Research Ethics Committee (SREC) of UCC in April 2022 (Appendix A). An ethical approval amendment, in relation to expanding the inclusion criteria of participants was sought and approved in May 2022.

Purposive sampling methods were used to recruit participants by deliberately and purposefully selecting participants that will be the most fruitful in answering the question (Farrugia, 2019; Robinson, 2014). All doctoral students who completed the EMDB were invited to participate in this study, by the gatekeeper, Dr. Eithne Hunt, the coordinator and facilitator of the EMDB. The gatekeeper disseminated an information letter (Appendix B) via email and a Canvas announcement to the potential participants via the EMDB Canvas course homepage. This information letter detailed the inclusion and exclusion criteria for participation, the purpose of the study, what was involved in participation and uses of the data. Potential participants were given two weeks to consider their participation in the study and given the opportunity to clarify any of the provided information or ask any questions to the researcher or research supervisors. Upon volunteering to participate, students were directed to complete an online consent form and demographic questionnaire via Microsoft Forms (Appendix C), before a suitable interview day and time was scheduled and an interview topic guide was provided.

4.5.1 Recruited Participants

The recruitment process resulted in the recruitment of 10 individuals for participation, all of whom completed the Microsoft Form consent form and demographic questionnaire. In order to gather enough data, 10 participants was the minimum number agreed by the main researcher and research supervisor. It was an aim to recruit more than 10 participants, however, due to time constraints as well as a small pool of potential participants, more participants were unable to be recruited. All participants were asked if they had access to and consented to using Microsoft Teams to conduct the interview. When the interview day and time was established with each participant, they were each provided with a brief topic guide of the interview questions (Appendix D). Table 4 below provides an overview of participants' academic information and Table 5 demonstrates the participants' demographic information.

Table 4
Participant Academic Information

	Pseudonym	Year of Study	Status	Based	Department
1	Anna	3	Full-time	At home	Arts, Celtic Studies & Social Science
2	Colin	3	Full-time	Campus office	Business and Law
3	Ellie	3	Full-time	At home	Medicine and Health
4	Angela	1	Part-time	At home	Arts, Celtic Studies & Social Science

5	Tim	1	Part-time	Library	Medicine and Health
6	Carol	3	Full-time	Campus lab & office	Science, Engineering & Food Science
7	Nora	2	Full-time	Home & campus	Science, Engineering & Food Science
8	Katie	1	Full-time	At home	Arts, Celtic Studies & Social Science
9	Miranda	4	Full-time	Home & Lab	Science, Engineering & Food Science
10	Amy	5	Full-time	Lab	Science, Engineering & Food Science

Table 5
Participant Demographic Information

	Pseudonym	Gender	Age Range	Relationship Status	Paid employment	Children
1	Anna	Female	25-34	In a relationship	No	No
2	Colin	Male	25-34	In a relationship	No	No
3	Ellie	Female	25-34	In a relationship	Yes	No
4	Angela	Female	55-64	Married	Yes	Yes
5	Tim	Male	45-54	Married	Yes	Yes
6	Carol	Female	25-34	Single	No	No
7	Nora	Female	25-34	Single	No	No
8	Katie	Female	25-34	In a relationship	No	No
9	Miranda	Female	25-34	Single	No	No
10	Amy	Female	35-44	Married	No	Yes

4.6 The *"Everyday Matters: Healthy Habits for University Life"* digital badge (EMDB)

4.6.1 Description of programme

The *"Everyday Matters: Healthy Habits for University Life"* (EMDB) is a co-curricular micro-credential (digital badge) at UCC and was developed by Dr. Eithne Hunt. It was established originally with the intention of supporting first-year university students in their transition to university by increasing their preparedness for life at university. The underpinnings of this programme are informed by the relevant scientific research and theory in occupational science and occupational therapy, positive psychology, and developmental neuroscience. Across eight sessions, participants are encouraged to explore some practical everyday things that they can both say and do to support themselves. From this, the goal is that participants will establish and maintain healthy habits and routines that will carry through with them in their university life. During the sessions, participants are guided through reflecting on their daily time use habits including self-care, sleep, leisure, work, and study, and how these activities influence their health and well-being, positively or negatively. Participants also learn about brain and body health as well as creating and maintaining healthy daily habits and routines that can support their physical, mental, and emotional well-being for learning and daily life (Hunt, 2020). Habits of mind including growth mindset, self-compassion and joy and gratitude are also explored, as their presence or absence can greatly impact daily experiences (Hunt, 2019).

4.6.2 Pilot phases of EMDB in UCC

The EMDB was first piloted in Autumn 2019. At this time, it was delivered as a face-to-face programme and offered to first year students within the Arts department in UCC. It was facilitated by Dr. Eithne Hunt in the UCC Skills Centre, located in one of UCC's libraries. Average weekly attendance was 11 participants, where attendance each week ranged from 10 - 14 students. In total, 11 students completed the full requirements to be awarded their digital badge, which included attending at least 5 out of 8 sessions and submitting a short reflective report of their experience of the programme. Alongside the pilot, a feasibility study using pre-test post-test quantitative methods was conducted (Hunt & Coombes, 2021). Anonymous pre- and post- questionnaires as well as evaluation/feedback forms were carried out by a total of 8 consenting participants in the first and last session, respectively. Statistically significant results were highlighted in relation to improved levels of self-compassion, growth mindset and well-being amongst participants of the study following participation in the programme (Hunt & Coombes, 2021). Due to the Covid-19 pandemic and the ongoing safety restrictions regarding in-person events and teaching during Autumn 2020, the programme was adapted to an online delivery format. The eight sessions were released weekly on Canvas, a virtual learning environment. Content included short readings, recorded mini-lectures, videos, podcasts, and reflective activities. Two additional live online sessions at weeks 5 and 8 were also conducted for students to consolidate and share their learning. The programme was delivered in the same manner once again in Autumn of 2021 to first year and second year students.

4.6.3 Intervention

The EMDB programme was delivered (again online through Canvas due to Covid-19) to a cohort of UCC doctoral students for the first time, beginning on 31st January 2022. Eighty-seven doctoral students completed the expression of interest form and were sent the link to the pre-questionnaire. Sixty-eight doctoral students completed this questionnaire which unlocked the self-enrol function for the EMDB Canvas course. Sixty-three doctoral students subsequently enrolled on Canvas. Twenty-six doctoral students (41%) completed all the necessary elements [quizzes and a short reflection] for the award of the EMDB micro-credential, awarded by the UCC Digital Badge Sub-Committee.

4.7 Data Generation

Prior to the interview, and as part of the online consent form, participants were invited to complete a short demographic questionnaire online, shared with them via Microsoft Forms (Appendix C). This questionnaire aimed to understand the circumstances of participants and provide insight into some factors that may potentially be impacting their well-being. This questionnaire focused on demographic information, information about their doctoral degree and about their personal life in terms of their other roles and responsibilities outside of academia. Their answers lead to further discussion during their interview.

Data were generated through individual semi-structured interviews, using the virtual platform, Microsoft Teams. Data was collected during May and June 2022. Using a semi-structured interview question guide (Appendix D), interviews were conducted with 10 participants. All

participants in this study communicated verbally. The interview duration ranged from approximately 40 minutes to 90 minutes, with the average being 60 minutes each, which is average for research interviews in the healthcare field (DiCicco-Bloom & Crabtree, 2006; Gill, 2008). All participants were thanked for their time and participation at the end of the interview, as well as via an individual email within 3 days of the interview. All interviews were audio recorded on two devices, in the event of an error with one device, and transcribed verbatim as soon as possible afterwards. Field notes were also taken during the interview and immediately afterwards to document any observations, thoughts or emerging ideas that may be helpful during data analysis. Data generation took place over approximately 6 weeks. Data generated included demographic questionnaires, field notes, and 609 minutes of audio data.

4.8 Data Analysis

Thematic analysis was used to analyse the data generated from the interviews to identify and analyse patterns and themes in the data. Thematic analysis was chosen due to its usefulness for summarising key points and issues from large data sets and exploring and analysing different perspectives of different participants, highlighting the similarities and differences between them (Castleberry & Nolen, 2018; Nowell et al, 2017). Previously, the experience of the researcher has been thought of as adding bias to the research analysis and as something to be excluded from the research design. However, ID is a unique methodology as it acknowledges the knowledge and experience that the researcher brings to the study, where their expertise is considered to be useful for orienting the study (Hunt, 2009). The researcher and participant, through the research process then co-construct understandings and influence one another, thus, being inseparable (Thorne et al., 2004). Here, the researcher's previous experience can be included in the study and is

evidently seen as valuable. Therefore, the researcher of this study drew on their experience in research and occupational therapy to carry out the data analysis. Braun and Clarke (2021) have described the six-step approach to thematic analysis which was used as a guide for this stage of the research.

4.8.1 Transcription and familiarisation

The first part of the analysis process is compiling the data. This involved transcribing the information generated from the interviews and reading this data thoroughly (Castleberry & Nolen, 2018; Nowell et al., 2017; Braun & Clarke, 2021). All audio-recorded data were transcribed manually and verbatim by the researcher, no other services were used. Any relevant observations were noted. The researcher then listened back to the audio recording of each interview to ensure accuracy of transcription and to become familiar with the data. The researcher also read each transcript multiple times to enhance familiarity with the data. Sections of transcripts were also read by one research supervisor (E.H) to ensure accuracy and credibility.

4.8.2 Initial coding

The second step involves coding the data gathered. In line with an ID approach, the aim of coding was not to summarise the gathered data, but rather to offer an interpretation of the data (Braun et al., 2018; Thorne, 2016), in an attempt to expose new insights and provide a deeper understanding. The coding process involved the researcher reading the transcripts continuously and highlighting important sections of the data and attaching labels to them to categorise similar data (Nowell et al, 2017; Castleberry & Nolen, 2018;

Braun & Clarke, 2021). During this process, the researcher added the transcript to a table in a word document, with the transcript in one section and an area for coding in a corresponding section. The researcher then went line by line through the transcript and attached labels to relevant data to create codes (See Appendix E for an example of manually coded data). Disciplined reflexivity during the initial coding stages of analysis has been recommended in an ID approach (Thorne et al., 2004), in order to avoid bias and making assumptions. All codes were examined thoroughly and reviewed for alternatives on several occasions. With the data, there can be countless interpretations (Thorne et al., 2004), so initial codes were also discussed thoroughly with one research supervisor (E.H) to determine their appropriateness.

4.8.3 Searching for themes

The third part of thematic analysis was completed by analysing the codes from the previous step and grouping these codes into potential themes. Codes from each transcript were printed out physically by the researcher, and each was read many times. The codes were then compiled, sorted, and collated into an initial draft of various categories, grouped by similarity by the researcher. Categories were reviewed and further analysed and assigned headings to develop emerging themes. These emerging themes and groups of codes were discussed through regular meetings with one research supervisor (E.H).

4.8.4 Reviewing and refining the themes

The fourth step involved reviewing these themes and refining them to ensure that they were valid and represented the data set accurately (Braun & Clarke, 2021). This involved

moving the collated codes to various categories to find the best fit, as well as renaming the categories to accurately reflect the codes.

4.8.5 Defining and naming the themes

The fifth part of the analysis process consisted of refining the themes even further and identifying what part of the data they captured and how they fit with the research question (Braun & Clarke, 2021). Once reviewed, the themes were then named to give the reader an immediate sense of the meaning of the themes (Braun & Clarke, 2021). This was completed through discussion with one research supervisor (E.H) until appropriate names were identified and agreed.

4.8.6 Reporting the themes

During the final part of thematic analysis, once these themes and sub-themes had been reviewed, a detailed analysis of each theme was carried out, which led to the researcher writing up the findings in each theme. Several drafts were prepared by the researcher. One research supervisor (E.H) read these drafts and made suggestions and recommendations for improvement, as well as ensuring the data were accurately captured. Pseudonyms are used throughout to ensure the confidentiality of all participants.

4.9 Ethical considerations

Ethical issues are present in all research (Orb et al., 2001), and particularly when people are involved in research, ethics are foundational (Moriña, 2021). All researchers should adhere to a

fundamental set of ethical principles (Josselson, 2007; Van Wijngaarden et al., 2018). Studies of a qualitative nature often take place in situations where individuals are in their everyday environments, which therefore warrants researchers to be aware of any ethical issues that can occur as a result of these interactions (Orb et al., 2001). The University College Cork (UCC, 2021) *"Code of research conduct"* is a key document, and all guidelines and principles were followed to adhere to this code of conduct.

4.9.1 Informed consent

To protect participants from potential harm, it is essential to obtain informed consent (Moriña, 2021). Informed consent was gained from all voluntary participants in both a verbal and written format, so that they could make an informed decision regarding their participation (Connelly, 2014). Firstly, the gatekeeper distributed an information letter to suitable participants, which detailed the purpose of the study, what participation involves and uses of the data, and were given two weeks to consider their participation in the study. Potential participants were informed that the award of their digital badge is in no way contingent upon participation in this study and that a decision not to participate would have had no negative consequences in terms of their academic progression. Upon volunteering to participate, they were directed to an online consent form via Microsoft Forms, requesting their digital signature. Participants had the right to withdraw from the research project before the interview or in the following two weeks, before their pseudonymised data were included in the study, which would make it impossible to accurately remove. No participants withdrew from the research. Consent was also gained verbally before the interview commenced.

4.9.2 Privacy and confidentiality

Privacy and confidentiality of participants should always be guaranteed (Josselson, 2007). General Data Protection Regulation (GDPR, 2018) policy was followed at all times to protect participants and prioritise confidentiality and privacy. Participant details and responses were protected by using pseudonyms and the exclusion of any identifying information, which is a key priority (Fouka, 2011). Safe storage and data transfer was prioritised online by using password protected services including Microsoft Teams and Google Drive (with UCC credentials). There was no physical documentation. Data will be stored for 10 years, as required by regulations. Audio recordings were transcribed as soon as possible and deleted from the audio recording device immediately after transfer. Participants also had the right to refuse to answer any questions.

4.9.3 Safety

Reducing, and where possible, eliminating risk and harm is a basic ethics principle (Polgar & Thomas, 2015; Sabar & Sabar Ben-Yehoshua, 2017). Qualitative research studies require thorough planning of the research process, risks, and benefits during the pandemic (Newman et al., 2021). To ensure all participants were comfortable and safe during the Covid-19 pandemic, online data collection methods through Microsoft Teams were employed to eliminate in-person contact. Individuals also had the option to turn their camera on or off, and the majority chose to have their camera turned on. Links to further information and resources were provided to participants in the information letter

in the unlikely event that the participant became distressed by the research topic or their participation.

4.9.4 Researcher bias

All efforts were made to minimise bias of the researcher. In an attempt to remain neutral and ensure that their own values and beliefs would not lead to biased findings, the researcher documented their preconceived ideas and assumptions before commencing this research, acknowledging their position and bias. The researcher recognised and noted that as they were undertaking a MSc by Research, they may also be experiencing similar difficulties to the participants, as doctoral students. For example; stress, time constraints and the difficulties associated with undertaking a large research project. Reflexivity was also practised by the researcher using a reflective diary to reflect on personal actions, attitudes, opinions, and views (Baillie, 2015). Any ethical, fieldwork or power issues were documented in this diary in order to consider the impact and influence they can have on the research process and findings (Stanley & Nayar, 2014). Peer reviewing was also used by regularly meeting with at least one research supervisor to discuss the research process so that they could inspect the data to detect bias or subjectivity (Holloway & Galvin, 2017).

4.9.5 Power imbalances

The concepts of relationships and power between researcher and participant are important in qualitative research, where a balanced research relationship can help to foster trust and encourage open and honest answers (Orb et al., 2001). The researcher attempted to

minimise any power imbalances by prioritising the comfort of participants. It was an aim to create a casual atmosphere by using a semi-structured interviewing style to allow participants to talk freely and openly. Participants were also reassured that there was no right or wrong answer to any question.

4.9.6 Payment

No payments or incentives were offered to participants, so as not to influence their choice to participate. Participants were thanked for their contribution to the research at the end of the interview and once again in a follow-up email.

4.10 Trustworthiness

ID studies argue that credibility of research should extend beyond complying to methodological rules and should be seen as credible and legitimate by researchers, professionals, policy makers and members of society (Thorne, 2016). Therefore, trustworthiness was demonstrated through the development of credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985; Holloway & Galvin, 2017). When conducting qualitative research, demonstrating trustworthiness shows thoroughness, integrity, and competence (Holloway & Galvin, 2017; Tobin & Begley, 2004). The more rigorous the research process, the better the expectations that the findings will be relevant and trustworthy (Finlay, 2006).

4.10.1 Credibility

As described above, pilot interviews were conducted prior to the data collection interviews to ensure credibility of the interview guide and interview methods. Credibility

was mainly addressed by member checking. During the interview, the researcher did this by summarising and paraphrasing the participant's answers. Participants were then asked if they felt this summary was an appropriate account and representation of what they were saying or trying to convey. This exhibits the authenticity of the findings as participants can verify that their opinions and views are being accurately represented to provide reliable and credible data (Carlson, 2010; Noble & Smith, 2015). Following the interview, participants were emailed a copy of their interview transcript as well as a brief account of the initial themes (Appendix F). They were asked if they felt that the transcript of their interview was accurate, if they felt their answers were captured within the initial themes, and if they would like to add any further comment. While this method of member checking has been highlighted as a way for participants to reconstruct their narrative or change their view, it can also potentially enhance accuracy of the data by providing them with the opportunity to see their experiences recorded (Birt et al., 2016; Motulsky, 2021). Participants were not obliged to respond to member checking, however, a total of 9 out of the 10 participants engaged in member checking. All participants besides one stated that their transcript was accurate, where one participant noted two errors; one spelling mistake and one miscommunication, which were both rectified. All participants who engaged in member checking agreed with the initial themes.

4.10.2 Transferability

Transferability means that findings in one situation or context can be transferred to similar contexts, situations, and populations (Holloway & Galvin, 2017). Transferability was enhanced by providing rich and thick descriptions of the findings. This provides a

basis for evaluating the quality of the research by including detailed descriptions of the research process, context, and participants (Geertz, 1973 as cited in Holloway & Galvin, 2017). Clear and transparent descriptions of the research process were also provided through an audit trail, which may allow findings to be compared with similar studies or allow other researchers to try and replicate the study.

4.10.3 Dependability

According to Lincoln and Guba (1985), results of a research study must be accurate and consistent to be classified as dependable. An audit trail was used to measure dependability by the researcher documenting any decisions made throughout the research process as well as maintaining field notes, supervision agendas and minutes, and reflective diary entries. An audit trail assists readers in following how the researcher conducted their research and how they achieved their results and serves as a guide for other researchers who carry out similar research. To ensure dependability, peer reviewing was also used by regularly meeting with at least one research supervisor to discuss the research process. This provides external scrutiny (Houghton et al., 2013), so that dependability and credibility of the research could be examined by additional researchers. They inspected the data to detect bias or subjectivity, therefore challenging any decisions, assumptions, or interpretations of the researcher (Holloway & Galvin, 2017).

4.10.4 Confirmability

Confirmability can be established when transferability, credibility and dependability have been attained (Thomas & Magilvy, 2011). ID acknowledges the researcher's practice and

knowledge and background (Thorne, 2016). The researcher is a qualified occupational therapist, currently undertaking postgraduate study. Rather than attempting to suspend the experience of the researcher, the views and academic experience of the researcher are acknowledged. Preconceived ideas and assumptions were also documented before the commencement of the research. ID studies acknowledge the bias assumptions that can be held within research, individuals, and disciplines. However, the researcher was aware of her influence in the data, so to minimise bias, the researcher maintained a reflective diary and engaged in peer debriefing with at least one research supervisor throughout the research process. This way, the researcher could reflect on her own actions, attitudes, opinions, and views (Baillie, 2015).

4.11 Conclusion

The rationale for this study's theoretical, methodological, and analytical choices have been provided to demonstrate how and why these choices were made during the research process. This included the qualitative nature of the study, the interpretive descriptive methodology as well as sampling, data collection and data analysis methods. Ethical considerations of the study were described and finally, methods of trustworthiness were detailed.

Chapter Five: Findings

5.1 Introduction to Chapter Five

This chapter presents the findings from the thematic analysis of the 10 interviews. Four main themes and associated subthemes are presented in Table 6 with pseudonymised quotes from participants shown in italics.

Table 6
Overview of themes and subthemes

Themes	**More than a PhD student**	**Doctoral degrees are all-consuming**	**Doctoral Degrees can have a positive and negative impact on well-being**	**Everyday does matter**
Subthemes	Daily life as a doctoral student Family comes first A social life is valued Role as an employee	A constant juggling act Time away from the degree is essential	The doctoral degree has positive impacts on well-being The doctoral degree has negative impacts on well-being Methods used to support well-being	Participating in the EMDB The EMDB has a range of benefits The EMDB is an enjoyable course

5.2 Theme 1: More than a PhD student

The first theme describes the many roles and responsibilities of the participants including that of being a doctoral student as well as being a family member, friend, and employee. Participants

cited that they are *"more than a PhD student"* (Nora) and that their daily lives varied greatly. Four subthemes arose; 1) Daily life as a doctoral student; 2) Family comes first; 3) A social life is valued; 4) Role as an employee.

5.2.1 Daily life as a doctoral student

Despite their varying schedules and full-time or part-time status, several participants agreed that engaging in their role as a doctoral student and their doctoral-related occupations took up the majority of their time each day. For many, this involved fieldwork or laboratory work, depending on the nature of their research, which participants found to be a lengthy process in terms of collecting data and then analysing it. Another major part of the work of participants was engaging in modules, and therefore attending classes, whether they be online or in-person. Similarly, some participants chose to engage in a range of digital badges to increase their knowledge and skill in particular areas relevant to their degree. The work of participants also involved many computer-based activities. Writing was cited as a majorly time-consuming, *"tedious" (Miranda)* and *"one of the hardest parts" (Miranda)* of the degree. Writing often included composing a literature review, editing thesis chapters, writing manuscripts for publication, or preparing for conferences. Participants also engaged in a great amount of reading of journal articles or books, which was often considered a *"quiet time" (Katie)*. Administration duties such as phone calls and emails were also discussed as taking a huge amount of time, and could often be a distraction to other aspects of doctoral work.

Due to the many occupations involved in a doctoral degree, many participants commented on how each day was so different. This meant that if participants were bored

of one aspect, they could *"move on to another aspect of it" (Tim)*. Many made a conscious effort to maintain variety in their day so that they do not spend too long on any one thing.

Besides working on the doctoral degree itself, some participants also spoke about the range of roles and responsibilities they assumed that were associated with their degree. As part of a stipend, this involved coordinating and teaching modules in the university as well as conducting tutorials and supervising undergraduate student research projects. Responsibilities also included involvement in other research projects aside from their doctoral research, hosting webinars and assisting with reports. While participants found it difficult to balance these added responsibilities within their busy schedule, they found these extra roles and responsibilities to be good learning and networking opportunities.

> *"So in any one day shall we say, there could be at least 3 or 4 hats you put on, to put it that way" (Colin)*

Some participants commented on the flexibility of the doctoral degree. For some, the autonomy provided could be overwhelming to make *"decisions about every single thing that is happening" (Carol)* within the day. However, many participants found the flexibility to be a benefit due to the ability to work to their own schedule in order to take time away from the degree if necessary.

> *"There were times when I had decided, ok today is Thursday, I don't have any meetings or classes, I'll take the day off, I'll work Saturday instead, so that flexibility can be very useful, very beneficial" (Colin)*

While some participants worked on their doctoral degree in a week-on, week-off system due to other roles and responsibilities such as paid employment, many spoke about setting boundaries with their time. Many participants liked to treat the doctoral degree as an employment role from Monday to Friday, in a 9am to 5pm structure. Many participants commented on how *"everyday does feel very different" (Carol)* and the variety in their routine and how their timetable was dependent on their deadlines, what activities they were working on, as well as other roles and responsibilities in their lives, meaning many *"don't have a set schedule during the day" (Tim).* While this was an option for some, for others working late into the evening was a necessity due to relying on others for data collection purposes or caring for children and family.

Despite the majority of participants wanting to keep their doctoral work to during the week only, for some, work could go into the weekend on occasion, perhaps if they were meeting a deadline or there was an urgent matter. For others it was more often due to the nature of their project and data collection.

> *"It's just so you get kind of equal data collection across every day of the week so we have to work Saturdays and Sundays as well" (Nora)*

5.2.2 Family comes first

Participants made an effort to dedicate time aside from their doctoral degree to spend with their significant other, whether it be relaxing together, exercising together or eating together at home or at restaurants. One participant spoke about how he and his wife had a protected day each week where they would spend time just with one another, where they

"could do nothing, but it's just to be together" (Tim). Another participant spoke about how she could only see her boyfriend on the weekends due to him living in another city.

> *"It's trying to see him on the weekend that I am off or if I have a few days midweek and I could go up, I'll bring my laptop and stuff with me so while he is at work then I can study and do my bits there" (Ellie)*

Participants greatly appreciated the support of their significant others and credited them for the help and care they have shown during their doctoral journey.

> *"I couldn't undertake this journey without the support of my wife, and there's no way I would have attempted to, she deserves the letters a lot more than I will at the end of this journey" (Tim)*

Three of the participants were parents. One participant did not have any immediate caring responsibilities as her children were older and did not live with her. The other two participants had younger children who lived with them. Participants spoke about the time-consuming nature of being a parent, as they had the added responsibilities and activities of caring for their children's every need and want. This role put restrictions on how and when participants could complete work for their doctoral degree as their day was greatly dictated by their children and their needs. However, participants stated that their children's needs and happiness always come before the degree.

> *"Even if I am up to my eyeballs with PhD, my family will always come first… I can turn off a computer, I can't go back and make those memories again, you only get one opportunity to invest in your kids" (Tim)*

Participants who were parents enjoyed spending time with their children and participating in occupations with them. One of the participants spoke about keeping Sunday free as a *"family day" (Tim)* to dedicate more time to engaging in meaningful occupations with the entire family. Due to parenting responsibilities, the doctoral workload sometimes was neglected. Two participants expressed feelings of guilt for not being as present for their children as they would like and were concerned about the impact undertaking a doctoral degree was having on their family.

> *"I'd hate my kids to turn around and tell me in ten years' time, dad you were so busy that you missed this that and the other" (Tim)*

One participant felt that while universities offer a wide range of facilities for their student population, they lacked reasonable accommodations and services for students who have children, such as availability of childminding services. The participant stated that these services, particularly around exam time, would allow students to go to the campus library, study and focus specifically on their degree.

> *"I just think that the university helps in so many ways like they offer courses, they offer library, gym, but they don't offer anything to mums or dads" (Amy)*

Some participants also spoke about their role as a son or a daughter and the close connection they had with their parents, and in some cases, parents-in-law. If living nearby, some participants saw their parents regularly and this often involved sharing a meal together, such as a *"Sunday roast" (Anna*). They may also go to their family home to help parents with various tasks, for example, helping with the family farm or assisting with general tasks.

One participant spoke about the close relationship and support she received from her parents. Her parents frequently helped her in caring for her own children by often collecting the children from school and cooking meals for the entire family. For others, family lived much further away, making visits much more difficult. This was often caused by a lack of time to make the journey due to doctoral work.

> *"I don't get to go home to my hometown as often as I'd like to because of the PhD…I miss going home" (Tim)*

While parents are supportive of the doctoral journey, one participant spoke about the lack of understanding some family members can have of the experience as "*it's very much something that you can't actually understand until you do it yourself" (Anna).* Setting boundaries with family was also essential as one participant discussed how family members would often ask her to babysit, including midweek.

> *"If I am asked to babysit my nephew sometimes my brother will ask me midweek and I think that comes from that he doesn't understand what I am actually doing" (Ellie)*

Some participants were dog owners and considered their dogs to be part of the family. Additionally, as part of their role as a family member, several participants were responsible for their households and therefore engaged in a range of instrumental activities of daily living such as laundry, cleaning, and outdoor chores. While household chores were essential, participants noted that they did not occur every day, but consumed a great amount of their day when being done. Many participants also spoke about cooking, where some saw cooking as a way of looking after their health. This was in both

a physical and financial way by cooking healthy and cheap meals, as well as a form of relaxing by enjoying the experience.

5.2.3 A social life is valued

Participants appreciated opportunities to socialise with others, particularly their friends. All participants stated that they enjoyed being in the company of friends and often met up with friends as a distraction from their work and time away from their degree. However, some participants did not have friends living nearby, so time with friends was reserved for the weekend only, or in some cases, they had to make extra effort to contact them virtually, for example "*have the time for a call" (Ellie).*

While some prioritised their friends and would not restrict their social life in favour of the doctoral degree, other participants spoke about how their social life and meeting friends greatly reduced after beginning their doctoral degree. This was often caused by a perceived lack of time due to their doctoral degree.

> *"Occasionally I feel very guilty about not meeting my friends. If they have invited me a couple times, I would go and meet them, but I never realised that at all when I signed up, that it is amazing how consumed you get by your research" (Tim)*

Particularly for those who were also parents, meeting friends was a rarity, particularly without including their children as childminding would have to be arranged. This made seeing friends much more difficult to arrange, resulting in seeing friends less frequently.

> *"I don't remember the last time I met up with a friend on my own, I'd meet up with people in play centres but it's not really the same" (Amy)*

However, in all situations, participants noted that friends were supportive and understanding of being a doctoral student and the time they must dedicate to their degrees.

> *"I have a very supportive like system around me, like my friends and my family, they understand, they don't get like fed up when I'm like no I can't go for a walk today, or no I can't go here" (Ellie)*

As well as being a friend, participants spoke about their role as a fellow doctoral student. While not all participants spoke about this role, several discussed the connection they had with other doctoral students both within their department and across the university. Some noted doctoral study as a scary time, particularly at the beginning as they felt like they were in the *"deep end" (Amy)*. However, meeting and connecting with other students, particularly during morning or lunch breaks, helped to alleviate feelings of loneliness, as well as having a range of individuals to turn to for support and advice, particularly for those who were earlier in their doctoral journey. Although many preferred to meet others in-person, for those at a distance from campus, they still maintained connections with other students virtually in the form of group chats. While one participant commented that it was important for her to be aware of her social battery as to not overwhelm herself, participants agreed that connecting with other students allowed them to discuss their experience with others who may have gone through a similar experience.

"Even if they are working on a different project… it can be like a really important time to help you discuss like some challenges that you're facing" (Carol)

5.2.4 A role as an employee

Some participants spoke about the financial difficulties that undertaking a doctoral degree can create. For some, their degree fees are paid by their department, which decreases the financial burden of such studies. However, for many, they do not receive any stipend or financial compensation for their doctoral work, potentially causing financial constraint. Even with a stipend, participants experienced financial difficulties. One participant commented that the payment was not enough to accumulate savings, and another was putting herself under pressure to submit her doctoral thesis in order to avoid paying more fees. This meant that some participants also had to take up a paid employment role in order to pay for their degree, as well as meet the basic costs of living.

"The school are paying my fees but it's not a stipend, so I have to work a day a week" (Ellie)

Three participants spoke about their paid employment roles, which were not associated with their doctoral degree. Whether participants were working in their employment role part-time or full-time, they tried to keep their paid employment role separate from their doctoral degree as undertaking this added role caused a greater pressure on their time.

"It's not the ideal situation. The ideal situation is that you'd be able to concentrate 100% on the PhD" (Tim)

While one participant spoke about how they wished to leave their paid employment role to reduce the demand on their time, all three participants discussed valuing and enjoying their employment role in terms of having a passion for their work and having the opportunity to connect with others outside of their doctoral degree.

5.3 Theme 2: Doctoral degrees are all-consuming

The second theme focuses on the occupational balance of participants. Participants discussed how they allocated time to their roles and responsibilities and the range of occupations they engaged in to take time away from the degree. This theme contains two subthemes, 1) A constant juggling act; 2) Time away from the degree is essential.

5.3.1 A constant juggling act

Participants discussed how they managed to allocate time to all of their roles and responsibilities. Some felt that they could maintain balance across their occupations and were quite satisfied with how they spend their time and the variety of occupations that they engage in in their daily lives. However, balance was not a simple task and often a struggle.

> *"I don't mean to make it sound simple, because I do find it challenging, I find it challenging to juggle work, this, relationship, family, social life, myself" (Ellie)*

One participant stated that balance was not constant and could change from week to week as *"some weeks it's more balanced in favour of one thing over another" (Tim).* However, for the majority of participants, striving towards balance was described as a *"constant*

juggling act" (Colin), where participants felt that the doctoral degree consumed their life and took up the majority of their time.

> *"I feel like nothing else takes up as much time as the PhD… it's pretty all-consuming really" (Miranda)*

Finding balance within a doctoral degree was seen by many as a very challenging task and was seen as a common issue amongst doctoral students. Participants stated that it was important to recognise that as a doctoral student, they could not always do everything, and it was vital to put themselves and their time first. For many, they felt that setting boundaries with their time was the best way to assist with balance. For example, participants prioritised their tasks and activities by urgency and set boundaries by refusing added responsibilities like extra research projects, providing tutorials, or speaking at seminars or webinars.

> *"I think especially for PhDs, it's so important to have some balance like you can get so caught up in your project work… it's really important to consider the other aspects of life, that it's not all just about like getting your project work done" (Carol)*

Many attributed their lack of occupational balance to a perceived lack of time in their daily life. For some, they felt that their time and how they spent it was not within their control as there were already so many activities in their day to maintain. There was a major pressure on their time, described as *"immense" (Tim)* by one participant, as they were trying to complete doctoral work and make time for other responsibilities such as fulfilling teaching requirements as dictated by their stipend or participating in digital

badges that were of interest and relevant to participants. Participants stated that there were always doctoral related responsibilities to attend to and it always felt like they were *"running out of time" (Miranda)* and falling behind in their work. This caused them to worry about how they would have time to complete what they were working on.

> *"I actually don't have any balance in my life, there's just not enough hours in the day" (Amy)*

5.3.2 Time away from the degree is essential

Participants discussed the many ways they took time away from their degree. Some spoke about the importance of their morning routine, with many saying it was essential for them to reflect and ready themselves for the day ahead.

> *"I just take so long to get ready in the morning, it could take me an hour to an hour and a half because I have my routine of getting up" (Colin)*

Participants appreciated time to themselves to avoid "*rushing, going to work in a rush, getting into work feeling stressed and tense"* which *"just set the pace for the day" (Colin).* The morning routines of participants included a range of activities of daily living. Some also spoke about listening to the radio or music and drinking coffee or tea early in the morning, where one participant described it as a *"slow, reflective kind of practice" (Miranda)*.

Two participants discussed that they were conscious of how little they moved during the day while completing their degree. Therefore, participating in exercise was seen as

essential to health to combat the desk-based nature of many doctoral degrees as well as an avenue to spend time away from their degree for the majority of participants.

> *"I kind of realised how important self-care is and one of the most important things is exercising" (Anna)*

Several participants spoke about going to the gym as their main form of exercise, whereas others engaged in short walks and jogging, cycling, hiking, swimming, kayaking, rowing, and attending fitness classes like boxercise or football training as part of a club. For several, they did this as they stated that *"fresh air and movement are essential" (Colin).* Some participants also spoke about exercise as a process of light movement and breathing, typically in the form of yoga or pilates. One participant had signed up to participate in a marathon to set themselves an objective and milestone, something that was *"fulfilling and gratifying" (Colin)*.

Participants discussed the range of restorative occupations they engaged in as an opportunity to step away from the doctoral degree and participate in leisure activities and hobbies that they valued. Participating in restorative occupations or hobbies were considered *"me time" (Katie)*, where participants could take time away from thinking about their doctoral workload and spend time *"relaxing" (Carol).*

> *"Just completely switch off, watch something on Netflix, you know, so the activity itself is just relaxing and taking a breather" (Ellie)*

Some participants engaged in restorative occupations that involved a social aspect such as attending sporting events like hurling matches and going to events like concerts. Others

had specific restorative occupations or hobbies that they enjoyed engaging in. For example, gardening, embroidery, and fashion, drawing, and painting.

> *"I draw and I paint and that's really, truly, me time. I am doing it on my own, by myself and it's just me and my thoughts and that's it" (Katie)*

While two participants specifically stated that they prioritised their time away from their doctoral workload and found it easy to switch off and push the work to the side, most participants felt like they were not doing enough work for their degree and that they should be working on it constantly. Some participants spoke about the feeling of guilt when taking time away from their doctoral degree.

> *"Well as PhD student, I always have this guilt when I am not in front of my laptop" (Amy)*

For some, their time was accounted for between their doctoral work and their family roles and responsibilities, thus there was rarely a free moment to engage in restorative occupations. One participant summarised the demands on her time as both a doctoral student and parent, and found that all of her roles, responsibilities and activities were blending into one.

> *"I would definitely have an issue with this blending into one thing, everything just merges together. Like I'm in the living room, my kids are with me, my laptop is open, and there's something cooking in the kitchen. Like that's ridiculous" (Amy)*

To manage the demands on their time, participants spoke about making trade-offs within their schedules and routines. A major trade-off for participants was their sleep, resulting

in participants sleeping for less time each night. Another key trade-off participants made was disengaging with their hobbies and occupations that are restorative in nature, in favour of their doctoral work. Although participants wanted to put themselves first and take more time for themselves, doctoral work and responsibilities took over. This often meant that *"everything gets pushed whether you like it or not" (Nora)*. The participants stated that the degree took so much time that they hadn't found the time to delve into their hobbies.

There were a range of activities that participants stated they would like to engage in more often such as spending more time outdoors, enjoying nature and exercising. Others wished to attend more events such as concerts, theatre shows, live sports games, or go to the cinema. While some participants also acknowledged that they would like to see their friends more often, they felt that time to themselves to just relax was vital. For example, one participant wanted to include more meditation in their daily routine. Others spoke of their desire to go to the spa or travel abroad or read for leisure.

> *"I have several fiction books that I haven't been able to read yet because those are not a priority, like the priority is the reading for the PhD" (Katie)*

For some it was not so much that they wanted to include more activities, but that they wanted to maintain and engage in their hobbies and activities more often.

> *"Everything only gets done, you know, once or twice a week whereas, you know, I'd like to be doing things more often I suppose" (Nora)*

5.4 Theme 3: Doctoral degrees can have a positive and negative impact on well-being

Participants spoke about the connection between their doctoral degree and their well-being. Whether participants had only begun their doctoral degree or were close to submitting their thesis, all agreed that their doctoral degree had both a positive and negative impact on their well-being.

5.4.1 Doctoral degrees have a positive impact on well-being

Participants were motivated by their degree and particularly when their work was progressing smoothly, it was a motivator for them to continue. Participants felt that the doctoral degree gave them purpose, which positively impacted their well-being. For many, their interest in their degree and research area led them to find purpose in wanting to *"add to the literature" (Ellie*) and contribute to society by conducting the research.

While the journey was challenging for many participants, they expressed being genuinely happy within their doctoral degree. Many of the participants commented that they enjoyed the doctoral journey and research was something they "*get a genuine buzz from" (Colin).*

> *"It is meaningful, and I am doing the PhD for myself but I am also doing it because I am really interested and passionate about my research area" (Ellie)*

Participants appreciated the connections they had developed with other doctoral students, and cited they felt there was a supportive postgraduate community within UCC, where *"other PhD students are very supportive" (Tim),* which had a positive impact on their well-being. Connections were not limited to other doctoral students. While some

participants did not meet their supervisors regularly, others stated that they were grateful for the positive relationship they had built with their supervisors, who helped to support their well-being across the doctoral journey.

> *"I've done good things with my supervisors as well… just from being friendly, to being helpful… I would say there's a lot of positives in that" (Amy)*

Participants also discussed developing and improving their resilience during their doctoral degree, which had a positive impact on their well-being. For some, the doctoral journey made them realise that they were more resilient than they originally thought as they learned to cope with adversity and challenges. Participants noted that in a doctoral degree, there could be many setbacks and therefore resilience is often required.

> *"It definitely makes you more resilient, definitely makes you more like open and like better at troubleshooting, I feel like I am constantly problem-solving" (Carol)*

The well-being of participants was also impacted by the opportunities provided to them due to the doctoral degree. Several participants discussed the positive impact that engaging in new learning has had on their well-being and considered it *"empowering" (Angela)*. Participants, particularly those in the earlier stages of their degree, enjoyed gathering new information and knowledge, discovering new topics, gaining new areas of interest from the postgraduate courses, webinars, and modules they had undertaken with the degree.

> *"Even the areas that I am examining, it's broadened my depth of knowledge in areas, it's given me new insight into things I perhaps hadn't considered" (Tim)*

Many participants commented on the continuous development opportunities they had availed of. For example, several spoke about having a paper accepted for publication. Others applied for prizes and subsequently won awards on papers they had written. Others enjoyed going to conferences and presenting at conferences where they could network with other researchers, advance their skills and knowledge, gain experience in public speaking, and learn about what others are researching within their field. Regardless of the opportunities participants were offered and accepted, one participant commented that the skills and experiences gained from the doctoral degree and subsequent opportunities will continue to be beneficial.

> *"I think all of the skills and experiences that you have in your PhD you will carry forward" (Carol)*

5.4.2 Doctoral degrees have a negative impact on well-being

Some participants were conscious before beginning their doctoral degree that their mental health and well-being would be challenged. They commented that mental health could be a major struggle for doctoral students and that they had seen others go through the doctoral journey and "*come out the other side with poor mental health, poor physical health, poor emotional health." (Colin).* There were a range of ways that the mental health and well-being of participants were challenged and impacted negatively. And as one participant commented, for many it was a combination of factors.

> *"Like most people, it's not one factor that's causing them to tip over the edge… it's a combination of things" (Tim)*

Firstly, some participants spoke about experiencing doubt in themselves and their capability to progress through their doctoral degree. For many, they started feeling this way at the beginning of their doctoral journey, which was seen as a *"stressful transition" (Ellie)*. One participant commented that she never thought she would even be offered the opportunity to begin a doctoral degree. When experiencing this doubt, participants felt like they were not *"good enough" (Anna)* to be undertaking a doctoral degree, thinking that they were not as capable or as intelligent or as accomplished as their doctoral peers. While they recognised that this was a *"bad mindset" (Anna)*, this caused them to experience *"self-doubt" (Ellie)*.

Undertaking a doctoral degree was described as *"perpetually busy" (Miranda)*, where stress was a constant and considered a *"baseline" (Miranda)*. Therefore, one of the most reported negative impacts on well-being for participants was stress caused directly by the doctoral degree. Participants experienced stress particularly around deadlines or when they had multiple tasks to accomplish or when a task was more difficult than first anticipated. One participant found that she was often comparing herself to other doctoral students in other departments, which caused stress. Another spoke about how she was feeling stressed regarding submitting her thesis. Also, for participants with added roles and responsibilities, such as being a parent, fulfilling these added responsibilities was often stressful.

> *"I just think it's really stressful doing the PhD with family but that doesn't mean you can't have a family" (Amy)*

Almost half of the participants of the study spoke about experiencing anxiety. When feeling anxious, participants felt that they would *"self-sabotage" (Ellie)* and constantly worry and feel overwhelmed about their workload and everything that they had to do. When this occurred, many participants found it difficult to maintain momentum in their work and felt making progress was *"a real effort" (Angela)*. One participant even stated that she had considered leaving her doctoral degree due to feeling stressed and overwhelmed.

> *"There are some days where I am literally like "yeah no, I am dropping out" like I just get so frustrated and fed up it's just constant" (Nora)*

Participants commented that undertaking the doctoral degree was mentally draining at times. The mental effort and thought required throughout the day to progress with the doctoral workload, as well as the range of roles and responsibilities both within and outside of the doctoral degree, could leave participants with little *"headspace to do all the things that are part of life" (Colin)* in the evenings or weekends. This made it difficult to complete other important activities as participants felt mentally drained.

> *"When it comes to simple things like arranging a dentist appointment, arranging my vaccine… by the time I am finished work I am just allergic to any single required extra thing to use my brain" (Colin)*

As a result, some participants discussed feeling demotivated at times. Particularly for those who were nearing the end of their doctoral degree, they no longer enjoyed the journey and "*just want to get it over and done with" (Amy).* Feeling demotivated caused a lack of productivity and progress for participants.

"A few weeks have just gone past and I didn't get this done or I didn't get that done and that's delayed, and then you kind of go into a downward spiral again and you get a bit lost" (Anna)

The doctoral degree did not only have an impact on the mental health of participants, but also on their physical health. One participant spoke about their physical health difficulties and subsequent fatigue, which had a negative impact on well-being. A perceived lack of time for participants meant that sometimes they did not cook during the week, forcing them to spend money on lunches out, which tended to be unhealthy. Two other participants commented that they had gained weight during the doctoral journey as a result of not eating well due to the stress of the degree.

"Yeah, it definitely has taken a big hit and it kind of has affected me physically like I have definitely put on a lot of weight just because with the stress and I don't eat properly" (Nora)

Poor quantity and quality sleep was a common complaint from participants. While sleep was considered important, participants admitted that they were not sleeping enough and often sleeping for hours less than the recommended amount. Due to upcoming deadlines for doctoral work, or it being the only available quiet time, some participants worked later in the evenings which pushed out their evening routine and schedule, resulting in less sleep. Some participants were going to sleep in the early hours of the morning due to doing their doctoral work late at night.

"I would say my body needs about 7 hours a day but I feel like I probably get maybe 5 to 7, depending on the day really" (Miranda)

Due to this, some participants woke up later in the morning and worked later in the evening, developing a routine of sleeping late at night and having less time to *"get a good night's sleep" (Ellie)*. Some continued this routine as they feared that they would "*lose out on typing the PhD" (Amy).* Participants wished to stay in bed longer in the morning to sleep more, but it was not possible due to their doctoral workload and other roles and responsibilities such as being a parent. This caused constant feelings of tiredness and allowed no opportunity to rest or take a nap during the day.

> *"That's the hardest part for me is the tiredness… I was constantly tired beforehand, whereas now I am constantly tired plus trying to do a PhD" (Tim)*

One participant found herself struggling to get to sleep as she was constantly thinking about what needed to be completed the next day and planning out what her main tasks and priorities were, or reflecting on the previous day, causing her to be *"on edge"* and *"wound up" (Nora)*. Another stated that at times, she would wake up during the night trying to figure out something related to the doctoral degree and found it "*very hard to switch that off" (Carol).*

As discussed previously, many participants struggled to balance their roles, responsibilities, and occupations due to a perceived lack of time. For example, one participant stated that she rarely had two days off in a row as she often worked throughout the week and across the weekend in her doctoral degree. This meant she did not have time to *"just relax" (Nora)*. The amount of time participants could dedicate to other important occupations and activities such as sleep and spending time with family, was extremely limited. This had a major impact on the well-being of many participants.

"The biggest negative impact of this PhD journey is time, I just don't have enough hours in the day, be it for sleep, be it for family activities, be it for work, it's time" (Tim)

5.4.3 Methods used to support well-being

Participants made an effort to seek support services and programmes and learn transferable skills throughout their journey to deal with any well-being challenges encountered. For example, one participant spoke about setting boundaries for themselves such as leaving work at the desk and not bringing it home and making an effort to take time away from the degree.

"The two golden rules really for me from day one of the PhD were don't bring your work home and socialise in the evening as much as possible" (Colin)

One participant spoke about using meditation as a support for their well-being as they felt that it helped them to slow down, breathe and be present in their work and stay focused throughout the day. Similarly, going outdoors to incorporate movement and fresh air into the day was cited as an important way to de-stress and prioritise well-being. One participant also enjoyed listening to well-being podcasts to support their own well-being. Another found that spending time practising gratitude and being thankful for their degree was beneficial to their well-being.

Some participants sought structured support for their well-being. Many believed that workshops and courses should be seen as a vital important part of supporting and maintaining health for doctoral students.

"Looking at mental health or even therapy or mindfulness courses as an essential part of our overall health" (Colin)

Participants mentioned ways they had taken as a proactive approach to help support their well-being. Some had attended well-being webinars where the main concern was providing tips and tricks to looking after yourself during the doctoral degree. Another participant discussed Silvercloud, an online mental health course with pre-recorded videos and activities for participants to complete individually. One participant stated that they had participated in a credit-bearing well-being module that was in connection with another higher education institute.

Another participant believed that mental health checks should be as common as physical health checks as it is important to acknowledge mental health as part of our overall health. Therefore, university counselling services were also another structured support that some participants availed of and found helpful in processing the doctoral experience. They found the service both responsive and supportive and found it to be a great free resource. Counselling services helped one participant to move away from offloading her feelings on her partner as she could discuss her experience with a trained professional.

"I was starting to feel guilty… everyday he comes home I was so miserable… so seeing the counsellor helped massively" (Anna)

Similarly, another participant accessed coaching sessions through UCC. While she stated that this service is typically aimed at staff of the university, postgraduate students could avail of it too. She felt that this was the most appropriate method for her to support her

well-being and found it a good option to *"talk to someone outside of your friends and family about the things that you're finding hard" (Carol).*

5.5 Theme 4: Everyday does matter

The final theme explores participants' perceptions of participating in the *"Everyday Matters: Healthy Habits for University Life"* digital badge (EMDB) as a doctoral student and how participating in the programme impacted their daily life, occupational balance, and well-being. This theme includes three further subthemes, 1) Participating in the EMDB; 2) The EMDB has a range of benefits; 3) The EMDB is an enjoyable programme.

5.5.1 Participating in the EMDB

Participants had a range of reasons for deciding to participate in the digital badge. While some did not have any particular motivation to engage in the programme, some were influenced by their initial impression of the programme as they liked the title, some read the information about it and thought that it *"sounds really good" (Anna)*, and others became interested following reading positive reviews from previous students. However, several participants saw mental health and well-being as an essential part of both *"personal and professional life" (Colin)*, many thought that by engaging in the programme, they could take a proactive approach to support their mental health and well-being and learn more about new research in terms of healthy habits as well as practical tips to support their well-being.

"Well-being and healthy habits had always been something I've been interested in for the last couple of years and I liked the idea of it being a digital badge" (Carol)

Participants spoke about how they incorporated covering the digital badge content into their weekly schedule. Some participants appreciated the programme's online nature as due to their distance from the university, preventing them from engaging in an in-person programme. Similarly, many commented on enjoying the flexibility of the digital badge in terms of being able to do it in their own time.

"It was good that way you had access to all the modules so you could do it in your own time, so I might do like two modules together, I might do half a module and it really fitted in to my schedule" (Ellie)

Some participants found it easy to incorporate the digital badge into their weekly schedule, at a time that was less busy for them, and tended to do *"one module a week, every week" (Angela)*. Despite valuing the digital badge, many participants expressed that they struggled to prioritise setting aside an hour each week on top of their doctoral work. Therefore, some were forced to complete multiple sessions in a row in an attempt to catch up.

"The first three weeks was fine but then everything became very busy and I was getting stressed just trying to figure out where to fit it in" (Katie)

5.5.2 The EMDB has a range of benefits

Participants discussed the positive impact of participating in the digital badge for their well-being, citing that the digital badge contained all of the information they could need on well-being in one place. The programme served as a reminder to prioritise and take care of themselves, and which aspects of their well-being could be improved and *"need more attention" (Carol)*. For one participant, this awareness helped them to *"get a handle on everything" (Angela).* Some participants expressed feeling less guilty about prioritising themselves as the programme *"highlights the importance of self-care" (Anna)* for them.

> *"It reinforced that spending an hour or two per week purely on my mental health as part of my working hours is important" (Colin)*

Participants found learning about how the things you do and say each day matter beneficial. In particular, they tended to focus on the things that they say as they learned about self-compassion. Several participants admitted to often being hard on themselves, so they enjoyed learning about and practising being kinder to themselves.

> *"I would be very rough on myself, I'd say I am always the one thinking I could do better, and you could do this, so thinking more compassionately and saying well actually I have done a lot so far, I should be happy about it" (Amy)*

Participants also stated that they found the EMDB beneficial in terms of their occupational balance. While they noted that the digital badge could not create more time to tend to all of their roles and responsibilities, it served as a reminder to work towards occupational balance. One participant noted that doctoral students have *"competing*

priorities" (Tim) and can be dismissive of prioritising the activities that they wanted to do. For many, the digital badge motivated participants to start "*blocking things off and putting time aside" (Nora)* for themselves and normalised the need to cut certain activities and tasks out to invest time in other activities. For some, this involved setting better boundaries with their time and activities by learning to say no to others and not taking on added responsibilities.

> *"It reminds me to try and balance it. It just reminds you to try and try and make that space yourself or go for that twenty minute walk in the evenings, it's been very beneficial in that regard" (Tim)*

Participants also liked the concept of work life integration and found that this was a much better and more positive way of looking at their day and how they spend their time. Here, they could view their daily occupations as part of a whole, rather than as distinct or competing. From this, they could appreciate and be grateful for their work as well as viewing their doctoral work and their roles and responsibilities more positively.

Participants discussed the tips and changes that they incorporated into their daily lives from the programme. In particular, many participants discussed the benefit of Tiny Habits® to make manageable and small changes in their daily life. Several participants enjoyed learning about the brain including neuroplasticity and the science behind the session content as this helped participants to understand how the brain works to implement change and form habits. For example, participants used Tiny Habits® to walk more often to build up to running, stop drinking alcohol, increase exercise, eat well, and incorporate and practise better sleep hygiene.

"We have a lot of habits that if you just stick something to it, could actually make the world of wonders" (Amy)

Several participants also spoke about practising gratitude more regularly following engaging in the EMDB by writing down what they were grateful for at the start of the day and then positive aspects of their day before sleeping. Participants found this practice helpful and that it had a positive impact on their mindset.

"At the start of the day write things down that you are grateful for. And then when you go to sleep, you write three more things that you are grateful for… I think more than anything, gratitude changes your whole outlook on everything" (Angela)

While some could not attend, many participants also particularly enjoyed the online group session that was held during the semester. Considering the digital badge was an *"individual experience" (Colin)*, and therefore could be *"lonely" (Anna)*, participants found it beneficial to share their experiences and insights with others as well as listen to other opinions of those experiencing similar situations.

"The group sessions were really helpful because you can really just see ok I'm not the only one like, everyone feels like this, it's totally normal" (Anna)

5.5.3 The EMDB is an enjoyable programme

Several participants stated that they enjoyed participating in the EMDB. Overall, participants considered it an *"excellent" (Angela)* and *"well-rounded" (Carol)* programme. For many, this was due to the facilitator, Dr. Eithne Hunt, the digital badge

creator. Her facilitation was described as *"top class" (Colin)* and several participants expressed their gratitude to the facilitator as they found her videos and emails during the semester both encouraging and engaging. Several also credited this to the digital badge being both enjoyable and beneficial, where the sessions and content were engaging and covered a range of topics in a suitable amount of detail.

> *"Every single time I sat down and did it, I realised within five minutes I felt more relaxed, I felt more self-aware, and I genuinely enjoyed it" (Colin)*

Many participants commented that the benefit of this digital badge was long-lasting due to the resources, such as notes, videos, and websites, and that they could return to the resources further along their doctoral journey.

> *"I expect as this PhD goes further along, I am gonna get more and more into it and maybe taking less care of myself, so I'll have to have the reminders" (Angela)*

All participants agreed that there were not any negatives to participating in the digital badge and it was *"hard to find fault" (Colin).* However, some participants offered suggestions for improvement. One participant suggested sharing the content for supervisors so they can better understand the importance of well-being as some doctoral supervisors *"might be a little bit dismissive of some of those things" (Nora).* By engaging in the digital badge content, there is an opportunity for supervisors to better understand the experience of doctoral students and supports that are helpful and beneficial along the journey. Similarly, one participant suggested that while the digital badge is beneficial for students, that organisations such as the university should have the responsibility for helping and assisting their students through the doctoral journey. He commented that in

recent times, programmes and services are aimed at building resilience in the individual, rather than building resilient organisations.

> *"I think it should be the college to say 'right, what can we do to help you get through this experience' because it's going to differ for every individual" (Tim)*

Reflecting on the digital badge as a whole, all participants stated that they would recommend participating in the EMDB to other doctoral students. They believed it was suitable particularly for doctoral students, who engage in evidence and research and therefore *"like things to be backed up by evidence and research, it's very easy for PhD students to digest and I feel like it makes a lot of sense" (Carol)*. Two participants recommended the digital badge to be a mandatory programme for university students, and doctoral students in particular. Another suggested that it should at least be a credit-bearing postgraduate module available for students due to its benefit for this population.

> *"As a PhD student we have 15 credits of postgraduate modules that we have to, I'd go as far as to say that this module, I think there is a strong argument for it to be a compulsory five credits" (Colin)*

5.6 Conclusion

Thematic analysis of the data resulted in the development of four main themes and their subsequent subthemes. The themes reflect the daily life experiences of doctoral students and how undertaking a doctoral degree impacted their occupational balance and well-being, as well as their experiences of participating in the *"Everyday Matters: Healthy Habits for University"* digital badge (EMDB). In summary, it is apparent that while participants valued their role as a

doctoral student, which consumed the majority of their time, they also had a range of other valued roles and responsibilities. While some participants were happy with their occupational balance and how they spent their time each day, many participants found balancing the activities they needed to do and wanted to do extremely challenging. The time-consuming nature of the doctoral degree meant that participants often had little time to engage in restorative occupations and hobbies. Participants also discussed how the doctoral degree had both a positive and negative impact on their well-being, as well as the methods they used to support their well-being. Finally, participants' perceptions and experiences of participating in the EMDB were explored, where participants experienced a range of benefits from their participation and found it to be an enjoyable programme that they would recommend for other doctoral students.

Chapter Six: Discussion

6.1 Introduction to Chapter Six

The aim of this study was to explore and describe the daily life experiences of doctoral students and how pursuing their degree may impact their occupational balance and well-being, as well as examine doctoral students' experience of participating in a new universal occupation-based time-use and well-being intervention available at UCC, the *"Everyday Matters: Healthy Habits for University Life"* digital badge (EMDB). This research aimed to answer the following questions;

1. What are the daily life experiences of doctoral students, and how do these impact occupational balance and well-being?
2. How did participation in the EMDB impact the participants' daily life and well-being?

Data were collected from 10 UCC-registered doctoral students who also registered for the EMDB, and analysed to produce four overarching themes, which were outlined in the previous chapter. While the findings are described in detail, the aim of this discussion chapter is to synthesise the findings of this research with the existing research. The implications of this research for national and international policy relating to higher-level education, higher-level institutions and occupational therapy practice are discussed. The limitations of this research are also described, as well as future research directions.

6.2 The daily life experiences of doctoral students

In order to address the first research question, the PEO model (Law et al., 1996) is used to frame the findings and literature. Here, the personal, environmental, and occupational aspects of

doctoral students are synthesised according to both the findings of this research and the findings within the literature in an attempt to provide a comprehensive overview of these doctoral student's daily life, occupational balance, and well-being.

6.2.1 Person

While some studies amongst the literature found that doctoral students who identify as female report less satisfaction with their degrees (Gibbs et al., 2014; Turner, 2015), significantly worse well-being (Hargreaves et al., 2017; Ülkü-Steiner et al., 2000), and higher attrition levels (Castro et al., 2011; Gibbs et al., 2014; Mansfield et al., 2010), this was not the reported experience of the participants in this study. Of note is that females were overrepresented in this study, with only two participants identifying as male, thus making any potential gender inferences impossible. This study also represented a range of ages from individuals in their 20s to 50s. Younger doctoral students have reported greater mental health difficulties (Milicev et al., 2020). Conversely, age was negatively related to decreased well-being in another study (Hunter & Devine, 2016). The daily life experiences of the doctoral students in this study appeared to vary according to their own individual experience and circumstances at this point in their life, not their gender or chronological age. This supports the consideration of the chronosystem in terms of stage of life and in understanding the many spheres of influence on doctoral student's experience (Bronfenbrenner, 1979; Jackman et al., 2022). This also suggests that a "one size fits all" approach is not appropriate, and a suite of interventions is needed to support students depending on their life stage and circumstances.

Many of the participants agreed that engaging in their role as a doctoral student and their doctoral-related occupations took up the majority of their time each day. Similar to the literature (Eklund et al., 2017; Moate et al., 2019; Wang et al., 2019), participants considered their doctoral degree to be a top priority and therefore were willing to dedicate significant time to their academic role. Despite valuing their role as a doctoral student greatly, many participants stated that family was their first priority, where their family's needs and happiness would always come before their degree. Similarly, Martinez et al. (2013) found that personal and familial roles for many doctoral students tended to supersede their role as a student. Participants discussed their role as a parent as well as the close connection they had with siblings, parents, and parents-in-law, where some met regularly to share a meal together or help with various tasks. Some participants who were parents, felt that it was difficult to balance their personal and academic roles, and this was made more challenging due to lack of reasonable campus accommodations such as childminding facilities. This is often overwhelming and stressful for doctoral students and often resulted in greater role conflict (Dabney & Tai, 2013; Pocock et al., 2011), and poorer well-being (Martinez et al., 2013; Pocock et al., 2011; Smith et al., 2006; Wang et al., 2019). The participants of this study and others (Cornwall et al., 2019; Schmidt & Umans, 2014) expressed feelings of guilt and shame when experiencing challenges with managing their roles and responsibilities, highlighting it as a common experience for doctoral students.

Some participants of this study considered their degree a key priority, where their goal was to excel in their degree and therefore were setting high standards for themselves, which has proven to positively impact well-being (Kearns et al., 2008; Moate et al., 2019;

Park & Jeong, 2015). However, doctoral students can often overestimate the abilities of their peers while underestimating their own (Parkman, 2016). Some participants lacked confidence in their skills and abilities and thought that they did not have the necessary qualities to complete a doctoral degree. This can be defined as imposter syndrome, which is frequently reported by doctoral students (Byrom et al., 2020; Cornwall et al., 2019; Hargreaves et al., 2017), particularly as doctoral students feel constantly evaluated (Bothello & Roulet, 2019). Imposter syndrome and perfectionist tendencies can be a predictor of stress as well as mental health and well-being difficulties in doctoral students (Berry et al., 2021; Casey et al., 2022; Blake-Hedges, 2018; Farkas, 2018; Hayton, 2017; Joose, 2017; Sverdlik et al., 2018; Sverdlik et al., 2020). Several participants admitted to often being hard on themselves, so they enjoyed learning about growth mindset and practising being kinder to themselves through the EMDB. An individual's personality and mindset may have a role in their degree journey and completion (Cantwell et al., 2017). Dweck et al. (2019) believe that an individual's success can be attributed to their mindset and beliefs about themselves rather than their intelligence or how hard they work. Creating a growth mindset environment can support individuals during challenges (Dweck et al., 2019), which students will inevitably encounter on their doctoral journey.

The doctoral degree had an impact on the physical health of participants as some students commented that they had gained weight during the doctoral journey due to eating unhealthy meals to save time on cooking or due to stress. Studies have reported that health issues, physical or otherwise, can contribute to a decrease in well-being and cause difficulty in pursuing a doctoral degree (Byrom et al., 2020; Gardner, 2009; Hopwood et al., 2011). The doctoral degree also had an impact on the mental health of participants.

Some participants were conscious before beginning their doctoral degree that their mental health would be challenged and commented that they had seen many others experience poor mental health and well-being as a doctoral student. Academia can often encourage overworking, where students can see mental health difficulties as a marker that they are working hard rather than working too much and consider this to be a normal experience (Hazell et al., 2021; Woolston, 2019). Almost half of the participants of the study spoke about experiencing anxiety at various points during their doctoral degree, resulting in feelings of frustration and demotivation. Anxiety is the ninth highest cause of disability globally (Vos et al., 2015), and is commonly experienced by doctoral students (Byrom et al., 2020; Hazell et al., 2021; Levecque et al., 2017; Woolston, 2019). Anxiety can impact many domains of daily life including work and instrumental activities of daily living (Iancu et al., 2014), social occupations (Rodriguez et al., 2005) and community engagement (Buist-Bouwman et al., 2006).

Similarly, participants of this study described their doctoral degree as busy, where stress was a constant and considered a baseline. Doctoral students can experience elevated levels of stress (Jairam & Kahl, 2012; Kurtz-Costes et al., 2006; Martinez et al., 2013), often caused by multiple factors (Wang et al., 2019). Consistent with existing research (Jairam & Kahl, 2012; Martinez et al., 2013), in this study, stress was one of the most reported negative impacts on well-being reportedly caused directly by the doctoral degree and a multitude of related factors. These factors included isolation (Hopwood & Paulson, 2012; Tomasz & Denicolo, 2013; Grady et al., 2014), financial constraint (El-Ghouroury et al., 2012; Myers et al., 2012), the doctoral workload (Hopwood & Paulson 2012), sleep deprivation and experiencing time poverty (El-Ghouroury et al., 2012). While doctoral

education can be challenging, and stress can be important to build resilience (Metcalfe et al., 2018), high levels of stress that interfere with daily life are concerning and have a range of consequences (Sverdlik et al., 2020). Consequences identified by both participants of this study and doctoral students within the literature include poor well-being (Anthony-McMann et al., 2016; Kinman & Court, 2010), student burnout, neglect of academic work (Anthony-McMann et al. 2016; Perepiczka & Balkin, 2010; Stubb et al., 2011) or consideration of discontinuing their degree (Anttila et al., 2015; Stubb et al., 2011).

6.2.2 Environment

The social, temporal, and socioeconomic environments of doctoral students were the most prominent influencers on doctoral student well-being in this study. Participants in this study discussed the positive connections they had with other students across the university, whether they be in-person or online in the form of group chats, overall finding the social environment of the doctoral student to be supportive and beneficial. Other doctoral students are an important aspect of the doctoral student's social environment as this relationship can improve the motivation, confidence, and skills of students (Jazvac-Martek, 2009), which can greatly contribute to the student's well-being (Schmidt & Umans, 2014). Connecting with other doctoral students was typically valued by students in order to receive support and guidance from others undergoing the same experience (Jairam & Kahl, 2012; Jazvac-Martel, 2009; Schmidt & Umans, 2014; Sverdlik et al., 2018). It has been found that doctoral students perform better in the early stages of their careers when they are in smaller teams or departments with fewer numbers of peers and

with peers at the same stage of their doctoral degree (Brostrom, 2019; Corsini et al., 2022). Moreover, students who perceive themselves as belonging to their research community tend to have a positive doctoral experience, lower levels of stress, higher levels of interest in their studies and are less likely to consider leaving their studies (Brown, 2021; Gardner, 2010; Pyhältö et al., 2009; Stubb et al., 2011; Wisker et al., 2007). While it is recognised that not every doctoral student experiences a supportive doctoral community (Boud & Lee, 2005; Cornwall et al., 2019; Jairam & Kahl, 2012; McAlpine et al., 2009; Pyhältö & Keskinen, 2012; Sakurai et al., 2012; Trout, 2018), or positive supervisory relationships (Byrom et al., 2020; Jairam & Kahl, 2012; Wang et al., 2019), this was not the reported experience of participants in this study.

Participants who spoke about members of their supervisory team spoke positively about their relationship and were grateful for the support they received. Supervisors are key individuals in a doctoral student's community (Jairam & Kahl, 2012; Wang et al., 2019), and can help to reduce burnout and exhaustion among students as well as helping students adjust to daily life as a doctoral student (El-Ghouroury et al., 2012; McAlpine & McKinnon, 2013), and increase student productivity (Corsini et al., 2022), therefore increasing their chances of successful doctoral completion (McCallinn & Nayar, 2012; Peltonen et al., 2017; Zhao et al., 2007). In it's *Irish Universities Doctoral Skills Statement*, the Irish Universities Association (2021) specifically encourages higher-level institutions to ensure that they provide facilities for ensuring high quality supervisory practices, such as supervisory training and mentoring approaches. Participants of this study and other doctoral students believe that an increased understanding of the challenges doctoral students face and increased supervisor training on building positive

relationships and well-being has the potential to strengthen existing training and supervisory practices (Jackman et al., 2021b).

Participants also often turned to their partners or spouses as well as their parents, siblings, and friends for support and enjoyed spending time with these individuals outside of their doctoral degree or as a distraction from their work. While many spoke about how their social life and meeting family and friends reduced significantly after beginning their doctoral degree, participants greatly appreciated the support of their family and friends for the understanding, help and care they had shown during their doctoral journey. Similarly, doctoral students within the literature value and rely on family and friends for support throughout their degree to maintain their well-being (Breitenbach et al., 2019; Dabney & Tai, 2013; Hopwood, 2010; Martinez et al., 2013; McCray & Joseph-Richard, 2020; Schmidt & Umans, 2014), but often found it difficult to maintain their social relationships (Dabney & Tai, 2013) and engage in social occupations (Juniper et al., 2012). However, one participant spoke about family members not appreciating the intense academic workload and thus placing added responsibilities on students. A lack of understanding from some family members and friends has also been reported by other doctoral students (Breitenbach et al., 2019; Peltonen et al., 2017).

In terms of their temporal environment, some participants perceived time as a positive aspect in terms of flexibility in working hours and appreciated being able to work to their own schedule in order to take time away from the degree if necessary. This flexibility and autonomy, and subsequent self-management, is appreciated by doctoral students (Flynn et al., 2012; Gardner, 2010; O'Meara et al., 2013; Woolston, 2017). Despite this flexibility, many participants of this study reported that engaging in their role as a doctoral student

takes up the majority of their time each day. Some found it necessary to work late into each evening or across the weekend to manage their workload and various roles and responsibilities resulting in little time to be involved in other activities or roles (Mantai, 2019). Many students desire to organise their daily lives and their time (Palmadottir, 2010; Walker & McNamara, 2013), however, time management is a challenge for doctoral students (Cornwall et al., 2019; Martinez et al., 2013). While participants made an effort to manage their time by establishing priorities, setting boundaries and limiting distractions, they still found it difficult to complete work within the time they had. Poverty is often seen as material constraints. However, it also involves temporal constraints (Whillans & West, 2022). Time poverty, which has been described as the feeling of having too many things to do with too little time (Goodin et al., 2005; Perlow, 1999) is becoming more common. Time poverty has been shown to have a negative impact on well-being, mental health, and productivity (Giurge et al., 2020), where in contrast, those who perceive themselves to have more time, experience more positive well-being (Goh et al., 2015; Rudd, 2018; Whillans et al., 2017). Fulfilling a range of roles while also completing their degree requirements can cause conflict and stress for doctoral students (Cornwall et al., 2019) as well as a decline in well-being (Smith et al., 2006), and many participants of this study cited a lack of time as a negative contributor to their well-being.

Participants discussed experiencing financial difficulties, a frequently reported stressor for doctoral students that can impact well-being (El-Ghoroury et al., 2012; Lavriviere, 2013; Wang et al., 2019). Doctoral degrees typically do not offer students large financial incentives (Casey, 2009), and even with a stipend, participants experienced financial

challenges due to an inability to accumulate savings. This, as well as high and increasing costs of living (Metcalfe et al., 2018; Panger et al., 2014), particularly in an Irish context (Hutton, 2022; O'Brien, 2022; Wilson, 2022), can cause a number of negative consequences such as attrition (Gardner, 2009; Van der Haert et al., 2014), experiencing low mood and depressive symptoms due to financial stress (Ali & Kohun, 2006) as well as insufficient funds to eat well or have disposable income to spend on restorative and social occupations (Metcalfe et al, 2018). Participants of this study, and others (Cornwall et al., 2019; Metcalfe et al., 2018; Wao & Onwuegbuzie, 2011) reported relying on less income due to undertaking a doctoral degree, where many reported they must continue paid employment to fulfil their financial obligations and cover basic living expenses, regardless of if their degree was funded or not. This can cause stress, a lack of focus and make it more challenging for students to finish their dissertation (Jairam & Kahl, 2012; Metcalfe et al., 2018; Wao & Onwuegbuzie, 2011). Improved funding or increases in grants and scholarships have the potential to improve this issue and have been linked with higher satisfaction within the doctoral journey, alongside lower levels of attrition (Ali & Kohun, 2006; Leijen et al., 2016; Litalien & Guay, 2015). In this regard, the October 2022 announcement by the Irish Minister for Further and Higher Education of a national review of State supports for PhD researchers is timely and welcome (Irish Government News Service, 2022).

6.2.3 Occupation

As participants discussed their daily life experiences, they talked about the many occupations they engage in daily, both academic-related and not. For participants in this

study and other doctoral students (Hopwood et al., 2011; Moate et al., 2019; Stubb et al., 2011), academic work was a main doing occupation. This involved mandatory course work, fieldwork or lab work, data analysis, engaging in modules and attending lectures, writing, reading and administration duties. This also involved doctoral associated occupations such as lecturing, conducting tutorials or webinars, or supervising undergraduate research. Due to the many occupations involved in a doctoral degree, many participants commented on how each day was such a different mix of activities and that they could move between aspects to avoid getting bored. While the negatives of doctoral study are so often reported in the literature, participants of this study, as well as other students (Pommier et al., 2022; Woolston, 2017), expressed that they are satisfied with their decision to pursue a doctoral degree due to working in stimulating environments and the variety of work they can engage in each day.

Students in this study and within the literature also have a variety of non-academic doing occupations. Three participants spoke about their paid employment occupations outside of their doctoral degree, which is not uncommon for doctoral students (Hopwood et al., 2011; Martinez et al., 2013; Smith et al., 2006; Stubb et al., 2011; Usher & McCormack, 2021). This is another important doing occupation of students to financially support themselves and their families. Many also engage in occupations associated with their families such as caring for family members such as children or older parents (Hopwood et al., 2011; Smith et al., 2006). This also included managing households and completing instrumental activities of daily living such as managing finances, shopping, and household chores. Despite valuing their paid employment and familial occupations, these occupations were also time-consuming and placed another great demand on the time and

energy of participants, creating less time for their doctoral work and other meaningful occupations. Juggling the multiple demands of a doctoral program with other life responsibilities can cause doctoral students to experience high levels of stress (Metcalfe et al., 2018; Schmidt & Umans, 2014), lower levels of satisfaction and difficulties with motivation (Martinez et al., 2013; Smith et al., 2006), making it challenging for individuals to maintain a sense of occupational balance (Wilcock, 2006) and well-being (Stubb et al., 2011).

Engaging in occupations that are relaxing was seen as restorative (Martinez et al., 2013), where participants of this study considered them as time to themselves, away from their degree. Participants took time away from their degree sometimes during their morning routine before beginning doctoral work, or while watching TV or engaging in their hobbies such as gardening, embroidery, reading, or creative occupations. Restorative occupations are frequently reported as a way for doctoral students to cope with stress (Creely & Laletas, 2020) and maintain their well-being (Martinez et al., 2013). Participants also considered exercise, in a wide variety of forms, essential to their health to get fresh air and combat the desk-based nature of many doctoral degrees, which has also been reported in the literature (Byrom et al., 2020; Hopwood et al., 2011; Kumar & Cavallaro, 2018). Despite valuing time away from their degree, an intensive academic workload often meant that participants made trade-offs to balance their conflicting roles, responsibilities, and occupations (Martinez et al. 2013; Schmidt & Umans 2014; Sverdlik et al., 2018). Hobbies and social activities, occupations that tend to be restorative in nature, were often the first to be neglected by doctoral students, as well as sleep. Disengagement in restorative occupations may cause daily life to be less nourishing and

fulfilling (Asberg, n.d.) and over time may lead to burnout. Furthermore, withdrawal, disruption, or changes in a person's ability to engage in chosen meaningful occupations can have a major impact on an individual's health and well-being (Gribble et al., 2013; McDonald et al., 2012; Vrkljan & Miller-Polgar, 2001). Particularly at a time of increased pressure and workload, challenges to engaging in self-care and restoration should be acknowledged and addressed (Morrish, 2019). Furthermore, poor quantity and quality sleep was a common complaint from participants in this study and others (Allen et al., 2020; Byrom et al., 2020; Levecque et al., 2017; McKinzie et al., 2006; Panger et al., 2014), which was attributed to working on or worrying about doctoral associated occupations. Insufficient sleep among doctoral students is strongly related to stress (McKinzie et al., 2006), poorer daytime functioning (Chaput et al., 2018) and poor mental well-being (Byrom et al., 2020; Marais et al., 2018). Higher-level institutions are increasingly encouraged to place a greater emphasis on self-care, rest, and restoration so that students are more likely to engage in these practices and experience enhanced health and well-being (Kumar & Cavallaro, 2018; Zahniser et al., 2017).

Participants also discussed engaging in occupations that foster belonging, connecting, and contributing. Most participants reported positive experiences of family and friend support, including family members and friends sharing practical advice and help, spending time together through sharing meals or exercising, taking care of household chores, or engaging in regular phone calls if living far away. In terms of their academic community, while some participants did not meet their supervisors regularly, other participants stated that they were grateful for the positive relationship they had built with their supervisors, who have helped support their well-being across the doctoral journey.

Supervision is a core occupation in the lives of doctoral students (Hunter & Devine, 2016; Jairam & Kahl, 2012; McAlpine and McKinnon, 2013), where increased frequency of meetings (Hunter & Devine, 2016), and shared knowledge and advice (Jairam & Kahl, 2012), are instrumental in doctoral student success and well-being (Begin & Gerard, 2013; Hunter & Devine, 2016; Levecque et al., 2017). Participants of this study also appreciated the connections they had made with other doctoral students and often took coffee and lunch breaks with other students or engaged with them via online group chats. Connecting with other doctoral students in this way contributes to student well-being and success within their education (Jairam & Kahl, 2012; Jazvac-Martel, 2009; Schmidt & Umans, 2014).

As part of their degree, several of the participants engaged in occupations that reflected life continuity and future hope such as being involved in coordinating and teaching university modules, conducting tutorials, and supervising undergraduate research. Many also were motivated to advance their experience and skills further by hosting webinars, attending conferences, and engaging in digital badge programmes such as the EMDB, which many doctoral students tend to do to grow as an independent researcher (Bernery et al., 2022; Hopwood et al., 2011; Metcalfe et al., 2018; Moate et al., 2019; Smith et al., 2006). In order to engage in a doctoral degree, many universities require a diverse set of skills and attributes, which are also expected upon completion (Mantai & Marrone, 2022). Similarly, many academic positions expect successful applicants to have a range of academic skills and attributes, and expertise (Pitt & Mewburn, 2016). For example, a high-quality publication record alongside a well-established network of connections has been cited as essential to be competitive in the post-doctoral job market (Alberts et al.,

2014; Corsini et al., 2022; Heffernan, 2021; Vale, 2015). While participants found it difficult to balance these added occupations within their busy schedule, they felt that their well-being was positively impacted by these personal and professional opportunities to connect with others and develop their skills, and that they would continue to be beneficial across their future career and life stages, no matter what they pursued following the doctoral degree.

Participants, particularly those nearing the end of their degree, expressed feeling demotivated at times, which impacted how they engaged in their doctoral occupations as they found it reduced productivity, causing delays to their work. Perhaps due to the range of stages participants were at in terms of their doctoral degree, some doctoral students experienced demotivation due to concerns regarding the next steps in their careers and their professional future (Cornwall et al., 2019; Metcalfe et al., 2018; Pommier et al., 2022). An international survey highlighted that 56% of doctoral students who participated had a negative view of their career prospects (Woolston, 2020). Doctoral graduates are available globally, and in increasing numbers, while the number of academic job positions has not grown in parallel (Cyranoski et al., 2011; Lauder & Mayhew, 2020; Mason et al., 2009; Sauermann & Roach, 2012; Woolston, 2019). As a result, doctoral students may have poorer career prospects due to the competition between doctoral students for both industry and academic jobs following their degree (Lauder & Mayhew, 2020; The Royal Society, 2010), which has a negative impact on well-being (Walsh & Juniper, 2009). Doctoral programmes that emphasise and nurture the diverse and transferable skills and attributes of doctoral students are more likely to lead the students

to success and assist students in navigating any present and future challenges (Irish Universities Association, 2021; Mantai & Marrone, 2022).

6.3 Occupation-based intervention

This research examined the experiences of UCC doctoral students participating in a new universal, occupation-based time-use and well-being intervention available at University College Cork (UCC), the *"Everyday Matters: Healthy Habits for University Life"* digital badge (EMDB). The second research question will be addressed by discussing both the findings of this research regarding the EMDB alongside the available literature on occupation-based intervention. Support for positive mental health and well-being should be provided as a responsibility of care of institutions to support all students to reach their academic goals (Waight & Giordano, 2018). While many universities provide mental health resources and supports to students, often in the form of counselling or specialised programs (Keptner et al., 2016), many services and facilities are overwhelmed and lack the necessary resources and staff needed to manage (Watkins et al., 2012; Woolston, 2019). It is also evident from the scoping review in chapter three that there is a gap in occupation-based services being provided at a universal level to doctoral students.

6.3.1 The timing of supports

Some participants of this study noted doctoral study as a scary time, highlighting the beginning of their degree in particular as they felt that they were unprepared for the difficulties they encountered. Others also commented that they were aware even before beginning their studies that their mental health would be challenged as they had seen

others go through the doctoral journey and experience poor mental health as a result. Higher education can be a major milestone and time of transition for individuals, whether they are entering university for the first time as an undergraduate or returning to university to complete a doctoral degree. The early stages of a doctoral degree have been suggested as a key opportunity for institutions to provide early intervention aimed at the prevention of mental health difficulties (Jackman et al., 2021a). Moreover, one study has shown that well-being tends to be lower in doctoral students in the later stages of their degree (Hargreaves et al., 2017). A reason for this could be due to late-stage students being unclear of their professional identity or what next step they would like to take in their career (Mason et al., 2009; Hancock & Walsh, 2014) as well as poor employment prospects (Cyranoski et al., 2011; Mason et al., 2009; Sauermann & Roach, 2012).

This study included doctoral students at various stages of their degree, whether they were at an early, middle, or late stage. Despite their stage of degree, or any other factors including their part-time or full-time status, department or area of study, gender or age, all participants agreed that their well-being had been impacted negatively as a result of their doctoral degree. Similarly, a decline in the mental health and well-being of doctoral students has been found internationally in several studies which represent doctoral students at various stages of their degree (Evans et al., 2018; Levecque et al., 2017; Woolston, 2019). Participants found that the EMDB content, as an occupation-based intervention, was a beneficial well-being support to them during their degree, regardless of which stage they were at. Many also felt that it would continue to benefit them further in their doctoral journey as they could return to the saved content in the future, as and when they needed. A systematic review found that preventative mental health

interventions are sustainable in the long-term, and that interventions promoting positive mental health, while promising, have shorter lasting effects (Winzer et al., 2018). Despite this, it is necessary for institutions to review the supports they have in place and ensure they are timed to target and support doctoral students at any stage of their degree, particularly for early-stage and late-stage students (Hargreaves et al., 2017).

6.3.2 The benefit of occupation-based intervention

Participants of this study cited a range of benefits they had received from engaging in the EMDB. Participants mainly discussed the positive impact of participating in the EMDB digital badge for their well-being and occupational balance. For many, the programme mainly served as a reminder to prioritise and take care of themselves. Some participants felt that the digital badge helped to increase their awareness of what aspects of their well-being they were giving attention to, and which aspects could be improved and required more attention. University life may present new occupational performance demands, and the ability to embrace these demands may impact the mental health of university students (Keptner et al., 2016). Doctoral students who can embrace difficulties in their daily occupations and manage their daily routine at university are less likely to prematurely leave their studies, and interventions should centre around assisting students with life skills for their daily occupations (Bettinger & Baker, 2011).

Many participants found that participating in the EMDB helped them to understand work life integration and therefore work towards occupational balance and normalised the need to cut certain activities and tasks out to invest time in other activities and in themselves. Particularly as many doctoral students can experience guilt when taking time away from

their degree (Dabney & Tai, 2013; Schmidt & Umans, 2014), participants felt that the emphasis on self-care within the EMDB helped them to feel less guilty about prioritising themselves. From their participation in the digital badge, one participant noted the importance of building well-being into their working week, where they believed that it should be seen as an essential part of their doctoral work.

Through the EMDB, participants also discussed practising gratitude and improving their resilience during their doctoral degree and through participation in the EMDB, which had a positive impact on their well-being and mindset. Participants felt that they had learned to cope with the frequent challenges and setbacks within the doctoral journey, which had a positive impact on their well-being. There is a gap in how resilience relates to well-being within postgraduate samples (Hazell et al., 2020). However, in a large UK-based quantitative study of doctoral students, validated scales of well-being and resilience were used and found that the well-being and resilience of participants were significantly lower than the average population (Casey et al., 2022). It may be assumed that those experiencing better mental health are also more resilient and productive, however a large study with 336 participants across the US found that this assumption is not true (Zhang et al., 2022). There is a possibility that this is caused by the student's well-being being eroded over time due to sustaining high levels of productivity. As challenges throughout the doctoral degree are inevitable, there is a need for students to be resilient to progress in their degree while balancing their other roles and responsibilities (Bryan & Guccione, 2018; Mowbray & Halse, 2010).

6.3.3 Built into the curriculum

For many participants, engaging in the EMDB was the first well-being programme or digital badge participants had availed of within UCC and in general. While participants had a range of reasons for deciding to participate in the digital badge, the majority sought participation in order to take a proactive approach to supporting their mental health and well-being as they saw it as an essential part of both professional and personal life. Irish higher education institutions are in a position to promote positive mental health for all students on their campuses, and therefore should ensure that all support services offered are accessible to all students and are appropriately resourced to cater for any need (Higher Education Authority, 2020). The curriculum is the only guaranteed point of contact between a university and its students (Hughes, 2020). Therefore, curricular approaches to wellbeing could be considered (Houghton & Anderson, 2017). It has been suggested that the postgraduate community should be designed to support all individuals (Hargreaves et al., 2017), and to do so universities should embed support into curricula to reach all students (Heagney & Benson, 2017).

All participants stated that they would recommend participating in the EMDB to other doctoral students, where some even recommended the digital badge to be a mandatory programme for university students, and doctoral students in particular. Others suggested that it should at least be a credit-bearing postgraduate module available for students due to its benefit for this population. Considering that doctoral students must engage in credit-bearing modules to earn credits as part of their doctoral degree (Moate et al., 2019), where UCC doctoral candidates must undertake a minimum of 270 across their years of study (UCC, n.d.), there is potential for the EMDB to become credit-bearing as

participants felt it was a great resource to form healthy habits and learn practical tips to support their well-being, time management and learning to prioritise themselves and their time. Occupation-based services in particular are suitable for a variety of student populations and can be implemented and effective as semester courses, a learning module, as part of mentoring programmes or in connection with other campus services. Therefore, occupational therapy can be provided in many ways and with many individuals in this setting (Keptner & McCarthy, 2020).

6.4 Implications of this research study

The findings of this study have implications for national and international policy relating to higher-level education as well as higher-level institutions and occupational therapy practice.

6.4.1 Implications for national and international higher education policy

In a study of graduate deans in the US, it was reported that while university strategic plans, policies and mission statements made references to the mental health and well-being of students in general, specific references to graduate students, including doctoral students, were absent (Council of Graduate Schools & The Jed Foundation, 2021). The *Okanagan Charter* (The International Conference on Health Promoting Universities and Colleges, 2015) calls higher-education institutions to embed health into every part of campus life but fails to mention doctoral students. The same issue occurs within Irish policies such as the *Healthy Campus Framework* (Department of Health, 2021) as well as the *National Student Mental Health and Suicide Prevention Framework* (Higher Education Authority, 2020). While these policies provide universities with a universal

language, principles, and framework to promote well-being on their campuses, doctoral students are not specifically mentioned among these policies. As demonstrated by this study, doctoral students have a range of roles, responsibilities and occupations associated specifically with their degree, as well as beyond, accordingly they may encounter a variety of experiences and difficulties that undergraduate students do not. Both national and international policy makers should take the opportunity to reflect on their current policies and how they reflect the current needs of all university students, inclusive of doctoral students.

6.4.2 Implications for higher-level institutions

It became evident in this study that undertaking a doctoral degree can have a negative impact on the well-being of doctoral students, and this is increasingly reported around the globe (Browne et al., 2017; Buchanan, 2012; Evans et al., 2018; Hazell et al., 2021; Woolston, 2019). Poor mental health and well-being can have devastating consequences for doctoral students both personally in terms of suicidal thoughts (Drum et al., 2009), as well as academically relating to poor productivity and work quality (Eisenberg et al., 2009), and attrition (Eisenberg et al., 2009; Hunter and Devine, 2016; Levecque et al., 2017; Stubb et al., 2011). Poor well-being among students is also costly to higher-level institutions as doctoral students contribute to higher-level institutions financially through fee payment, publication of their research, and pursuing an academic career in higher-level departments following graduation (Leshner, 2021; Moate et al., 2019; Ruano-Borbalan, 2022). Therefore, many higher-level institutions can see doctoral research as core business.

Academic cultures and practices play a role in doctoral well-being and attrition (Barnes & Randall, 2012; Gardner, 2009). It is evident that there is a narrative that pursuing a doctoral degree is a long and demanding academic journey (Moate et al., 2019), where there is an expectation of sustained mental effort, long working hours (Gershuny, 2005; Keinan et al., 2018; Metcalfe et al., 2018), and a willingness to experience stress and mental health difficulties in order to achieve the higher goal of the doctorate (Bryan & Guccione, 2018; Hazell et al., 2021; Woolston, 2019). This is a cause for concern as the pressure and perceived culture of doctoral research could potentially further escalate the well-being issues of doctoral students, since the normalising of high stress could lead to under-reporting of issues, and students being less likely to seek help. This may also extend beyond the doctoral degree with students having unrealistic expectations and unhelpful habits and beliefs within their future careers. With this in mind, the well-being of doctoral students is important to consider and support. For many higher-level institutions, Leshner (2021) argues that this may involve reflecting on their policies and how they can better promote the mental health and well-being of all students. This also involves each institution assessing if the campus environment is suitable to learn and work in and if there are sufficient and appropriate services and supports in place to support all students, including doctoral students (Mason & Hickman, 2019; Universities UK, 2020). Universities need to consider how their policies impact the health and well-being of their entire student population, and how health and well-being can be prioritised alongside academic learning (Department of Health, 2021; Universities UK, 2020).

The findings of this study are also relevant for academic staff and doctoral supervisors in particular. In this study, some participants believed that engaging in content such as that provided in the EMDB would be helpful for supervisors to understand the doctoral journey and associated responsibilities and pressures as well as ways to support student well-being. Within the literature, some students saw a role for departmental staff, including doctoral supervisors, in facilitating mental health and well-being support (Baik et al., 2019; Mousavi et al., 2018; Ryan et al., 2022). To facilitate better signposting to suitable services, there has been a call for university staff such as doctoral supervisors to be trained to recognise students who are experiencing difficulties and where to refer them for support (Higher Education Authority, 2020; Leshner, 2021; Watkins et al., 2020). As it is a core aim to continue to recruit and retain doctoral students, to reduce high dropout rates and support the mental health and well-being of doctoral students, it is essential that higher-level institutions establish a range of adequate programmes and supports to assist doctoral students in managing their mental health and well-being so that they are fully supported to continue in their degree.

6.4.3 Implications for Occupational Therapy practice

In order to address the mental health and well-being needs of a range of students, effective and scalable interventions are required (Brown, 2018). While there is international evidence that supports the use of occupation-based universal interventions for many across the lifespan, there is a significant gap in the literature for the same support being provided to doctoral students. Universities have a role and responsibility in supporting the mental well-being of their students in order to fulfil their core mission of

providing students with high-quality education and positive outcomes in terms of graduation (Baik et al., 2019; Hill et al., 2020; Litwiller et al., 2018). This study has found that participation in the EMDB, an occupation-based time-use and well-being intervention has a range of benefits and is an effective digital badge to support the daily lives and well-being of doctoral students.

The findings of this study also support the establishment and / or expansion of occupational therapy services on university campuses. A review by Keptner and McCarthy (2020) highlighted that some universities across the globe, particularly within the US, already have established occupational therapy services on campus to support the student population. To develop and integrated support system with appropriate and effective care pathways, occupational therapy services and interventions can be delivered across a continuum of universal, targeted, and intensive supports (Brown, 2018; Duffy et al., 2019; Hill et al., 2020). Occupational therapy can make a valuable and unique contribution to education settings due to its core concepts of being client-centred and occupation-based (Crabtree et al., 2015; Dirette, 2019). As evident by the findings of this study, doctoral students experience a range of personal, environmental, and occupational issues that are unique to their own lives and experiences, which could be addressed through occupational therapy services (Schindler et al., 2015; Shea & Giles, 2016). Occupational therapists could assist with improving the quality of life of all students across the campus (AOTA, 2013), and develop connections with other university members of staff and collaborate with them on a range of accommodations for students (Scott et al., 2016).

6.5 Limitations of this research study

A range of limitations have been identified within the study design, sample and in the data collected. These include;

1. **One single location:** This study was conducted with participants in one university. Therefore, it is unclear if results translate to other universities in Ireland or internationally, as other institutions and countries have different policies, guidelines, cultures, and expectations within doctoral degrees.
2. **Inclusion of both part-time and full-time students:** Originally, this study was planned to be conducted with individuals who were full-time students only. Due to concerns regarding a small sample size, the researcher and research supervisors decided to broaden the participant inclusion criteria to also include part-time doctoral students. This broader inclusion criteria meant that it was difficult to generate specific results that would apply to a single population of either part-time or full-time doctoral students.
3. **Small sample size:** There were 10 participants in this study. While this was within the recommended range for qualitative studies (Dworkin, 2012; Robinson, 2014), a small sample size has the potential to reduce how findings can be related to others.
4. **Online data collection methods:** The impact of the Covid-19 pandemic meant that interviews were conducted online, where internet access issues and connection posed a challenge at some points during the data collection interviews. This created small gaps in the interview transcripts and may have disrupted the flow of conversation.
5. **Study time frame:** This research study was completed within a limited time frame as dictated by the requirements of a Masters research degree. This may have potentially

limited the depth of information gathered from participants as well as the process of data analysis.

6. **A lack of research on the topic:** There is a generally lack of research conducted worldwide on the daily life experiences of doctoral students, and particularly in Ireland. This made it challenging to get an overview of this topic and compare the findings of this study to other similar studies.
7. **One single researcher:** While all efforts and measures were taken to be aware of and bracket researcher bias, there is potential for bias to influence the findings as one researcher completed all aspects of the research study.

6.6 Future research directions

Further research on this topic is required, particularly to address some of the limitations and gaps from this research. Future research directions include;

1. **Longitudinal research:** Data collection over a longer period time with participants may allow a deeper insight into the daily lives of doctoral students and how their daily lives, occupational balance and well-being change across different time points of their degree, as well as offering a more in-depth understanding on whether the benefits experienced from participating in the EMDB have been maintained over time.
2. **Part-time vs. full-time students:** A study focusing on the role of part-time or full-time status could measure the similarities and differences between the experiences of full-time and part-time doctoral students.

3. **A focus on international students:** Only two participants of this study identified as international students. This study did not aim to capture the experiences of international doctoral students in particular and therefore does not reflect the views, opinions and experiences of this population. Recent statistics have shown that in the 2021/2022 academic year, international students accounted for 12.4% of the undergraduate and postgraduate student population in Ireland (O'Shea, 2022). Therefore, a specific study in the Irish context is warranted to examine the daily life of international doctoral students and how their degree impacts their occupational balance and well-being, as well as if participation in the EMDB is beneficial for this population.
4. **The transition into doctoral study:** Some participants of this study noted their difficult transition into doctoral study and how this impacted their daily life, occupational balance, and well-being. This is potentially another gap that could be explored in further detail within the Irish context.

6.7 Concluding statement

Informed by an occupational perspective of health and interpretive descriptive methodology, this study addressed a significant gap in the literature by focusing on the daily life experiences of Irish doctoral students and how undertaking a doctoral degree impacted their occupational balance and well-being. Furthermore, this study also addressed a knowledge gap regarding universal occupation-based intervention being delivered to doctoral students by examining how participants experienced the *"Everyday Matters: Healthy Habits for University Life"* (EMDB), a universal, occupation-based time-use and well-being universal intervention.

Following individual interviews with 10 UCC-registered doctoral students, four overarching themes and their subsequent subthemes were discovered. Hughes and Tight (2013) have described the doctoral experience as complex and multifaceted, and the findings of this study support this statement. It is apparent that the daily life experiences of doctoral students are varied according to their own personal, environmental, and occupational factors. Doctoral students engage in a wide range of personal and academic occupations and associated responsibilities each day. While some were satisfied with their occupational balance, all participants found it was a constant juggling act to balance what they needed to do with what they wanted to do. Furthermore, undertaking a doctoral degree has both a positive and negative impact on their well-being. The EMDB was seen as a beneficial occupation-based intervention to support the well-being of this population.

While there are naturally some limitations to this study, the findings are important and have implications for both policy and practice. It is important that both national and international policy makers review their current policies and how they reflect the current needs of all university students, inclusive of doctoral students. Higher-level institutions should also ensure that their campuses are health promoting, where negative academic cultures should be examined and managed, and collaboration and supportive academic community is fostered. To reduce high attrition rates and support the mental health and well-being of doctoral students, it is essential that adequate programmes and supports to assist doctoral students in managing their mental health and well-being, such as occupation-based interventions, are developed and offered so that they are fully supported to continue in their degree (Jackman et al., 2021a; Mousavi et al., 2018; Waight & Giordano, 2018).

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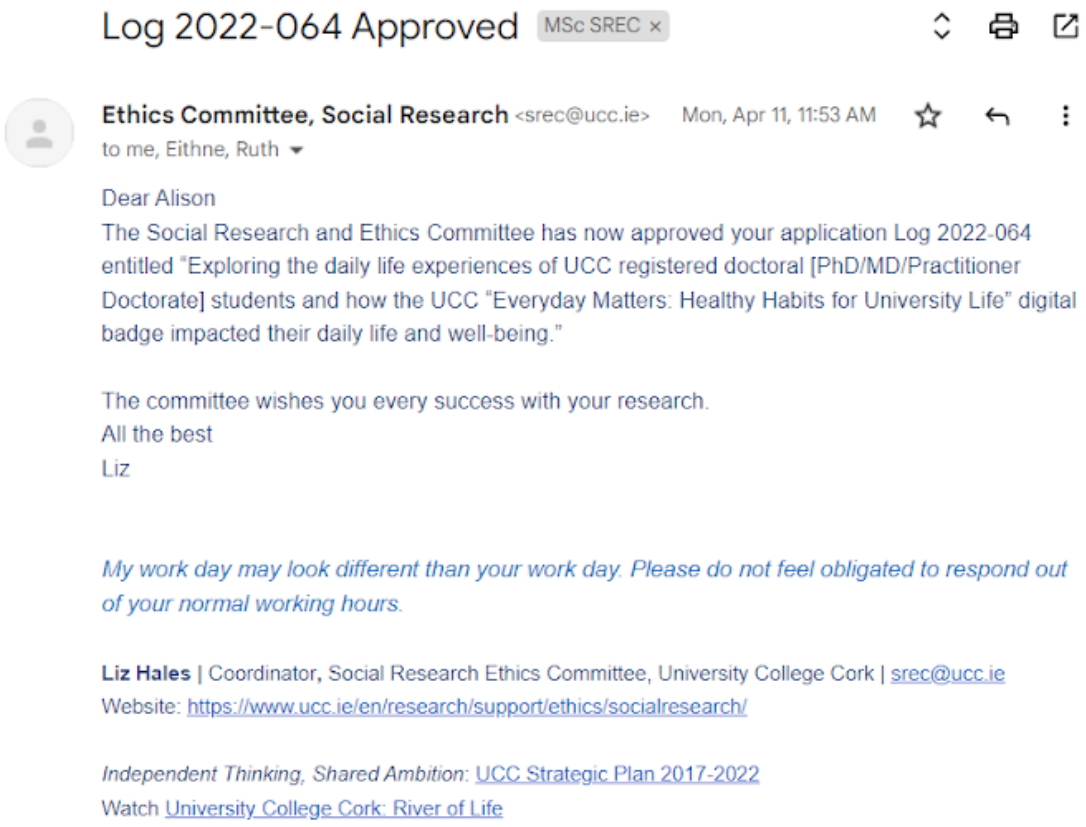
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Appendix A: Ethical Approval



Log 2022-064 Approved MSc SREC ×

Ethics Committee, Social Research <srec@ucc.ie> Mon, Apr 11, 11:53 AM

to me, Eithne, Ruth

Dear Alison

The Social Research and Ethics Committee has now approved your application Log 2022-064 entitled "Exploring the daily life experiences of UCC registered doctoral [PhD/MD/Practitioner Doctorate] students and how the UCC "Everyday Matters: Healthy Habits for University Life" digital badge impacted their daily life and well-being."

The committee wishes you every success with your research.
All the best
Liz

My work day may look different than your work day. Please do not feel obligated to respond out of your normal working hours.

Liz Hales | Coordinator, Social Research Ethics Committee, University College Cork | srec@ucc.ie
Website: https://www.ucc.ie/en/research/support/ethics/socialresearch/

Independent Thinking, Shared Ambition: UCC Strategic Plan 2017-2022
Watch University College Cork: River of Life

SREC amendment approval

RE: Log 2022-064A1 Amendment request approved MSc SREC ×

Ethics Committee, Social Research <srec@ucc.ie> Thu, May 19, 9:52 AM

to me

Dear Alison
The Social Research and Ethics Committee has now approved your amendment request Log 2022-064A1, for previously approved application Log 2022-064 entitled "Exploring the daily life experiences of UCC registered doctoral [PhD/MD/Practitioner Doctorate] students and how the UCC "Everyday Matters: Healthy Habits for University Life" digital badge impacted their daily life and well-being."

The committee wishes you every success with your research.
All the best
Liz

My work day may look different than your work day. Please do not feel obligated to respond out of your normal working hours.

Liz Hales | Coordinator, Social Research Ethics Committee, University College Cork | srec@ucc.ie
Website: https://www.ucc.ie/en/research/support/ethics/socialresearch/

Independent Thinking, Shared Ambition: UCC Strategic Plan 2017-2022
Watch University College Cork: River of Life

Appendix B: Information letter

Exploring the daily life experiences of UCC registered doctoral [PhD/MD/Practitioner Doctorate] students and how the UCC *"Everyday Matters: Healthy Habits for University Life"* digital badge impacts daily life and well-being

Dear Doctoral Student,

My name is Alison Prendergast, and I am a MSc by Research student within the Department of Occupational Science and Occupational Therapy at University College Cork (UCC). You are being invited to take part in my master's research study.

My research is focused on understanding the daily life of doctoral [PhD/MD/Practitioner Doctorate] students and how undertaking a doctoral degree can positively or negatively impact daily life, occupational balance, and well-being. My research also aims to examine the *"Everyday Matters: Healthy Habits for University Life"* digital badge and how participation in this digital badge may impact doctoral students' daily life and well-being.

I am seeking individuals who;

- Are full-time or part-time doctoral [PhD/MD/Practitioner Doctorate] students at UCC
- Is at any stage of the doctoral degree
- Are over the age of 18
- Have registered for the *"Everyday Matters: Healthy Habits for University Life"* digital badge
- Are fluent in English

If you think you would like to take part in this study, please read more about it in the research information section below.

Yours Sincerely,
Alison Prendergast
Email: 117326726@umail.ucc.ie
MSc by Research (Department of Occupational Science & Occupational Therapy, UCC)

Research Study Information:

Exploring the daily life experiences of UCC registered doctoral [PhD/MD/Practitioner Doctorate] students and how the UCC *"Everyday Matters: Healthy Habits for University Life"* digital badge impacts daily life and well-being

Thank you for considering participating in this research project. The purpose of this letter is to explain the research project and what your participation would involve, to enable you to make an informed choice. Following reading the research information, if you would like to participate in this study, please complete the consent statements and demographic questionnaire available on Microsoft Forms (link below).

What is the project going to address?

The mental health and well-being of doctoral students is a growing concern globally. Poor well-being can affect academic performance and a student's desire and capacity to remain in their doctoral programme. Therefore, this project is concerned with understanding the daily life of doctoral students and how undertaking a doctoral degree can positively or negatively impact an individual's daily life, occupational balance and well-being. Further to this, this research also aims to examine the *"Everyday Matters: Healthy Habits for University Life"* digital badge and if participation in this digital badge may impact the well-being of doctoral students.

Who are the researchers?

Alison Prendergast is the primary researcher. Dr. Eithne Hunt and Dr. Ruth Usher are supervising this study.

What will participation in the study entail?

Participation in the study involves completing the online consent statements and short demographic questionnaire available on Microsoft Forms before taking part in at least one interview with the researcher. This interview will be carried out at a time that is the most suitable for you through Microsoft Teams or by phone, if you prefer. The interview(s) will last for approximately 1 hour and will be audio-recorded and potentially video-recorded, if necessary. A follow-up interview may be required, if you wish to have longer to share your experiences. The interview questions will explore how you experience daily life while being a doctoral student, how being a doctoral student can positively or negatively impact daily life and well-being and how participation in the *"Everyday Matters: Healthy Habits for University Life"* digital badge may have impacted your daily life and well-being. These questions will be sent to you in advance of the interview. The award of your digital badge from *"Everyday Matters: Healthy Habits for University Life"* is in no way contingent upon participation in this study and a decision not to participate in this study will have no negative consequences in terms of your academic progression.

Can I change my mind?

Yes, you can change your mind and withdraw from the research any time up to two weeks after the interview, after which time it will be impossible to remove your data from the analysis.

Will my information that I provide be protected and remain confidential?

General Data Protection Regulation (GDPR, 2018) policy will be followed at all times. Your personal details and responses will be protected by using pseudonyms and any potentially identifying information will not be included in the study. Video / audio recordings will be erased from the audio recording device immediately after transfer of the recording to a password protected computer and online storage. Safe storage and documentation transferral will be prioritised online by using a password protected computer and service such as Google Drive with UCC credentials.

Is this study ethically approved?

Yes, this study has received ethical approval from the Social Research Ethics Committee (SREC) at UCC.

How do I contact the researcher to find out further information?

If you would like to seek further information about the study or have any queries or concerns, please contact Alison Prendergast by email at 117326726@umail.ucc.ie
You can also contact a research supervisor of this study: Dr. Eithne Hunt (E.Hunt@ucc.ie)

How do I participate in the study?

If you would like to participate in this study, please complete the consent form and questionnaire on Microsoft Forms, which can be accessed through this link;

https://forms.office.com/r/e9peteyzwM.

Following completion of the consent statements and questionnaire, you will be contacted to schedule a suitable date and time for the data collection interview.

Where can I go for more support on this topic?

If you would like support on any topics raised in this information letter, you can contact the following:

- **UCC Student Counselling & Development**

Phone 021 4903565 or Text 087 2152505

- **UCC Skills Centre**

Visit https://www.ucc.ie/en/skillscentre/ or email skillscentre@ucc.ie or phone 021 4903839

- **Crisis Text Line**

Text UCC to 50808

- **Niteline**

Phone 1800 32 32 42 or online messenger; https://im.cork.nightline.ac.uk/webim/

- **Samaritans Telephone Service**

Freephone 116 123, by text 087 260 90 90 and by email jo@samaritans.ie

Appendix C: Consent statements and demographic questionnaire

Consent Statements and Demographic Questionnaire

Exploring the daily life experiences of UCC doctoral [PhD/MD/Practitioner Doctorate] students and how the UCC *"Everyday Matters: Healthy Habits for University Life"* digital badge impacts daily life and well-being

Thank you for considering participating in this research project. If you would like to participate in this study, please complete the consent statements and demographic questionnaire available on this form.

* Required

Your Consent

Please read the statements below and click "I consent" if you are happy to proceed.

I voluntarily agree to participate in the research study conducted by Alison Prendergast (117326726).

I am aged 18 or over.

I have read the information sheet about this research project, and this research study has been explained to me as fully as possible.

I understand that all the information will remain confidential, and any personal identifying data will not be included in any written reports, publications or presentations.

I understand that my participation is voluntary and that I have the right to withdraw my participation before, during or up to two weeks after the interview.

I understand that this research will be published in a research report and that the researcher may publish the information in academic journals. I understand that the researcher may present the information at conferences and seminars.

I understand that data may be accessed by researchers affiliated with the School of Clinical Therapies at UCC at a later date for further analyses. However, my anonymity will be protected at all times.

I agree to my interview being audio-recorded and/or video-recorded.

I understand that I am free to contact anyone involved in the research project to seek further clarification and information.

1. I have read and understood the above information, and I wish to participate in this study *

◯ I consent

2. I confirm that I am aged 18 years or older *

◯ Yes, I confirm

3/14/2022

Demographic Questionnaire

This is just a short questionnaire in order to learn more about you.
Thank you for taking the time to complete this form.

3. How do you describe your gender? *

- ◯ Female
- ◯ Male
- ◯ Non-binary
- ◯ Prefer to self-describe
- ◯ Prefer not to say

4. If you selected "Prefer to self-describe", please describe here if you wish

5. Age *

- ◯ 18 - 24
- ◯ 25 - 34
- ◯ 35 - 44
- ◯ 45- 54
- ◯ 55- 64
- ◯ 65 - 74
- ◯ 75 +

6. Are you an international student? *

- ◯ Yes
- ◯ No
- ◯ Prefer not to say

7. Is English your first language? *

- ◯ Yes
- ◯ No

8. If English is not your first language, what is your first language?

9. What type of PhD are you undertaking? *

- ◯ Taught PhD
- ◯ PhD by Research
- ◯ Practitioner Doctorate
- ◯ Thematic PhD
- ◯ PhD by Prior Published Work
- ◯ Doctor of Medicine (MD)
- ◯ None of the above / Other

10. If you answered none of the above / other to the question "What type of PhD are you undertaking?", please describe here if you wish:

11. Are you currently registered as a full-time or part-time student? *

- ◯ Full - time
- ◯ Part - time

12. Which UCC academic unit are you undertaking your PhD with? *

13. Which year of study are you in? (e.g Year 2) *

14. What previous degrees have you obtained? *

15. Is your PhD funded? *

- ◯ Yes
- ◯ No
- ◯ Partially
- ◯ Prefer not to say

16. Where are you mostly based for your PhD work? *

- ◯ On campus in a lab
- ◯ On campus in an office
- ◯ In the library
- ◯ At home
- ◯ Other

17. If you answered other, please use this space to add more information, if you wish.

18. What are your living arrangements? *

- ◯ Living alone in privately rented accommodation
- ◯ Living alone in own house
- ◯ Living with a partner / spouse in privately rented accommodation
- ◯ Living with a partner / spouse in own house
- ◯ Living in my family home with parent(s)
- ◯ Living with friends in privately rented accommodation
- ◯ Living in university-run student accommodation
- ◯ Living in privately-run student accommodation
- ◯ None of the above

19. If you answered none of the above to the question "What are your living arrangements?", please describe here if you wish:

20. Are you employed outside of your PhD? *

- ◯ Yes
- ◯ No

21. If you are employed outside of your PhD, please indicate how many hours per week you would usually work (Monday to Sunday inclusive)

22. What is your relationship status? *

- ◯ Single
- ◯ In a Relationship
- ◯ Married
- ◯ Divorced
- ◯ Widowed
- ◯ Separated
- ◯ Prefer not to say

23. Do you have children? *

- ◯ Yes
- ◯ No
- ◯ Prefer not to say

24. Do any of your children live with you? *ie are you involved in caring for them on a daily basis at home?* *

- ◯ Yes
- ◯ No
- ◯ Prefer not to say

25. Do you have other caring responsibilities for a parent / other family member / partner / friend? *

- ◯ Yes
- ◯ No
- ◯ Prefer not to say

26. If you answered yes to the question "Do you have other caring responsibilities for a parent / other family member / partner / friend", please describe here if you wish:

27. Do you have any registered health conditions or learning support needs? *

- ◯ Yes
- ◯ No
- ◯ Prefer not to say

28. If you answered yes to the question "Do you have any registered health conditions or learning support needs", please describe here, if you wish:

29. What is your name / what is the name you prefer to be called by? *

30. Please enter an email address here so that I can contact you to arrange a date and time that is suitable for you to conduct the data collection interview (please use either your UCC email or a personal email) *

What happens now?

Thank you very much for agreeing to participate in this study. I am looking forward to meeting you and learning about your experiences. I will be in touch soon to make an arrangement with you.

If you would like support on any topics raised in the information letter or this form you can contact the following:

- UCC Student Counselling & Development
  Phone 021 4903565 or Text 087 2152505
- UCC Skills Centre
  Visit https://www.ucc.ie/en/skillscentre/ (https://www.ucc.ie/en/skillscentre/) or email skillscentre@ucc.ie (mailto:skillscentre@ucc.ie) or phone 021 4903839
- Crisis Text Line
  Text UCC to 50808
- Niteline
  Phone 1800 32 32 42 or online messenger; https://im.cork.nightline.ac.uk/webim/ (https://im.cork.nightline.ac.uk/webim/)
- Samaritans Telephone Service
  Freephone 116 123, by text 087 260 90 90 and by email jo@samaritans.ie (mailto:jo@samaritans.ie)

Best wishes,

Alison
117326726@umail.ucc.ie (mailto:117326726@umail.ucc.ie)

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Microsoft Forms

Appendix D: Interview guide

Opening Warm Up Questions
Recap of responses from demographic questionnaire, for example;

- You are in year __ of your degree, how are you finding it?
- From your questionnaire you said that you previously studied in _____ (area/degree), what was that like?
- Why did you decide to pursue a doctoral degree?
- You said in your questionnaire that you mainly are remote / in-person, can you tell me a bit more about that? How do you find it?

The daily life experiences of doctoral students, and how this impacts well-being and occupational balance

- Can you tell me a bit about what daily life is like for you as a doctoral student?
- What types of activities make up your day?
- Is this different from other times in your life or other stages of your doctoral studies (if they are beyond year one of their doctoral degree)?
- How does a weekday differ from a day at the weekend?
- What activities during the day do you think take up most of your time? Why?
    - Has how you spend your time each day changed since becoming a doctoral student? Why / Why not? How has it changed if so?
    - Do you feel that you can maintain a balance between all of your activities? Why/ Why not?
- What activities during your day are the most important to you? Why?
    - Are there any important activities that you do not currently undertake? If so, why/why not?
- Are you satisfied with your daily activities? Why / Why not?
- Do you feel that your doctoral degree programme has an impact on your well-being?
    - How so?
    - How does your doctoral degree programme positively impact on your well-being?
    - How does your doctoral degree programme negatively impact on your well-being?

Participation in the *"Everyday Matters: Healthy Habits for University Life"* digital badge and it's impact on participant's daily life and well-being

- How did you find out about the "Everyday Matters: Healthy Habits for University Life" digital badge?
- Why did you decide to participate in this programme?
- Did you avail of any other supports offered to doctoral students in UCC?
- How did you find participating in the Everyday Matters Digital Badge Programme?

- Do you think that participating in this programme has had any impact on your well-being? How?
- Do you think that participating in this programme has had any impact on how you balance your daily activities? How
- Are there any particular aspects of the programme that you found most useful?
- Are there any particular aspects of the programme that you disliked? Why?
- Have you incorporated any aspects of the programme into your daily life? Why / Why not?
- Would you recommend taking this programme to other doctoral students? Why/ Why not?

Appendix E: Example of coded data

Colour Key:

Information on Participants

Themes and Subthemes			
More than a PhD student	*Doctoral degrees are all-consuming*	*Doctoral Degrees can have a positive and negative impact on well-being*	*Everyday does matter*
Daily life as a doctoral student Family comes first A social life is valued Role as an employee	A constant juggling act Time away from the degree is essentia	The doctoral degree has positive impacts on well-being The doctoral degree has negative impacts on well-being Methods used to support well-being	Participating in the EMDB The EMDB has a range of benefits The EMDB is an enjoyable course

Example: Participant 1 - "Anna"

Interviewer

Interviewee

Transcript	Code	Potential Subtheme	Theme
Perfect, we'll start away so. So the first question I have. Can you a little bit about what daily life is like for you as a doctoral student so maybe the activities that you do each day and it doesn't necessarily have to be um like only your academic activities it can be anything you do during the day from when you wake up from when you go to bed Yeah, um. Well I try and write a 5 day timetable either on a Friday afternoon or in the morning, that's just kind of for PhD work. But I do have, so say, uh, I try and do any, basically any kind of writing or research in the morning and if I have to do any more kind of practical bits I will do it in the afternoon because I find that I am more alert in the morning and then once 3, 2 or 3 pm after lunch, I get sloggish and tired so I would try and do writing or more	Writes a timetable of each week to organise doctoral routine Does writing & research in mornings Does practical activities in the afternoons as she is	A constant juggling act Daily life as a doctoral student Daily life as a doctoral student	*Doctoral degrees are all-consuming* *More than a PhDl student*

kind of research reading in the morning, and then of course sometimes, some weeks I have fieldwork to do as well so I'll factor that in, that's generally weather depending and when my supervisor is available. Um and then I, generally I get up quite early because my partner gets up quite early so I go for a walk and a jog first thing in the morning with my dog, and then I will come back and have coffee, I am also trying intermittent fasting so I don't eat anything until like 10am ***Ok*** And then, so I just have black coffee in the morning, um, and then I'll start, try to start work about half 8 or 8 o clock. I am not very good at being exactly on time with the start time, sometimes there might be a wash to hang out or to empty the dishwasher, all these household things ***Yeah no exactly*** And then yeah I'll start work at 8 or half 8, take a break then and have my breakfast at 10, work for another two hours then from half ten to half 12 and then have lunch and then I'll work until half three generally and my partner comes home, he finishes work at half three so I am actually very good to myself, I give myself a pretty short day. Um, I'd usually go for a walk then when I am finished um, again just with the dog down the fields, it wouldn't be very physically draining or anything its just I love being outside so I try to do it as much as I can, um, and then in the evenings, if the weather is nice, I have a really nice veg garden, I am really into gardening, obviously horticultural background, um, but and then, em, so my partner's family live near us so we'll go visit them or maybe once a week we'll go and visit my own family, they are about 25 minutes away so we do try to, um, we're very good for trying to get out of the house these days because I think it is really important ***Yeah*** Um, because there was times there I wasn't going out for maybe 5 days and I was just literally, and I wasn't actually talking to anyone other than the dog and my partner so I am really trying to encourage myself to go out and socialise a little bit more. Um, that's kind of the general gist, it does vary a little bit, like some weeks I will have fieldwork, um, and some weeks it's just, sometimes I actually have to go to Cork as well, um, we had to test some instruments down in the ERI, the Environmental Research Industry so I'd have to factor that in as well, um, and also I was doing a module on remote sensing, so I attended a couple of those classes but to be honest, the price of diesel I wasn't, I'm not massively motivated to drive down to Cork from Carlow, I'm based in Carlow, sorry ***Oh ok yeah*** So it's a good two and a half hours for me, um, to drive down ***Yeah no, it would be a lot*** I don't come down that often, but that's it, did I kind of cover?	more alert in the morning Does fieldwork at times, but there are restrictions due to weather & supervisor availability In the morning gets up early, walks & jogs for exercise, have coffee Has breakfast later in morning Starts PhD work early in the morning, if possible Completes a range of household chores in the morning Works until the afternoon, Brings dog for a walk in the fields after work as enjoys outside / nature Enjoys maintaining vegetable gardening Often visits partners family nearby & own family once per week Makes conscious effort to get out of the house, values going out Due to covid, was stuck inside & not socialising with others, so is making conscious effort to do so now The PhD routine varies depending on what activities need to be done, and where she needs to travel to Attends modules & classes as part of PhD Does not like to travel if not necessary due to cost of diesel	Daily life as a doctoral student Time away from the degree is essential Family comes first Time away from the degree is essential Daily life as a doctoral student Family comes first Daily life as a doctoral student Family comes first Time away from the degree is essential Family comes first Time away from the degree is essential Daily life as a doctoral student Daily life as a doctoral student Information on Participants	*Doctoral degrees are all-consuming* *More than a PhDl student* *Doctoral degrees are all-consuming* *More than a PhDl student* *Doctoral degrees are all-consuming* *More than a PhDl student* *Doctoral degrees are all-consuming* *More than a PhDl student*

Yeah definitely and you know in the evening then like do you know, when you go for a walk what would you do then in the evening during the week?			*Doctoral degrees are all-consuming*
So I spend a lot of time out in the garden, especially this time of year, maybe in winter not as much obviously because it is darker much earlier in the evening, um, but I actually really do love the brighter evenings like some evenings I mightn't come in until like maybe 8 or 9 o clock you know, like I'll be outside all evening, um, I have like at the moment, lots of weeding to do in the garden and I have loads of veg, I grow my own veg like from seed um	Gardening is a priority Spends a lot of time outside in nature during the nice weather	Time away from the degree is essential Time away from the degree is essential	
Great			
So just watering, weeding, general maintenance of a vegetable garden, which actually is quite time consuming but I really enjoy it actually	Enjoys all activities involved in gardening Gardening is time consuming but enjoyable	Time away from the degree is essential Time away from the degree is essential	
Yeah I can imagine			
Yeah it's very therapeutic, um, especially we built, me and my partner, built raised beds and a glasshouse just out of kind of like materials we had left over from building a house so it's really like, everythings like really easy to do if you know what I mean, everythings kind of like I've kind of made everything as easy as possible so that it is more enjoyable	Finds gardening therapeutic	Time away from the degree is essential	
Yeah			
So it's really hort-therapy I suppose you could call it. Um yeah and like that then we might go up and visit his parents who are just five minutes up the road, sometimes we even just walk up to them just for a walk like and uh, then like I obviously have to drive home to my own parents house which is 25 minutes away but I'd only go home to my parents maybe once a week. And I don't have any friends living around this area because I am not from here originally	Finds gardening theraputic Often visits partners family, who are in walking distance and own family sometimes, who are further away Lacking friends and social contacts in the area	Time away from the degree is essential Family comes first A social life is valued	*More than a PhDl student*
Ok			

Appendix F: Member checking initial themes

More than a PhD student

Students spoke about their role as a doctoral student. While some like sticking to a 9 to 5 schedule of working, others like to work later in the evening and sometimes even into the weekend. Working on the doctoral degree is flexible and can change depending on what stage of the journey the student is at. During working on their degree, they participate in a range of activities such as searching for literature, reading articles, writing thesis chapters, writing for publications, presenting at conferences, or conducting fieldwork or lab work. Besides these activities, many students also have several other associated roles and responsibilities such as lecturing, providing tutorials, and participating in other research projects. Some students find that their doctoral degree work is impacted by a range of distractions, particularly when working at home by doing housework or else their phone.

As well as being a doctoral student, students have a range of other roles and responsibilities in their daily lives.

They are family members; many have partners or spouses who have a large supportive role in their life, and who they value spending time with. Students also value spending time with their siblings and parents and helping them with anything they may need. Some students are also parents themselves, which was discussed as both rewarding but also difficult in terms of the doctoral journey due to the range of responsibilities associated with being a parent. Some students are also pet owners, which encompasses another caring role to cater to their pet's needs.

Students spoke about their friends. While spending time with friends was valued, many students found it difficult to prioritise their friends and have time to dedicate to seeing them specifically. However, when meeting friends, students felt that it was time well spent away from their degree. Many also spoke about the doctoral community and how they can interact with other doctoral students either virtually or in-person. This connection with others, particularly as the doctoral journey can feel lonely at times, is of great value to students and they enjoy spending time with other students whether that be through a coffee break, lunch time, or seeking advice and support.

Students mentioned the expense of doing a doctoral degree, particularly when the degree is not funded or does not have a stipend. Due to this, some students must work part-time or full-time jobs aside from the degree. This can be stressful in terms of the time and energy required.

Many students are also homeowners or living in rented accommodation. This comes with the responsibility of completing household duties and chores such as cleaning, cooking and shopping.

Doctoral degrees are all-consuming

Students spoke about how time away from their degree is essential. For many, their morning routine as a slow and reflective process was a priority. For many, exercise in a range of forms, was a necessity to incorporate into the daily routine as well as being outside amongst nature. Similarly, getting out of the house, particularly after the pandemic, is a key priority for many. Students spoke about a range of hobbies and leisure activities they like to participate in. Despite seeing time away from the degree as important, some students felt guilty about not doing doctoral degree work while doing something else.

While some students stated that they were happy with how they spend their time and how they balance their activities in their daily routine, others spoke about how difficult it is to balance all of the things they need to do and want to do. Some even said balance is impossible while doing a doctoral degree. While organisation and time management skills help, a lack of time and having to make trade-offs is frequent. This means that there were a range of activities participants would like to do such as travelling, seeing friends more often or participating in their hobbies, but could not do.

Doctoral degrees can have a positive and negative impact on well-being

Students spoke about the positive and negative impacts the doctoral degree has on their well-being.

Students spoke about their passion and motivation for the degree, saying that is gives them purpose and they and thoroughly enjoying the journey. Many appreciated the great connections they had made with others, as well as the opportunity to learn more, increase their knowledge and develop valuable skills such as resilience.

Many students also spoke about the negative impacts such as experiencing imposter syndrome, anxiety, and stress. Some spoke about the negative impact the degree has had on their physical health, as well as sleep and some spoke about how the degree can be mentally draining. Some also mentioned the pandemic as also being influential on their well-being.

Some students spoke about the methods they use to manage their well-being such as visiting counselling services, participating in well-being programs, participating in meditation, practicing gratitude, or setting boundaries.

Everyday does matter

Many students discovered the Everyday Matters Digital Badge (EMDB) through email or canvas. There were a range of reasons why students decided to participate such as wanting to increase their knowledge of well-being, seeking tips and tricks to support their well-being or even as an opportunity for time to themselves. For some, this was the first well-being digital badge they had completed, but for others they had participated in previous workshops and programmes. Students appreciated the flexibility of the online course in being able to complete it at a suitable time for then, where some set aside time weekly to cover the content and others found it more difficult to set time aside.

Students who attended the virtual group session enjoyed this aspect of the course to interact with other students. All students spoke about the range of benefits they experienced from the course such as it serving as a reminder to put themselves first, prioritise their well-being and work towards a better balance in their life. There were a range of aspects of the course that students enjoyed and incorporated into their daily lives.

Overall, students found EMDB to be an enjoyable and beneficial programme that was well run and well facilitated. While all said there were no negatives to their participation in the course, some offered some feedback and suggestions to improve the programme. However, all students said that they would recommend the EMDB to other doctoral students, with some saying that it has the potential to be a credited module for doctoral students.

Appendix G: Outputs of the research

Presentations of this research:

Webinars:

- Irish Universities Asscoiation (IUA) Collaborative Webinar Series 2022
  18th February 2022 – *"Exploring practical strategies for enhanced student success and the development of graduate attributes through curriculum design, learning and teaching"*
- SMaRteN PhD Students' Mental Health Virtual Lab
  31st May 2022 – *"Through a Person-Environment-Occupation lens: applying a developmental and occupational perspective to daily life and wellbeing for PhD students"*

Conferences:

- "From Molecules to People" College of Medicine & Health Conference
  22nd September 2022 - University College Cork, Poster presentation – *"The daily life experiences of UCC doctoral students and how the "Everyday Matters: Healthy Habits for University Life" digital badge impacts daily life and well-being"*
- Association of Occupational Therapists Ireland (AOTI) Conference 2022
  7th/8th October 2022 - Athlone, Poster presentation – "*Exploring the daily life experiences of UCC registered doctoral [PhD/ MD/ Practitioner Doctorate] students and how the UCC "Everyday Matters: Healthy Habits for University Life" digital badge impacted their daily life and well-being"*

Publication:

Two manuscripts are currently being prepared for publication in occupational therapy and occupational science journals, based on this thesis and its findings.

Continuous professional development undertaken by the researcher:

Co-facilitating a lecture:

- March 2022 - The researcher co-facilitated a lecture to year four occupational therapy students at UCC alongside one research supervisor. The researcher described the process of thematic analysis undertaken in her research and answered questions of the students.

Courses taken:

- Epigeum: Research Integrity Core Modules and Specialist Modules - 20th October 2021
- PaPOR TraIL: Principles and Practices of Open Research - 29th January 2022

Workshops & webinars attended:

- Tomorrow's University: the future of student mental health and well-being - 24th January 2022
- Elsevier: How to get published in a scholarly journal: Top Tips from a publisher - 9th May 2022
- National Forum: Curricular approaches to well-being in higher education - 20th May 2022
- Trauma Informed Care with Dr. Karen Treisman - 23rd September 2022

Conferences attended:

- Creating Safe Spaces in Mental Health Systems: Critical Perspectives (online) - 10 November 2021
- World Federation of Occupational Therapy (WFOT) Conference (Paris, France) - 28-31 August 2022
- From Molecules to People; College of Medicine & Health Conference (UCC) - 22nd September 2022
- Association of Occupational Therapists Ireland (AOTI) Conference 2022 (Athlone) - 7th/8th October 2022