DOCTOR OF PHILOSOPHY

Study Burnout, Academic Engagement, Mindfulness and Self-Compassion in Health and Social Care Students: A Cross-Sectional Study Design

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Study Burnout, Academic Engagement,

Mindfulness and Self-Compassion

in Health and Social Care Students: A Cross-Sectional Study Design

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Thesis submitted in accordance with the requirements of Bangor University for the degree of

Doctor of Philosophy

Declaration and Consent

Details of the Work

Yr wyf drwy hyn yn datgan mai canlyniad fy ymchwil fy hun yw'r thesis hwn, ac eithrio lle nodir yn wahanol. Caiff ffynonellau eraill eu cydnabod gan droednodiadau yn rhoi cyfeiriadau eglur. Nid yw sylwedd y gwaith hwn wedi cael ei dderbyn o'r blaen ar gyfer unrhyw radd, ac nid yw'n cael ei gyflwyno ar yr un pryd mewn ymgeisiaeth am unrhyw radd oni bai ei fod, fel y cytunwyd gan y Brifysgol, am gymwysterau deuol cymeradwy.

I hereby declare that this thesis is the results of my own investigations, except where otherwise stated. All other sources are acknowledged by bibliographic references. This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree unless, as agreed by the University, for approved dual awards.

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"It is our connections with others that gives our life meaning. As soon as we stop to consider the possibility that our connections with others do not disappear just because we reject or cut ourselves off from them, it becomes obvious that it really matters how we treat others."

Lama Shenpen Hookham
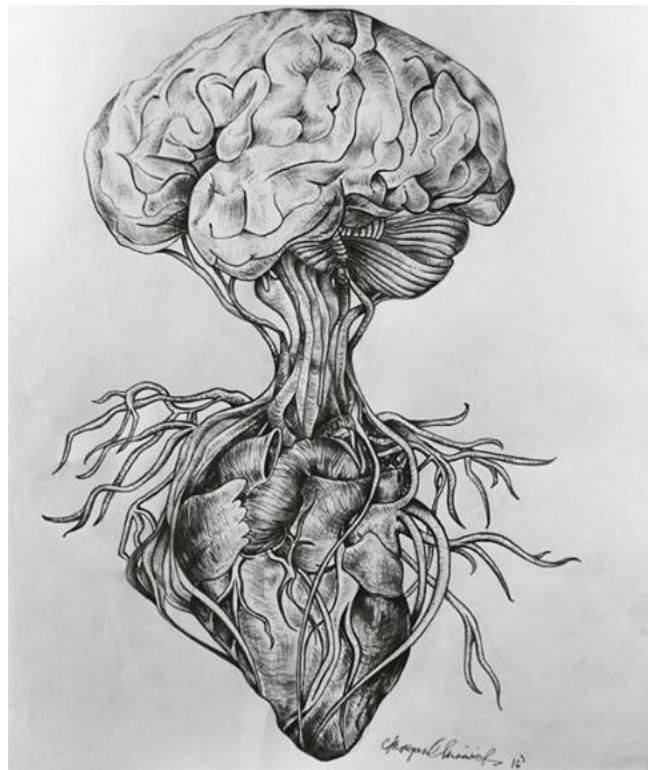
Image of Heart and Brain Connection: Morgan Mo/Bunnybearrrz

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List of Abbreviations

AC-Year: Academic Year

A&E: Accident and Emergency

AN: Allied/Nursing

CAMS-R: Cognitive Affective Mindfulness Scale – Revised

CI: Confidence Interval

CF: Compassion Fatigue

CFA: Confirmatory Factor Analysis

CFI: Comparative Fit Index

CS: Compassion Satisfaction

DF: Degrees of Freedom

DH: Department of Health

DM: Dispositional Mindfulness

DV: Dependent Variable

FFMQ: Five Facet Mindfulness Questionnaire

HESA: Higher Education Statistics Agency

HCPC: Health Care Professional Council

IV: Independent Variable

M: Mean

MAAS: Mindfulness Attention and Awareness Scale

MD: Model

MAPPG: *The Mindfulness All-Party Parliamentary Group*

MBCT: Mindfulness-Based Cognitive Therapy

MBI: Maslach Burnout Inventory

MBI-GS: Maslach Burnout Inventory - General Survey

MBI-HSS: Maslach Burnout Inventory - Human Service Survey

MBI-SS: Maslach Burnout Inventory- Student Survey

MBPs: Mindfulness-Based Programs

MBSR: Mindfulness-Based Stress Reduction

MSC: Mindful Self-Compassion

N and n: Total Number of Participants and number of Participants of a Particular Group

NHS: National Health Service

NMC: Nursing and Midwifery Council

PCLOSE: P Value Indicating Close Fit

PG: Postgraduate (s)

RMSEA: Root Mean Square Error Approximation

SCS: Self-Compassion Scale

SD: Standard Deviation

SE: Standard Error

SW: Social Work

TLI: Tucker-Lewis Index

UG: Undergraduate (s)

UG-F: Undergraduate (s) First-Year

UG-L: Undergraduate (s) Last-Year

UK: United Kingdom

UWES: Utrecht Work Engagement Scale

UWES-S: Utrecht Work Engagement Scale for Students

UWES-S-9: Utrecht Work Engagement Scale for Students – Shortened Version

Abstract

Introduction

Burnout (high exhaustion, high cynicism) increases throughout professional training, predicting later burnout at work. Dispositional mindfulness, self-compassion and academic engagement may mitigate these effects.

Aims

Explore the impact of different courses and academic year on these variables.

Material and Methods

Cross-sectional study conducted on undergraduate first year, final year or postgraduate allied/nursing and social-work students. Measures: Maslach Burnout Inventory-Student Survey; Utrecht Work Engagement Scale for Students; Self-Compassion Scale and Cognitive and Affective Mindfulness Scale-Revised. Analyses: Demographics used for sampling characterization; descriptive reported by means, standard deviation and quartile results (lower for engagement and upper for exhaustion and cynicism to identify groups reporting lower study-work well-being); Pearson's correlations and multivariate analysis of variance.

Findings

198 students, mostly female (allied/nursing = 87%, social-work = 90.4%),18 to 32 years old (allied/nursing = 72.2%, social-work = 63.9%), never practiced yoga or meditation (allied/nursing = 83.2%, social-work = 85.2%). All measures indicated reliability, including the Maslach Burnout

Inventory – Student Survey and the Utrecht Work Engagement Scale for Students - Short Version, which were further investigated through confirmatory factor analysis. Pearson's correlations revealed positive associations between mindfulness, self-compassion and academic engagement and negative between these variables and burnout. Descriptive results indicated lower study/work well-being (particularly in students attending final undergraduate year (32.2%, 24.1%), with higher incidence in social-work (24.1%, 21.6%) than nursing students (19.1%, 12.1%). Multivariate analysis of variance however, indicated burnout not significantly varying in social-work students across different academic years, but postgraduates reporting significantly higher exhaustion compared to allied/nursing in this academic stage ($p < .001$). Allied/nursing students in their last undergraduate year were more exhausted and cynical than first-year and postgraduates ($p < .05$). No significant variance found in dispositional mindfulness and self-compassion across different courses and academic year.

Discussion

The study indicates an interaction effect between course and academic stage to influence the high levels of burnout found in allied/nursing and social work students. Thus, both categories must be supported during training but institutions may choose to allocate resources depending on group needs. Implementing mindfulness and self-compassion skills in health and social care curricula may increase student awareness of personal suffering and the need to self-care. This may prevent professional burnout and promote compassionate care, although this hypothesis should be tested by future studies.

Conclusion

The study indicates high levels of exhaustion in social work students throughout the degree and high exhaustion and cynicism in allied/nursing specially at the final undergraduate stage. If

adopting an inter-professional approach for teaching burnout prevention skills to both categories, resources could be prioritised to final year undergraduates.

Keywords: Burnout, Mindfulness, Self-Compassion, Health and Social Care, Students

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To my mother, Elenice Melo Atanes, I dedicate my learning.

To my father, Severiano Atanes Netto, I dedicate my efforts.

To Maria Arruda, whose sense of compassion is without parallel, all my admiration.

Chapter 1. Introduction

1.1. Health and Social Care in the Context of Adult Education

This dissertation aims to investigate burnout, engagement, mindfulness and self-compassion in different categories of health and social care students, based in the UK academic settings at different training stages. The increase of an aging population displaying multi-morbidities requires integrated care from a health and social care force and an upsurge in training and investment in both sectors of the United Kingdom (UK) (Imison & Bohmer, 2013; Imison, Castle-Clarke, Watson, & Mortimer, 2016). The complexities involving chronic physical and mental health needs are better managed by systems providing an integration of care (WHO, 2010).

According to the World Health Organization (WHO, 2010; p.7), a "collaborative practice-ready" workforce is best achieved by inter-professional education. Inter-professional education "occurs when two or more professions learn with, from and about each other enabling collaboration and improving health outcomes" (WHO, 2010; p. 13).

Indeed, this trend has incurred changes in some areas of the UK, such as Wales, Scotland and Northern Ireland; with the merge of one health and social care services. Normally educated within the confines of their academic program, when learning together in a format of mutual respect and collaboration, healthcare students are better prepared for multi-disciplinary work (Bridges, Davidson, Odegard, Maki, & Tomkowiak, 2011). However, this approach demands administrative support, curriculum change, infrastructure, commitment on the part of lectures and a system offering equal credit to students (Bridges et al., 2011; Chan et al., 2017).

In the UK inter-professional education may be offered as continuum of professional development, but not in the undergraduate curriculum. However, it is believed that inter-professional education can offer the possibility for undergraduate students from distinct sectors

to meet and learn with each other's challenges, sharing experience and reducing stigma (Chan et al., 2017). According to Chan and colleagues, inter-professional team-based learning implemented in undergraduate courses from seven disciplines of health and social care, indicated that there were significant changes in readiness to engage in collaborative learning ($p < .01$), team work ($p < .01$), negative and positive professional identity ($p < 0.5$; $p < .01$ respectively) . The scholars however, stress that students in their later stages of the degree and already with client work experience would further benefit allowing the sharing of case-work examples.

Another form of collaborative learning can be acquired through work-base settings (Mohajan, 2016). For instance, vocational learning and apprenticeships, provide opportunity for tacit knowledge and lifelong learning (Lorenz et al., 2016). Generally known as unconventional knowledge, tacit knowledge is obtained through pratical activities in the job, behaviour observation and interaction with peers and experienced colleagues (Mohajan, 2016). On the other hand, lifelong learning can be achieved either through continued professional development or later life education. Lifelong learning, has the potential to provide an opportunity for individuals with low formal education (Government Office for Science, 2017; Lorenz et al., 2016). However, according to the Government Office for Science (2017), lifelong learning in the UK tends to reach wealthier socio-economic groups rather than those facing disadvantages of personal circumstances or deficient education. Which could be an indication of lifelong system in the UK being rudimentary.

Evidence suggests that systems recognising formal academic education and vocational training providing lifelong learning might create favourable space for adaptable organizations and positive policy outcomes (Government Office for Science, 2017; Lorenz et al., 2016). After analysing 17 European nations, Lorenz and colleagues indeed found that in nations with

developed lifelong learning systems, employees who have not completed upper secondary level education were more inclined to participate in autonomous learning at the workplace than those with a tertiary level of education (p. 171).

Within the scope of health and social care education in the UK, an initiative was recently created for an alternative nursing training route (degree-level nursing apprenticeship). This route allows care workers who attained one-year training, but who were not able to attend traditional academic training, to progress into nursing as professionally registered nursing associates (Department of Health and Social Care, 2016). The program combines vocational training with two-days per week academic learning.

The creation of this post rests in changes occurring in nursing education as a result of poor standards of care and compassion engagement in nursing (see Francis, 2010, 2013; Keogh, 2013); among other factors (Imison et al., 2016). Following hundreds of deaths over the national baseline expectation and quality of care failure on the part of the Mid Staffordshire NHS Trust, a public enquiry resulted in numerous recommendations towards improvement of care. Among many suggestions, Francis (2013) emphasised the need of practical training for nurses alongside theory, governed by national standards and the creation of a nursing support role (nursing associates).

As a result of the Francis public enquiries, "the UK introduced the toughest inspection regime in the world" (DH, 2015). In addition, quality care strategies such as "Compassion in Practice – Nursing, Midwifery and Care Staff" were created and underpinned by the six 'c's of values and behaviours: care, compassion, competence, courage, communication and commitment (DH, 2012; NHS England, 2016). Hence, a whole subchapter in this dissertation is dedicated to

exploring compassion in health and social care professionals and services, alongside mandating compassion towards clients.

Current mandating of compassionate care in the health service emphasises putting patients/clients first in order to assure quality of care. Nurses "*ought to* make their work collaborative; to identify shared goals and expectations providing hope for recovery; and *must*, identify individual strengths and needs to facilitate coping and avoid discrimination; as well as role-modelling self-compassion" (Hewison & Sawbridge, 2016; p. 116). Staff, *should* be encouraged to take regular breaks, *should* embrace self-compassion in order to safeguard quality of care and *should* be treated in a compassionate way by managers (Austin, Goble, Leir, & Byrne, 2009; Hewison & Sawbridge, 2016; Upton, 2018).

1.2. Burnout, Engagement, Mindfulness and Self-Compassion

A concept linked to compassion is self-compassion, further explored also as a subchapter in the literature review (chapter 2.5). Self-compassion should not be seen by the health care sectors as something "selfish or narcissistic, but the foundation of compassionate care" (Mills, Wand, Fraser, 2015; p. 792). Indeed, a systematic review of health and social care professionals and students, found that a lack of self-compassion was associated with reduced attention, concentration, less effective-communication and increased depression and exhaustion especially regarding one's capacity to bear the client's suffering (Raab, 2014).

Furthermore, an increased attention has been given to self-compassion as a key strategy within the field of self-care (Devenish- Meares, 2015; Sinclair, Kondejewski, Raffin-Bouchal, King-Shier, & Singh, 2017). Stressing the importance of self-care benefiting nurses and consequently patient outcome, Mills and colleagues advocate in favour of self-care being made

evidently visible by regulatory bodies; calling for a "revision of existing standards that lack self-care content" (2014, p. 792). As we shall see in Chapter 2 self-compassion can better prepare both professionals and students for their careers, dealing better with personal limitations (lack of self-care) and service limitations (systemic burnout).

According to Sinclair et al., (2017), most interventions with the purpose of cultivating self-compassion are based on mindfulness. Mindfulness interventions also appear to counteract stress and burnout in the health and social care sector (Luken & Sammons, 2016; Irving, Dobkin, & Park, 2009). It is argued that mindfulness is underpinned by positive psychology (Cebolla, Enrique, Alvear, Soler, & Garcia-Campayo, 2017; Seear &Vella-Brodrick, 2013), and in particular, understanding dispositional mindfulness in relation to psychological health, contributes to self-management of health and well-being (Tomlinson, Yousaf, Vittersø, & Jones, 2018). Thus, the sub-chapter mindfulness (chapter 2.3) in the literature review, examines differences in conceptualisation and between state (interventional) and trait (dispositional) mindfulness, as well as research exploring health and social care professionals and students.

Buddhist concepts (e.g.: loving kindness; openness, clarity and sensitivity, etc.) are mentioned throughout the literature of compassion, self-compassion and mindfulness. This is due to the influence of Buddhism within the theoretical approaches underpinning these concepts and mindfulness-based stress prevention (MBSR). For instance, non-judgmental openness, "noticing" present moment experience, underlies the adopted construct of mindfulness (Bishop et al., 2004). This capacity of being mindful, coupled with self-kindness and a sense of common humanity, constitutes self-compassion (Neff, 2003a, b). According to Gustin and Wagner (2012), understanding the importance of these concepts as the base of compassionate care, is paramount to those in charge of training:

"cultivating loving kindness towards self and other, serves as the starting point to compassionate care, guiding the care giver to incorporate an intentional and mutual process of giving and receiving…being sensitive to oneself and other's emotions without being judgmental are not only prerequisites for being there, but also signs of respect for human vulnerability" (Gustin, & Wagner, 2012; p. 6)

The ultimate form of stress, burnout has been for some time considered a medical diagnosis in some European countries (Schaufeli, Leiter, & Maslach, 2009). Burnout is now formally recognized as a disorder resulting from chronic and multifactor occupational stress (WHO, 2019). Burnout is influenced by physical, emotional, environmental factors and a sense of disbelief fuelled by conflicting values between workers and institutions (Schaufeli, Leiter, Maslach, Jackson, 1996; Schaufeli, Leiter & Maslach, 2009). Considered a complex condition, burnout was first identified in those working in the human field (Freudenberg, 1974) but is manifested in any sector (Maslach & Leiter, 1997; Schaufeli, Martinez, Pinto, Salanova, & Bakker, 2002a).

The relevance of researching burnout in allied health/nursing (AN) and social work (SW) students lies in the increasing health and social care workforce shortage (Imison & Bohmer, 2013; Imison et al., 2016; WHO, 2006). Staff absence, work overload without appropriate recovery time, increased paper-work, and environmental pressures are some of the issues shared in both fields which can contribute to burnout.

Furthermore, it is important to contribute to the body of evidence investigating SW student burnout in the UK, due to small number of studies with representative samples (Moriarty, Baginsky, & Manthorpe, 2015). Striking facts from international studies indicate SW burnout ranging between 36% to 39% above the Maslach Burnout Inventory (MBI) threshold and up to

75% in a social worker's life time (Siebert, 2008). Compounding to this scenario, the body of research reveals prevalence of stress during SW training (Collins, Coffey, & Morris, 2010; Pottage & Huxley, 1996; Tobin & Carson, 1994).

Study burnout also appears to be prevalent in nurses during education predicting work burnout one year after graduation (Robins, Robert, & Sarris, 2018b). Indeed, early life stress and study burnout seems to predict burnout in working nurses (Pereira et al., 2015; Rudman, & Gustavsson, 2012). Rudman & Gustavsson in particular, found nursing student burnout systematically increasing over the course of training, predicting less in-class engagement, satisfaction with life and future professional burnout. In their longitudinal study (explored in more detail in the literature review; subchapter burnout), the results suggest that disengagement, over time appears to be related to lower work preparedness and compromising practice quality one year after graduation. During the first year of work these students experienced dissatisfaction and disengagement as a result of burnout (Rudman, & Gustavsson, 2012), a disorder indeed predicting early exodus of the newly qualified (Flinkman, Isopahkala-Bouret, & Salanterä, 2013).

It is believed that engagement and burnout constitute opposite poles on a well-being continuum (Maslach & Leiter, 1997; 2008); even when assessed by the independent construct of work engagement (Schaufeli, et al., 2002a, b; Schaufeli, & Salanova, 2007). Work engagement, a pervasive positive fulfilling work-related state of mind is also applicable to students in relation to their academic work (Schaufeli, et al., 2002a). Academic engagement entails vigour, dedication and absorption as attributes of study-related well-being and, as such, just like mindfulness, is anchored by positive psychology theory (Bakker, et al., 2008; Schaufeli, 2002b).

1.3. Why Study the Current Topic?

During a Master's degree completed in Brazil, the author of this dissertation investigated dispositional mindfulness, perceived stress and subjective well-being in different categories of the primary health service known as Saúde da Família (Family Health). The study adopted a cross sectional design with multivariate analysis of variance (MANOVA), investigating differences in two categories with sub-categories: a) professions (physicians, nurses, nurse-assistants and health community workers), and b) service time in the same position (under six months, over one year). Particularly, the study used regression coefficients (β) in relation to sub-categories, reporting that the lowest perceived stress levels were found amongst a) nurse assistant profession and b) those with under 6 months service time ($p < .05$).

Among other findings, perceived stress was negatively associated with mindfulness and subjective well-being ($p < .001$). When compared to low perceived stress categories, nurses reported the highest differences in perceived stress ($\beta = 5.5$, $p = .032$), followed by service time over one year ($\beta = 4.8$, $p = .08$). Health professionals working for over one year reported decreased satisfaction with life ($\beta = -5.0$, $p = .023$), higher negative affect ($\beta = 5.3$, $p = .020$) and lower positive affect ($\beta = -9.0$, $p < .001$). Interestingly, dispositional mindfulness varied amongst professions (physicians and nurses indicated the lowest levels), but no significant differences were found in relation to service time (Atanes et al., 2015). This was one of the first studies in Brazil to explore these variables in primary health professionals, with results corroborating with other research indicating clear association between low mindfulness, low subjective well-being and greater stress (Irving et al., 2009; Lomas et al., 2017). It was a concrete step towards understanding dynamics between dispositional mindfulness, perceived stress and subjective well-being across different healthcare categories with different lengths of service.

The interest in developing the current dissertation was therefore generated by the author's preliminary research findings indicating a relationship between professions and service time affecting differences in stress, mindfulness and subjective well-being. But in particular, there seems to be a gap in the literature regarding the experience of professionals during training that involves simultaneously two distinct health and social care courses (AN and SW) and the impact of the interaction effect between course and different academic-year (different stages of study). Furthermore, by investigating students reporting a) high burnout and b) low engagement, there is a potential of finding if a particular course and academic-year demonstrate lower study/work related well-being. Understanding all the aforementioned dynamics, would clarify patterns not explored before; highlighting particular vulnerable groups.

1.4. Author's Cultural Background Influencing this Dissertation

Differences in cultural background can impact on the way students learn and express themselves (Atkins, 2000; Hofstede, 1986). Students from non-dominant cultures and backgrounds experience greater difficulties in finding their own voice and writing with assertiveness in the academic environment (Moon, 2007). Depending on the culture, there is a tendency to follow the ideas of "experts" in order to construct arguments based in what some students perceive as absolute truth; creating a barrier for academic critical writing (Hofstede, 1986; Moon, 2007). Indeed, Shaheen (2016) states that a mix of cultural and educational differences may impact international students in relation to critical thinking. This is especially significant for those coming from societies that are largely centrally controlled and bureaucratic (p. 26) and those from less flexible educational systems that do not encourage students to challenge the literature they read (Shaheen, 2016).

Brazil is an overly bureaucratic country, entering its fourth decade of a fragile democracy, after many years of authoritarianism. Adding to these difficulties and possibly as a result of this rigidity, Brazilians feel less safe to embrace unstructured, or unpredictable situations, preferring to follow strict codes of behaviours and absolute truths (Hofstede, 1986). The aforementioned relates to uncertainty avoidance; a concept based on empirical data from 70 world countries (Hofstede, 1986). Uncertainty avoidance provides an index specifying to what extent a particular culture feels safe in unfamiliar situations (higher scores indicating higher anxiety). Out of 67 countries with available scores, Brazil occupies the 22nd place scoring (76); much higher compared to the United States in 56th place (46) and the UK in 62nd place (35) (Clearly Cultural, n.d.). Hence, the above factors could be taken into consideration regarding any possible limitations of critical analysis and evaluations presented in this dissertation.

1.5. The Dissertation Structure

This dissertation is divided into eight chapters: introduction, literature review, methodology, confirmatory factor analysis (CFA), reliability analysis, findings, discussion and conclusion.

Chapter one: introduction

Chapter one has provided a background for this dissertation, contextualised in health and social care education and culture influencing student learning and expression.

Chapter two: literature review

Chapter two presents the literature review. The chapter is introduced with the methodological approach reviewing the studies and is divided in subchapters: burnout, engagement, mindfulness, compassion and self-compassion. Each subchapter is presented with an introduction and final summary.

Chapter three: methodology

Divided into sections that describe the participants and research procedure, measures and data analysis, chapter three details the methodological approach adopted within the main survey of this dissertation. The chapter clarifies that confirmatory factor analysis (CFA) findings (chapter four), supported the choice of two of the measures (MBI-SS and UWES-S) adopted in the main study and that reliability analysis (chapter five) informed the internal consistency evidence of all measures.

Chapter four: CFA of MBI-SS and UWES-S in higher education students in the UK

Chapter four reports on an additional study, undertaken with Dr Katia Vione, which tested the best factor structure of the UWES-S and MBI-SS questionnaires on a sample of Higher Education students in the UK. This additional study was necessary in order to ensure that the measures were psychometrically sound.

Chapter five: reliability analysis of all measures

Chapter five describes the reliability analysis that was undertaken to test the internal consistency of all the adopted measures; thus, investigating if scales' items are assessing the proposed individual constructs.

Chapter six: findings

Chapter six presents the analysis in relation to the main survey. Hence the chapter provides demographic information for sampling characterization, as well as the results of descriptive and inferential statistics (the latter supported by significance levels). Differently from inferential statistics (MANOVA and subsequent pair-wise comparisons), the descriptive statistics were conducted for course and academic years independently. This step allowed the identification of groups reporting the lowest study/work-related well-being.

Chapter seven: discussion

Chapter seven provides a discussion of findings of the main study and CFA and takes into consideration the preceding discussion offered separately in the CFA study (chapter four). The main contribution of the survey starts the discussion, followed by its limitations. The discussion of findings is followed by suggestions for future research and practical implications. That is, differences in how exhaustion and cynicism is experienced by different course categories at different training stages, may inform teaching institutions towards how best supporting health and social care students.

Chapter eight: conclusion

Chapter eight provides the final conclusions of this dissertation, highlighting the importance of considering an interaction effect between course and academic year in order to investigate burnout in different fields of health and social care students. Furthermore, in relation to mindfulness and self-compassion, the results of this dissertation reinforced the need of these skills to be formally taught.

1.6. Dissertation, Aims, Objectives and Questions

Primary Objective

The primary objective of this dissertation is to investigate levels of burnout, engagement, mindfulness and self-compassion in AN and SW students at different academic year: first-year undergraduates (UG-F), undergraduates attending their last year (UG-L) and postgraduates (PG). With the potential to answering the following questions:

1. In relation to study burnout, academic engagement, mindfulness and self-compassion, are there significant variances and interaction effect between course (SW and AN) and academic year (UG-F; UG-L; PG)?

2. In relation to course (SW, AN), which group indicates lower study/work-related well-being by reporting a) high burnout, and b) low engagement?

3. In relation to academic year (UG-F, UG-L, PG), which group indicates lower study/work-related well-being by reporting a) high burnout, and b) low engagement?

4. What are the associations between all variables within SW and AN students?

Secondary Objective

In order to undertake the primary objective, it was necessary to verify the best structure of study burnout and academic engagement questionnaires in students from higher education in the United Kingdom, an additional study was therefore conducted (see chapter four) with the objective to answer the following questions:

1. What is the best factorial structure for the Maslach Burnout Inventory-Student Survey (MBI-SS) in higher education students in the UK?

1.a. Three-factor model (exhaustion, cynicism, efficacy)?

1.b. Two-factor model (exhaustion, cynicism)?

1.c. Single factor model with all dimensions as a unitary construct?

2. What is the best factorial structure for the Utrecht Work Engagement Scale (UWES-S) in higher education students in the UK?

2.a. Three-factor model (vigour, dedication, absorption) assessed by 17 questionnaire items?

2.b. Three-factor model (vigour, dedication, absorption) assessed by nine questionnaire items?

2.c. Four-factor model assessed by adding efficacy to the three-factorial structure (vigour, dedication, absorption, efficacy)?

Chapter 2. Literature Review

A narrative review based on general literature review methodology was chosen due to the broadness of the theme and explorative approach of the study. This approach aimed to critically appraise aspects of the body of knowledge in relation to the problem investigated Onwuegbuzie and Frels (2015) . The thesis incorporates a number of linked concepts and theoretical frameworks. In order to add clarity for the reader, Figure 1 shows the key concepts and respective definitions underpinning the main study.

Study/Work Burnout → High study or work pressures resulting in:
                 physical/mental exhaustion
                 dispassionate attitude or sense of disengagement (Cynicism)
                 lower sense of accomplishment or efficiency

Study/Work Engagement → Positive attitudes towards study or work combing:
                 energy, dedication and involvement (absorption)

Systemic Fatigue/burnout → Dysfunctional organizational shared values, behaviours
                 workplace systems/processes/practices and
                 leadership qualities leading to employee's burnout

Compassion Fatigue → Reduced empathy in professionals for example over
                 exposed to trauma-work

Compassion Satisfaction → Professional's positive feelings related to client work

Self-Compassion → The cultivation of:
                 more self-kindness and less self-judgment;
                 more common-humanity (shared feelings) and less isolation;
                 more mindfulness and less over-identification.

Mindfulness → The ability to observe present-moment experience with curiosity
                 responding appropriately to situations in a less reactive way

Figure 1. Key Concepts and Theories

In order to present these concepts, in a logical order, the literature review for this dissertation is divided in subchapters: burnout, engagement, mindfulness, compassion and self-

compassion (as previously mentioned). The narrative literature review for the main study and CFA of the MBI-SS and the UWES-S questionnaires considered published and unpublished material (grey literature). Studies were mainly retrieved via the Bangor University's search engine. The Bangor University Online Library and Archives has access to a variety of electronic databases and the following were (mainly) considered: PsycINFO, PsycARTICLES, MEDLINE, CINAHL, Cochrane Library, ScienceDirect, Ovid Nursing Full Text Plus and ProQuest. Although the literature search did not follow a systematic approach (as in Cochrane Review methodology terms), Table 1 provides an idea of the researched subjects and adopted rationale. Citations and reference lists were checked for further relevant material which enabled snowballing of the sample.

Table 1

Field Research Summary

Subject (OR)	AND		Subject	AND	Subject (OR)
Social work	-	x		x	mindfulness
Nurses	-	x		x	self-compassion
Nursing	-	x		x	compassion
Health and social care	-	x	Student	x	burnout
	-	x		x	study burnout
	-	x		x	work engagement
	-	x		x	academic engagement

In addition, the literature search focused on Questionnaire /Measure/Scale (AND) individual constructs (Table 2).

Table 2

Questionnaires Research Summary

Subject (OR)	AND	Subject (OR)	AND		Subject (OR)
Burnout	x		-	x	Student
Study burnout	x	Questionnaire	-	x	Nurses
Maslach burnout inventory	x	Measure	-	x	Nursing
MBI-SS	x	Scale			
Maslach burnout inventory student survey	x		-	x	Social Work

Subject (OR)	AND	Subject (OR)	AND		Subject (OR)
Work engagement	x		-	x	Student
Academic engagement	x	Questionnaire	-	x	Nurses
Utrecht Work Engagement	x	Measure	-	x	Nursing
UWES	x	Scale			
UWES-S	x		-	x	Social Work
UWES-S-9	x				

Subject (OR)	AND	Subject (OR)	AND		Subject (OR)
Mindfulness	x		-	x	Student
CAMS	x	Questionnaire	-	x	Nurses
CAMS-R	x	Measure	-	x	Nursing
		Scale	-	x	Social Work

Subject (OR)	AND	Subject (OR)	AND		Subject (OR)
Self-Compassion	x		-	x	Student
		Questionnaire			
SCS	x		-	x	Nurses
		Measure			
	x		-	x	Nursing
		Scale			
			-	x	Social Work

2.1. Literature Review - Burnout

2.1.1. Introduction

This chapter starts with the preliminary theoretical conceptualisations of burnout given by Freudenberger (1974). The chapter particularly focuses on burnout in health and social care students and professionals with a section dedicated to compassion fatigue (CF). Subsequently, the chapter focuses on the history of the Maslach Burnout Inventory (MBI, Maslach, Jackson, & Leiter, 1996) and different MBI versions developed for specific sectors. This informs choices regarding the MBI operational construct used in this study; namely the MBI scale for students (MBI-SS).

2.1.2. The Adopted Conceptualisation of Burnout?

First identified in social workers and volunteers working in the social sector, burnout was preliminarily conceptualised as chronic stress or progressive loss of energy and "loss of character" (depersonalisation) (Freudenberger, 1974, 1975). According to Freudenberger, burnout is usually manifested after at least one year a person starts working in a particular

institution, resulting from the staff-client relationship. This is due to workers sharing a sense of hopelessness and fatigue caused by self-imposed dedication and unrealistic goals and expectations.

A good explanation of how the syndrome progresses was found in Piatkowska (2014). Using two theoretical frameworks (Girdin, Everly, & Dusek, 1996; Sofield, & Juliano, 2000), Piatkowska describes step by step four stages of burnout. Starting with over commitment towards work, the first stage involves signs of compulsion to work excessively. In this stage people reduce themselves to their 'work activities', letting go of any hobbies and identifying their self-worth through their work. Individuals at this stage may be described as "boring" and incapable to be involved or talk about anything other than activities related to their role. This phase is characterised by high stress levels and some side-effects such as forgetfulness, irritability, anxiety and lack of concentration. In the second stage, feelings of confusion and a sense of self-worthlessness is coupled with physical and psychological exhaustion; with consequences of lateness to work and task procrastination. In the third stage, irritability becomes constant and also a sense of dissatisfaction, judgmental and isolating behaviour coupled with depression, is clearly displayed. Insomnia, lack of enthusiasm and low energy are other side-effects chronically manifested at this stage, which in some cases can escalate to suicide. Stage four is marked by a sense of "terminal cynicism", followed by hostility towards others and the need for professional guidance towards recovery.

Notwithstanding this description, burnout has been found to manifest in different ways, varying from person to person (Freudenberger, 1975). Burnout seems to be a consequence of multifactorial causes in SW professionals, with organizational factors, including excessive professional demands/pressure. Among SW professionals, role ambiguity and supervision (the

quality of supervisory relationship and lack of supervision) appear to predict burnout (Lloyd, King, & Chenoweth, 2002; Marc and Osvat, 2013). Whilst repetitive non-challenging job, limitations in providing for client's needs (low autonomy) and low professional self-esteem, as risk factors (Lloyd, et al., 2002).

Nursing burnout literature on the other hand, points particularly to environmental pressures (Bogaert, Clarke, Roelant, Meulemans, & Heyning, 2010; Cullen, 1995; Nantsupawat, 2016). As such, targets and institutional interpersonal dynamics involving managers, hospital leaders and physicians can impact on nurse dissatisfaction, nurse intension to leave, and burnout (Bogaert, et al., 2010; Cullen, 1995; Nantsupawat, 2016). In particular, a target orientated system and oppressive culture can lead to work environment marked by fear, frustration and sickness (Cullen, 1995). These conditions can also lead to poor standards of care and low engagement (Francis, 2013; Keogh, 2013). Increased pressure and frustration can especially affect the newly qualified, trained to deliver a particular standard of care, and within the first year of practice already reporting disengagement, burnout and willingness to leave the profession (Cullen, 1995; Flikman et al., 2013; Todaro-Franceschi, 2013). Thus, burnout in nursing is described by Todaro-Franceschi (2013) as a syndrome resulting from increasing dissatisfaction, disenchantment, leading to disengagement.

Environmental pressures are claimed to influence burnout also in experienced nurses in position of power, such as first-line and middle-line managers (Laschinger, Almost, Purdy, & Kim, 2004,). In both groups, exhaustion seems to be positively associated with a lack of resources and negatively with formal and informal power. Despite long years of experience and reporting good psychological health, as well as job meaningfulness, managers seem to be

affected by burnout by indicating low energy levels and high exhaustion (Laschinger, et al., 2004).

The limitations of this study, however, include issues with representativeness ($N = 286$, out of 500 nurse-managers randomly selected), as well as the timing and location of the survey which took place in Ontario during an outbreak of Severe Acute Respiratory Syndrome (reported as global epidemic during 2003). This outbreak could have influenced the results of the study. Furthermore, it is also important to notice that the study assessed burnout using only the exhaustion subscale of the MBI General Survey (MBI-GS). Although some scholars propose that indeed exhaustion encapsulates the essence of burnout (Brenninkmeijer, & Van Yperen, 2003; Kristensen et al., 2005), comprehensive research suggest that burnout is multicausal (Hu, & Schaufeli, 2009; Maslach et al., 1996; Maslach, & Leiter,1997; Schaufeli, & Taris, 2005; Schaufeli, Leiter, & Maslach, 2009). In particular, Schaufeli, & Taris (2005) posit that core burnout not only involves depletion of energy (exhaustion) but also a withdrawn attitude (cynicism) marked by profound disengagement with work and colleagues and a sense of disbelief.

If on one hand environmental factors seem to play a role in experienced and inexperienced nurses, support and consistent managerial input seems to counteract burnout and even support workforce well-being (Dixon-Woods, et al. 2013). Dixon and colleagues found managerial consistency to be associated not only with staff well-being, but also work-engagement, as well as inversely correlating with hospital standardised mortality ratio.

According to Todaro- Franceschi (2013) senior nurse managers may affect nursing experience (especially the newly qualified) in many ways; if this relationship is negative, then repercussions tend to affect the whole organization. For instance, an unsupportive attitude

focused on too much control and power may foster a hostile and bulling environment, whilst lack of recognition of the team's effort may affect team healing (e.g.: due to the loss of a patient). Thus, although strategies facilitating nurse communication may be in place to safeguard the workplace, it is imperative that managers are supported by higher-level administration and encouraged to "put their own mask of oxygen" against their own burnout (Todaro- Franceschi, 2013; p. 173).

2.1.3. Student Burnout

There seems to be a trend of evidence indicating health and social care students experiencing higher levels of stress, compared to professionals (Tobin, 1994; Pottage, & Huxley, 1996; Robins, Roberts, & Sarris, 2018b). This trend seems to include other types of students (Salmela-Aro, & Uapadyaya, 2014). For instance, in schooling students, Salmela-Aro and Uapadyaya followed those in ninth grade (equivalent to year 10 in England and 11 in Ireland) for four years from the age of 15 to 19, until students were attending upper secondary or vocational school (college). Adopting the demands and resources model (Demerout, 2001), the study found that personal resources (e.g.: self-efficacy) play an important role and must be part of the dynamic in predicting school burnout and schoolwork engagement. As such, severe school demands, lack of personal resources exhausted students leading to burnout one year later. Two years later, those students presented poor mental health (depression). On the other hand, the resources offered, plus student's personal resources led to schoolwork engagement (one year later) and well-being - satisfaction with life (two years after that). This was the first longitudinal study to conduct cross-lagged paths, offering evidence of school burnout negatively predicting schoolwork engagement only one year later.

In university students, self-efficacy and social support (from teachers, parents and peers) predicted study burnout, which also seems to be less strongly but also influenced by student sex-role, in particular femininity (Yang, & Farn, 2005). Similarly, a study analysing the core dimensions of study burnout (exhaustion and cynicism) and academic engagement (vigour and dedication), found self-efficacy as the biggest contributor for predicting burnout and engagement. Studies also show that higher self-esteem as a predictor of higher engagement (Olwage, & Mostert, 2014). This is an indication of academic engagement being particularly sensitive to positive psychology variables, which is further explored in the engagement subchapter.

There seems to be substantial literature in SW, pointing to self-esteem issues and low morale emerging in students and professionals; the latter either working as social workers or lectures (Collins et al., 2010; Collins, & Parry-Jones; 2000; Lloyd, et al., 2002). Whilst lecturers appear to experience low job satisfaction and personal low morale, social workers seem to report low professional self-esteem, complaining about the repetitiveness of jobs, low autonomy and limitations to provide for clients (Collins, & Parry-Jones; 2000; Lloyd, et al., 2002).

In relation to SW students, Collins et al. (2010) indicate that in two different training programs in Wales, one third of students were feeling worn out, either a few times a week or every day. Those working part-time in the sector reported higher emotional exhaustion. In particular, the study suggests that almost all respondents agreed they were 'people of worth, just like others', appeared to 'like themselves', 'not regarding themselves as a failure', and 'felt that they were of value to other people' (Collins, et al., 2010). Collins and colleagues (p. 971) reported alarming figures of students not thinking very much of themselves (14.4%), feelings of failure (13.2%) even disliking themselves (10.7%) and disagreeing that they were as valuable as

other people (10.7%). Although the study did not test self-compassion, these results indicate high self-judgment and an attitude marked by low self-kindness; negative dimensions of self-compassion (Neff, 2003 a, b). Furthermore, the capacity to place oneself on an equal level with others is considered an important aspect of self-compassion and a step towards self-care and burnout prevention. Self-compassion is further explored later in this literature review (chapter 2.5. Self-Compassion)

Han and colleagues (2012) investigated SW students, who had experience in the field and were undertaking a Master's Degree. Analysing students' level of burnout, students' susceptibility to converge to other people's emotions, as well as their potential for overidentification with emotions, the study point to moderate levels of exhaustion, depersonalisation and personal accomplishment (Han, Lee, & Lee, 2012). In particular, the study points to self-compassion having an interacting effect with emotional contagion (emotion and expression synchronization between people) and overidentification, indicating this is a significant predictor of depersonalisation. Overidentification, another negative dimension of self-compassion is the inability to observe an event without getting enmeshed in it and is described by Neff (2003 a, b) as the opposite of mindfulness (further explored in chapter 2.3. Mindfulness and chapter 2.5. Self-Compassion). Overidentification was positively and significantly associated to exhaustion and depersonalisation ($r = .27$; $p < .01$), although this association denotes small magnitude ($r \leq 30$; Cohen's, 1988). Furthermore, it is important to take into account the study small sample size ($N = 66$), indicating that further studies replicating the design are needed to support these findings.

Personality traits influencing student stress seems not to be limited to SW students. For instance, associations between personality trait and burnout were also found in student nurses

(Robin, Roberts, & Sarris, 2018a; Watson, Deary, Thompson, & Li 2008). However, Robin et al., (2018a), suggested that neuroticism (worry) was not a real predictor, due to no changes in burnout when worry was controlled. Following nursing, SW and occupational therapy students, from final academic year (T1), to first and second years of employment (T2 and T3, respectively), Robin and colleagues (2018 b) found student burnout surpassing professional burnout. Efficacy was significantly lower during (T1) compared to (T2) and (T3), whilst, exhaustion and cynicism (the core dimensions of burnout) were higher during study time. In particular, the study found that the (un) balanced dynamics between job demands and resources significantly contributed to cynicism (10%) when controlling for neuroticism. Although, their model does not consider personal resources playing a role in this dynamic, the study provides a valuable contribution towards study burnout occurring despite neuroticism indicating a multi-causal syndrome.

Another longitudinal design investigating the impact of student nurse burnout was conducted throughout training up to one-year post-graduation (Rudman, & Gustavsson, 2012) Assessing exhaustion and disengagement by adopting the Oldenburg Burnout Inventory (OLB; Demerouti, Bakker, Vardakou, & Kantas, 2003) at year one, ($N = 1697$), year two ($N = 1567$), year three ($N = 1418$) and after the first year of practice ($N = 1401$). Both burnout factors appeared to increase systematically across training from year one to year two ($p = .001$) and from year two to year three ($p = .001$). Greater burnout during final academic year predicted poorer mental health (depression; $p = .001$), less well-being (life satisfaction; $p = .001$), lower in-class learning engagement ($p = .012$) and lower sense of occupational preparedness ($p = .001$). Furthermore, one-year after graduation, job burnout was associated with less use of research in practice ($p = .001$), poorer mental health (depression; $p = .001$), well-being (life satisfaction; p

= .001) and greater turnover intention (*p* = .001). Based on a national sample of nursing students and good response rate, this study offered evidence of adopting well validated measures, highlighting consequences of burnout affecting students during and post training as a real cause of concern.

2.1.4. Burnout and Compassion Fatigue, interchangeable or distinct concepts?

Compassion fatigue (CF) is conceptualised as the reduced capacity or interest of workers in being empathic and bearing the suffering of traumatised clients (Figley, 2002, Figley 1995). There seems to be, however, an emphasis towards CF and burnout being distinct constructs (Figley, 2002). Although the term CF can sometimes be used interchangeably with burnout, CF according to Figley (2002) is synonymous to secondary trauma. A condition experienced by those exposed to trauma-work, rather than the exhaustion, cynicism and reduced efficacy experienced in any occupational job (Figley, 2002).

LaRowe (2015) describes CF as the result of the worker's frustration, fuelled by their incapacity to offer the care they think the client needs. Informed by his professional experience as former social-worker, LaRowe proposes that workers must start a relationship with their own 'inner-worth', a sense of secure joy and satisfaction, which includes self-care and the worker's ability to look inside and accept themselves fully. Based on a routine of maintaining a relationship with the person's own strengths and limitations that the author calls 'enoughLESS', professional care-givers learn to nourish for themselves at least as much care as offered for their clients, transforming CF in 'compassion-flow' (La Rowe, 2015).

According to Todaro-Franceschi (2015, p. 54), an essential tool for tackling burnout and CF is practicing 'ART' workers reaffirm meaning and purpose in work and life: (A)

acknowledging a wound or feeling; (R) recognizing choices, choosing with intention and taking powerful purposeful action; (T) turning towards self and others to reconnect with self and environment in ways that foster contentment. Professional quality of life should therefore be a reflection of quality of life and start with student preparedness; grounded in the understanding of theses core-values (Todaro-Franceschi, 2013).

In SW students, a number of studies point to the presence of exhaustion and CF starting already during training (Han et al., 2012; Harr, & Moore, 2011; Humphrey, 2013). A review in SW students focusing in studies adopting the MBI-burnout, CF and trauma found high prevalence of burnout in students experiencing trauma before attending the degree (Diaconescu, 2015). Thus, early trauma exposes students to cumulative secondary trauma throughout their career. The study also suggests that burnout and CF are distinct constructs. Whilst physical and emotional fatigue coupled with overwhelming feelings of dissatisfaction at work indicate burnout, decreased caring performance and irritability towards clients, colleagues and friends is associated with CF (Diaconescu, 2015). It must be noted however, that the aforementioned, considered 38 out of 2,112 studies, with only a small number of seventeen studies cited throughout the study.

It is important to highlight that studies analysing burnout with different questionnaires may find significative associations between burnout and CF (Hooper, Craig, Janvrin, Wetsel, & Reimels, 2010; Harr, Brice, Riley, & Moore, 2014). This is the case when burnout is assessed by the Professional Quality of Life Scale (ProQOL; Stamm, 2005), an instrument adopting CF and compassion satisfaction as subscales. The burnout subscale in this measure relates to feelings of professional hopelessness and inefficacy at work, whilst burnout assessed by the MBI is constructed with three subscales (exhaustion, cynicism and efficacy).

Assessing SW students with the ProQOL, Harr and colleagues (2014) found high levels of CF reflecting higher risk of burnout. The study compared professionals ($N = 186$) and students serving as field interns ($N = 480$). Despite the lower number of participants in the professional subsample, independent t-test showed significant higher burnout in professionals ($M = 22.54$), compared to students (M = 19.44). One-way ANOVA compared different SW degree levels: undergraduates, master's foundation and master's concentration, (more specialised). The study found no statistically significant differences in burnout across degree programs. In relation to CF, students reported significantly lower levels of compassion fatigue ($M = 13.84$), compared to professionals (M = 16.53), and no significant differences amongst degree programs.

Preventive strategies provide coping techniques and are considered essential to support students (Harr, et al., 2014; Diaconescu, 2015). Among interventions adopted in SW newcomers against trauma stress, Diaconescu (2015, p. 61) mentions the cultivation of body awareness and stress reduction practices, empathic communication and debriefing with colleagues (to verbalise and process trauma), as well as mentoring programs. Diaconescu (2015) suggests in particular, meditation and stress reduction techniques such as body scan (core practices in mindfulness-based programs) to be considered by training institutions; emphasising that the culture of self-care should be embedded in human services.

2.1.5. The History of the Maslach Burnout Inventory (MBI)

During the 1980's a large body of research began to focus on a variety of professions directly working with people (healthcare, social services, criminal justice, etc). Subjected to client's psychological, social or physical suffering, these professionals presented what was known to be burnout, a multi-factorial syndrome (Maslach et al., 1996).

According to Maslach, Schaufeli and Leiter (2001), researchers focused not only on the construct but also quantitative assessment of burnout. This led to considerable number of measures designed with the purpose of burnout assessment. The original MBI had its latest version named as Maslach Burnout Inventory Human Service Survey (MBI-HSS; Maslach et al., 1996). Particularly the MBI-HSS has been well documented as an assessment of burnout resulting from service worker's client-relationship, where professionals subjected to the client's psychological, social or physical suffering, struggle themselves; compromising the quality of care delivered (Maslach et al., 1996). The measure, according to Maslach et al. (2001) reveals strong psychometric properties through three subscales: emotional exhaustion (due to intense client-work exposure), depersonalisation (a distant attitude towards clients as an attempt to protect oneself from the intense exposure to client's material) and personal accomplishment (the worker's personal frustration in relation to the client-work relationship). High levels of emotional exhaustion and depersonalisation and low level of personal accomplishment are indicative of burnout.

A second version, specifically for the assessment of educators, MBI-Educators Survey (MBI-ES), was designed later encompassing the same dimensions but from the educator's point of view (Maslach et al., 2001; p. 402). Subsequently, the need for a broader assessment of burnout in occupations with none or little contact with people, culminated in the creation of the MBI General Survey (MBI-GS; Schaufeli, Leiter, Maslach, & Jackson, 1996). Exhaustion in the MBI-GS, however, relates to physical and emotional domains; slightly different to sole emotional exhaustion in the MBI-HSS, which focus on the stress caused by the staff-client relationships (Maslach et al., 1996; p. 209). Cynicism in the MBI-GS refers to the overall distant indifferent attitude towards work as opposed to depersonalisation in the MBI-HSS, which relates

specifically to human service work. Professional efficacy in the MBI-GS involves social and non-social aspects of achievements and expectations at work, in contrast to personal accomplishment in the MBI-HSS, which is associated with the worker's feelings of competence specifically within the staff-client relationship (p. 209; 210).

There is evidence indicating that in the course of burnout, the person's perception of "professional efficacy" plays a different role than cynicism and exhaustion; weakly correlating with these two variables (Bresó, Salanova, & Schaufeli, 2007; Green, Walkey, & Taylor, 1991; Hu, & Schaufeli, 2011). According to Schaufelli and Salanova (2007, p.179) lack of efficacy "doesn't seem to relate to job stressors, but poor job resources and poor coping strategies"; hence, testing a burnout model assessing exhaustion, cynicism, efficacy and inefficacy (negatively worded items of efficacy) was warranted and fitted data well. In the similar vein, compared to efficacy, using inefficacy as a subscale to assess burnout in students produced stronger associations with cynicism and exhaustion (Bresó et al., 2007).

Empirical evidence indicates exhaustion and cynicism constituting a separate construct to efficacy (Green et al., 1991; Schaufeli, & Taris 2005). Thus, Taris and Schaufeli (2005) propose that core burnout is denoted by the depletion of energy related to work stress (exhaustion) and the relationship people have with their work and colleagues (cynicism). Indeed, Hu and Schaufeli's (2011) theoretical and empirical evidence supports burnout as a syndrome comprised of exhaustion and cynicism.

Questions about the tri-dimensional structure of the MBI as the gold standard assessment of burnout were raised also on the grounds of lack of discriminant validity of efficacy and cynicism; with scholars proposing that exhaustion is the only empirically dominant symptom of burnout (Kristensen, Borritz, Villadsen, & Chistensen, 2005; Shirom, 2005). This is disputed by

Maslach, Leiter and Schaufeli (2009), on the grounds of extended evidence of burnout being a syndrome, composed by a collection of separate symptoms rather than simply exhaustion.

2.1.6. The Maslach Burnout Inventory – Student Survey

After Schaufeli et al. (1996) expanded the burnout investigations to those working under general activities, the full version of MBI-GS, was adapted for the student population creating the Maslach Burnout Inventory-Student Survey (MBI-SS; Schaufeli, Martínez, Pinto, Salanova, & Bakker; 2002a). With words denoting 'study' and 'class' replacing 'job' and 'work', the MBI-SS assesses study demands, through depletion of energy, detached attitude towards study and feelings of incompetence as a student. This is a multidimensional scale with three factors (exhaustion, cynicism and efficacy): exhaustion (5 items: "I feel emotionally drained by my studies"), cynicism (4 items: "I have become less enthusiastic about my studies") and efficacy (6 items reverse-scored: "I feel stimulated when I achieve my study goals").

The initial validation of the MBI-SS was a cross-cultural study conducted in Spain, Portugal and the Netherlands (Schaufeli et al., 2002a). The three-factor structure fitted the data of each sample separately, but results failed invariance analysis across samples; indicating different understanding of the items across those countries. Furthermore, efficacy had values below minimum expected criteria in two countries (.67 Netherlands and .69 Portugal). It is common practice to demonstrate scales/subscale internal consistency reliability with acceptable Cronbach's alpha values >.70 (Murphy, & Davidshofer, 1988). Furthermore, given that a subscale with more items is expected to contribute to higher Cronbach's alpha (Field, 2009), the internal consistency in the three-factor structure needs to be interpreted with caution.

Convergent to mounting literature against the validity of efficacy as part of the burnout construct (Hu, & Schaufeli, 2011; Salanova, Schaufeli, Martinez, & Bresó, 2009; Schaufeli, & Salanova, 2007), empirical evidence indicates that the MBI-SS is best reflected by exhaustion (physical and emotional) and withdraw from studies (Maroco and Campos, 2012; Maroco et al., 2016). According to Maroco and Campos (2012), when assessing study burnout with the MBI-SS, researchers should adopt two first-order factors, without items from efficacy.

In addition, student burnout and academic engagement appeared to be adopted by only one study in the UK. Rather than health and social care students, the study was conducted with sport related degree students and rather a small sample size ($N = 63$) (Adie, & Wakefield, 2011). Based on the aforementioned, it became clear that confirmation of the best structure of the measure is needed in order to best inform the assessment of study burnout in the current sample of health and social care students (chapter four).

2.1.7. Summary

The chapter introduces burnout by looking at the preliminary theoretical framework proposed by Freudenberger's (1974), positing burnout as a distinct construct to CF; the latter influenced by trauma work. Burnout, preliminarily constructed as exhaustion (which can be emotional and physical), withdrawl from colleagues and work, and efficacy is a cause of argument among scholars. Much controversy was detected especially in relation to efficacy and empirical studies found core burnout (exhaustion and cynicism) to be the most important factors comprising the burnout syndrome. Different versions of the MBI are explored in detail leading to the operational construct of student burnout (MBI-SS). Issues in relation to the MBI factor structure and the lack of psychometric evidence of the MBI-SS in the UK, supported the

implementation of an additional study implemented in students of higher education in the UK (chapter four).

2.2. Literature Review - Engagement

2.2.1. Introduction

This chapter explores engagement in relation to two theoretical frameworks, job demands-resource and positive psychology and their influence on work-related well-being. Studies in this chapter are mainly reported in light of the Utrecht Work Engagement Scale for professionals (UWES) and students (UWES-S). According to the theoretical reasoning of this engagement construct, similar dynamics of work-tasks and reward are shared by workers and students. However, due to the student focus of this dissertation, the structure and validation of the measure is explored particularly for the UWES-S.

2.2.2. Theoretical Frameworks Influencing Engagement

The first concept of engagement proposes that engaged workers fully employ themselves at work with authenticity (Kahn 1990). By full and authentic expression, Kahn (1990) implies that the engaged worker is distinguished emotionally, mentally, cognitively and physically at work from the disengaged worker. After offering this polarised definition of "engaged versus disengaged workers" Kahn (1992), broadens the concept to include psychological presence by adding four dimensions to his theoretical frame work: attentiveness, connectedness, integration, and focus at work. Kahn's framework combines his first idea of people's authenticity by taking in consideration "how the different features of people's work, social system, and themselves outline their relation to their job role and how they externalise a sense of "aliveness" in form of

behaviour" (Kahn, 1992; p.23).

Possibly resembling the preliminary conceptualisation of engagement versus disengagement, Maslach, & Leiter (1997) suggests that engagement is the positive pole of a continuum leading to burnout and as such, characterized by energy rather than exhaustion, involvement as opposed to cynicism, and efficacy rather than low efficacy. This configured engagement as the positive pole of the MBI and burnout as the erosion of engagement (Maslach, & Leiter, 1997).

However, following empirical investigation with engaged employees and theoretical reasoning based on Kahn's work (1990, 1992), engagement was constructed independently as a positive state of fulfilment characterised by vigour, dedication and absorption (Schaufeli, & Bakker 2003; 2010). This motivational state is persistent and independent of a particular object, event, individual or behaviour (Schaufeli et al. 2002a, 2002b; Schaufeli, & Bakker, 2003; 2010). Hence, vigour is characterised by high energy and resilience, as opposed to depletion of energy, which is typical of those experiencing exhaustion. Dedication denotes a sense of enthusiasm with one's activity, contrary to withdraw behaviour of cynicism and absorption conveys the potential of concentration. According to Schaufeli, et al. (2002b) absorption is conceptually different to efficacy, the third dimension of burnout, confirming the independence of burnout and engagement constructs.

The job demand-resources model (Demerouti et al., 2001a) is a theoretical model highly adopted in engagement and work well-being research. Although, Demerouti, et al., (2001a) posit that demands and resources may vary depending on job role, it is generally accepted that demands are characteristics of the work that are not necessarily negative, but indeed provoke strain. Examples of general job demands include work pressure, emotional material from client

work, adverse physical work environment, role-related issues: ambiguity, conflicts and overload (Hakanen and Roodt, 2010). On the other hand, resources refer to physical, psychological or environmental assets of the job enabling: a) functionality and work achievement, b) lower the psychological or physical charge of job demands, c) stimulate personal growth and development (Demerouti, et al., 2001a). Engagement with professional efficacy as an added dimension, mediated the relationship between job resources (social support from colleagues, performance feedback, supervisory coaching) and low turnover intention, whilst burnout mediated the relationship between job-demands and health problems (Schaufeli, & Bakker, 2004). Moreover, the study found professional efficacy loading on engagement, reinforcing exhaustion and cynicism as the core dimensions of burnout (Schaufeli and Taris, 2005), discussed in the previous chapter (2.1. Burnout).

These results reinforced underpinning concepts of engagement emerging from the positive psychology approach. Positive psychology focus on potential strengths rather than weakness, moving away from the assessment of what people lack (Seligman, & Csikszentmihalyi, 2000). This may explain why engagement has been described as "positive affective-motivational attitude of work-related well-being" (Bakker, Schaufeli, Leiter, & Taris, 2008). The following passage illustrates the characteristics of an engaged worker:

> …"Engaged, employees feel compelled to strive towards a challenging goal. They want to succeed. Work engagement goes beyond responding to the immediate situation. Employees accept a personal commitment to attaining these goals. Further, work engagement reflects the personal energy employees bring to their work. Engaged employees not only have the capacity to be energetic, they enthusiastically apply that energy to their work. They do not hold back. They do not keep their

energy in reserve for something important; they accept that today' s work deserves

their energy. In addition, work engagement reflects intense involvement in work.

Engaged employees pay attention" (Bakker, & Leiter, 2010; p.2).

It is important to stress that, although engaged people are described to be intensely

involved with work, they differ in motivation/intension from workaholics (Bakker, Schaufeli,

Leiter, & Taris, 2008). Work engagement is driven by an autonomous motivation of hard-

working people performing their tasks with energy (vigour), dedication and focus (absorption);

these qualities result from workers interest and relationship with their activity.

Differently, workaholism is a reactive motivation driven by addiction (compulsion) and

performance based on control pressures: fear, ego, etc. (inner) and targets, social approval, etc

(outer); and has been shown to be closely correlated to burnout (Beek, Taris, Schaufeli, 2011;

Bakker et al., 2008). In their study, Schaufeli and colleagues (2008) found significant correlation

between the latent burnout (exhaustion and cynicism) and workaholism factors ($r = .53$), but no

significant correlations between workaholism and engagement ($r = -.04$). Furthermore, research

revealed workaholics were significantly more prone to burnout than engaged workers with an

interaction effect indicating work engagement lowers the effects of workaholism and supports

the idea of engagement buffering burnout (Beek et al., 2011).

An extensive review of published and unpublished studies, indicated associations

between engagement and job performance (including task and contextual performance). This

revealed that "the extent to which individuals invest their *full selves* in the execution of their

work, appears to differ from the extent to which individuals are satisfied with their job or value

their organization" (Christian, Garza, & Slaughter, 2011; p. 120). Engagement showed a positive

relationship with task-performance depending on the worker's own "in-role definitions and

scripts"; relating to meaningfulness. Furthermore, this connectivity may be the cause for contextual performance, which is the willingness to employ energy in extra-roles benefiting the organization or employer. The review suggests that the dynamics between task and contextual performance are central to high performance and might be increased via the design of motivating characteristics, particularly through task-variety and significance (Christian, et al., 2011; p. 24). Leadership was only weakly related to engagement. In addition, it is not clear if leadership and perceived job characteristics would moderate the dispositional elements such as personality underpinning engagement. Thus, more needs to be investigated on the role of personality in relation to intentionality of performing a job (e.g.: how meaningful it is). These findings, among many revelations, stress the importance of intentionality and motivation, behind engagement.

Indeed, by interviewing young nurses who left or had the intention to leave their profession, Flinkman et al. (2013) found many of the above negative factors influenced engagement: 1) young women "not especially eager to get into nursing school" (p.5) and were following the nursing career as second choice; 2) type of work driven by high demands and low resources - such as poor practice environment; 3) stereotype of nourishing, altruistic and willing to serve, versus inner role denoted by talent, ambition and career progression; 4) a new career motivated by intentionality and choice.

2.2.3. Engagement and Mindfulness

Intentionality, is an important component of the attention applied in daily life that is relevant to mindfulness and different from ordinary attention (Bishop et al., 2004; Shapiro et al., 2006). As mentioned earlier, engagement is also described as psychological presence (Kahn, 1992). Psychological presence also underpins mindfulness through openness, focus and the

accepting attitude of present moment experience and activity (Kabat-Zinn, 1990; 2003). Thus, both focus on the capacity of people to be intentionally motivated and engaged with their experiences. In addition, it has been proposed that mindfulness involves the positivity focus peculiar to positive psychology (Cebolla, Enrique, Alvear, Soler, Garcia-Campayo, 2017; Seear, &Vella-Brodrick, 2013) just as engagement does.

Associations between engagement and mindfulness also reveal indirect connections to burnout (Leroy, Anseel, Dimitrova, & Sels, 2013; Malinowski, & Lim, 2015). First, engagement links with response rather than reactivity. This was empirically revealed in a study analysing five facts of mindfulness, where particularly the non-reactivity dimension was shown to indirectly influence work engagement (Malinowski, & Lim, 2015). Second, the relationship of engagement and mindfulness was mediated by the authentic function inherited from Kahn's theoretical framework (openness and non-defensiveness intentionality of engagement with the work). Thus, the worker rather than feeling pushed by external and internal controlling forces (which is linked to burnout), "consciously chooses to engage in work-related activities for self-determined reasons" (Leroy, et al., 2013; p. 245).

Based on the above theoretical reasoning, engagement could be positively and largely correlated to mindfulness. The mindful student/worker reporting higher attention, awareness and acceptance to the present moment activity challenges, would also demonstrate more vigour, dedication and absorption (engagement) at work; indicating motivation and connection with the aliveness of their role, rather than exhaustion and withdrawn. Indeed, the research body of mindfulness (further explored in chapter 2.3) indicates mindfulness is associated with well-being (Brown, & Ryan, 2003; Guillaumie, Boiral, & Champagne, 2016; Irving et al., 2009).

Finally, according to Schaufeli (2017; personal communication), the combination of low

work engagement and high burnout can be used as an index of poor work-related well-being. There is evidence indicating that this dynamic might be influenced by work high demands and low decision latitude (job control) (Demerouti, Bakker, Jonge, Janssen, & Schaufeli, 2001b). Furthermore, low engagement and high burnout can affect learning and motivation at work, as well as health and psychological well-being (Demerouti et al., 2001b; Langelaan, Bakker, Van Doornen, & Schaufeli, 2006). According to Langelaan et al. (2006) those reporting high engagement tend to switch more easily from one activity to another and better adapt after work environment change.

2.2.4. Engagement in Health and Social Care

Research with nurses investigating relationships between the adopted engagement construct (vigour, dedication and absorption), job-outcome and quality of care, indicates nurse practice environment is significantly associated with all engagement dimensions, positive job-outcome and quality of care. In particular, dedication predicted job satisfaction and intention to continue in the profession and dedication and absorption, predicted quality of care (Bogaert, Wouters, Willems, Mondelaers, & Clarke, 2013).

Nurse high workload has a negative impact on quality of care and job outcome (Bogaert, et al., 2017). In particular, "high workload appeared to be predicted by hospital management and organizational support, negatively impacting emotional exhaustion and vigour" (p. 12); affecting nurse's efficacy, health, negativity and sadness. Protective factors include nurse-physician good interdisciplinary relations/communication; supported nursing practice (decision latitude); and a good environment and collaboration between colleagues (social capital). Quantitative results particularly in relation to engagement, showed all pathways as significant (p<.05), with the

exception of absorption. Social capital protected workers from exhaustion and had a positive impact on vigour, whilst a supportive practice positively affected dedication and personal accomplishment at work (Bogaert, et al., 2017).

In relation to engagement in social workers, job resources and psychological well-being seems to promote engagement. In particular, decision latitude (job control) and social support was also positively associated with vigour and dedication respectively, whilst positive relations with other rewards (salary, job opportunity and job security) and personal growth was associated with all dimensions of engagement (Aiello, & Tesi, 2017). Notwithstanding the aforementioned, whilst job resources such as participative management, increasing social support, and team building, leads to more engagement, job resources have a small impact in job turnover intention and burnout. Thus, preventive measures should focus on decreasing demands rather than increasing job resources (Schaufeli and Bakker, 2004).

Nursing students in the UK face compulsory placement as part of their training from their very first year of study. This creates a complex dynamic, informed by both academic and work environment strain, which appears to influence engagement and graduate entry nurse's retention (Leducq, Walsh, Hinsliff-Smith, & McGarry, 2012). According to Leducq and colleagues, peer support during placement is of central value for first-year nurses, assisting towards the incorporation of skills and the problem-solving learning process. Thus, it appears that from start, nursing students are exposed to two types of learning: academic and tacit learning. The latter is referred to in the introduction of this dissertation as the learning obtained with experienced peer interaction and behaviour observation (Mohajan, 2016). Thus, it is not surprising that Rudman, & Gustavsson (2012) found in their longitudinal study (referred to in chapter 2.1), that disengagement increased over the course of nursing studies just as burnout, affected professional

preparedness and nurse retention in the profession.

2.2.5. Utrecht Work Engagement Scale for Students (UWES-S)

Work/study dedication, vigour and absorption (engagement) is assessed by the UWES

and its student version (UWES-S; Schaufeli, & Bakker, 2003). Schaufeli and Bakker explored

the validity of the same construct for both groups after rewording certain items to fit the

student's reality. This follows the rationale that just as professionals have work-tasks, students

have study-tasks and just as employees are remunerated with salaries and promotions, students

are rewarded with grades and academic progress. These measures appear to hold good

psychometric properties, demonstrating invariance across different countries and racial groups

even by its short version (Schaufeli, & Bakker, 2003; Schaufeli, Bakker, & Salanova, 2006).

When adopted in research involving students from different schools (including health sciences),

results indicate that the more dedication, vigour and absorption, the higher the chance of better

academic achievement (Casuso-Holgado et al., 2013; Salanova, Schaufeli, Martinez, Breso,

2010).

The student version rephrases items such as: "At my work, I feel bursting with energy"

by "When I'm doing my work as a student, I feel bursting with energy". The UWES-S has a long

version (17 items): Vigour (6 items), Dedication (5 items) and Absorption (6 items) and a shorter

version UWES-S-9 (with three items in each subscale). Just as the total mean score of the 17-

item UWES-S indicates engagement, in the shortened version this is conveyed by the either the

mean values of the three separate subscales or total mean score.

Preliminary investigations indicated the student shortened version is preferred over the

full 17-item version (Schaufeli, & Bakker, 2003). In English-speaking American students, the 9-

item solution indicated better fit over the UWES-S-17 after exploratory factor analysis was concluded (Mills, Culbertson, Fullagar, 2011). The same study found the three-factor solution with significant better fit than one total score and a two-factor model formed by dedication and absorption/vigour collapsed into another factor. Subsequent cross validations conducting CFA, resulted in the three-factor solution for both scales (UWES-S-17 and the short version UWES-S-9) to be equally better than two and one factors. Cronbach's alphas for the UWES-S-9 ranged from .82, .83 and .70 (vigour, dedication and absorption respectively; Mills et al., 2011).

Despite the given evidence of validation from an English-speaking country, no instances of validation in the UK were found. As mentioned in the previous chapter, only one study was found in the UK (in a small sample of sport related students) adopting the UWES-S (Adie, & Wakefield, 2011). The study however, assessed students with a 14-item version, rather than the original long or short versions (17 and 9 items respectively). In order to proceed using "psychometrically sound measures" (relevant and applicable to the present sample of health and social care students), a CFA needs to be conducted (chapter 4); informing the best factorial structure and version of the UWES-S in a UK sample of higher education students.

2.2.6. Summary

Notwithstanding the initial proposal of engagement and burnout as part of the same continuum (Maslach et al., 1997), the rationale of an independent construct of engagement is explored in this chapter. This follows Kahn's (1990; 1992) preliminary theoretical framework of engagement and starting point for a construct encompassing vigour, dedication and absorption. Differences between engagement at work and workaholism pointed to workaholism not being associated with engagement but being associated with burnout. The chapter explored

engagement drawing from positive psychology concepts like mindfulness, leading to the possibility of positive and large associations between both constructs. Not many studies were found in health and social care professionals and none in health and social care students that utilised the UWES engagement measure. In addition, although some evidence of validation was found for the student version (UWES-S), there is clear scarcity of research adopting this measure in the UK. Thus, in order to assess academic engagement in the current cohort of health and social care students, the chapter argues in favour of a CFA study investigating the factor structure of the UWES-S in UK higher education students.

2.3. Literature Review - Mindfulness

2.3.1. Introduction

Mindfulness, traditionally from Buddhism, was secularised in science during the eighties, when empirical research indicated alleviation of suffering from chronic conditions and patient's greater well-being (see Kabat-Zinn,1982; 1985). Since then, mindfulness has been conceptualised with complementary theoretical frameworks given by different scholars. Even Kabat-Zinn's conceptualizations evolved over two decades from the act of "paying attention in a particular way, on purpose, in the present moment and non-judgmentally" (Kabat-Zinn, 1994; p. 4) to "*the awareness that emerges from* paying attention on purpose, in the present moment, and non-judgmentally" (Kabat-Zinn, 2003; p.145); and most recently, "*the moment to moment, non-judgmental awareness, cultivated by* paying attention in a safe way, that is in the present moment, and as non-reactively, as non-judgmentally, and as openheartedly as possible" (Kabat-Zinn, 2015; p. 1481). In addition, Kabat-Zinn (personal communication, 2016) states that "mindfulness is more than a cold cognitive construct, but a heartful process involving heart and

mind". As the chapter focus is on exploring mindfulness: a) in light of Buddhism, b) in light of meditation, c) in light of daily awareness, differences between state and trait (dispositional) mindfulness is also explored. leading to the adopted mindfulness construct and evidence relevant to health and social care in light of this construct.

2.3.2. Mindfulness and Buddhism

The word mindfulness translated as "the ability of on-going remembering an object of attention" or "awareness of the content of the mind", was inherited from the ancient language used by the Buddha during the teachings of the Dharma/Dhammas (Siegel, Germer, & Olendzky, 2009).

Discourses of the Buddha about mindfulness (the Satipatthãna Sutta), recognises four fields for establishing mindfulness: Body, Feelings, Mind and Dharma/Dhammas and by doing so, "one abides safely; free from unskilful reactions and from creating suffering for themselves and others" (Goldstein, 2016). According to Goldstein, the Dharma (Sanskrit) or the Dhamma (Pali) are understood to be "the truth; the law" (p. 418) and Sanskrit is the ancient language of the Buddha, whilst Pali is the ancient language used by the Buddha during the teachings of the Dharma.

The awareness of the four fields of mindfulness follows a pattern that is progressive and leads to "realisation or awakening", which is the liberation of all suffering (Analayo, 2006). Each field is composed by specific elements: 1. *Body* comprises different awareness a) corpse in decay (e.g.: awareness of decomposing), b) elements (e.g.: water, fire etc.), c) anatomical parts (e.g.: heart beating, etc), d) activities (e.g.: awareness in daily life), e) postures (e.g.: body position), f) breathing (e.g.: awareness of the breath); 2. *Feelings* include ethical qualities and awareness of

affectivity; 3. *Mind* integrates a) higher states (awareness of dullness, default mind, relaxed

mind) and b) ordinary states of mind (anger, hatred, etc.); 4. *Dharma/Dhammas* embraces the

awareness of the teachings of the Buddha a) four Noble truths, b) awakening factors (Insight

arising), c) Sense spheres (body sensations of the mind grabbing the person or vice-versa), d)

aggregates (person having faith that is going on the right direction), e) hindrances (person

displaying too much worry) (Figure 1).

THE PROGRESSIVE PATTERN OF THE "FOUR MINDFULNESS"

4. DHARMA/DHAMMAS
(the teachings of the Buddha)
The four Noble truths
Awakening factors (Insight arising)
Sense spheres (body feeling mind grabbing the person or vice-versa)
Aggregates (person having faith that is going on the right direction)
Hindrances (too much worry)

3. MIND
Higher states of mind (aware of: dullness, default mind, relaxed mind)
Ordinary states of mind (anger)

2. FEELINGS
Ethical quality,
Affectivity

1. BODY
Corpse in decay (decomposing)
Elements (water, fire etc.)
Anatomical parts (heart beating)
Activities in daily life
Postures, body position breathing

Figure 2. The progressive path of the "four fields of mindfulness" adapted from Analayo (2006).

Thus, from the perspective of Buddhism, awareness is essential to mindfulness. But even more relevant, is what is referred to as "the path of awakening". Beginning with a step that the Buddha called right understanding, this involves "turning towards the suffering and difficulties" in the world around us, as well as in our own lives. By clearly seeing (with non-avoidance) the things that are not right around us (and inside us) and by being open to a greater loving-kindness, and deep intuitive wisdom, people can be inspired to a spiritual journey (Goldstein, & Kornfield, 1987).

According to Lama Shenpen Hookham (Hookham 2015a), Buddhism is concerned with the rising awareness and realisation of a higher order consciousness (referred to as 'true nature') by increasing qualities such as openness (turning towards experience), clarity (awareness) and sensitivity (responsiveness or well-being). In Buddhism heart and mind in one sense is not seen separately, but as unified entity ('Chitta'), meaning that greater realisations come from what the lama calls 'the indestructible heart essence'; involving both (mind and heart). Mind: the capacity of seeing things clearly as they are, opened to what emerges moment by moment (rather than striving, attachment or avoidance) through attentional focus and present-moment awareness. And heart: the genuine, good, deep and courageous sensitive wisdom.

> "As we open more and become more aware, our sense of discomfort, problem and pain is likely to increase in the short term…the end point of this process is the heart awakening completely to the Endless Compassion Vision, in which the inherent quality of responsiveness express itself in boundless, ceaseless, uncontrived compassion activity responding to the suffering of all beings" (Hookham, 2015b, p. 24).

Meditation is a practice at the heart of Buddhism that enables deepening these qualities and cultivating the spaciousness in which experience of thoughts and feelings arise. Although

this refers to the decentring ability of one being aware that one is aware (which will be explained further later on), in Buddhism, meditation is not a practice aiming for 'stopping or regulating thoughts and feelings, manipulated calmness or making the mind blank', but understood to be a spiritual practice (Rigdzin Shikpo, 1992, in Hookham 2000)

2.3.3. Secular Mindfulness and Meditation

Mindfulness was first introduced with the Mindfulness-Based Stress Reduction program (MBSR) as meditation (Kabat-Zinn 1982; 1990, p. 65), an open monitoring contemplative practice that requires openness to experience (Vipassana), drawing from the Buddhist Theravada tradition (Kabat-Zinn, 2003). As mentioned earlier, meditation in Buddhism is a spiritual path that once mastered, allows more meaningful relationships, based on tolerance and acceptance; involves a process that entails the ability to shift attention from pre-concept judgments, thoughts and emotions in order to attain insight and to break free from delusion (Guanaratana, 2002).

Different types of meditation may be analysed according to their own specificity, and how their particularities impact differently on cognitive processes, for instance focused meditation, as opposed to open monitoring (Dorjee, 2010). Both, single focus (e.g. breath awareness) and open monitoring meditation indeed show a different effect on cognitive and emotional regulation (Lutz, Slagter, Dunne, & Davidson, 2008). Thus, it is important to notice that scholars disagree on a single construct of mindfulness and with operational definitions varying, the disagreement on unique concepts per se extrapolates to the analysis of data (Park, Reilly-Spong, & Gross, 2013). This is further explored in this chapter under the session: "different constructs of mindfulness".

According to Lutz and colleagues (2008), focus meditation enables one to practice states of acute attention by engaging three elements: 1. Exercising one's ability to stabilise the focus on a particular object (e.g. the sensation of the breath or the counting of breaths). 2. Promoting the practice of disengagement from distraction (e.g. thoughts). 3. Encouraging re-engagement with the initial object of attention (breath), which eventually leads to increased trait attention.

"The client maintains an upright sitting posture, either in a chair or cross-legged on the floor and attempts to maintain attention on a particular focus, most commonly the somatic sensations of his or her own breathing. Whenever attention wanders from the breath to inevitable thoughts and feelings that arise, the client will simply take notice of them and then let them go as attention is returned to the breath. This leads to a feeling of being very alert to what is occurring in the here-and-now" (Bishop et al., 2004; p. 232).

A between-participants experiment using instructions for brief (six minutes) focus meditation practice (using the counting of breaths up to 10 and reverse counting to one, re-starting from one when loosing focus) was used in university psychology students prior to a lecture. Students received a piece of paper randomly distributed (half of the class had written instructions for the meditation and the other half for resting with their eyes closed). The results indicated that students in the meditation group, answered the after-lecture quiz significantly better than the resting group. This positive outcome was replicated in a series of three different experiments despite changes of lecture's topic (Ramsburg, & Youmans, 2014).

Open monitoring, on the other hand, is a practice that involves openness to the on-going stream of experiences moment by moment. "In this way, the 'effortful' selection or 'grasping' of an object as primary focus is gradually replaced by the 'effortless' sustaining of an awareness without explicit selection" (Lutz et al., 2008; p. 164). Lutz et al. (2008) suggests that often, when

practicing open monitoring meditation, practitioners may start the practice by focusing on a

particular content (let's say the breath) to then expand focus embracing whatever content they

may experience. Practicing without judgment of tendencies to avoid unpleasant content (that

may seem or feel uncomfortable), or tendencies to grasp pleasant matters, one is open and alert

to total awareness of one's patterns and experiences by detached observation. Practicing

attention in such a way enables people to understand their triggers and patterns through the

insight that may help them to transform thinking and emotional habits (Guanaratana, 2002; Lutz

et al., 2008).

2.3.4. Mindfulness Disassociated from Meditation

The research of mindfulness however can be disassociated from contemplative practices by

referring to mindfulness as the ability of adopting a novel and fresh perspective of one's

experience or situation and taking in consideration external environmental changes (Langer,

1989).

> "The process of drawing novel distinctions can lead to a number of diverse
>
> consequences, including (1) a greater sensitivity to one's environment, (2) more
>
> openness to new information, (3) the creation of new categories for structuring
>
> perception, and (4) enhanced awareness of multiple perspectives in problem solving.
>
> The subjective "feel" of mindfulness is that of a heightened state of involvement and
>
> wakefulness or being in the present. This subjective state is the inherent common
>
> thread that ties together the extremely diverse observable consequences for the
>
> viewer. Mindfulness is beyond a cold cognitive process. When one is actively

drawing novel distinctions, the whole individual is involved" (Langer, &

Mondevanou, 2000; p. 2).

The difference between the aforementioned and meditation rests on meditation as a way to

promote and increase mindfulness. On the other hand, when disassociated from meditation,

mindfulness can be understood as a psychological process leading to a broader view, where a

particular situation may be differently perceived moment by moment (Pagnini, & Langer, 2015;

Raul, & Williams, 2016).

2.3.5. State Mindfulness

Mindfulness can be considered a complex construct with the term referring to either state

(interventional) or trait (dispositional). State mindfulness is the condition achieved during

meditation practices and a different construct to mindfulness in daily life; dispositional or trait

(Raul, & Williams, 2016).

It is empirically substantiated that the development of state mindfulness, through

contemplative practices such as Mindfulness-Based Programs (MBPs), positively impacts the

health and the quality of life of clinical and non-clinical populations (Gotink et al, 2015;

Grossman, Niemann, Chiesa, & Serreti 2009; Koury et al., 2013; Koury, Sharma, Rush, &

Fournier, 2015).

Since the pioneer Mindfulness-Based Stress Reduction programme (MBSR; Kabat-Zinn,

1982), designed for chronic pain and stress management, and its follower the Mindfulness-Based

Cognitive Therapy (MBCT; Segal, Teasdale, Williams, 2002), originated for recurrent

depression prevention, in the last decade several MBPs have been developed to address a variety

of conditions (Shonin, Van Gordon, & Griffiths, 2013).

MBPs are said to be cost-effective using a non-technological group intervention format, and may vary according to the population and context, without affecting its core curriculum. MBPs are most known as weekly (one and half to two-hour sessions) over an eight-week period. The aim is to facilitate the process of a person to explore what behaviours; thoughts and emotions lead to suffering and to happiness (Cullen, 2011, Crane, et.al, 2016). Particular characteristics of MBPs include: a) the combination of contemplative practices and science informed by grand areas such as medicine, psychology, and education; b) experiential and enquiry-based training in mindfulness meditation leading to insight and the understanding of participants; c) the development of present-moment attention, awareness, compassion, equanimity, and wisdom (Crane et al., 2016). MBPs share a pedagogical and theoretical model that is based on mindfulness informal practices and formal meditation (mindfulness and sometimes other types of meditations), undertaken by participants and teachers on the daily basis (Crane, et al., 2016). The goal is to promote (via a teacher, who have a well stablished practice): an accepting (kind and curious), disentangled, clearer perception of one's physical sensations, thoughts, emotions and external environment, resulting from the intention of applying contemplative practices such as meditation. This is found to lead to an expansion of choice and capacity in how to meet and respond to life's challenges, and therefore live with greater well-being, mental clarity and care for yourself and others (MAPPG, 2014, p.14).

According to Gilbert and Choden (2013), without the anchor of compassion, the focus of breath awareness could be used as distraction, a form of avoiding suffering and difficulties. Mindfulness, characterised by non-judgmental accepting awareness can be related to the clear view of negative concepts and opinions about other people that automatically appear in the mind.

By practicing mindfulness, it is possible to let go of judgments facilitating the process of compassion.

MBPs, may focus particularly on the development of compassion. Example of these are the Compassion Focus Therapy (Gilbert, 2009), the Mindfulness for Health (Burch, & Penman, 2013) and the Mindful Self-Compassion (MSC; Neff, & Germer, 2013). Most MBPs are used as group intervention, however, there are also individual therapies such as the Dialectical and Behavior Therapy (Linehan, 1993), and Acceptance and Commitment Therapy (Hayes, Strosahl, &Wilson, 1999, 2011). In addition, as mentioned previously, Synclair et al. (2017) refers to most self-compassion interventions to be mindfulness-based.

2.3.6. Trait or Dispositional Mindfulness (DM)

DM refers to baseline levels or a natural trend towards a psychological process in those that never practiced before or the tendency to display stable mindfulness; such as Buddhist monks or experienced meditators (Chiesa, 2013; Demarzo, 2015). As such, DM can be understood as the tendency to display the psychological process of mindfulness. Just like a personality trait; the individual has a steady capacity to reperceive a situation with accepting and present-focused awareness. This can be achieved by noticing new things as the key to be present (Langer, 1989; Pagnini, & Philips, 2015).

Evidence shows that consecutive exposure to state mindfulness may contribute to the increase in trait mindfulness, also known as DM (Kiken, Garland, Bluth, Palsson, & Gaylord, 2015). Using a prospective design, Kiken and colleagues weekly evaluated state and DM (before and after an eight-week intervention). Results indicated both, magnitude and intensity of mindfulness levels during training to predict favourable changes in DM.

This is congruent to prominent philosophy proposing that successive exposure to state levels, leads to higher developmental stages; therefore, impacting on the overall individual capacity (Wilber, 2000). Wilber goes even further, by suggesting that the continuous practice of meditation can improve human development and change people's personal views of the world. This seem to agree with ideas of those with high DM encompassing greater human qualities, informed by sustainable openhearted, ethical and pro-social behaviour (Gross, 2010). Important skills to be mastered by health and social care students, if we aim to provide compassionate care.

It is not clear how the extension of DM at baseline, prior to a mindfulness intervention, influences outcome gains. In one study, participants of an MBSR intervention, reporting higher baseline DM showed greater increase in mindfulness, self-compassion, subjective well-being, empathy and hope, as well as greater decline in perceived stress. Twelve month after the intervention, compared to those with low DM, participants with high DM continued to show a larger decrease in perceived stress and greater increase in mindfulness, subjective well-being, hope and empathy, but not self-compassion (Shapiro, Brown, Thoresen, & Plante, 2016). On the other hand, another study adopting interventions grounded in positive psychology (e.g.: "imagining the future after everything turning to be as well as it possibly could; think of three things that went well during the day"), indicated lower gains for high DM participants, compared to those reporting low DM (Seear, & Vella-Brodrick, 2013). According to Seear and colleagues, high DM participants had significant greater well-being from baseline and possibly less scope to increase in well-being assessed by 5-point scales. Another possibility, may rest on high DM participants to be significantly more likely to end participation, possibly for not benefitting as much as individuals with low DM.

As mentioned in the introduction of this dissertation, by offering an understanding in relation to psychological health, DM may contribute to the self-management of health and well-being (Tomlinson et al., 2018). For instance, in their systematic review, which included 93 studies analysing DM, Tomlinson and colleagues found particularly striking the negative relationship between DM and negative cognitive patterns (e.g.: rumination in depressive individuals and secondary suffering processes such as pain catastrophising in persons experiencing chronic pain). They conclude that DM supports people with greater cognitive and emotional regulation strategies, findings that corroborate towards a mindfulness assessment of such domains, as the one adopted in this study and further explored below.

2.3.7. Mindfulness and Positive Psychology

There seems to be growing evidence about a relationship between mindfulness and positive psychology approaches (Cebolla, Enrique, Alvear, Soler, & Garcia-Campayo, 2017). For instance, the appreciation of pleasant moments helps those living with chronic stress, pain and illness (Burch, & Penman, 2013). Furthermore, positive practices aiming to provide well-being, are increasingly being used in mindfulness-based programmes for those under schooling education (Biegel, Chang, Garett, Edwards, 2014; Meiklejohn et al., 2012). This relationship may relate to frequency of practice (Campos, et al., 2016), but also through the natural dispositional of mindfulness (Baer, Smith, Hopkins, Krietemeyer, Toney, 2006; Brown, & Ryan, 2003). Campos and colleagues propose that mindfulness and two subscales of self-compassion (the ability to be kind to self and the perception of suffering as common-humanity), appear to mediate this relationship between frequency of meditation and happiness. In the general

population and students, mindful attention and awareness appears to have a relationship with present-moment openness to experience and psychological well-being (Brown, & Ryan, 2003).

The relationship between mindfulness practices improving personal well-being is substantially reported in health and social care professionals and students (Guillaumie, Boiral, & Champagne, 2016; Irving, et al., 2009). Indeed, as described in the introduction of this dissertation, DM appears to be associated with sense of subjective well-being, in different categories of primary health and social care professionals; even after controlling for the period in the same job, a factor associated with higher perceived stress (Atanes, et al., 2015).

Also mentioned in the previous chapter (chapter 2.2. Engagement), engagement is also informed by positive psychology and underpinned by aspects shared by mindfulness, such as absorption (Schaufeli, et al., 2002a) and intentionality (Kahn, 1992). Intentionality seems to be an important component necessary for both, meditation practices and daily life mindful awareness (Bishop et al., 2004; Shapiro et al., 2006). Furthermore, mindfulness, just as engagement is described by the volitional openness to experience. Both focus on the capacity of people to be intentionally motivated and engaged with their experiences. This, reinforces the possibility for these constructs to be positively and largely correlated, which was explored in the previous chapter.

2.3.8. Differences in Construct of Mindfulness

The conceptualization of mindfulness used in the present study draws from the work of Bishop et al. (2004), which refers to mindfulness as both, focused attention and the quality of attention fostered by openness and acceptance of experience. This contrasts with mindfulness as sustained attentional awareness (Brown, & Ryan, 2003; Langer and Mondevanou , 2000). Bishop

et al. (2004) propose that mindful attention should not be confused with a simple everyday attention and the attention involved in mindfulness, denotes absorption, acceptance and the capacity to observe prime experiences from a non-judgmental perspective (Bishop et al., 2004). Rather than an exclusively cognitive process of attention, mindfulness by Bishop et al. is further related to intentionality of friendliness of experience. Which indeed is marked by non-resistance, where the person evokes the intention to pay attention in an opened/accepting and warm way (Shapiro, Carlson, Astin, & Freedman, 2006).

This warmth of embracing an experience with acceptance, provides the safety to avoid over-identification with negative and difficult experiences (Bishop et al., 2004; Hayes, & Feldman, 2004). Which in turns leads to the balance between disassociation and over-identification of difficult experiences, one of the essential dynamics relating to the process of self-compassion; which we will be looking later in chapter 2.5. (Neff, 2003 a, b). Furthermore, this attitude and quality that inform the immediate experience, relates directly to self-observation, rather than self-knowledge or outcomes. Thus, Bishop and colleagues suggest that this immediate experience inherent in mindfulness, is direct, non-elaborative, resembling what Gilbert (personal communication, 2017) calls "awareness of mind wandering" .

Although mindfulness by Bishop et al relates to immediate experience exclusively linked to self-observation, other models refer to attention and acceptance as mechanisms of mindfulness driving cognitive, affective, stress and health outcomes (Lindsay, & Crewell; 2017). This is also the case of conceptualisations based in multifactorial constructs such as the Five Facet Mindfulness Questionnaire (FFMQ). As such, whilst "observing internal and external experiences" refer to self-observation the remaining FFMQ dimensions relate to outcome and self-knowledge: "describing internal experiences in words", "acting with awareness rather than

acting on auto-pilot mode", "non-judging" and "non-reacting" to the internal experience (Baer,

Smith, Hopkins, Krietemeyer & Toney, 2006

Hence it is important to notice that different mindfulness constructs may present

fundamental particularities with reference to the relationship between mindfulness aspects

(Bergomi, Tschacher, & Kupper, 2013 a, b). Moreover, whilst constructs, such as the FFMQ

offer a conceptualisation of mindfulness based on separate components, others may propose an

interconection between the aspects of cognitive and affective mechanisms of mindfulness

(Feldman, et al., 2007).

2.3.9. The Revised Cognitive and Affective Mindfulness Scale

The aforementioned mindfulness construct led to the development of the Cognitive

Affective Mindfulness Scale (Fieldman et al., 2007; Hayes, & Fieldman, 2004). Particularly

useful for the assessment of dispositional psychological health, the revised cognitive and

affective mindfulness scale (CAMS-R; Feldman et al., 2007) refers to the tendency of one being

attentive, present-focused, aware and accepting to the ongoing chain of thoughts and affectivity

(Feldman et al., 2007; Raul, & Williams, 2016). The term *affect* can be described as an embodied

experience of emotions (positive or negative) that may occur before or after thoughts ("Affect

psychology", n.d.). Whilst positive affect is known to stimulate response and thinking, negative

is known to inhibit thinking and reasoning (Storbech, & Clore, 2008).

Affect can be understood as a broad process ("affect family"), working as an umbrella that

includes emotion (acute), emotion episodes (extended in time and space) and mood (prevalent)

(Gross, 1998). Hence, a negative affective state would include: stress symptoms, emotions (anger

or sadness), moods (depressive or euphoric) and impulses (pain, eating, aggressiveness, etc.) (Gross, 1998; Scherer, 1984).

According to Gross (1998), affect regulation includes coping, emotion regulation, mood regulation and ego-defence processes, where emotion regulation is the major form of affect regulation. Emotion regulation includes processes that influence the emotions of individuals. A good example of emotion regulation is the Modal model (Gross and Thompson, 2007; Gross 1998). Individuals tend to regulate their emotions to increase positive emotions and decrease negative ones by " (a) choosing situations to enter (or not) based on their expected emotional outcomes, (b) modifying those situations once they are in them, (c) directing their attention to specific features of them, (d) changing their appraisals, and (e) altering their physiological, experiential, and behavioural responses" (Quoidbach, Mikolajczak & Gross, 2015; p. 658).

Described as cyclic, this referred model implies that attention and cognition have a distinctive play in the process of emotion regulation. Quoidbach et al. (2015) however, found that different positive strategies (and the variation between long- and short-term increase in positive emotions) implement different underlying mechanism before and during an event. Claiming for instance that there is strong evidence that mindfulness might be influenced by situation modification. Although no empirical evidence was offered for mindfulness interventions in the study (but for numerous other strategies), their claim is supported by the substantial body of research in mindfulness. Thus, practicing breath awareness for example during difficult relationships at work, could for instance lead to a more positive outcome during difficult work relationships. Figure 2 displays a hypothetical example bellow.

Example of Emotion Regulation and Mindful Breathing in Work Relations

Situation Selection	Situation Modification	Attention Deployment	Cognitive Change	Response Modulation
⬇	⬇	⬇	⬇	⬇
Extra shift under difficult manager	Breath awareness dealing with manager	Notice the impact in feelings	I can work with this manager	Communicate confidently
⬇	⬇	⬇	⬇	⬇
	Situation	Attention	Appraisal	Response

A   B   C   D   E

Enrol in future optional shifts under known difficult managers

Cyclic System

Figure 3.. Adapted from the Modal Model of Emotion (Gross, 1998; Gross and Thompson, 2007; Gross, 2008; Quoidbach, Mikolajczak and Gross (2015).

Mindful cognitive flexibility (mindful attention regulation), refers to the ability to sustain present moment experience by shifting attention away from the discomfort of emotions, caused by the ruminative secondary elaborative process (Moore, & Malinowski, 2009). This secondary elaborative activity is believed to be maladaptive adding suffering to the prime experience in form of judgmental thoughts and further feelings.

In relation to mindfulness, a person demonstrates cognitive flexibility by re-focusing the attention to prime experiences (Teasdale, Segal, & Williams, 1995; Teasdale et al., 2002). In education, the attention regulatory process enables students to focus on subjects and re-focus on further subjects when required. High DM students demonstrate to be more engaged, alert and experiencing energy fullness, as opposed to mindless students, who experience feelings of dullness and sleepiness (Langer, & Moldoveanu, 2000a). Furthermore, mindful students demonstrate openness and pro-social behaviour; skills that are coupled with cognitive flexibility and can be considered the "acme of education" (Davidson, et al., 2012).

Developed from a previous 18-item version, one of the first instruments assessing mindfulness (Feldman, et al., 2004), CAMS-R is constructed to capture "the willingness to be mindful". Assessing broad awareness, acceptance, present-focus concentration, which are applied in ordinarily daily experiences. Due to particularly focusing on the willingness, rather than actual experience of being mindful, it has been suggested that CAMS-R is particularly useful for non-interventional studies exploring DM (Bergomi et al.,2013b), largely influencing the choice of this instrument for the present study.

CAMS-R assesses the multi-directionality of mindfulness influenced by a) present-focus, b) attention, c) acceptance and d) awareness. Nevertheless, considerable intercorrelation between subscales that hold not enough individual value, make CAMS-R a unidimensional solution, with

sub-scale calculations discouraged due to high risk of type II error (Feldman, 2007; Garcia

Campayo, & Demarzo, 2018).

The scale shows adequate convergent and discriminant validity. Conceptual critique

however, pointed to items 2 and 7 (both from the present focus domain and reversed scores) may

reflect worry and rumination. To address this issue, a 10-item version excluded both items and is

available for researchers particularly analysing those concepts or wishing to run a stricter test on

clinical population (Feldman et al., 2007). In practice, most published work has retained the 12-

item version (Feldman, personal communication; February 6, 2017). In students, both (the 12

and the 10-item versions) were highly correlated ($r =. 97$) and respectively showed correlations in

the expected direction with other mindfulness' constructs (Mindful Attention Awareness Scale: r

$= .51, p < .001; r = .46, p < .001$; and Freiburg Mindfulness Inventory: $r = .66, p < .001; r = .69,$

$p < .001$).

In a systematic review Park, et al., (2013) evaluated and compared properties of 10

mindfulness questionnaires. There was evidence of acceptable internal consistency for CAMS-R

(Cronbach's alpha ranging from .61 to .81) and moderate correlation between CAMS-R with

other measures of mindfulness (r's = .51 to .67). CAMS-R construct validity was "supported by

positive relationships with measures of adaptive regulation, openness, well-being, and negative

relationships with neuroticism, difficulties in emotion regulation, dissociation, and stagnant

deliberation" (p.7).

2.3.10. Mindfulness in Health and Social Care Students

The literature of mindfulness on health and social care is concentrated on research mainly

focusing on the construct of CAMS-R. The reason being lays on fundamental particularities in

mindfulness conceptualization (explored section 2.3.8). Not only with reference to different aspects of mindfulness but also to the relationship between these aspects, such differences can extrapolate to the analysis of data (Bergomi et al., 2013a).

A number of studies seem to concentrate on associations between CAMS-R mindfulness and resilience in health and social care trainees (Chamberlain et al., 2016; Kemper, Mo, & Khayat, 2016). A study involving 415 final-year UG nursing students and assessed by CAMS-R mindfulness, showed associations with self-efficacy ($r = .56$, $p < .01$), neuroticism ($r = -.41$, $p < .01$) and burnout ($r = -.63$, $p < .01$; Rees et al., 2016). Whilst adaptive coping negatively predicted burnout, maladaptive coping had the highest effect on burnout (standardized *c'Mal* = .44) and these variables were influenced by student resilience. Furthermore, the relationship between CAMS-R mindfulness and self-efficacy was not moderated by neuroticism, indicating that self-efficacy may be increased by mindfulness skills, boosting resilience and potentially preventing burnout in students, despite types of personality (Rees et al., 2016).

Researching DM in trainee professionals (physicians, SW, nursing, dietitians, psychologists; $N = 213$) Kemper, et al. (2016) found large associations between CAMS-R with self-compassion ($r = .63$; $p < .01$), resilience ($r = .054$; $p < .01$), global mental health ($r = .056$; $p = .001$), perceived stress ($r = -.58$; $p = .001$) and medium correlations with sleep disturbance ($r = -.32$; $p < .01$) and physical health ($r = 0.37$; $p < .01$). Despite the cross-sectional design not enabling causation of results, the study found evidence that DM and self-compassion predict resilience and better sleep in these trainees. Evidence as such might be an indication about the benefits in SW and AN increasing DM and self-compassion in order to better prepare for work challenges.

Chamberlain and colleagues, particularly examined final-year nursing students ($N = 240$), finding positive correlations between CAMS-R mindfulness and resilience ($r = .64$, $p < .01$), compassion satisfaction ($r = .38$, $p < .01$) and negative with compassion fatigue ($r = -.465$, $p < .01$). The exceeding body of evidence indicates that CAMS-R mindfulness negative relates to concepts such as burnout and compassion fatigue and positive associates with concepts such as self-compassion, emotional intelligence, positive mental health, in health and social care students.

The body of evidence adopting CAMS-R mindfulness in health and social care students is scarce. One study adopting the Mindful Attention Awareness Scale (MAAS), Ying (2008a) compared SW master's students enrolled in first ($N = 37$) and second years ($N = 28$). Medium size positive correlations were found between mindfulness, self-esteem ($r = .46$) and sense of coherence ($r = .41$), whilst negative medium associations were found between anxiety and depression ($r = -.48$ and $r = -.50$, respectively). Compared to first-year, second-year students reported lower levels of mindfulness, personal competence (self-esteem and sense of coherence) and mental health (higher anxiety and depression). The study also indicated lower MAAS mindfulness fully mediating lower self-esteem and increased anxiety and depression in second-year students.

Unfortunately, the small sample size compromised the statistical power of the analysis, impacting on modest effect size of the regression models (ranging from .32 and .35). Nevertheless, the study contributes to the scarce body of evidence focusing on changes in mindfulness according to training progression. It is important to highlight that the construct of MAAS mindfulness focuses on sustained everyday attention, rather than intentionality of

openness marked by non-resistant friendliness proposed by Bishop et al. (2004) and adopted in the present dissertation.

Indeed, the research of mindfulness indicates positive outcome in resilience for health and social care students with higher levels of mindfulness. Nevertheless, it is important to point out that the effects of burnout on quality of care is compounded by social organizational factors (Cooper & Scammell, 2013). Thus, compassion and person-centred care might be at the heart of first-year nursing students, working with teams under high demands and target-base service during placements can have a negative impact, compromising student values. Although Cooper and Scammell sustain that students must learn how to challenge oppressive working cultures to improve the quality of care delivered and to preserve job satisfaction, they also stress that systemic failure in compassionate care goes beyond the individual; further explored in the next chapter at section 2.4.5. as system fatigue.

2.3.11. Summary

This chapter presented mindfulness through the lens of Buddhism as a spiritual practice grounded in body, mind, feelings in order to prevent suffering to self and others; with concepts such as openness, clarity and sensitivity of moment to moment experiences, integrating mind and heart as one single entity. Furthermore, the chapter provided an overview of focus meditation (e.g.: breath awareness), open-monitoring meditation (e.g.: Vipassana) and non-meditative daily awareness (e.g.: whole individual considered). Different theoretical frame-works underpinning mindfulness were explored, including positive psychology. Particularly relevant to the topic of this dissertation, substantial empirical evidence found DM contributing to self-knowledge and greater mental health well-being through improved cognitive and emotional regulation; linking

to the construct of mindfulness that was adopted in the study (i.e.: emphasis on present moment openness, awareness and acceptance assessed by CAMS-R). Evidence of CAMS-R mindfulness research in health and social care students was scarce but some studies indicate DM negative associating with perceived stress and positive associating with resilience. In particular, the chapter intended to convey the importance of mindfulness as a process involving friendliness to experience rather than a distraction to suffering. As Kabat-Zinn (personal communication, 2012) states: "if you are not hearing mindfulness in some deep way as heartfulness, you are not really understanding it. Compassion and kindness towards oneself are intrinsically woven into it". Thus, Mindfulness can be understood as a catalyst of the process of compassion and self-compassion; both concepts respectively explored within the following chapters.

2.4. Literature Review - Compassion

2.4.1. Introduction

This chapter includes different concepts related to compassion including a Buddhist approach. Some of these assertions and arguments are based on a conceptual rather than empirical approach. In addition, the work of Gilbert is often referenced due to his influence in the construct of self-compassion (Neff, 2003a), explored in more detail in the next chapter. Some evidence-based practices, known for fostering the qualities of compassion, are discussed, but the loving-kindness meditation is the only one described in detail. The chapter provides some empirical research focusing on the differences between roles of empathy and compassion contributing to compassionate care. Although there is reference to SW research, as mentioned in the introduction of this dissertation, the foundation of this chapter rests on the increased debate about nursing compassion engagement and standards of care (Francis, 2010, 2013; Keogh, 2013;

DH, 2014). Thus, the chapter briefly explores compassion under the lens of nursing trainees, emerging policies based on virtues and compassion (Collins, 2012, 2015), as well as mandating compassionate service (Hewison, Sawbridge, 2016; Barton, 2016)

2.4.2. Compassion and loving-kindness meditation

Considered to be the epitome of virtuous behaviour in most religions, compassion has been increasingly researched by psychologists (see Gilbert, 2005; Gilbert, & Procter, 2006; Gilbert, 2009, 2014; Neff & Germer, 2013); emerging as an essential concept towards health and social care work preparedness (Todaro-Franceschi, 2013; Willis, 2015; Hewison, Sawbridge, 2016).

Compassion has been described as the motivation and effort to help others (and oneself) under physical, emotional or spiritual suffering. Compassion may include different dimensions such as empathy and the mitigation of suffering, referred by the actions towards diminishing suffering (Compassion, n.d). In Buddhism, compassion has been associated with the wish for all beings to be happy, well *and free from suffering* a quality complemented by loving kindness; starting with oneself (Hookham 2017).

Loving-kindness, also known in Buddhism through the Pali language as *metta bhavana,* is a meditative practice with the focus on wishing people happiness, well-being and freedom from suffering. Aiming to generate a compassionate feeling, the practice progresses in stages, which can be practice in different order to sustain a good foundation before moving towards the self (Bibeau, Dionne, & Leblanc 2015). It is generally known however that practitioners start with themselves, then someone they like, a person that they do not know very well and finally a person with whom they share difficulties. The practice ends with all those people (including oneself) being equally offered loving-kindness wishes.

In their review about loving-kindness and compassion meditation, Bibeau et al. (2015) offered neuroscientific evidence on changes in brain areas associated with positive emotions towards self and others, empathy, connectedness and altruistic behaviour. As such, the study reports positive changes in empathy-related variables such as pro-social behaviour, positive regard, interpersonal relationships, affective empathy, empathic accuracy and altruism. Compassion practices appear to reduce the negative affectivity associated with painful feelings of empathy thence to the decrease of burnout in professional care-givers and therapists.

Indeed, it is suggested that these painful feelings of empathy, also referred to as empathic distress later in this chapter, increase compassion fatigue (Klimecki & Singer, 2011, Figley, 2012). Thus, loving-kindness and other compassion practices are suggested to be powerful allies in the promotion of self-compassion and better mental well-being (Hofmann, Grossman, & Hinton, 2011; Graser, & Stangier, 2018), particularly for those involved in healthcare work (Shapiro, Astin, Bishop, & Cordova, 2005; Shapiro, Brown, & Biegel, 2007; Boellinghaus, Jones, & Hutton, 2014).

2.4.3. Compassion, Altruism & Empathy in Care giving

According to Ricard (2015), compassion is linked to altruism and benevolence, just like the love of a mother towards her hurt child. Indeed, extensive work offered by Gilbert seems to validate this relationship between feelings of security and infant attachment promoting (or blocking) the compassionate feeling (Gilbert 2000, 2005, 2009; Gilbert et al., 2011).

Gilbert (2013, 2015) proposes that empathy is one of many attributes of compassion. Courage, wisdom and motivation are central elements needed for compassion engagement and compassion action towards alleviation to take place. Courage and wisdom are fundamental to

engaging with suffering of self and others. Motivation, sensitivity, sympathy, distress tolerance, empathy and non-judgmental/acceptance, are equally important. In particular, compassion alleviation, denotes the abilities applied to ease the suffering; comprising also motivation, attention, thinking, behaviour feeling, imagery, and sensory focusing (Gilbert and Choden, 2015). Thus, although empathy seems to have an important role in compassion, additional elements are needed to activate the compassionate behaviour and these two terms should not be confused as one.

A well- known phrase illustrating the process of empathy is offered by the novelist Harper Lee (1989): "You never really know a man until you stand in his shoes and walk around in them". This relational element of empathy can be considered an important motivator for the therapeutic relationship and care, providing to the worker "an accurate understanding of the client's world as seem from inside... the possibility to sense the client's private world as if it was your own" (Rogers, 1995, p. 284). However, according to Ricard (2015), by activating in ourselves a better idea of the other person's needs to our own needs and suffering, the process of empathy can deviate the attention from the other person's needs to our own needs and suffering, which differs from the process of compassion.

2.4.4. Empathy fatigue

Empirical evidence from social psychology and neuroscience-based research, indicate that empathy can be expressed in two ways, namely concern and distress (Singer, Klimecki, 2014; Klimecki & Singer, 2011). Klimecki & Singer, 2011 found studies including adults and children indicating different patterns in empathy that involve empathic concern and empathic distress. The former is other-related and indicates association with compassion, positive emotions, pro-

social motivations and altruistic behaviour. On the other hand, the latter is self-related, associating with self-oriented motivation and associated with negative feelings, withdraw, stress and burnout. Among evidence reported in their study review, a study reports activity in the same part of the brain, when participants alternatingly received pain and witnessed partner receiving the same painful stimulus (Singer et al., 2004 in Klimecki & Singer, 2011). Hence, witnessing *by identifying with the pain* can be as painful as experiencing pain.

Singer & Klimecki, 2014 review included studies adopting different designs (cross-sectional; group-control; longitudinal) and sample based on meditation experience (long term meditators in compassion training; novice meditators; people without meditation experience), indicated that compassion training increased positive emotions, whilst empathy training increases negative emotions. In a similar vein, Goetz, Keltner and Simon-Thomas (2010), point that empathy is part of compassion, but compassion is not reduced to the empathic state. As such, compassion involves reducing the suffering of others, whilst empathic distress involves protection from one's own suffering. Thus, it is possible that what was previously understood as compassion fatigue and now understood as empathic distress, is related to practitioner's self-defence; also referred as empathy fatigue by Ricard (2015).

Some scholars propose that learning to establish boundaries between self and other, as well as the importance of self-care, are paramount to build a compassion-based practice (Gough, 2007; Radey, & Figley, 2007). The literature of compassion however, more often stresses the importance of shared humanity (Neff, 2003 a, b; Gustin and Wagner, 2013; Collins, Garlington, & Cooney, 2015). Rather than establishing clear boundaries, compassionate care involves seeing the other as someone different, but equalises the hierarchy between the one cared for and the one who provides care (Gustin and Wagner, 2013). In this context, common humanity is distinct

from emotions such as empathy, sympathy or pity and is grounded in self-compassion; further explored in the following chapter (2.5. Self-Compassion). The following passage may contribute to the understanding of compassionate care involving *being there*, fully present, grounded in self-compassion:

> "Rather than trying to understand from an outside perspective, or trying to place oneself in the other person's shoes, compassion enables the care giver to enter the world of the patient without relinquishing own identity, recognising the fact that mutuality and interdependency as human beings connects both, despite the differences" (Gustin and Wagner, 2013).

2.4.5. Blocks to Compassion

According to Sawbridge (2016), compassion can be compromised by emotional labour, described as a range of emotions displayed and appropriately stimulated by the workers when dealing with their clients (Sawbridge, 2016). In certain professions which involve "carrying out tasks which by ordinary standards are distasteful, disgusting and frightening" (p.138), emotional labour may contribute to stress. Nurses are required to work hard in emotional labour in order to be perceived as performing compassionate care, they must hold client's emotional load (e.g. anxieties, distress, disgust, etc) and contain their own. Furthermore, according to Sawbridge, when workers are prevented from delivering the care they think is appropriate (in order to comply with organizational rules), they experience extra emotional stress.

The extra emotional labour of being prevented from delivering appropriate care has been suggested to affect particularly young nurses, who end up feeling threatened by teams; indeed, a motivator for early exodus (Todaro-Franceschi, 2013; Flinkman, et al., 2013). Undeniably, threat

is known to block compassion in professional care-givers (Rothschild & Rand, 2006; Gilbert, 2009) and is suggested to promote systemic fatigue in care services (Crawford et al., 2013; Crawford, Brown, Kvangarsnes, & Gilbert, 2014). Seddon (2008) has argued that such pressures on workers make delivering good care much harder: "Instead of assessing what is best for the person and providing complete quality of care, workers fear to be breaking the rules" (p.146).

According to Sawbridge (2016), emotional labour includes nurses facing the burden of having to put an elderly life at risk in order to accommodate admissions from A&E (accident and emergency). Other examples could be experiencing the loss of one's own mother during the same type of procedure that she or he as a nurse must assist. This type of stress is normally unvoiced by workers and rarely taken into account in management practice. Furthermore, open-plan ward designs prevent nurses from unloading these emotions and debriefing with colleagues about daily encounters and frustrations (Sawbridge, 2016).

Nevertheless, when writing about emotional labour, Sawbridge implies that the awareness and response to emotional labour can negatively impact the individual's ability to deliver compassionate care. Increasing evidence stated in this chapter suggests otherwise. On the contrary, feelings filled by avoidance block acceptance and awareness, also important elements leading to concepts compelling the compassionate action (Germer, 2009, Goldenstein & Kornfield, 2001).

According to Curtis (2014), emotional labour suppression jeopardises "genuine" compassion learning in student nurses. Emotional labour suppression appears to be tacitly learned by student nurses during placement. By observing "hardness in the nursing leadership and their role models" (p. 217), young nurses possibly learned this strategy to survive emotional demands at work.

2.4.6. Compassion Satisfaction

Compassion satisfaction (CS) at work is most commonly associated with 'doing'. Positive feelings experienced by professionals from doing their job well, perception of their contribution towards the well-being of clients, as well as the quality of interaction with colleagues and overall satisfaction with the work (Harr, et al., 2014; Conrad, & Kellar-Guenther, 2006).

Harr and colleagues (2014) found no apparent difference in CS between SW professionals and students in internship, but significant differences between distinctive levels of SW degree (undergraduates, master's foundation and master's advanced). SW students enrolled in master's advanced level reported significant ($p = .02$) higher CS ($M = 39.89$), compared to master's foundation ($M = 37.61$). According to the researchers, these differences could be related to the level of knowledge of students in the advanced level (more prepared) and work in specialised area of interest. It is important to note the study design with much larger N (228) in the group reporting greater CS, compared to its counterpart (N = 77); possibly interfering with results. Notwithstanding this limitation, the study also indicates that those with higher levels of CS, reported lower levels of CF; reinforcing possible impact on burnout.

Indeed, another study found CS may be influencing CF and mitigating burnout (Conrad, & Kellar-Guenther, 2006; p. 1078). Splitting 363 SW workers in two groups of high and low CS, independent t-tests compared the rate of CF and burnout (extremely low risk, low risk, moderate risk, high risk, and extremely high risk) amongst CS groups (Conrad, & Kellar-Guenther, 2006). Despite finding most participants (70%) with extremely high risk of CF (34.2%), the study concluded that good potential of high CS (50.7%) may have influenced burnout to extremely low levels (58.1%). Some limitations in this study included all workers coming from the same area and the cross-sectional design limiting the understanding of causality. Furthermore, sampling

was formed by early career participants (*Mode* = 2 years of experience), possibly not working enough years to develop burnout. In addition, the implementation of several T-tests can contribute to type 1 error and more sophisticated analysis should explore the impact of CS on CF and burnout.

2.4.7. Attributes of Compassion

An empirical model of compassion in healthcare, identified certain qualities (virtues) as internal motivator and antecedent to compassionate care. More specifically, genuineness, love, honesty, openness, care, authenticity, tolerance, kindness and acceptance (Sinclair, et al., 2016). The relational element of compassionate care, proposed by this model, involves attending to needs, seeking to understand and relational communication. Prominent in the compassionate clinical practice model, the latter includes: nonverbal compassion (tone of voice, posturing, eye contact, etc), affect ("feeling with", empathic and influenced by healthcare virtues and capacity to resonate with clients), compassionate behaviour (caring, listening, supportive), engagement (attentiveness, communication with team, recognition of suffering and appropriate interaction) (Sinclair, et al., 2016).

These findings seem to resonate with systematic concept analysis, proposing compassionate attributes in nursing to include: kindness, empathy, caring, dignity, and upholding professional conduct and practice in order to protect people from harm, consider their rights, and promote autonomy and beneficence; recognition for a need for care, with a wish to do something about it (Schofield, 2016). In particular, the author states that to date it is not clear if compassion is a learnable or an intrinsic quality; with numerous studies advocating either way. In her view, the characteristics and conditions of compassion in the context of healthcare today must be

understood by healthcare professionals, who are responsible to influence patient's experience and outcomes (p. 72). Self-compassion appears to be one of these conditions, however, the application and management of compassion in public services is complex and not only dependant on the understanding of the meaning of compassionate care by nurses but also by police makers. If self-compassion is a condition that supports compassionate nursing, this should be backed up by compassionate organizations (p.70), rather than a business-focused NHS.

In relation to care eliciting/seeking dynamics, signals are given in such a way by the care seeker that care is then provided (Gilbert, 2013). According to social mentalities theory (Gilbert, 2000) our human mind evolved towards being highly attentive and responsive to how other people behave towards us: "Seeking out other minds to have different interactions with" (Gilbert, 2013; p. 113). Furthermore, it seems that such dynamics might be influenced by evolutionary psychology, claiming that one of the most important changes in humans, refers to the attachment and care for the offspring (Gilbert 1989 and Bell, 2001; Bolwby, 1969; Mikulincer & Shaver, 2004; in Gilbert and Procter 2006). According to the attachment theory, how we mature, our values and behaviours depend on the caring received on those early years (Gilbert, 2013; p. 114).

Empathy, reciprocal relationship with patients and the importance of attachment were implicit in the narrative accounts offered by three first-year UG nursing students when providing their understanding of compassion (Barton, 2016). In particular, students agreed that witnessing suffering activate emotions that are important to the compassionate response (behaviour) towards alleviating distress. According to Barton, these students came from loving homes and were unafraid to display their emotion (p.139). She argues that by grounding the study in attachment theory combined with her experience as a nursing educator, adds veracity to the methodology.

Nevertheless, it is possible that Barton's primary role as an educator on a nursing degree, could have incurred potential bias when drawing some conclusions. For instance, Barton seems to challenge Francis (2013), when suggesting that his report somehow implied that nursing education (in particular the degree training) was somehow to be blamed for nurses' lack of compassion. As explored in the introduction of this dissertation, it seems that as well as suggesting the improvement of minimum standards, Francis' (2013) recommendations were also grounded in optimisation of resources (Bohmer & Imison, 2013), through alternative training pathways.

Interestingly, in Barton's study, all the three participants seem to agree with Francis (2013) views of compassion as an intrinsic individual value, rather than an improved quality. So, it is difficult to know for sure, if the students had been influenced by Francis' ideas. Ideally, Barton's findings should be tested in a wider variety of students, from different backgrounds, in different training stages and coming from other than what was described as loving homes.

Teaching nurses and trainees the value of compassionate care has become increasingly important (Hewison & Sawbridge, 2016) and according to Gilbert (2009) compassion can be taught as a skill. Training programs involve practices stimulating affiliative feelings that increase brain activity liberating dopamine and oxytocin hormones. There is an increasing body of evidence indicating compassion training to influence neurophysiological systems (Gilbert, 2009; Klimecki, Leiberg, Lamm, & Singer, 2013; Singer, & Klimecki, 2014). Evidence shows that despite some people experiencing difficulties in nourishing warmth by either receiving or giving compassion (Gilbert, MacEwan, Matos, Rivis, 2011), compassion-based studies indicate that compassion can be taught and positively increased. This not only applies to clients experiencing

emotional stress, but also to clinicians (Lee, 2003; Gilbert, 2014; Beaumont, Irons, Rayner, & Dagnall, 2016).

Evidence on compassion interventions sustaining focus in mammalian love and feelings of security, indicate that compassion can be learned even by individuals with enhanced self-criticism and shame. People with diminished ability to either accept the compassionate feeling offered by others to themselves, or offer compassion to others (Gilbert & Procter, 2006). Compassion Focus Therapy (Gilbert, 2009, 2014), has improved self-compassion and lowered self-criticism in nurses, therapists and health care providers, even when this was delivered in the context of training in an approach for one's client/work (Beaumont, Irons, Rayner, & Dagnall, 2016).

In addition, self-compassion (which we will look in detail in the next chapter), can be also fostered by the Mindful Self-Compassion program. An intervention grounded in mindfulness practices and focusing on the improvement of kindness, as opposed to self-criticism; mindfulness instead of over identification with suffering; and forgiveness towards self-failure through the understanding of common-humanity, rather than isolation (Neff & Germer, 2013). Self-compassion seems to have a role in the delivery of compassionate care and in organizations establishing a compassionate service (Gilbert, 2009; Schofield, 2016).

However, to support health professionals to build the attributes of compassion, health organizations must enable professionals to move away from "production-line mentality" and "cold relational communication"; a gap that still needs addressing (Crawford, Gilbert, Gilbert, Gale & Harvey, 2013; Crawford & Brown, 2011). Organizational targets set by the government (processing/manging clients and time) have demonstrated to be highly threatening to staff (Crawford et al., 2013; Crawford, Brown, Kvangarsnes, & Gilbert, 2014). Threat in healthcare

services result in CF, becoming systemic and compromising acceptable standards of care (Seddon 2008). Hence, as part of healthcare recommendations following the Mid Staffordshire NHS Trust, include re-structure of services starting from complete change in the systemic culture, namely the "bullying, target-driven priorities, disengagement from management, low staff morale, isolation, lack of candour, acceptance of poor behaviours, reliance on external assessments and denial" (Francis, 2013; p.17).

2.4.8. Summary

Our literature points to compassion as a broad concept that starts with empathy. Empathy on its own however, the feeling of activating a better idea of the other person's needs, seems not to be enough to propel compassion and may contribute to fatigue and burnout, compromising CS and expression. Improving and fostering qualities such as warmth, affiliation and safety, is said to reframe the mind to a compassionate mind and better prepare care givers to prevent fatigue in care, especially when these feelings are cultivated towards the self (Gilbert, 2009).

This chapter aimed to highlight the need for health and social care sectors in corroborating in compassionate care. In particular by supporting trainees and newly qualified professionals toward the cultivation of self-compassion. Self-care seems to be vitally important for professionals delivering care, especially when affected by the frustrations resulting from service provision limitations that add suffering to workers emotional labour. The chapter also approaches fatigue from a systemic point of view, highlighting system-level contributors such as production line pressures as directly responsible for health and social care professional burnout. Just as cultivating genuine compassion to clients is essential to compassionate care, in learning self-compassion, health and social care professionals and students appear to gain an important

skill that could balance the emotional labour involved in their practice. Emerging as an important concept to support nursing and SW professional preparedness, self-compassion is further explored in the next chapter.

2.5. Literature Review - Self-compassion

2.5.1. Introduction

The present chapter focus on evidence indicating self-compassion as an important skill to be learned by professionals and students. The aim is to understand how self-compassion supports health and social care students and professionals in relation to compassionate care provision. The construct of the self-compassion scale (SCS; Neff 2003a, b) and the adopted self-compassion model is presented with theoretical and empirical research evidence. Although most of the chapter focusses on health and social care professionals and students, evidence of the scale performance for general Higher Education students is also provided.

2.5.2. Self-Compassion

The previous chapter argued that compassion, whether directed to self or others, seems to be a combination of factors that contribute to the alleviation of suffering. This includes the ability to cultivate feelings of acceptance, understanding and affiliative warmth towards suffering in others and in oneself. Self-compassion links awareness (rather than avoidance) of self-suffering and 'heart sensitiveness' of self-caring, just as one would care for the loved ones. This process allows one to be touched by the suffering, which is vitally important for the process of self-compassion (Neff, 2003a, b). Just like mindfulness, the self-compassion concept adopted in this dissertation was developed from Buddhist psychology (Neff, 2003 b; Neff, 2015). Lama

Shenpen Hookham (2019), advises about the relevance of awareness in the body and heart sensitivity towards cultivation of self-compassion:

> "…it is important to notice the voice, that ego character that is constantly judging and saying, 'not good enough,' 'should do better,' 'should do more,' 'you are being selfish,' 'you are going to be punished,' 'if you relax and enjoy yourself, everything is going to go wrong' and so on and so on…turn towards that feeling of insecurity and discomfort and not let yourself be driven by it. It will probably have to get worse before it gets better. What I mean by this is that, usually, when we feel discomfort and insecurity, we tend to try to do something to get rid of it. So, we do something that makes us feel we are 'being good' however bizarre a form this might take. One form this could take is that we make quite unrealistic demands on ourselves or blame ourselves excessively for anything that has gone wrong…Awareness of bodily sensations helps a lot with this. By noticing your bodily sensations, you cut through the 'drivenness' associated with voices and feelings constantly impelling you onwards along old established route ways and patterns. In particular it helps to become aware of your 'heart.' (Lama Shenpen Hookham, 2019)

Drawing from the individual's ability to witness their experiential difficulties through kindness and raised awareness, self-compassion is constructed with positive and negative composites. When facing difficulties, the self-compassionate individual is willing not to overly *self-judge*, but cultivate *self-kindness*. Rather than *isolate*, stay connected to others by seeing one's experiences as part of *common-humanity.* Not to *overly identify* with failure and difficulties, but cultivate *mindfulness*, decentring from self-critical thoughts and shame (Neff, 2003a, b).

According to Neff (2015), self-compassion is compassion turned inwards. Both, compassion and self-compassion, are understood to be one step further than mindfulness (Gilbert, personal communication, April 27, 2017). Mindfulness, described in detail previously (chapter 2.3), in relation to self-compassion denotes the awareness of suffering when faced with difficulties and self-limitations (Neff, 2003a). Not only self-compassionate persons notice and accept suffering, but are also able to self-care by being kind and warm towards themselves (Neff, 2003a, b). Being mindfully aware of ones' own needs and suffering is essential to counteract aversion, an emotional resistance which in itself encompasses enormous strain to the individual, making more difficult, if not impossible to self-care (Burch 2013, Germer, 2009).

2.5.3 The Self-Compassion Scale

The current self-compassion construct informs the self-compassion scale (SCS; Neff, 2003a). SCS evaluates self-compassion by using a six-factor structure that includes self-kindness (instead of self-judgment), common humanity (rather than isolation) and mindfulness (in place of over-identification). All components of SCS are suggested to be intimately related, combined they create a self-compassionate score (Neff, 2016; Neff, Whittaker, & Karl, 2017). As such, SCS is best understood as an instrument "entailing less self-judgement, isolation and over-identification and more self-kindness, common-humanity and mindfulness… assessing the six components of self-compassion as well as the overall construct simultaneously" (Neff, 2016; p. 795).

Using one third of the actual number of items, the SCS was first piloted in 68 participants split in focus groups of 3-5 people. Feedback of items understanding and relevance, culminated in a large pool of items by the end of eight weeks (Neff, 2003b). The pool of items was tested in

71 participants who circled any unclear items, which were removed or clarified. These potential

items were tested through exploratory and confirmatory factor analyses (EFA; CFA) in 391

undergraduates, investigating three hypothesized components: self-kindness, common-humanity

and mindfulness. Omissions included items with loading values lower than .40 on the EFA. CFA

indicated two-factor models for each component best fitting the data. Thus, self-kindness loaded

with self-judgement, common-humanity with isolation and mindfulness with over-identification;

NNFI = .80, .43, .76, CFI = .91, .99, .96, respectively. CFA also indicated good fit for a single

higher-order self-compassion factor (NNFI = .88; CFI = .90), explaining the intercorrelations

among the six subscale factors. Thus, the 26-item scale appeared to be formed by an overarching

factor emerging out of the combination of the subscale's components, rather than by an

underlying factor. The single higher order factor indicated good overall internal consistency

(Cronbach's alpha =.92) and subscales (Cronbach's alphas ranging from .75 to .81). Construct

validity was demonstrated with undergraduates in the highest quartile of SCS reporting

significantly higher mean scores than those in the lowest quartile, as well as correlations in the

expected direction with convergent and divergent constructs. Test-retest reliability (over 3-week

period) in 232 participants showed correlations ranging from .85 to .93. These results indicated

the SCS assessing trait self-compassion. A third study confirmed the construct validity by

comparing the undergraduate sample from study two ($N = 232$) with Buddhist meditation

practitioners. Meditators reported higher total SCS scores $F(1, 271) = 62.03$, $p < .005$ and in

every other positive component of the scale; as well as lower scores in the negative components.

When analysing group differences, a much larger effect size for self-compassion ($R^2 = .46$) than

self-esteem ($R^2 = .01$) was found in Buddhist meditators (recruited from an e-mail list-serve

whose subscribers were practicing Vipassana meditation). This evidence points to the

independence between self-compassion and self-esteem constructs. According to Neff (2003a) mean scores of 3 and 3.5 indicate moderate levels of self-compassion.

Despite the aforementioned, the construct has received negative criticism by some scholars, questioning the original validation of the total SCS. First, content validity was carried out in undergraduate students and experts (Buddhists), not including community and clinical population (Strauss et al., 2016). Second, the negative components of the SCS are proposed to be unrelated to concepts linked to compassion; tapping to psychopathology (Muris, Otgaar, & Petrocchi, 2016; Muris & Petrocchi, 2017). Indeed, the idea that compassionate and uncompassionate elements are distinct is consistent to Paul Gilbert's Social Mentality Theory (Gilbert, 2005). Gilbert suggests that compassionate and uncompassionate responses to suffering activate different nervous systems (parasympathetic and sympathetic respectively). Nevertheless, Neff (2016), argues that the two systems are not completely isolated and unrelated, referring to evidence indicating an interaction of the two. According to her rationale, the SCS single factor, summarises the balance of the positive and negative components of self-compassion.

Williams, Dalgleish, Karl and Kuyken, (2014), conducted a study in the UK and found unsatisfactory validation of the scale on sample including different specification: general community (N=821), meditation experienced (N=211) and individuals with recurrent clinical depression (N= 390). Comparing different SCS model structures, CFA found only the six-factor correlated structure to be with good fit, and only in the community sample.

Neff (2017) responded by reanalysing the UK clinical sample (N=390) in addition to new data collected from UG students (N=222), general community members (N=1,394) and meditators from different religious backgrounds with experience in insight meditation (N=215). The same fit index criteria applied by Williams et al. (2014) was implemented across the

different samples testing five different models: one-factor, two-factor correlated (positive x negative subscales), six-factor correlated, higher order and bifactor model (Neff, Wittaker, & Karl, 2017). In the bifactor model "individual scale items loaded on a general or 'target' factor, as well as a subscale or group factor" (p.3), indicating once again the one-factor and the six-factor structures as valid to assess the self-compassion construct in a variety of samples. The result replicates earlier evidence (see Neff, 2015) and reinforces the body of evidence of the scale reliability using six-factors or total score.

Notwithstanding the above, it is important to stress at this point that although there are various scales assessing compassion, the SCS is the only available scale assessing self-compassion (Strauss et al., 2016).

2.5.4. Self-compassion in UG and PG students

Self-compassion seems to protect college students from disengagement when realising self-limitations, indicating students are more likely to try again when they fail (Neff, Hsieh, Dejitterat, 2005). Negative relationship was found between self-compassion and performance-approach goals ($r = -.13$, $p < .05$), performance avoidance goals ($r = -.29$, $p < .01$), fear of failure ($r = -.51$, $p < .01$), and anxiety ($r = -.66$, $p < .01$). Whilst positive associations were found with perceived competence ($r = .35$, $p < .01$), intrinsic motivation ($r = .30$, $p < .01$), and mastery goals (an adaptive orientation denoting the desire to master/learn new content, rather than the self-focused/ self-worth orientation performance; $r = .28$, $p < .01$). Furthermore, achievement goals and self-compassion associations greatly depended on higher perceived competence and lower fear of failure. Furthermore, in students unhappy with their results, self-compassion predicted intrinsic motivation ($r = .23$, $p < .05$), perceived competence ($r = .33$, $p < .05$), mastery ($r = .33$,

$p < .01$) and negative performance avoidance ($r = -.50$, $p <.01$), even after controlling for actual performance. Coping strategies for these students associating with self-compassion include: positive reinterpretation of experience and growth ($r = .24$, $p <.01$), negative rumination on unhelpful emotions ($r = -.30$, $p <.01$), negative denial ($r = -.22$, $p <.05$) and negative mental disengagement ($r = -.20$, $p <.05$). Although the cross-sectional design limits our understanding of the directionality of the effects of the variables, these results seem to support Neff's conceptualisation of self-compassion to be distinct to achievement and harsh self-evaluations.

A study analysed UK health students (midwives; N=103) total self-compassion, self-kindness, self-judgment, burnout and well-being, compassion satisfaction (CS) and compassion for others (Beaumont, Durkin, Hollins Martin & Carson, 2016). SCS total scores correlations were not as good, apart from self-judgment ($r = -.61$, $p < .01$) and self-kindness ($r = .58$, $p < .01$). Although the study contributes with evidence of medium associations between total SCS with burnout ($r = -.31$, $p < .01$) and well-being ($r = .38$, $p < .01$), correlations with CS ($r = .20$, $p < .05$) were low and significant with compassion for others. Next, self-judgment scores were divided in high and low to investigate differences in compassion satisfaction and well-being. Findings include moderate correlations with well-being ($r = -.37$, $p < .01$), but small relationship with burnout ($r = .28$, $p < .01$) and compassion for others ($r = -.22$, $p < .05$). In comparison to low self-judgmental, the authors found that highly self-judgmental midwifery students reported significant less well-being ($t = 3.08$, $p = .01$), compassion for others ($t = 2.23$, $p = .05$) and increased burnout ($t = -2.27$, $p = .05$). It is important to notice that due to the components of SCS being intimately related, combining a self-compassionate score, the independent use of subscales is discouraged (Neff 2003a), thus, the results of this study should be interpreted cautiously.

Most specifically, a study analysing self-compassion, study burnout and mental health

well-being in students of the helping professions, found self-compassion to be highly positively associated with psychological well-being ($r = .63$, $p < .01$) and negatively with depression ($r = .51$, $p < .01$). In particular, high levels of self-compassion significantly moderated the effect of study burnout and emotional well-being (8.2%). Although, high levels of self-compassion appeared to significant moderate study burnout and depression, the effect of study burnout on depression were slightly more pronounced for students with low self-compassion (4.0%). These results, indicate not only high self-compassion possibly mitigating effects of study burnout in UG students, but also low levels of self-compassion worsening student mental health (Woo Kyeong, 2013).

Research in master level SW students, suggests that by decentring and learning to notice emotional and cognitive content, students are better equipped to prevent emotional exhaustion (Ying, 2008b). In her model, Ying posits that self-detachment and social support are negative predictors of emotional exhaustion. Ying assessed what she called 'self-detachment' by using the SCS over-identification subscale. However, as mentioned earlier, SCS subscales should not be used separately. Hence, the results of this study need to be interpreted cautiously. On a further study, Ying (2009) found all SCS sub-scales associating with competence (sense of coherence) and mental health (depressive symptoms). Although, isolation was strongly associated with less competence, in particular over-identification predicted less competence and poor mental health, indicating the importance of skills learned in mindfulness programs to be mastered by SW students. Similarly, in SW master students Ying and Han (2009) found total SCS and two subscales particularly associating with severity of stressor (total SCS -.26 $p = .02$; over-identification .34 $p < .001$; self-judgment .30 $p = .01$) and satisfaction with coping (total SCS .24 $p = .03$; mindfulness .28 $p = .02$; common humanity .32 $p = .005$; self-kindness .22 $p = .04$).

Their study indicated that self-compassion practice led to less stress and more satisfaction with common-humanity leading to greater coping.

The understanding and awareness of one's own feelings with the ability of self-management and motivation, as well as the demonstration of social awareness and empathy towards other people's feelings, seems to be essential skills for those offering a compassionate service in health or social care. The combination of these qualities, known to constitute emotional intelligence, were analysed against all self-compassion sub-scales in a correlational study involving 471 nursing UG students in different academic years (Senyuva, Kaya, Isik, & Bodur, 2014). Despite sampling four different grades, UG-first (25%), UG-second (23%), UG-third (25.3%), UG-fourth (25.7%), the study didn't report values between groups, but reported differences to be non-significant in self-compassion and significantly lower in emotional intelligence for UG-third grade. Notwithstanding the aforementioned, findings point to nursing students' self-compassion total score (3.28; $SD = .51$) to be within the suggested moderate range (Neff, 2003b). Moderate correlations found between total self-compassion and emotional intelligence ($r = .40$, $p < .01$) and between self-kindness and self-awareness ($r = .31$, $p < .01$), self-management ($r = .36$, $p < .01$), self-motivation ($r = .33$, $p < .01$) and empathy ($r = .22$, $p < .01$). Although, interpretation of isolated sub-scales is discouraged, self-judgment shared the highest average value (3.59, SD = .73) and common-humanity the lowest (2.97, SD = .75). Thus, Senyuva and colleagues suggested individual development training skills (focusing on self-compassion and emotional intelligence) to be added to nursing academic content.

2.5.5. SCS in Health and Social Care Professionals

In a systematic review, Reyes (2012) retrieved 74 articles (51 in psychology, 8 in

religion, 3 in nursing, 2 in philosophy, 9 in sociology, and 1 in management). The results of this work led to a conceptual module where self-kindness, mindfulness, commonality, and wisdom as attributes of self-compassion and suffering as antecedent. Nursing suffering according to Reyes includes lack of self-care capacity, diminished relatedness to others, decreased autonomy and low self-worth (e.g.: guilt, self-hatred, shame). Furthermore, the module posits nursing self-compassion leading to positive emotional response that includes increased autonomy (denoted by self-mastery through the practice of mindfulness), self-care capacity and compassion for others. In addition, an interesting contribution of the study is the differentiation between self-compassion and caring, often confounded in nursing practice. Whilst 'caring' is a verb that denotes the nurse's actions that arise from the understanding of suffering, self-compassion is "a noun, or state of being that provides that understanding of suffering beyond the definition of illness, disease, and pain" (p. 88). Thus, in nursing "self-compassion is the state of being. A state consisting of mindfulness, wisdom, and commonality that transforms suffering, resulting in actions that improve the individual's health and well-being as well as the health and well-being of others" (p.84).

Linking to the previous chapter, when exploring the mandating of compassion in health services, current initiatives demonstrating care towards NHS staff (e.g. providing healthy food, increasing physical activity) do not address the complex issues involving the provision of consistent compassionate care (Egan, Mantzios and Jackson, 2017). Egan and colleagues propose that although mandating compassion is postulated as a selfless practice (putting patients/clients first), worker's well-being is associated with patient's positive outcome. Hence, they suggest self-compassion skills to be essential for staff-self-care, urging training to be brought into the work environment and professional development in order to improve staff quality of life.

Using a meta-narrative review, Sinclair, et al. (2017) investigated the self-compassion construct, relationship with affect and interventions in general and in healthcare professionals. Results point to robust evidence associating self-compassion with "well-being, life satisfaction, optimism, happiness, and connections with others, and directly linking with resilience against depression and anxiety" (p.174). Sinclair et al. found empirical evidence, indicating that the SCS was adopted in studies, despite criticism of it is theoretical and psychometric validity. Corroborating with research showing the SCS as the only instrument available for the quantitative assessment of self-compassion (Strauss, et al., 2016). Sinclair and colleagues indicate that interventions with the purpose of cultivating self-compassion were mostly mindfulness-based, showing broader positive impact in affectivity. However, no studies were found evaluating self-compassion outcome on the provision of compassionate care.

Possibly influenced by the latter, the study proposes that the way forward for compassionate care rests on professional care-givers focusing less on inward compassion and more on outward compassion. By doing so, Sinclair and colleagues seem to disregard remaining findings, which clearly indicated self-compassion to be vital to professional self-care, relational variables and professional resilience; all leading to compassionate care. In addition, such assertions seem to put old wine in new bottle by reaffirming compassion concepts based on the selflessness of compassionate care-givers (Egan, et al., 2017) upholding "innate desire to address and ameliorate the suffering of someone beyond themselves" (Sinclair et al.; p.198). At certain level, this may resonate with the interpersonal relatedness of compassionate care that transcends the barrier of individuality to include the one who cares and the one who is cared for (Gustin and Wagner, 2012); also proposed by the concept of mutuality, further explored in the past chapter (2.4. Compassion). Contrary to Sinclair and colleagues however, Gustin and Wagner stress that:

" Even though compassion is supposed to bring about good things and alleviate suffering, one will never know for sure what will happen – specially not within oneself when touched by the Other's suffering…cultivating loving kindness and equanimity towards self and other, serves as the starting point for compassionate care, guiding the caregiver to incorporate an intentional and mutual process of giving and receiving. (Gustin & Wagner, 2012; p.6).

2.5.6. Summary

The chapter explained the construct of self-compassion used in this study giving a panorama of theoretical and empirical self-compassion research. The evidence provided, focused in health and social care professionals and students, as well as research supporting the construct validity for self-compassion instrument adopted; naming the SCS total score. In this chapter we explored how trait or dispositional self-compassion support self-management, facilitating well-being. Evidence indicates clear association between self-compassion and self-care mitigating burnout. In students of helping profession, high self-judgment appeared to contribute to significant less well-being, compassion for others and increased burnout. Although no studies were found particularly linking the SCS contributing to compassion for others, the literature is clear about health and social care turning inward in order to deliver compassionate care.

Chapter 3. Methodology

3.1. Introduction

This chapter presents the methodology of the main study, including design, sampling procedure, measures and data analysis. In particular, study burnout and academic engagement measures were informed by CFA, an additional study that includes its own methodology (see chapter four). Apart from demographic information (which is fully described), the current chapter only introduces the measures by providing final Cronbach's alpha, based on the reliability analysis conducted (see chapter five for results and full description of measures). Data analyses include demographic and descriptive analyses for sampling characterisation (means, standard deviations and percentages).

Descriptive analyses were conducted for course and academic year (ac-year) independently. Groups indicating low study/work-related well-being were identified by those students reporting upper quartile values of burnout dimensions (high-burnout) and low quartile values of engagement dimensions (low-engagement). To understand if there were differences presented in data collected in the beginning or ending of ac-year, Hotelling's *T* was used. Further tests include Pearson's correlations and verification of MANOVA assumptions, parameters adopted to estimate significant outcomes and effect size. This chapter is followed by CFA for the adopted study burnout and academic engagement questionnaires (chapter four) and the reliability analysis of all adopted measures (chapter five).

3.2. Participants and Procedure

This is a quantitative cross-sectional between-subject design (Figure3) with purposive sampling and data collected from Bangor University and Glyndwr University, in North Wales.
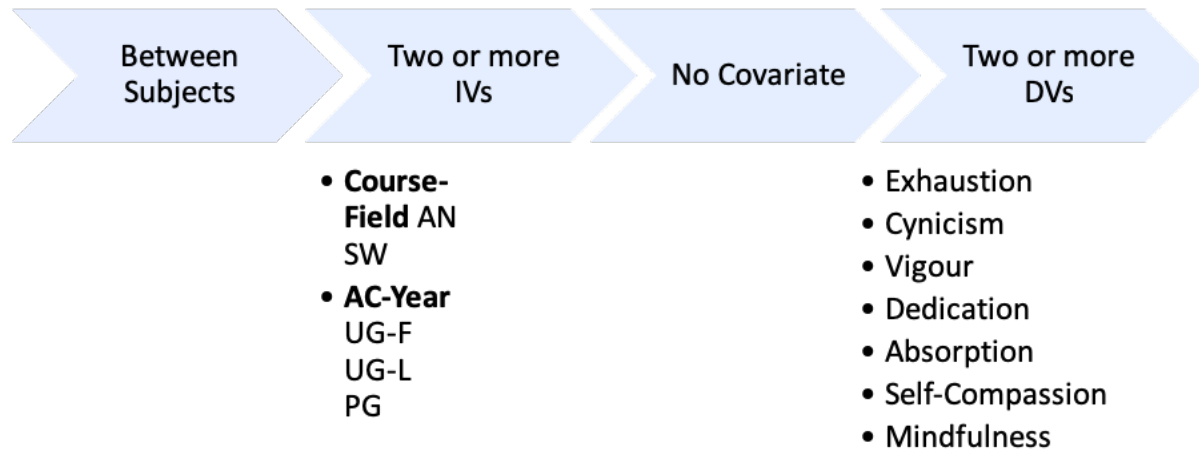
Figure 4. Between subject study with two (six- level) independent variables (IVs) and seven dependent variables (DVs).

The inclusion criteria were: voluntary participation, 18 years old or over, student from social work (SW) or allied health/nursing (AN) courses, registered as undergraduates attending first and last year (UG-F, UG-L) and post-graduates at any training stage (PG) (Figure 4). SW were attending full-time courses, which were tailored around general practice. In order to reduce confounding variables, AN data collection focused on full-time adult nursing students, training in generic practice. Similarly, both PG groups were comprised of mixed professional backgrounds, which was beyond our control. The AN Master's course provides a pathway in health leadership and included allied health professionals. The SW Master's course is a pathway degree accepting students holding any degree but with at least six months of social care experience (or equivalent). Exclusion criteria included UG students under 18 years-old, other courses rather than SW and

AN or not registered as UG-F, UG-L or PG in the referent courses. Data collection ran from

February 2017 (SW) and March to June 2017 (AN).
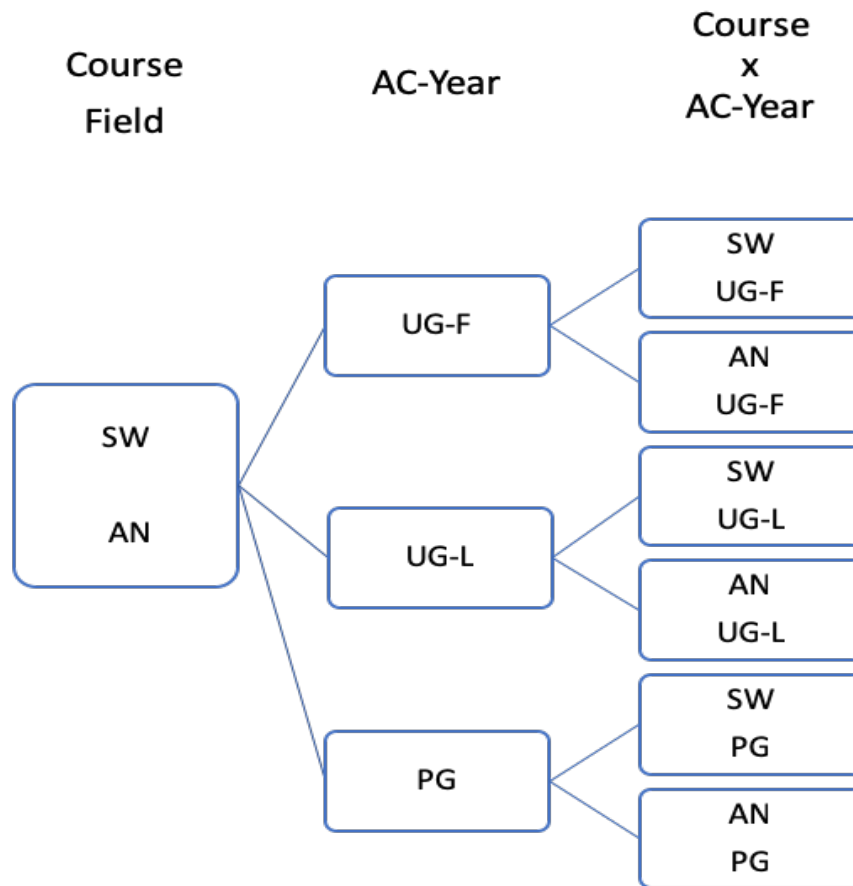
Figure 5. Study Inclusion criteria separated per categorical variables

Note. SW (social work); AN (adult nursing); UG-F (first year undergraduates)

 UG-L (last year undergraduates) PG (Postgraduates)

The study was approved by The College of Business Law, Education and Social Sciences Ethics Committee of Bangor University (Appendix A). The recruitment strategy involved approaching the Head of the School of Health Sciences (Appendix B) and the School of Social Sciences via e-mail to introduce the study. Providing agreement, a physical copy of the anonymous survey (Appendix C) was distributed to students by the researcher, at convenient and agreed time and location. Most data were collected at the end of the academic-year; however, additional data was collected from AN-UG students at the beginning of the new academic-year.

The survey book was presented with bilingual (Welsh and English) information about the study. Questionnaires were organised in different order to minimise response bias. It was explained to all students that: 1. by choosing to answer they were contributing to research on student burnout; 2. Survey could not be taken and answered later; 3. responding to the survey was not mandatory and choosing to respond or not would not reflect on their academic marks. Data was collected in the classroom where students answered the survey individually, taking an average of 20 minutes to respond (for response rate, please refer to chapter 6, section 6.2.). Depending on the lecturer's desire (who was present in the classroom during data collection), the researcher left the room or stayed in order to distribute and collect answered questionnaires. AN students undertaking the doctorate dissertation module, working away from campus, received the questionnaires online. This was distributed via the module director using bilingual e-mail through the electronic blackboard system (Appendix D).

3.3. Measures

3.3.1. Demographic Information: Participant Questionnaire

The Participant's Demographic Questionnaire was designed to provide relevant information about possible factors influencing student's levels of stress; constructed with the support of Professor Demarzo, who is experienced in researching stress/burnout and mindfulness in health and social care professionals. The survey was piloted in PhD students and any suggestions towards the demographic questions were discussed in supervision and with Professor Demarzo.

Questions about participants' national identity or ethnicity, also considered sensitive information (https://www.gov.uk/service-manual/design/collecting-personal-information-from-users), were not included in the demographic questionnaire of the main survey. This follows the development of research based on ethical reasons (i.e.: gathered information focusing on the objectives of the study and that would have bearing on the interpretation of the results).

This is a nine-item questionnaire assessing: *School* (Health; Social Sciences), *Course* (undergraduate attending first academic year; undergraduate attending their last academic year; Postgraduates), *Gender* (Female; Male; Prefer not to respond), *Age* (18-25; 26-32; 33-39; 40 or above; under 18); *Do you currently undertake paid work on top of your study work?* (Yes or No); *Are you currently on a fieldwork placement?* (Yes or No); *Considering any paid work and placements, how many hours per week altogether do you work on top of your study work? (*Number of hours); *Which statement best describe your current living situation?* (I live alone; I live with other with students; I live with roommates who are not students; I live with parents; I live with partner; I live with my children; I live with a partner and my children); *Please tick the best statement that applies to you* (I practice mindfulness or yoga or any meditation: regularly, sometimes, very rarely, I have never practiced these activities before).

- Self-Compassion: Self-Compassion Scale (SCS; Neff, 2003a).

Total SCS showed moderate to high reliability (Cronbach's alpha=.82)

- Mindfulness: Cognitive and Affective Mindfulness Scale-Revised (CAMS-R; Feldman et al., 2007). CAMS-R showed acceptable reliability in our sample (Cronbach's alpha = .77).

- Academic Engagement: Utrecht Work Engagement Scale for Students - Short Version (UWES-S-9, Schaufeli and Bakker, 2003). The UWES-S-9 in our study, demonstrated acceptable reliability for vigour (Cronbach's alpha = .75), dedication (Cronbach's alpha = .74) and absorption (Cronbach's alpha = .76).

- Study Burnout: Maslach Burnout Inventory-Student Survey (MBI-SS; Schaufeli, et al., 2002). The printed version used in our study was adapted from Maroco and Tecedeiro (2009), using only the core burnout dimensions: exhaustion (high reliability; Cronbach's alpha = .90) and cynicism (moderate to high reliability; Cronbach's alpha = .88). As referred in chapter four, higher scores of exhaustion and cynicism configurate burnout. Lower and upper quartile of the score distribution determined low and high critical boundaries (Galán, Sanmartín, Polo, & Giner, 2011).

3.4. Data Analysis

Data was analysed using IBM SPSS version 24. Erroneous and missing values were rechecked by examining physical questionnaires. Missing data over 15% were excluded from the study (Hertel, 1976). Little's Missing Completely at Random (MCAR) test was used to demonstrate that data values were missed completely randomly. Following this procedure, the expectation maximization (EM; Peugh, & Enders, 2004) algorism approach was used replacing missing values. EM is a more accurate missing data replacement method, compared to other

procedures (Enders, 2003). Any reversed scores were substituted before subscale and total scale calculations. Demographic analysis was used for sampling characterisation: gender, age, work and placement hours, living situation (alone, with other students, with parents, with partner etc.) and questions relating any practices of yoga or meditation. This was discriminated by categorical variables: course-field (AN and SW) and ac-year (UG-F; UG-L and PG). Descriptive analyses including means and standard deviation were conducted for all continuous variables: mindfulness, self-compassion, engagement (vigour, dedication and absorption) and burnout (exhaustion and cynicism). In order to identify course-field and ac-year with lowest well-being, burnout and engagement variables were further analysed and discriminated by upper and lower quartile values respectively. All descriptive analyses were conducted for course and ac-year independently, prior to MANOVA pair-wise comparisons.

Furthermore, to highlight possible differences in data collected at the beginning and ending of ac-year, Hotelling's T^2 was implemented. Preliminary tests were performed to check assumptions, exactly as for the MANOVA, detailed as follow:

Two-Way MANOVA performed with two six-level IVs and seven DVs.

According to Stevens (2009; p. 146) "It is not necessarily a good practice to run all the DVs in the same MANOVA, unless strong empirical or at least theoretical background proves a clear relationship between them. This follows the possibility of small differences on these variables masking real results in the other variables resulting in the test detecting mainly errors in the system". Following this rationale, after Pearson's correlations were calculated, only variables over moderate correlation values ($\geq$ .30; Cohen's, 1988) were grouped in the same MANOVA (Meyers, Gamst, & Guarino; 2006). Power analysis for a MANOVA with two six-level IVs and the adopted number of DVs was calculated using G*Power to determine sufficient sample size,

using an alpha level of .05, power of .80 and a medium effect size ($f = .25$).

In order to investigate the MANOVA's assumptions, a series of pre-tests were performed. MANOVA rule of thumb was taken into account; that is considering the number of cases in each cell larger than the number of dependent variables and N (per cell) not too close to the actual number of dependant variables (Wilson Von Voorhis, & Morgan, 2007). Multicollinearity was assessed by Pearson's correlation ($|r \leq .90$) and linearity was checked with scatterplots. Demarcation criteria of univariate outliers was based on the interquartile range rule of 2.2 as a multiplier (Hoaglin & Iglewicz, 1987). Outlier values extrapolating on the second decimal place were considered non-significant. Multivariate outliers were analysed by the comparison of the Mahalanobis distance value against a chi-square (X^2) distribution with degrees of freedom equal to the number of analysed variables and alpha level (p) of .001 (Tabachnick & Fidell, 2014).

Normality of data was tested across all groups and sub-groups (by split file procedure) using Shapiro-Wilk test ($p > .05$) and non-significant skewness and kurtosis (assuming skewness and kurtosis standard error ratio with Z-values within ± 2.58.) Square root transformation (SQRT) was used to reduce positive moderate skewness/kurtosis if necessary. Final assessment was carried by visual Q-Q plot inspection. Box M's ($p > .01$) tested homogeneity of covariance of matrices and Levene's test ($p > .05$) was used for homogeneity of error variance. In case of infringement, the ratio between greater and lower variance was calculated. Ratio lower than the critical F values stated at Hartley's F_{max} table (considering .05 level of significance), implied that in the homogeneity of variance assumption was met (Pearson & Hartley, 1954).

Statistically significant multivariate results ($p < .05$) using Pillais's Trace (due to unequal N per cell), would result in the rejection of null hypothesis. The interpretation of the MANOVA using two-way univariate tests (significant at .05 level) will vary depending on the interaction

effect being significant or not. If no significant interaction is found, two-way univariate tests will be followed-up using a post-hoc multiple comparison for each DV applying Tukey technique to minimize the chances of type I error. On the other hand, if an interaction is found, pair-wise comparisons are used for each DV. These follow-up analyses (pair-wise comparisons and post-hoc multiple comparisons) are use to describe differences among groups; both using Bonferroni adjustment to minimise type 1 error (Pituch & Stevens, 2016, p. 278). A partial eta-squared (η^2) value ranging from .01 to .06 reflects a small effect size, .06 to .13 medium effect size and .14 or higher indicates a large effect (Cohen, 1988).

Chapter 4. MBI-SS and UWES-S Confirmatory Factor Analyses

4.1. Introduction

This chapter comprises the confirmatory factor analyses (CFA) of two instruments used in the main study; the MBI-SS (study burnout) and the UWES-SS (academic engagement). CFA was warranted in order to provide psychometrically sound versions of these measures, relevant and applicable to higher education students in the UK. The chapter starts by briefly revisiting the history of the MBI and UWES-S questionnaires, justifying the models tested by means of CFA and highlighting the importance of psychometric sound instruments. The methodology includes participant information, data collection, description of measures and data analysis. The latter specifying methodology and goodness of fit based on absolute and relative indices. Findings and discussion are provided simultaneously, followed by an overall conclusion closing this chapter.

4.2. Background and rationale

The CFA is a structure modelling procedure, designed to investigate the validity of a particular construct, or the feasibility of measurement models based on previous research and theory (Lewis, 2017; Suhr, 2006). Thus, by using knowledge of theory, and or empirical evidence, an a priori relationship pattern is postulated and hypothesis tested statically (Suhr, 2006).

According to Lewis (2017), five steps configure the CFA: (1) specifying the theoretical model, which involves decision of observed variables and latent factors; (2) model identification, that is, the solution based in sufficient information within the sample variance-covariance matrix; (3) Model estimation based on methods that estimate all parameters in a model. The most common method is the maximum likelihood, used for continuous scales; (4) Model testing using fit indexes; (5) Model modification when models do not fit the sample data which is often the

case. Modifications include: deleting or adding certain parameters (paths) or specifying paths between error terms (Lewis, 2014, p. 244).

<u>History of Measures</u>

As mentioned previously (chapter 2.1), the MBI has been widely used in the UK, specifically the MBI - Human Service Survey (MBI-HSS; Maslach et al., 1996) and the MBI - General Survey (MBI-GS; Schaufeli et al., 1996). Adapted from the MBI-GS, the MBI-Student Survey (MBI-SS; Schaufeli et al., 2002a), has been scarcely adopted in English speaking countries. MBI-SS assesses the syndrome of study burnout through three subscales: exhaustion, cynicism and efficacy (Schaufeli, et al., 2002a). Chapter 2.1. indicates exhaustion and cynicism to be the core elements of burnout (Schaufeli and Taris, 2005) and mounting evidence suggesting that efficacy is the least theoretically sound variable in the MBI construct (Schaufeli, & Salanova, 2007; Salanova et al., 2009; Marocco & Campos, 2012; Hu, & Schaufeli, 2011).

Despite emphasis on the assessment of burnout through subscales, it is generally accepted that scholars investigate burnout as a total score with items loading on a general composite (Taris, Schreurs, & Schaufeli, 1999; Hu & Schaufeli, 2011). Hence, based on this premise the single factor model of core-burnout will be also investigated by means of CFA.

As mentioned in chapter 2.2., the UWES-S (Schaufeli & Bakker, 2003), was adapted from its professional version by rephrasing items to suit the student population, just as the MBI-SS. Thus, items designed for workers such as "At my work, I feel bursting with energy" were rephrased for students by "When I'm doing my work as a student, I feel bursting with energy".

The literature review also indicated scarce use of the UWES-SS in English speaking persons. Only one study using the MBI-SS and the UWES-S was found in the UK, but no studies

adopting its shorter version (UWES-S-9). Assessing sport psychology students ($N = 63$), Aldie and Wakefield (2011) adopted both measures without verifying factor structure in the sample; an essential step towards accumulating evidence of validity (American Education Research Association, American Psychological Association, National Council on Measurement in Education, 2014). Furthermore, Schaufeli and Bakker (2003), suggest UWES-S (long version, 17 items) or UWES-S-9 (short versions, 9 items) and Aldie and Wakefield (2011) used a 14-item version validated in Spanish speaking persons (Schaufeli et al., 2002a).

Preliminary investigations indicated the UWES-S-9 shortened version to be preferred over the longer version (Schaufeli & Bakker, 2003, Schaufeli et al., 2006). Furthermore, the literature indicated previous studies adding the subscale efficacy from the MBI as a fourth dimension of engagement (Schaufeli & Bakker, 2004).

4.3. Method

4.3.1. Participants and procedure

This was an online distributed survey and a smaller part of the Ph.D. project. Before conducting the study, an amendment was requested and granted by the College of Business Law Education and Social Sciences Ethics Committee of Bangor University (Appendix E). Exclusion criteria involved students other than those in higher education in the UK.

Participants ($N = 130$), 111 (88.8%) undergraduates, 14 (11.2%) postgraduates. In relation to gender, 93 (73.8%) students identified themselves as females and 33 (26.2%) as males. The mean age was 26.39 (ranging from 18 to 55 years old) with most students native from English spoken countries ($N = 105$; 80.8%), rather than from non-English ($N = 19$; 14.6%). The majority described themselves with English as first language ($N = 84$; 64.6%) or fluent in English ($N =$

34; 26.2%). A small number of students reported to be advanced level speakers ($N = 4$; 3.1%) or intermediate ($N = 4$; 3.1%).

Most students were from Bangor University ($N = 86$; 66.2%) or from the University of Derby ($N = 18$; 13.8%) and a small number from unspecified institutions ($N = 3$; 2.3%). Students were from the following schools: Health ($N = 36$, 28.8%), Social Sciences ($N = 20$; 16%), Psychology ($N = 24$; 19.2%) or other ($N = 45$; 36%). One hundred and seven students (88.8%) studied on campus and 21 (16.4%) online. Seventy-four participants (61.2%) reported to work and study with average work or placement hours of 32.98. When describing their living situation 12 (9.7%) reported living alone, 57 (46%) with other students, 3 (2.4%) with room-mates not students, 17 (13.7%) with parents, 12 (9.7%) with partner, 2 (1.6%) with their children, 21 (16.9%) with partner and children.

The survey (Appendix F) was distributed via social media and mailing list by The College of Business Law Education and Social Sciences from Bangor University and the Online Psychology department from the University of Derby. Due to Bangor University bilingualism policy, the online survey that was distributed via the university blackboard, was introduced in English and Welsh. The survey was designed using Bangor University's survey software (Bristol Online Survey – BOS), which complies with all UK data protection laws. Attached to the survey, the study information sheet informed students of the non-obligation in answering any questions they felt uncomfortable with.

Participants had the option to stop answering the survey and to continue later if wished so. In addition, a voucher incentive was included at the end of the survey and participants had the option to enter a prize draw. Those who wished to enter the draw were directed to a different survey link to insert their email address to preserve participant's anonymity. Of those choosing

to enter, five winners were randomly selected (using a random number generator in SPSS). Each winner was informed by email (Appendix G) and had one Amazon Voucher of £20.00 sent to their address or personally collected.

4.3.2. Material

Maslach Burnout Inventory Student Survey (MBI-SS; Schaufeli et al., 2002a)

As mentioned previously, the MBI-SS (adapted from the MBI-GS) assess burnout in the student population, replacing words such as "employee", "work" and "job" by "students", "studies/study work" and "class". The MBI-SS is originally formatted as a 7-point Likert scale (0 = never to 6 = always) with 15 items divided into three subscales: exhaustion (5 items; *I feel emotionally drained by my studies*), cynicism (4 items; *I have become less enthusiastic about my studies*) and efficacy (6 items; *I feel stimulated when I achieve my study goals*). Internal consistency is indicated by Cronbach alfas ranging from .74 to .80 for exhaustion; .79 to .86 for cynicism; .67 to .76 for efficacy (Schaufeli, et al. 2002a). Higher scores of exhaustion and cynicism, in addition to lower scores of efficacy (or higher scores for reversed efficacy) indicate study burnout.

Utrecht Work Engagement Scale for Students (UWES-S; Schaufeli & Bakker, 2003)

The UWES-S (17-item, long version) is a 7-point Likert scale (0 = never to 6 = always), formed by three subscales: vigour (6 items; *When I study I feel like I am bursting with energy*), dedication (5 items; *I am enthusiastic about my studies*) and absorption (6 items; *I am immersed in my studies*). The UWES-S-9 is a 9-item short version with three items in each subscale (chosen by the highest Cronbach alpha). Just as the total mean score of the UWES-S indicates

engagement, in the shortened version this is conveyed by either the mean values of the three separate subscales or total mean score. Six items of the MBI-SS efficacy subscale were added to the UWES-S (17-item) original factor structure, making four factors: vigour, dedication, absorption and efficacy.

4.4. Statistical Analyses

CFA using AMOS (version 21), adopted a priori specification of MBI-SS and UWES-S theoretical models and maximum likelihood method. Model fit was evaluated by the following goodness of fit indexes: χ^2: a non-significant chi-square ($p > .05$) is an indication of good fit, however, chi-square values are affected by sample size and size of correlations in the model, thus goodness of fit must be estimated using a combination of absolute and relative indices (Kline, 2015; Kenny, 2015). Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI): values above .90 are an indication of good fit and above .95 very good fit (Byrne, 2012). Root mean square error approximation (RMSEA): values up to .08 indicate adequate fit, however, values significantly increase in models showing degrees of freedom (df) lower than 50 (Kenny, Kaniskan, & McCoach, 2015). PCLOSE (> .05), that is a not statistically significant result, indicates the fit of the model is "close"; helping the understanding of sampling error in the RMSEA (Kenny, 2015). Similarly, if RMSEA exceeds 90 percent confidence interval (CI) lower bound, the model is worse than close fitting (equivalent to PCLOSE < .05) (Kenny, 2015)

4.5. Findings and Discussion

MBI-SS

Table 3 shows the adjustment for each model. Whilst also accounting for theoretical and practical considerations, fit indices were interpreted as guidelines in order to choose the best model (Byrne 2012). We first investigated the original three-factor model (MD1). MD1 presented good CFI (.92) and TLI (.90) values. RMSEA (1.0) was slightly above the recommended value for adequate fit ($\leq$ .08). Modification indices inspection pointed to correlation of errors of the items 8 and 9 (in cynicism), and 13 and 14 (reduced efficacy). These item-errors belong to the same factor; therefore, the covariate is common practice, meaning there is a systematic error variance in both items.

Based on this modification an extra module was created (MD1_MI). The MD1_MI model was considered adequate, CFI (.95) and TLI (.94) values improved, and RMSEA presented adequate fit (below .08), even though the PCLOSE value was significant. Next, MD2 was explored using the two-factor core dimensions of burnout. MD2 also indicated good CFI (.93) and TLI (.91). Based on N (130) and low df (26), RMSEA (.142) was considered a good fit, due to suggested cut-off value < .24 that was based on similar parameters (Kenny et al., 2015) and indicating the model fitting the data. MD3, the single-factor core-burnout was not considered adequate. Taris et al. (1999) also found the one-factor structure not to be adequate. Furthermore, according to Hu and Schaufeli (2011), compared to the one-factor with all items loading on a general composite, the two-factor (exhaustion and cynicism) offered superior fit too. Figures 5 and 6 present the factorial structure and factor loadings of models MD1_MI and MD2 respectively. All items saturated with at least .60.

Table 3

Model fit indices of the Maslasch Burnout Inventory-Student Survey (MBI-SS)

	χ^2	df	p	CFI	TLI	RMSEA	CI	PCLOSE
MD1	197.222	87	.000	.921	.904	.099	.081 - .117	.000
MD1_MI	152.479	85	.000	.951	.940	.078	.058 - .098	.013
MD2	93.302	26	.000	.933	.907	.142	.111 - .179	.000
MD3	299.453	27	.000	.727	.636	.280	.252 - .309	.000
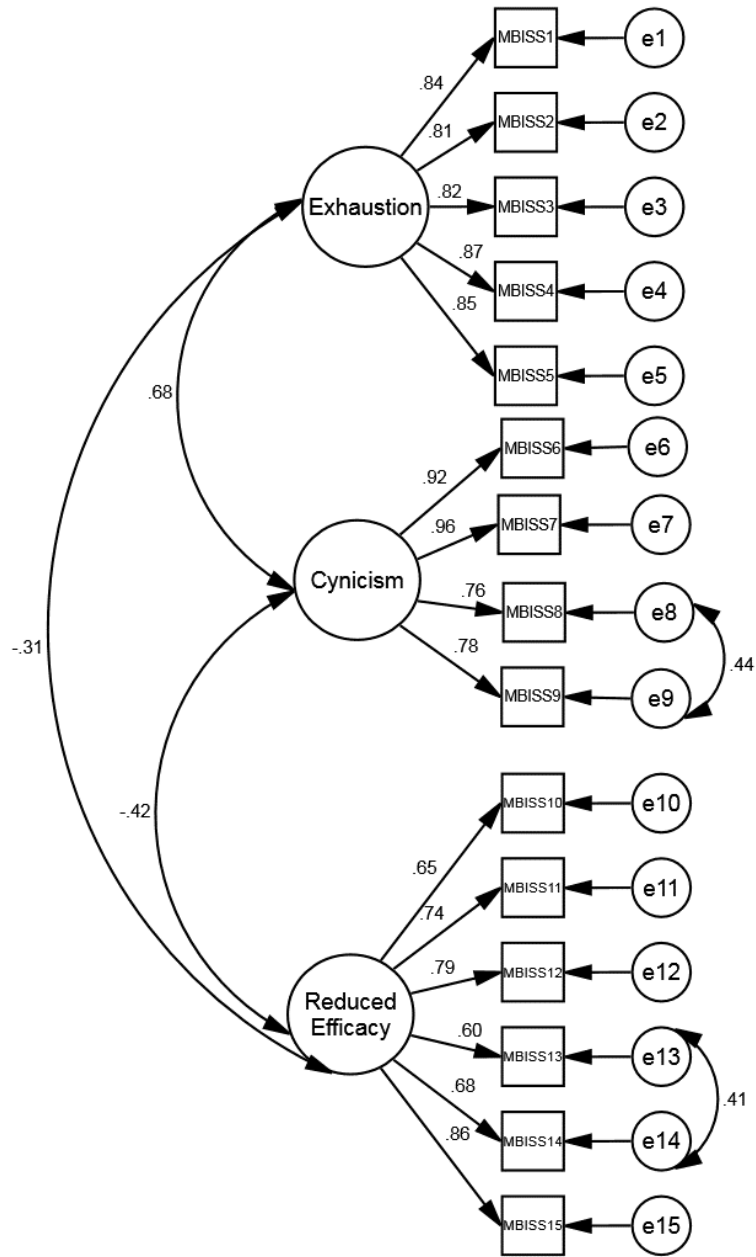
Figure 6. Model MD1_MI factor structure of the Maslach Burnout Inventory-Student Survey
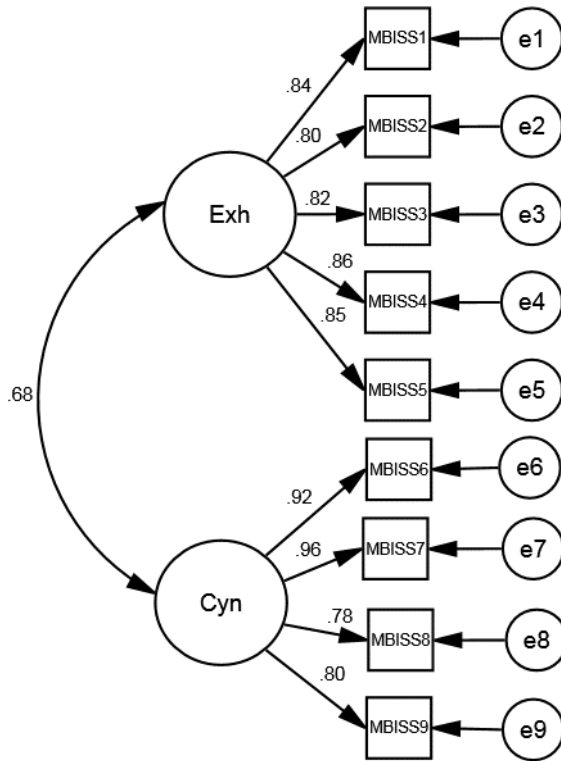
Figure 7. MD2 factor structure of the Maslach Burnout Inventory-Student Survey

UWES-S

The same approach adopted for the MBI-SS was used to test the factor structure of the UWES-S. As seen in Table 4, (MD1) the three-factor (vigour, dedication, absorption) with17 items was not considered adequate. (MD2) indicated very good CFI (.96) and good TLI (.94). Based on N (130) and low df (24), RMSEA (.10) was considered a good fit, due to suggested cut-off value < .24 that was based on similar parameters (Kenny et al., 2015); factor structure is presented in Figure 7 (MD3) the four factors (adding efficacy from the MBI-SS to the original factorial structure of the UWES-S) was not considered adequate.

Other studies analysed the structure of the UWES-S-9 in students. Whilst a two-factor (vigour and dedication) structure of the UWES-S-9 offered the best fit in Korean students (Römer, 2016), in Italian students the three-factor offered psychometric better results (Loscalzo, & Giannini, 2018). It is important to note, that in our main study with health and social care students, we were interested in analysing absorption as part of the construct and did not test a two-factor structure.

Table 4

Model fit indices of the Utrecht Work Engagement Scale for Students (UWES-S)

	χ^2	df	p	CFI	TLI	RMSEA	CI	PCLOSE
MD1	275.404	115	.000	.890	.870	.104	.088 - .120	.000
MD2	54.676	24	.000	.962	.943	.100	.065 - .135	.013
MD3	478.040	223	.000	.869	.852	.094	.083 - .106	.000
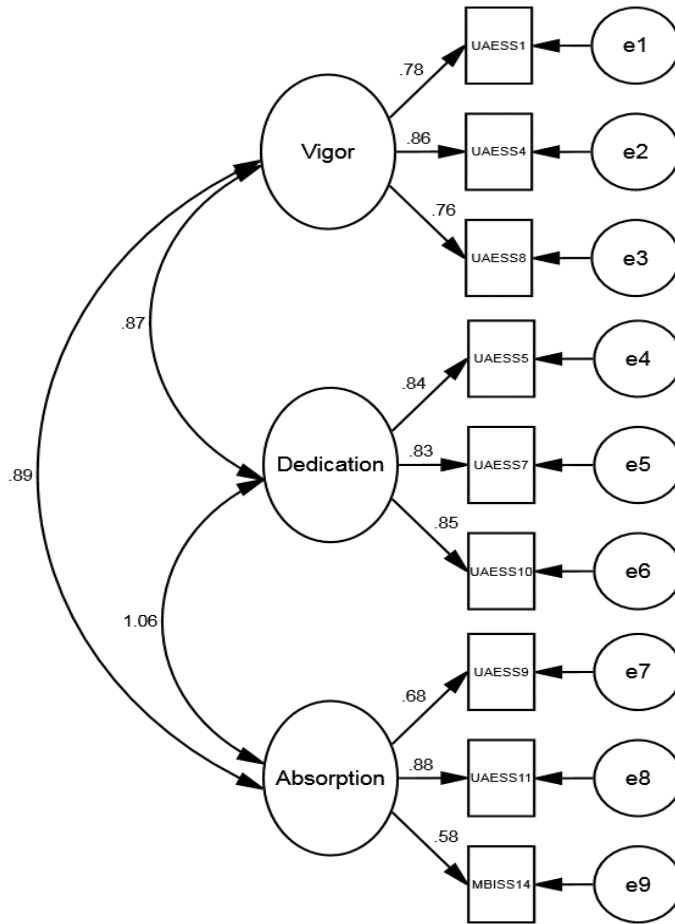
Figure 8. MD2 factor structure of the Utrecht Work Engagement Scale for Students

4.6. Conclusion

CFA tested a priori models of MBI-SS and UWES-S compatible with the theoretical models. Two tested models of the MBI-SS appeared to be adequate for the assessment of study burnout in higher education students in the UK. The two-factor model (exhaustion and cynicism) and the three-factor model (after correlation of errors in two items of cynicism and two items of efficacy) were acceptable. The UWES-S short version (UWES-S-9) showed the best fit for the assessment of academic engagement in higher education students in the UK. CFA informed the choice of measures adopted in the main study, namely MBI-SS two factors and UWES-S-9. Subsequently to the CFA, the internal consistency of these measures (chapter 5) was tested in the studied population of the main study (Moon, 2017).

Chapter 5. Reliability Analysis of Measures

5.1. Introduction

In this chapter we provide each questionnaire means, standard deviation, followed by the internal consistency reliability results of the measures. The internal consistency results include the following analyses: Cronbach's alpha coefficients, inter-item correlation and corrected item-total correlations. The results in this session verify how much the items in a particular scale are assessing the same construct and how reliably the overall measures assess their construct in the population of the study.

5.2. Questionnaires Internal Consistency Reliability Analysis (Cronbach's Alpha)

Except for the demographic questionnaire, internal consistency reliability calculations were completed for all instruments to verify the reliability of questionnaires among the studied population. This is a recommended procedure for quantitative studies using questionnaires, helping us to understand the effects that individual questions have on the overall scale/subscale (Bland & Altman, 1997; Cronbach, 1951).

To evaluate the internal consistency reliability of the measures and every subscale composite score, the following methods were used: Total Cronbach's Alpha coefficients, inter-item correlations, corrected item-total correlations and Cronbach's Alpha if item deleted. All analyses were conducted based on our sampling combining SW and AN from all ac-years and using IBM SPSS version 24.

Total Cronbach's alpha cut-off values for scale/subscale reliability followed Murphy and Davidshofer (1988) criteria: < .60 (unacceptable), .70 (acceptable) .80 -.90 (moderate to high) and > .90 (high). According to Ferketich (1991), internal consistency reliability using inter-item correlation matrix is indicated by positive correlations, ranging between .20 and .70 (in scales

with ten items or more) and ranging between .30 and .70 in subscales under ten items. These values indicate inter-item reliability; with items assessing the same construct. In scales using negative items, correlations tend to range between .20 and .40 (how2stats, 2018).

The corrected item-total correlation (completed for every scale/subscale) is the Pearson correlation between a particular item and the sum of all other items of the specific scale/subscale; reliability following above $r = .30$ rule and $r = .20$ for scales including negative items. It is suggestive that the scale would be stronger with the removal of any whether "Cronbach's Alpha if item deleted" calculation shows increased value than the total Cronbach's alpha item and more investigation should be done for that scale/subscale.

5.3. Self-Compassion Scale (SCS)

5.3.1. SCS Scoring System

This is a five-point Likert scale (1 = Almost never to 5 = almost always) with 26 items assessing the capacity of "inward compassion" through how people relate to themselves in moments of suffering (Neff, 2015). Items are divided in six subscales: self-kindness (five items, e.g.: *I try to be loving towards myself when I am feeling emotional pain*), self-judgment (five reversed items, e.g.: *I am disapproving and judgmental towards my own flaws and inadequacies*), common humanity (four items, e.g.: *I try to see my failings as part of the human condition*), isolation (four reversed items, e.g.: *When I fail at something that is important to me, I tend to feel alone in my failure*), mindfulness (four items, e.g.: *When I am feeling down I try to approach my feelings with curiosity and openness*) and over-identification (four reversed items, e.g.: *When something painful happens I tend to blow the incident out of proportion*). To calculate the total score, self-judgment, isolation and over-identification items were reversed (1=5, 2=4,

3=3, 4=2, 5=1) before computing subscale means. A grand mean of all six subscales is then calculated. Thus, the reliability results for this instrument are presented through separate examination of each subscale followed by total SCS analysis.

5.3.2. SCS Internal Consistency Reliability Analysis

Total Self-Compassion

In our sample total SC showed moderate to high reliability (Cronbach alpha = .82). All sub-scales showed positive correlations, indicating the assessment of the same construct (Table 5). Although correlations between SC_CH and SC_IS (.18) was slightly lower than the minimum suggested value, further analysis confirmed scale internal consistency Table 6.

Table 5

Total SCS inter-correlation matrix between factors and Total SCS

Measures	1	2	3	4	5	6
1. SC_SK	1.00					
2. SC_SJ	.39	1.00				
3. SC_CH	.56	.29	1.00			
4. SC_IS	.38	.67	.18	1.00		
5. SC_MI	.66	.34	.57	.20	1.00	
6 SC_OI	.30	.68	.27	.65	.28	1.00
7. Total SCS	.81	.74	.71	.67	.74	.60

Note. N=198; correlations ranging between .20 and .70 indicate reliability;

SC_SK Self Kindness, *SC_SJ* Self-Judgment, *SC_CH* Common Humanity, *SC_IS* Isolation,

SC_MI Mindfulness subscale, *SC_OI* Over-Identification; *Total SCS* Self-Compassion Scale; SJ,

IS, OI subscales were reverse-coded

Table 6

SCS Corrected Item-Total Correlation, Cronbach's alpha if item deleted, Mean and SD values

SCS Measures	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	*Mean*	*SD*
Self-Kindness	.62	.78	2.87	.74
Self-Judgment	.67	.77	2.98	.82
Common-Humanity	.48	.81	3.22	.83
Isolation	.58	.79	2.85	.78
SC-Mindfulness	.54	.79	3.24	.70
Over-Identification	.60	.78	2.88	.89
Total SCS	-	-	3.03	.57

Note. Number of subscales = 6; correlations ranging between .20 and .70 indicate reliability

Self-Judgment

Composed by five reversed items self-judgment evaluates the potential of students in being hard on themselves. Self-judgment subscale showed acceptable reliability (Cronbach's alpha = .77). Inter-item correlation matrix analysis showed positive correlations ranging from .30 to .48 (Table 7). Item-total correlation showed all items with values larger than the suggested .20. Total Cronbach's alpha was greater than values of Cronbach's alpha when items were omitted; indicating scale internal consistency (Table 8).

Table 7

Self-judgment inter-item correlation matrix

Measure	*1*	*2*	*3*	*4*	*5*
1. SC1_SJ	1.00				
2. SC8_SJ	.46	1.00			
3. SC11_SJ	.31	.44	1.00		
4. SC16_SJ	.35	.48	.32	1.00	
5. SC21_SJ	.35	.47	.42	.36	1.00

Note. N=198; correlations ranging between .20 and .70 indicate inter-item reliability.

SC = self-compassion; SJ = self-judgment

Table 8

Self-judgment corrected item-total correlation, Cronbach's alpha if item deleted, Mean and SD

values

Self-Judgment Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	*Mean*	*SD*
Item 1: I am disapproving and judgmental towards my own flaws and inadequacies.	.49	.74	2.63	1.03
Item 8: When times are really difficult, I tend to be tough on myself.	.64	.68	2.52	1.05

Item 11: I'm intolerant and impatient towards those aspects of my personality I don't like.	.50	.73	3.16	1.11
Item 16: When I see aspects of myself that I don't like, I get down on myself.	.50	.73	2.97	1.16
Item 21: I can be a bit cold-hearted towards myself when I'm experiencing suffering.	.54	.72	2.96	1.08

Note. Number of items = 5; correlations ranging between .20 and .70 indicate item reliability

Over-identification

Over-identification scale evaluates students by their ability of reacting to negative thoughts or emotions through four reversed items. Over-identification showed acceptable reliability (Cronbach's alpha = .77). Inter-item correlation with positive correlations ranged from .35 to .55 (Table 9). Item-total correlation showed all items with values larger than the suggested .20. Total Cronbach's alpha was greater than values of Cronbach's alpha when items were omitted; indicating scale internal consistency (Table 10).

Table 9

Over-identification subscale inter-item correlation matrix

Measure	*1*	*2*	*3*	*4*
1.SC2_OI	1.00			
2. SC6_OI	.55	1.00		
3.SC20_OI	.49	.40	1.00	
4. SC24_OI	.46	.35	.52	1.00

Note. N=198; correlations ranging between .20 and .70 indicate inter-item reliability.

SC = self-compassion; OI = over-identification

Table 10

Over-identification corrected item-total correlation, Cronbach's alpha if item deleted, Mean and SD values

Over-identification items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	*Mean*	*SD*
Item 2: When I am feeling down, I tend to obsess and fixate on everything that is wrong.	.64	.69	3.33	1.20
Item 6: When I fail with something important, I become consumed with feelings of inadequacy.	.53	.74	3.15	1.15
Item 20: When something upsets me, I get carried away with my feelings.	.59	.72	3.12	1.11
Item 24: When something painful happens, I tend to blow the incident out of proportion.	.55	.73	2.89	1.17

Note. Number of items = 4; correlations ranging between .20 and .70 indicate item reliability

Common Humanity

Composed by four items assessing the capacity of the individual relating to his or her experience as shared by humanity, the scale showed acceptable reliability (total Cronbach's alpha = .77). Inter-item correlation matrix analysis showed positive correlations ranging from .35

to .64 (Table 11). Item-total correlation showed all items with values larger than the suggested .30. Total Cronbach's alpha was greater than values of Cronbach's alpha when items were omitted; indicating scale internal consistency (Table 12).

Table 11

Common-humanity subscale inter-item correlation matrix

Measure	*1*	*2*	*3*	*4*
1. SC3_CH	1.00			
2. SC7_CH	.35	1.00		
3. SC10_CH	.38	.64	1.00	
4. SC15_CH	.41	.42	.50	1.00

Note. N=198; correlations ranging between .30 and .70 indicate inter-item reliability.

SC = self-compassion; CH = common-humanity

Table 12

Common-humanity corrected item-total correlation, Cronbach's alpha if item deleted, Mean and SD values

Common-humanity items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	*Mean*	*SD*
Item 3: When things are going badly for me, I see the difficulties as part of life that everyone goes through.	.46	.76	3.28	1.03
Item 7: When I'm down and out, I remind myself that there are lots of other people in the world feeling like I am.	.60	.69	3.40	1.14
Item 10: When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.	.66	.66	3.16	1.09
Item 15: I try to see my failings as part of the human condition.	.55	.72	3.04	1.06

Note. Number of items = 4; correlations ranging between .30 and .70 indicate item reliability

Isolation

Using four reversed items, the self-compassion isolation subscale, evaluates the person's

tendency to think in a catastrophic way, comparing themselves with other's in an isolating

manner. The isolation subscale in our sampling showed acceptable total Cronbach's alpha (.66).

The inter-item correlation matrix analysis showed positive correlations ranging from .25 to .38,

indicating reliability (Table 13). Item-total correlation showed all items with values larger than

the suggested .20. Total Cronbach's alpha was greater than values of Cronbach's alpha when

items were omitted; indicating scale internal consistency (Table 14).

Table 13

Isolation subscale inter-item correlation matrix

Measure	*1*	*2*	*3*	*4*
1. SC4_I	1.00			
2. SC13_I	.33	1.00		
3. SC18_I	.37	.38	1.00	
4. SC25_I	.25	.28	.37	1.00

Note. N=198; correlations ranging between .20 and .70 indicate inter-item reliability.

SC = self-compassion; CH = common-humanity

Table 14

Isolation corrected item-correlation, Cronbach's alpha if item deleted, Mean and SD values

Isolation items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	*Mean*	*SD*
Item 4. When I think of my inadequacies, it tends to make me feel more separate and cut-off from the rest of the world.	.42	.61	3.20	1.19
Item 13: When I'm feeling down, I tend to feel like most other people are probably happier than I am.	.44	.60	3.02	1.15
Item 18: When I am really struggling, I tend to feel like other people must be having an easier time of it.	.52	.55	2.89	1.15
Item 25: When I fail at something that is important to me, I tend to feel alone in my failure.	.40	.62	2.80	1.16

Note. Number of items = 4; correlations ranging between .20 and .70 indicate item reliability

SC-Mindfulness

Comprised by four items, this subscale assesses the people's capacity to observe negative thoughts and emotions, maintaining an attitude of openness and equanimity towards their own

discomfort. The subscale showed acceptable reliability (Cronbach's alpha = .69), however, despite showing positive correlations ranging from .18 to .46 (which indicates every item assessing the same construct), item 22 did not significantly correlate with the rest of the scale (r =.18; Table 15). Item-total correlation showed all items with values larger than the suggested .30. Total Cronbach's alpha was greater than values of Cronbach's alpha when items were omitted; indicating scale internal consistency (Table 16).

Table 15

SC-mindfulness inter-item correlation matrix,

Measure	*1*	*2*	*3*	*4*
1. SC9_M	1.00			
2. SC14_M	.34	1.00		
3. SC17_M	.39	.46	1.00	
4. SC22_M	.18	.41	.40	1.00

Note. N=198; correlations ranging between .30 and .70 indicate inter-item reliability.

SC = self-compassion; M = mindfulness

Table 16

SC-*mindfulness corrected item-total correlation, Cronbach's alpha if item deleted, Mean and SD*

values

SC-mindfulness items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	*Mean*	*SD*
Item 9: When something upsets me, I try to keep my emotions in balance.	.38	.68	3.54	.99
Item 14: When something painful happens, I try to take a balance view of the situation.	.54	.59	3.34	.91
Item 17: When I fail at something important to me I try to keep things in perspective.	.56	.57	3.21	1.00
Item 22: When I'm feeling down I try to approach my feelings with curiosity and openness.	.42	.66	2.86	1.01

Note. Number of items = 4; correlations ranging between .30 and .70 indicate item reliability

Self-Kindness

Self-kindness assesses the people's capacity to be kind to themselves when noticing their suffering. Self-kindness subscale showed acceptable reliability (total Cronbach's alpha = .76) and inter-item correlation matrix with positive correlations ranging from .28 to .54 (Table 17).

Item-total correlation showed all items with values larger than the suggested .30. Total

Cronbach's alpha was greater than values of Cronbach's alpha when items were omitted;

indicating scale internal consistency (Table 18).

Table 17

Self-kindness subscale inter-item correlation matrix

Measure	*1*	*2*	*3*	*4*	*5*
1. SC5_SK	1.00				
2. SC12_SK	.48	1.00			
3. SC19_SK	.54	.53	1.00		
4. SC23_SK	.36	.31	.30	1.00	
5. SC26_SK	.30	.28	.37	.41	1.00

Note. N=198; correlations ranging between .30 and .70 indicate inter-item reliability.

SC = self-compassion; SK = self-kindness

Table 18

Self-kindness corrected item-total correlation, Cronbach's alpha if item deleted, Mean and SD

values

Self-kindness items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	*Mean*	*SD*
Item 5: I try to be loving towards myself when I am feeling emotional pain.	.58	.70	2.95	1.10
Item 12: When I'm going through a very hard time, I give myself the caring and tenderness I need.	.55	.71	2.67	1.09
Item 19: I'm kind to myself when I'm experiencing suffering.	.61	.69	2.74	1.00
Item 23: I'm tolerant of my own flaws and inadequacies.	.46	.74	3.01	.98
I try to be understanding and patient towards those aspects of my personality I don't like.	.45	.75	3.01	.97

Note. Number of items = 5; correlations ranging between .30 and .70 indicate item reliability

5.4. Cognitive and Affective Mindfulness Scale-Revised (CAMS-R)

5.4.1. CAMS-R Scoring System

Rated on a four-point Likert scale (1 = *rarely/not at all* to 4 = *almost always*), The sample items include: *"It is easy for me to concentrate on what I am doing"* (ATT)*; "It is easy for me to keep track of my thoughts and feelings"* (AWA)*; "I can accept things I cannot change"* (ACC)*; "I am able to focus on the present moment"* (PF). Items 2 (*"I am preoccupied by the future"; PF*), 6 (*"I am easily distracted"*; ATT) and 7 (*"I am preoccupied by the past"*; PF), are reverse-scored (R). Higher scores indicate higher levels of mindfulness.

5.4.2. CAMS-R Internal Consistency Reliability Analysis

In our Sample, CAMS-R scale mean was 31.82 (SD = 4.98) and showed acceptable total Cronbach's alpha (.77). Inter-item correlation matrix (ranging from .01 to .54) showed items 2, 3,5,6 and 7 not significantly correlating with most items of the scale (Table 19). Corrected item-total correlation analysis confirmed item two with value (.04) much lower than the suggested .20 and item five (.16) also below. Table 20, shows an increased value of the total Cronbach's alpha (.77) if items 2 (.79) and 5 (.78) if these items were deleted, indicating poor internal reliability. Also problematic are the negative correlations between items 2 and 1 (-.01), 5 and 1(-.02), 2 and 5 (-.18), 2 and 9 (-.06), 2 and 10 (-.05), 2 and 12 (-.07), indicating items 2 and 5 possibly assessing something different than the rest of the scale.

Table 19

CAMS-R inter-item correlation matrix

Measure	1	2	3	4	5	6	7	8	9	10	11	12
1. CAMS-R	1.00											
2. RCAMS-R	-.01	1.00										
3. CAMS-R	.21	.07	1.00									
4. CAMS-R	.20	.05	.49	1.00								
5. CAMS-R	-.02	-.18	.17	.16	1.00							
6. RCAMS-R	.39	.18	.15	.27	.11	1.00						
7. RCAMS-R	.19	.21	.22	.18	.01	.29	1.00					
8. CAMS-R	.30	.03	.19	.27	.24	.29	.10	1.00				
9. CAMS-R	.21	-.06	.27	.31	.20	.18	.08	.42	1.00			
10. CAMS-R	.27	-.05	.31	.49	.15	.22	.19	.36	.61	1.00		
11. CAMS-R	.49	.11	.31	.38	.12	.39	.29	.28	.34	.48	1.00	
12. CAMS-R	.54	-.07	.19	.27	.05	.34	.12	.24	.22	.37	.42	1.00

Note. N=198; correlations ranging between .20 and .70 indicate inter-item reliability;

CAMS-R = Cognitive affective mindfulness scale revised;

RCAMS-R items 2, 6 and 7 are reverse-coded

Table 20

CAMS-R corrected item total correlation, Cronbach's alpha if item deleted, Mean and SD values

Mindfulness Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	*Mean*	*SD*
Attention				
Item 1: It is easy for me to concentrate on what I am doing	.46	.74	2.55	.75
Item 6: I am easily distracted.	.47	.74	2.60	.84
Item 12 I am able to pay close attention to one thing for a long period of time	.44	.75	2.53	.74
Present Focus				
Item 2: I am preoccupied by the future	.04	.79	2.40	.82
Item 7: I am preoccupied by the past	.31	.76	3.03	.81
Item 11: I am able to focus on the present moment	.62	.73	2.81	.69
Awareness				
Item 5: I can usually describe how I feel at the moment in considerable detail.	.16	.78	2.2.6	.91
Item 8: It's easy for me to keep track of my thoughts and feelings	.46	.74	2.6	.76
Item 9: I try to notice my thoughts without judging them.	.46	.74	2.52	.74
Acceptance				
Item 3: I can tolerate emotional pain.	.43	.75	2.70	.82
Item 4: I can accept things I cannot change.	.52	.74	2.72	.77

Item 10: I am able to accept the thoughts without judging them	.57	.73	2.78	.74

Note: Number of items = 12; correlations ranging between .20 and .70 indicate item reliability; items 2, 6 and 7 are reverse-coded

5.5. Maslach Burnout Inventory Student Survey (MBI-SS)

5.5.1. Scoring System

The MBI-SS is originally a 15-item self-report questionnaire rated on a seven-point Likert scale frequency (0 = never/not once to 6 = always/every day) formed by exhaustion (extreme tiredness), cynicism (a sense of withdraw from work activities and colleagues) and reduced efficacy (poor accomplishment). In this study, we have only used what has been described as core burnout dimensions: exhaustion and cynicism (Schaufeli & Taris, 2005). The five exhaustion items refer to study exhaustion (e.g.: *I feel emotionally drained by my studies*) and the four cynicism items refer to a detached attitude towards study (e.g.: *I have become less enthusiastic about my studies*). Squared root item transformation was applied to correct positive skewed distribution. Subscales were calculated by summing respective items. High scores of exhaustion and cynicism (higher quartile distribution) indicate burnout. Original cross-cultural validation (Schaufeli, et al 2002a) shows internal consistency Cronbach alfas ranging from .74 to .80 for exhaustion and from .79 to .86 for cynicism.

5.5.2. MBI-SS Internal Consistency Reliability Analysis

Exhaustion

Comprised by five items, this subscale assesses how the individual stress dimension of

burnout (Maslach, Schaufeli, Leiter, 2001) impacts student's academic activity. Exhaustion

showed high reliability (Cronbach's alpha = .90) and inter-item correlation matrix with positive

correlations ranging from .59 to .76 (Table 21). Item-total correlation showed all items with

values larger than the suggested .30 and Cronbach's alpha inferior than total Cronbach's alpha

value, after item omission; indicating scale internal consistency (Table 22).

Table 21

Exhaustion inter-item correlation matrix

Measure	*1*	*2*	*3*	*4*	*5*
1. MBISS1_EX	1.00				
2. MBISS2_EX	.62	1.00			
3. MBISS3_EX	.59	.62	1.00		
4. MBISS4_EX	.59	.60	.66	1.00	
5. MBISS5_EX	.67	.62	.70	.76	1.00

Note. N=198; correlations ranging between .30 and .70 indicate inter-item reliability;

MBISS_EX = MBI-SS Exhaustion.

Table 22

Exhaustion corrected item-total correlation, Cronbach's alpha if item deleted, Mean and SD values

Exhaustion items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	*Mean*	*SD*
Item1. I feel emotionally drained by my studies	.71	.89	3.55	1.41
Item 2. feel used up at the end of a day at university.	.71	.89	3.69	1.51
Item 3. I feel tired when I get up in the morning and I have to face another day at the university	.75	.88	3.19	1.62
Item 4. Studying or attending a class is really a strain for me	.77	.87	2.22	1.56
Item 5. I feel burned out from my studies.	.81	.86	2.86	1.68

Note. Number of items = 5;

Corrected item-total correlation ranging between .30 and .70 indicate item reliability

Cynicism

Cynicism in the MBIS-SS is formed by four questions assessing student's tendency to withdraw from their studies. In our population, the subscale showed moderate to high reliability (Cronbach's alpha = .88) and inter-item correlation matrix with positive correlations ranging

from .55 to .88 (Table 23). Item-total correlation showed all items with values larger than the suggested .30. Total Cronbach's alpha was greater than values of Cronbach's alpha when items were omitted; indicating scale internal consistency (Table 24).

Table 23

Cynicism inter-item correlation matrix

Measure	*1*	*2*	*3*	*4*
1. MBISS6_C	1.00			
2. MBISS7_C	.88	1.00		
3. MBISS8_C	.55	.60	1.00	
4. MBISS9_C	.55	.60	.72	1.00

Note. N=198; correlations ranging between .30 and .70 indicate inter-item reliability;

MBISS_C = Cynicism

Table 24

Cynicism corrected item-total correlation, Cronbach's alpha if item deleted, Mean and SD values

Cynicism items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	*Mean*	*SD*
Item 6. I have become less interested in my studies since my enrolment at the university.	.76	.84	1.86	1.76
Item 7. I have become less enthusiastic about my studies.	.81	.82	1.89	1.71
Item 8. I have become more cynical about the potential usefulness of my studies	.70	.86	1.89	1.68
Item 9. I doubt the significance of my studies.	.70	.86	1.46	1.63

Note. Number of items = 4;

Corrected item-total correlation ranging between .30 and .70 indicate item reliability

5.6. Utrecht Work Engagement Scale for Students - Short Version (UWES-S-9)

5.6.1. UWES-S-9 Scoring System

The UWES-S-9 assesses student's levels of enthusiasm, devotion and immersion in their academic work. The UWES-S-9 is a nine-item measure on a seven-point Likert scale frequency (zero = never/not once to six = always/every day). The three-factor structure is composed by

vigour (three items, e.g.: *When I study I feel like I am bursting with energy*), dedication (three items, e.g.: *I am enthusiastic about my studies*) and absorption (three items, e.g.: *I am immersed in my studies*). Subscales' scores are calculated by adding the scores of a particular subscale and dividing by the number of the referent items. Upper quartile scores for each sub-scale indicate higher elements of engagement (positive, fulfilling, work-related state of mind, despite study demands), whilst lower quartile scores indicate lower engagement. Cross cultural validation (Schaufeli & Bakker, 2003) demonstrated acceptable internal consistency for vigour (Cronbach's alpha = .73), dedication (Cronbach's alpha = .76) and absorption (Cronbach's alpha = .70).

5.6.2. UWES-S Internal Consistency Reliability Analysis

Vigour

Vigour in the UWES-S-9 incorporates three items assessing student's levels of enthusiasm. The subscale showed acceptable reliability (Cronbach's alpha = .75) and inter-item correlation matrix with positive correlations ranging from .44 to .59 (Table 25). Item-total correlation showed all items with values larger than the suggested .30. Total Cronbach's alpha was greater than values of Cronbach's alpha when items were omitted; indicating scale internal consistency (Table 26).

Table 25

Vigour inter-item correlation matrix

Items	*1*	*2*	*3*
1. UWESS1_V	1.00		
2. UWESS4_V	.59	1.00	.
3. UWESS8_V	.44	.48	1.00

Note. N=198; correlations ranging between .30 and .70 indicate inter-item reliability;

UWESS_V= Vigour

Table 26

Vigour corrected item-total correlation, Cronbach's alpha if item deleted, Mean and SD

Vigour items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	*Mean*	*SD*
Item 1: When I study, I feel like I am bursting with energy	.59	.65	2.27	1.49
Item 4: When studying I feel strong and vigorous	.62	.61	2.57	1.50
Item 8: When I get up in the morning I feel like going to class	.52	.74	3.20	1.71

Note. Number of items = 3

Corrected item-total correlation ranging between .30 and .70 indicate item reliability

Dedication

Comprised by three items, dedication in the UWES-S-9, denotes the applied effort towards academic work. The subscale showed acceptable reliability (Cronbach's alpha = .74) and inter-item correlation matrix with positive correlations ranging from .41 to .60 (Table 27). Item-total correlation analysis showed all items with larger values than the suggested .30. Cronbach's alpha if item 10 was deleted, showed neglectable improvement of the total Cronbach alpha (Table 28). Thus, omitting item 10 would not significantly improve the scale internal consistency. These results indicate the internal consistency of dedication.

Table 27

Dedication inter-item correlation matrix

Items	*1*	*2*	*3*
1. UWESS5_D	1.00		
2. UWESS7_D	.60	1.00	
3. UWESS10_D	.44	.41	1.00

Note. N=198; correlations ranging between .30 and .70 indicate inter-item reliability;

UWESS_D = Dedication

Table 28

Dedication corrected item-total correlation, Cronbach's alpha if item deleted, Mean and SD

Dedication items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	*Mean*	*SD*
Item 5: I am enthusiastic about my studies	.63	.58	3.82	1.37
Item 7: My studies inspire me	.59	.61	3.77	1.46
Item 10: I am proud of my studies	.47	.75	4.44	1.44

Note. Number of items = 3

Corrected item-total correlation ranging between .30 and .70 indicate item reliability

Absorption

Absorption in the UWES-S-9 assesses student academic involvement using three items. The subscale showed acceptable reliability (Cronbach's alpha = .76) and inter-item correlation matrix with positive correlations ranging from .46 to .56 (Table 29). Item-total correlation showed all items with values larger than the suggested .30. Total Cronbach's alpha was greater than values of Cronbach's alpha when items were omitted; indicating scale internal consistency (Table 30).

Table 29

Absorption inter-item correlation matrix

Items	*1*	*2*	*3*
1. UWESS9_A	1.00		
2. UWESS11_A	.56	1.00	
3. UWESS14_A	.51	.46	1.00

Note. N=198; correlations ranging between .30 and .70 indicate inter-item reliability;

UWESS_A = Absorption

Table 30

Absorption corrected item-total correlation, Cronbach's alpha if item deleted, Mean and SD values

Absorption items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	*Mean*	*SD*
Item 9: I feel happy when I am studying intensively	.63	.63	2.77	1.71
Item 11: am immersed in my studies	.59	.67	3.53	1.43
Item 14: I can get carried away by my studies.	.55	.71	3.00	1.48

Note. Number of items = 3

Corrected item-total correlation ranging between .30 and .70 indicate item reliability

5.6.3. Summary

Internal consistency analyses were conducted to verify the reliability of each measure used in our study. All measures showed acceptable total Cronbach's alpha (greater than .60), indicating internal consistency. CAMS-R items two, three, five, six and seven did not correlate significantly with most other items of the scale (Table 18); indicating these to be problem items. In particular, items two and five showed negative correlations with the rest of the scale, suggesting the assessment of a different construct. In the original validation, item two tapped to worry and rumination. This was also the case for item seven and therefore the 10-item version was recommended when assessing clinical population (Feldman, et al., 2007). Other research also found CAMS-R inter-item correlation below expected levels (Schmertz, Anderson, & Robins, 2009) and items two, three and four to be problematic, indicating poor loading on the exploratory factor analysis (Teixeira, Ferreira, & Pereira, 2017). Thus, despite CAMS-R total Cronbach's alpha demonstrating acceptable reliability ($r = .77$) in our sample, there is evidence of scale instability.

Total SCS showed moderate to high reliability (Cronbach's alpha = .82). The total score is calculated using the mean scores of individual subscales. Thus, despite being interested only in the reliability of the total score, the investigation of individual subscales was also conducted; showing acceptable reliability. The construct suggests the balance of lower negative components and higher positive components and common-humanity to be the counterpart of isolation Neff, 2003 a, b; Neff, 2016). In our sample, SC-isolation did not significantly correlate with what arguably would constitute its counterpart: SC-common-humanity. Research criticising Neff's negative components as non-representative of compassion, suggests that isolation in particular, taps to psychopathology such as social withdraw and loneliness (Muris, Otgaar, & Petrocchi,

2016; Muris & Petrocchi, 2017). On the other hand, our analysis of total SCS, indicated the exclusion of SC-isolation would decrease the internal consistency of the scale.

Both cynicism and exhaustion showed high internal consistency, indicating the MBI-SS as a highly reliable questionnaire to assess burnout in our sample. Similarly, vigour, dedication and absorption showed acceptable Cronbach's alpha with further internal consistency analysis confirming reliability of the UWES-S-9 in our sample.

Chapter 6. Findings

6.1. Introduction

The results for all analyses performed are presented as following: demographic and descriptive data analyses were conducted for sampling characterisation, using means and standard deviation for all variables. Quartile values were used in order to understand what groups of students (divided in course and ac-year) that presented low engagement and high exhaustion. Inferential statistical analyses (Pearson's correlation, Hotelling's T^2 test and MANOVA). Total student's mean and standard deviation results for the main questionnaires are presented with the main Pearson's correlation. Pearson's correlations were used to assess the relationship between the variables and identify the variables with moderate correlations (r >.30) as a criterion for variable grouping in the MANOVA. As a result, two separate MANOVAS were created: mindfulness/self-compassion and burnout/engagement. MANOVA'S assumption's analysis precedes the main analysis in both MANOVAS.

6.2. Participants

Sampling was comprised of 205 respondents, 68.3% from 300 students representing the estimated sampling pool. Seven AN cases were excluded due to missing data over fifteen percent per variable totalizing final N =198. Figures 8 and 9 show the pie graph of AN and SW student distribution (%) according to ac-year.
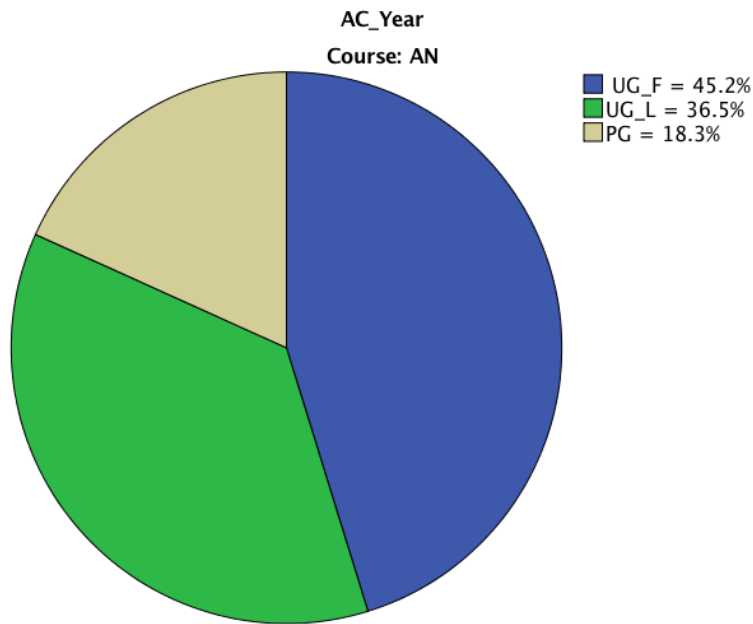
AC_Year

Course: AN

UG_F = 45.2%
UG_L = 36.5%
PG = 18.3%

Figure 9. Distribution of AN students per ac-year

Note. N = 115

AC_Year
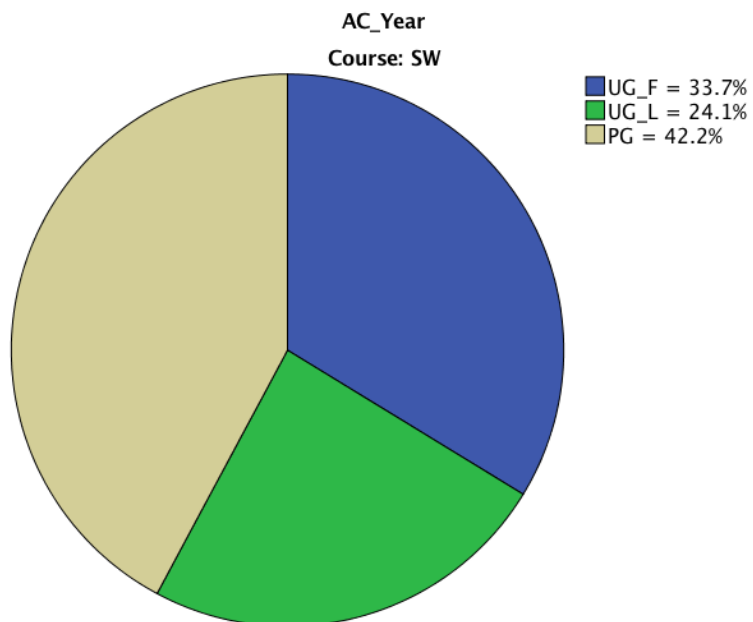
Course: SW

UG_F = 33.7%
UG_L = 24.1%
PG = 42.2%

Figure 10. Distribution of SW students per ac-year

Note. N = 83

Figure 10 shows total number of participants ($N = 198$), discriminated by course and ac-year and data collection specification. Course was divided in SW ($n = 83$) and AN ($n = 115$), whilst ac-year was divided in UG-F ($n = 80$), UG-L ($n = 62$) and PG ($n = 56$). Subdivisions include AN-UG-F ($n = 52$), AN-UG-L ($n = 42$), AN-PG ($n = 21$) and SW-UG-F ($n = 28$), SW-UG-L ($n = 20$) and SW-PG ($n = 35$). Most students completed a paper-pencil survey at the end of the ac-year; however, three PhD cases answered the questionnaire online, due to the off-site nature of their course.
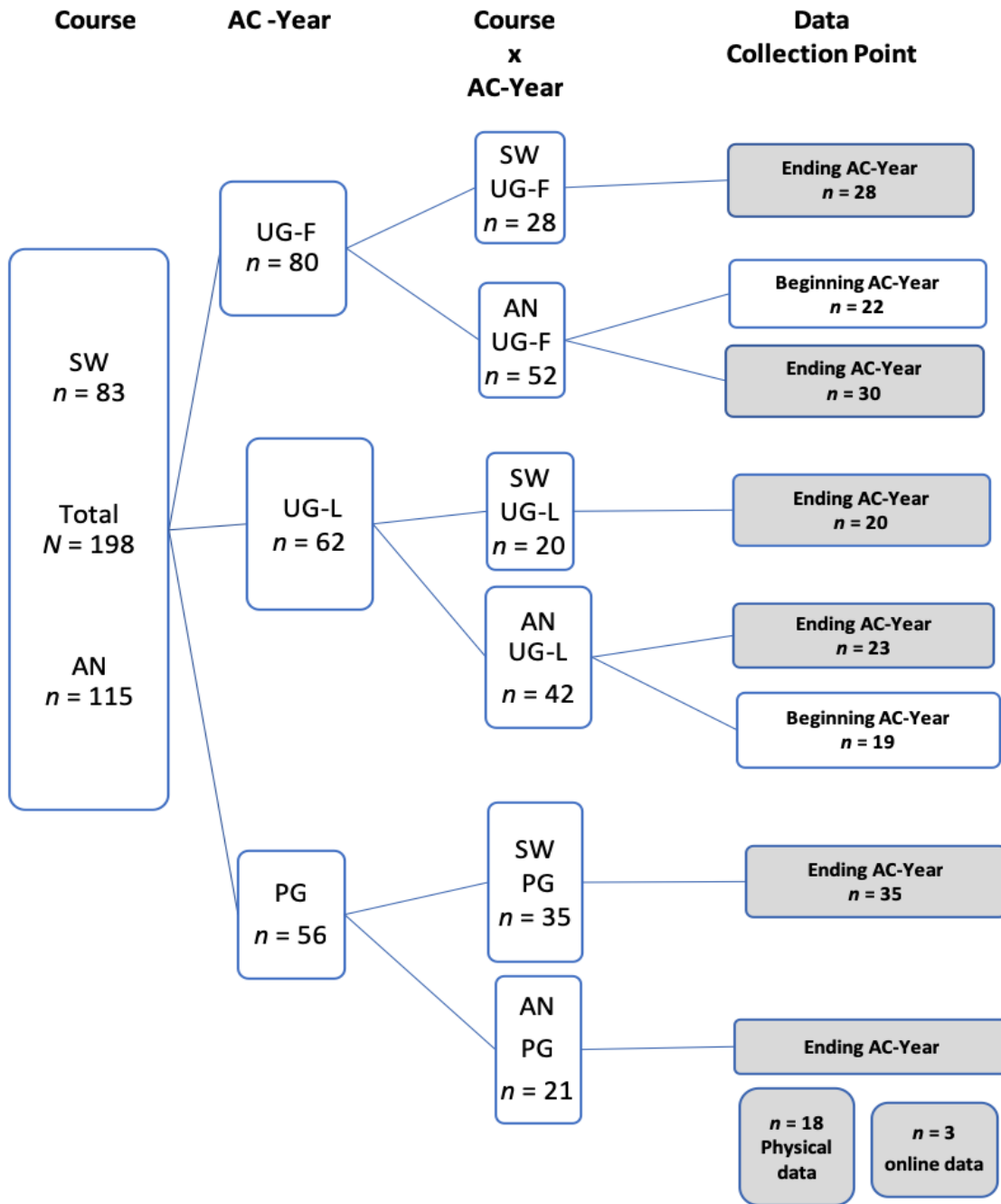
Figure 11. Participants per course, academic year and data collection point

Note: SW (social work) AN (adult nursing); UG-F (first undergraduate year);

UG-L (last undergraduate year) PG (postgraduates)

6.3. Differences in data collected in the beginning or end of ac-year.

The Hotelling's T^2 test was performed to understand if AN students with data collected at the beginning ($N = 42$) and at the end ($N = 52$) of ac-year resulted in differences that could generate bias. A series of tests were performed to check the Hotelling's T^2 assumptions. After SQRT of mindfulness, normality of distribution for all dependent variables was assured by Shapiro Wilks test ($p > .05$) or skewness and kurtosis standard error ratio showing Z-values within ± 2.58; no presence of univariate or multivariate outliers, as assessed by the 2.2 interquartile range rule and Mahalanobis distance ($p < .001$), respectively. Relatively linear relationships demonstrated by scatterplots; no multicollinearity ($|r| < .90$) and homogeneity variance of matrices assured by Box's M test ($p = .089$). However, Levene's test of homogeneity of variance was violated for cynicism ($p = .001$) and dedication ($p = .01$). After the removal of the offending variables the test was conducted again showing Box's M test ($p = .11$) and Levene's Test of Homogeneity of Variance ($p > .05$) for all variables. Hotelling's T^2 results showed statistically significant difference between ending and beginning ac-year groups on the combined dependent variables, $F(6, 87) = 2.60$, p $= .023$; Wilks's $\Lambda = .848$; partial $\eta^2 = .152$. Vigour scores were significantly higher by .8 marks (95% CI, .07 to 1.55) in data collected at the beginning, compared to ending ac-year. Whist AN participants in the beginning of the ac-year scored an average of 4.34 in vigour, those at the end of the ac-year scored an average of 3.53 in vigour

6.4. Demographic Data

Demographic data for sampling characterization (Table 31) indicated that most students identified themselves as female (AN = 87%; SW = 90.4%). A large proportion of students are 18

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to 32 years old (73.3%) with AN showing larger percentage of students between 18-25 years old (47%) in comparison to SW (43.4%); followed by 33 to 39 years old (11.6%) and much lower percentage over 40 years old (14.6%) in total. The majority of AN students reported undertaking payed employment (74.8%) compared to SW (44.6%). Higher percentage of SW students reported to be under field placement (60.2%) in comparison to AN (22.6%). Despite these differences, similar percentage of SW (19.36%) and AN (19.96%) reported to be either working or under placement hours. A larger proportion of SW reported living with parents (33.7%) and with partner (21.7%) than AN students (25.2%, 12.2% respectively). On the other hand, more AN lived with other students and or with room-mates (19.2%) in comparison to SW students (4.8%). Although more SW students live with their own children (21.7%) than AN (13%), a larger number of AN students (26.1%) reported living with own children and partners than SW (13.3%). Indicating a greater number of SW as single parents. In relation to yoga or meditation practices, large percentage of AN students never practiced these practices before (72.2%) followed by SW (63.9%).

Table 31

Demographic Summary (N =198)

Variable	Total	SW	AN
	n (%)	*n* (%)	*n* (%)
Course/Academic Year			
Undergraduate attending first academic year	80 (40.4)	28 (33.7)	52 (45.2)
Undergraduate attending their last academic year	62 (31.3)	20 (24.1)	42 (36.5)
Postgraduate (Masters or PhD)	56(28.3)	35(42.2)	21(18.3)
Gender			
Female	175 (88.4)	75 (90.4)	100 (87.0)
Male	21 (10.6)	6 (7.2)	15 (13.0)
Prefer not to respond	2 (1.0)	2 (2.4)	-
Age group in years			
18-25	90 (45.5)	36 (43.4)	54 (47.0)
26-32	55 (27.8)	28 (33.7)	27 (23.5)
33-39	23 (11.6)	7 (8.4)	16 (13.9)
40+	29 (14.6)	11 (13.3)	18 (15.7)
Missing answer	1 (.5)	1 (1.2)	-
Paid employment			
Yes	123 (62.1)	37 (44.6)	86 (74.8)
No	74 (37.4)	45 (54.2)	29 (25.2)
Missing answer	1 (.5)	1 (1.2)	-

Variable	Total	SW	AN
	n (%)	n (%)	n (%)
Field placement			
Yes	76 (38.4)	50 (60.2)	26 (22.6)
No	121 (61.1)	32 (38.6)	89 (77.4)
Missing answer	1 (.5)	1 (1.2)	-
Paid work or placement hours			
M	28.24 (19.87)	24.84	30.77
(SD)		(19.36)	(19.96)
Living status			
I live with my parents	57 (28.8)	28 (33.7)	29 (25.2)
I live alone	7 (3.5)	2 (2.4)	5 (4.3)
I live with students/room mates	26 (13.1)	4 (4.8)	22 (19.2)
I live with a partner	32 (16.2)	18 (21.7)	14 (12.2)
I live with my children	33 (16.7)	18 (21.7)	15 (13.0)
I live with a partner and children	41 (20.7)	11 (13.3)	30 (26.1)
Missing answer	2 (1)	2 (2.3)	-
Meditation-Yoga practices			
Regularly	13 (6.6)	6 (7.2)	7 (6.1)
Sometimes	14 (7.1)	4 (4.8)	10 (8.7)
Rarely	31 (15.7)	16 (19.3)	15 (13.0)
Never	136 (68.7)	53 (63.9)	83 (72.2)
Missing answer	4 (1.9)	4 (4.8)	-

6.5. Data Analyses

6.5.1. Preliminary Analyses

Little's MCAR test calculations showed missing data completely at random ($p > .05$). Missing data was calculated and replaced using EM approach, inputting values associated with the same subscale. Sampling was within the criteria established by MANOVA requirements: $N \geq 20$ per cell, and independence of observations' assumption (Stevens J., 2009). The data indicated no violations of multicollinearity ($|r| < .90$). Univariate outliers' analysis in self-compassion lower quartile pointed to one case in SW-UG-L with value (1.50) marginally lower than the cut-off criteria (1.59), which was kept due to the marginal difference. No multivariate outliers found by Mahalanobis distance ($p < .001$). Data showed relatively linear relationships. Normality of distribution for mindfulness, self-compassion, vigour, dedication, absorption and exhaustion was assured by Shapiro Wilks test ($p > .05$) or skewness and kurtosis standard error ratio showing Z-values within ± 2.58. After transformation (SQRT) cynicism showed one sub-cell (AN-UG-L) marginally over skewed 1.02 (STD error = .365) with Z-values of -2.78 over ± 2.58 cut-off criteria.

6.5.2. Descriptive Statistics

Prior to the inferential MANOVA analysis (which considered the interaction between course and ac-year), descriptive analyses were conducted for these IVs separately. Table 32 presents mean values and (SD) for all DVs. In relation to burnout dimensions, SW and UG-L showed higher mean scores in exhaustion (3.26; $SD = 1.19$ and 3.56; $SD = 1.27$ respectively) and

cynicism (1.18; *SD* = .56 and 1.46; *SD* = .61 respectively). In relation to engagement, SW was the course group with lower mean scores in all dimensions: vigour (2.35; *SD* = 1.18), dedication (3.82; *SD* = 1.12) and absorption (2.88; *SD* = 1.25). Whilst UG-L shared less vigour (2.33; *SD* = 1.35), PG indicated to be less dedicated (3.81; *SD* = 1.09) and absorbed (2.85; *SD* = 1.16). SW and UG-L students indicated lower mean scores of mindfulness (31.63; *SD* = 4.70 and 31.39; *SD* = 4.62 respectably) and self-compassion (2.96; *SD* = .63 and 2.97; *SD* = .58 respectably) compared to other categories.

Table 32

Descriptive Statistics (Mean and Standard Deviation)

Measure	Total	SW	AN	UG-F	UG-L	PG
Exhaustion						
Mean	3.10	3.26	2.99	2.83	3.56	2.99
(SD)	(1.32)	(1.19)	(1.39)	(1.24)	(1.27)	(1.36)
Cynicism						
Mean	1.16	1.18	1.15	.93	1.46	1.17
(SD)	(66)	(.56)	(.72)	(.66)	(.61)	(.58)
Vigour						
Mean	2.68	2.35	2.92	3.08	2.33	2.51
(SD)	(1.28)	(1.18)	(1.30)	(1.22)	(1.35)	(1.16)
Dedication						
Mean	4.00	3.82	4.15	4.29	3.83	3.81
(SD)	(1.15)	(1.12)	(1.16)	(1.15)	1.16	(1.09)

Measure	Total	SW	AN	UG-F	UG-L	PG
Absorption						
Mean	3.10	2.88	3.26	3.46	2.86	2.85
(SD)	(1.27)	(1.25)	(1.26)	(1.21)	(1.34)	(1.16)
Mindfulness						
Mean	31.83	31.63	31.96	31.66	31.39	32.55
(SD)	(4.68)	(4.70)	(5.19)	(5.24)	(4.62)	(4.98)
Self-Compassion						
Mean	3.03	2.96	3.08	2.99	2.97	3.14
(SD)	(6.00)	(.63)	(.57)	(.62)	(.58)	(.57)

Note. $N = 198$

Based on the upper quartile values of the total data distribution, Table 33 indicates the number of participants with high exhaustion ($n = 51$, 25.8%), high cynicism ($n = 56$, 28.3%) and at risk of burnout ($n = 42$, 16.2%). Similar percentage of SW (27.71%) and AN (24.34%) students reported high exhaustion, but greater percentage of AN (34.78%) indicated cynicism, compared to SW (24.34%). On the other hand, more SW (24.10%) appeared to be at risk of burnout, compared to AN (19.3%). Higher number of students at the end of their undergraduate's degree showed to at risk of burnout (32.2%), with high exhaustion (35.4%) and high cynicism (48.3%); which lowered at PG level (23.2%, 35.7% respectively).

Table 33

Participants with High Exhaustion, High Cynicism and Risk of Burnout

Note. N = 198; high exhaustion ≥ 4.20; high cynicism ≥1.66.

Groups	High Exhaustion	High Cynicism	Risk of Burnout
	n = 51	n = 56	n = 42
	(25.8%)	(28.3%)	(21.2%)
Course			
SW	23	27	20
	(27.7%)	(32.5%)	(24.1%)
AN	28	40	22
	(24.3%)	(34.7%)	(19.3%)
AC-Year			
UG_F	16	17	11
	(20.0%)	(21.2%)	(13.7%)
UG_L	22	30	20
	(35.4%)	(48.3%)	(32.2%)
PG	13	20	11
	(23.2%)	(35.7%)	(19.6%)

Based on the lower quartile values of total data distribution, Table 34 reveals the numbers and percentages of students with low vigour (n = 53, 26.3%), dedication (n = 48, 24.2%) and absorption (n = 48; 24.2%). Those showing low values within all dimensions, configurated 'low engagement' (n = 32; 16.2%). Results point to more SW students with low engagement (21.6%), compared to AN (12.1%). Although PG students reported lower levels of dedication and absorption (28.5%, 35.7% respectively), UG-L had similar levels of low dedication (27.4%) and

nearly half of all UG-L students reported low vigour (43.5%). Thus, this category reported the lowest levels in engagement (24.2%).

Table 34

Participants with Low Vigour, Low Dedication, Low Absorption and Low Engagement

Groups	Low Vigour n = 53 26.3%	Low Dedication n = 48 24.2%	Low Absorption n = 48 24.2%	Low Engagement n = 32 16.2%
Course				
SW	27 (32.5%)	25 (30.1%)	15 (18.0%)	18 (21.6%)
AN	26 (22.6%)	23 (20.0%)	16 (13.9%)	14 (12.1%)
AC-Year				
UG_F	11 (13.7%)	15 (18.7%)	15 (18.75%)	8 (10.0%)
UG_L	27 (43.5%)	17 (27.4%)	13 (20.9%)	15 (24.2%)
PG	15 (26.7%)	16 (28.5%)	20 (35.7%)	9 (16.0%)

Note. $N = 198$; low vigour ≤ 1.67; low dedication ≤ 3.33; low absorption ≤ 2.33.

6.5.3. Pearson's Correlations

Pearson's correlations (Table 35) indicated positive-strong association between mindfulness and self-compassion (.59), a negative-moderate relationship between these two variables and exhaustion (-.36; -.31, respectively) and between cynicism (-.21; -20, respectively), a positive-small between mindfulness and engagement (.28, .26, .29; respectively for vigour, absorption and dedication) and between self-compassion and dedication (.29), but small between self-compassion and vigour (.19), and self-compassion and absorption (.13).

Table 35

Pearson's correlations and descriptive statistics of all measures

Measures	*1*	*2*	*3*	*4*	*5*	*6*	*7*
1.Mindulness	1.00						
2. Self-compassion	.56	1.00					
3. Exhaustion	-.36	-.32	1.00				
4. Cynicism	-.21	-.20	.57	1.00			
5. Vigour	.28	.19	-.49	-.42	1.00		
6. Absorption	.26	.13	-.38	-.42	.70	1.00	
7. Dedication	.29	.24	-.34	-.51	.61	.71	1.00

Note. $N = 198$; $\geq .10$ (Small) $\geq .30$ (medium), $\geq .50$ (large); ($p < .01$).

Following the Pearson's correlations results, two MANOVAs (grouping only moderate to strong correlated variables) were designed (Figures 11 and 12).
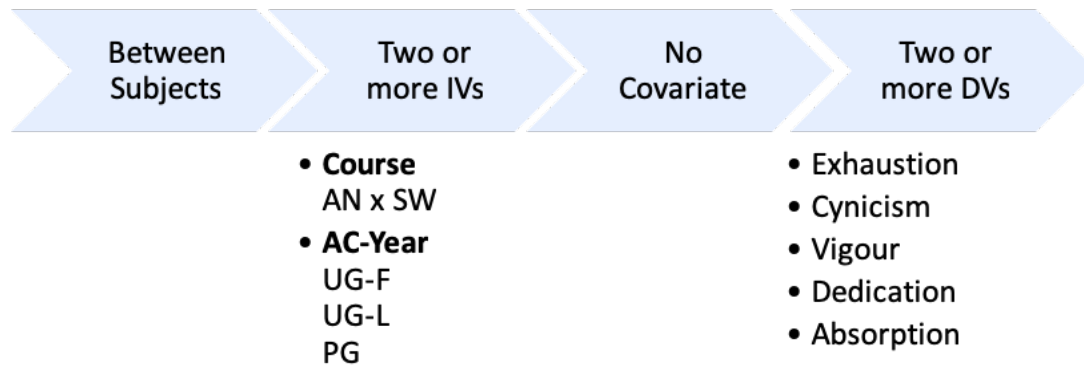
MANOVA Burnout and Engagement

Figure 12. MANOVA of burnout and engagement
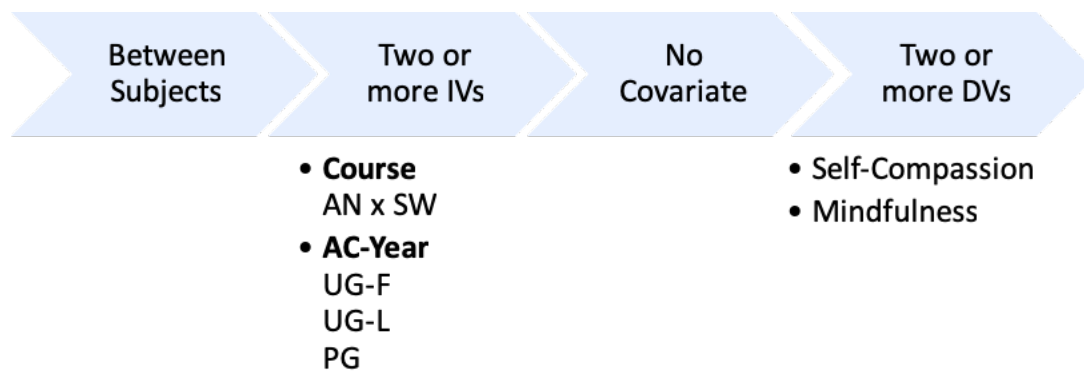
MANOVA Mindfulness and Self-Compassion

Figure 13. MANOVA of mindfulness and self-compassion

6.5.4. Burnout and Engagement MANOVA Assumptions' Analysis

A two-way MANOVA was conducted with IVs with two groups at three levels (SW, AN, UG-F, UG-L, PG) and five DVs (exhaustion, cynicism, dedication, vigour and absorption). A minimum sampling of 108 participants was detected after power analysis calculations considering alpha level of .05, power of .80 and a medium effect size ($f = .25$) This indicated the current sample size to be adequate to conduct the test. The homogeneity covariance of matrices, assessed by Box's M test ($p = .03$) was met. The homogeneity of variance, assessed by Levene's test was met for exhaustion ($p > .05$) and cynicism ($p = .054$). For cynicism the variance ratio (2.22) between the biggest and smallest variance values was lower than the critical F value (3.76) from Hartley's F_{max} table; confirming no infringement of the homogeneity of variance assumption for cynicism.

6.5.5. Burnout and Engagement MANOVA Results

A two-way MANOVA revealed a significant interaction effect for course and ac-year on the combined dependent variables which was statistically significant, $F(10, 378) = 2.82$, $p = .002$; Pillai's Trace $= .14$; partial $\eta^2 = .07$ (medium effect size). Given the significance of the overall test, the univariate interaction effects were examined. Follow up univariate two-way ANOVA found the interaction effect to be significant for exhaustion scores $F(2, 192) = 7.57$, $p = .001$; partial $\eta^2 = .07$ (medium effect size) and trend toward significance for cynicism scores $F(2, 192) = 2.67$, $p = .07$; partial $\eta^2 = .03$ (small effect size). No significance was found for engagement scores: vigour $F(2, 192) = .81$, $p = .45$; partial $\eta^2 = .01$; dedication $F(2, 192) = 1.99$, $p = .14$; partial $\eta^2 = .02$; absorption $F(2, 192) = .51$, $p = .60$; partial $\eta^2 = .01$. Table 36 shows the

descriptive statistics with means and standard error and confidence levels for exhaustion and cynicism.

Table 36

Mean, SD and 95% CI of Exhaustion and Cynicism (Burnout)

	Course	AC-Year	*Mean*	*SD*	95% CI	
					Lower Bound	Upper Bound
Exhaustion	AN	UG-F	2.74	.17	2.40	3.07
		UG-L	3.72	.19	3.35	4.10
		PG	2.14	.27	1.61	2.67
	SW	UG-F	3.00	.23	2.54	3.46
		UG-L	3.22	.28	2.67	3.77
		PG	3.49	.21	3.08	3.90
Cynicism	AN	UG-F	.85	.09	.69	1.02
		UG-L	1.55	.10	1.36	1.74
		PG	1.09	.13	.83	1.36
	SW	UG-F	1.06	.12	.83	1.29
		UG-L	1.26	.14	.99	1.53
		PG	1.22	.10	1.01	1.43

Note. *N* =198

Figures 13 and 14 indicate the estimated marginal means for exhaustion and cynicism (burnout) with the effect of ac-year depending on the course, for both variables.

Estimated Marginal Means of Exhaustion
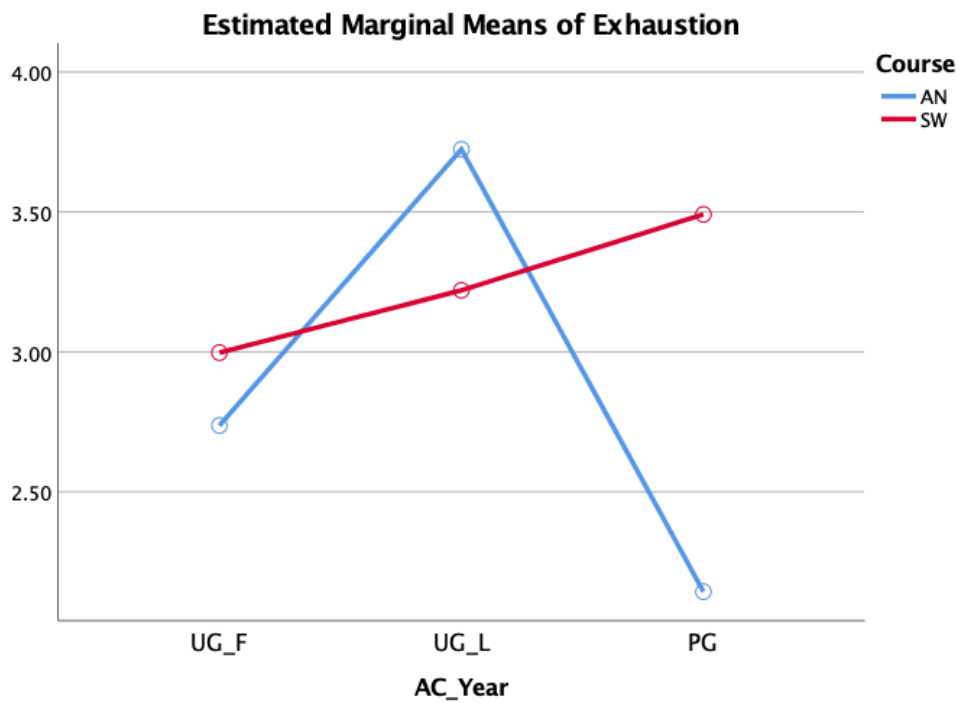
Figure 14. Estimated marginal means of exhaustion

Note: AN (Adult Nursing); SW (Social Work); UG-F (first year undergraduates); UG-L (last year undergraduates); PG (postgraduates); AC-Year (academic year).
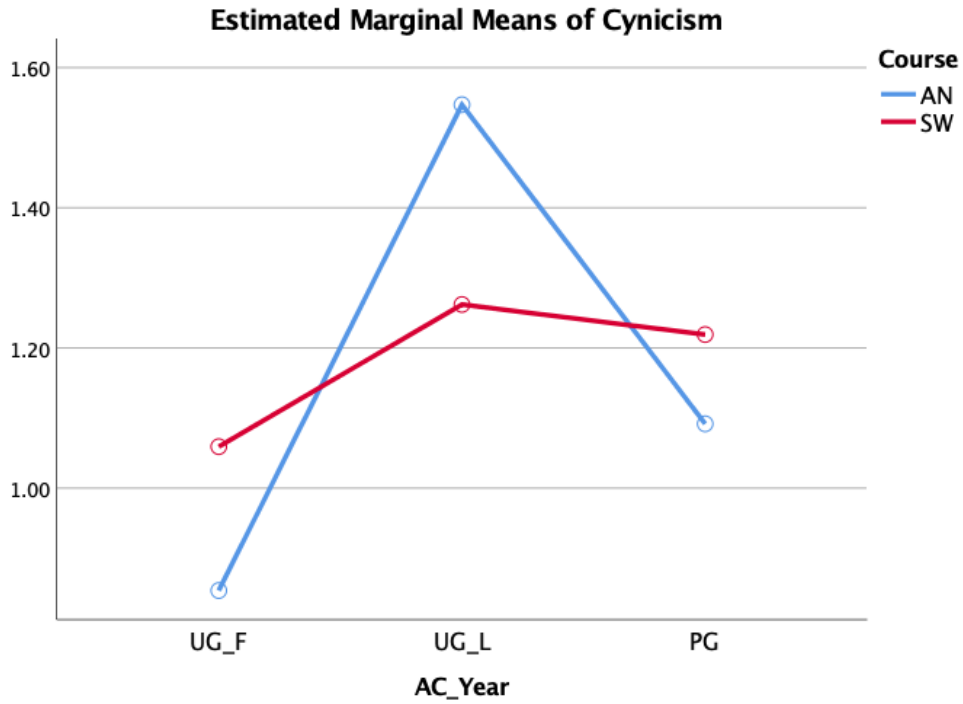
Figure 15. Estimated marginal means of cynicism

Note: AN (Adult Nursing); SW (Social Work); UG-F (first year undergraduates); UG-L (last

year undergraduates); PG (postgraduates); AC-Year (academic year).

In order to understand the differences in burnout scores, simple main effect analyses were analysed for exhaustion and cynicism. The effect of ac-year in exhaustion, showed to be significant for AN students $F(2, 192) = 13.43$, $p < .001$; partial $\eta^2 = .12$ (medium effect size), but not for SW students. Similarly, ac-year impacted cynicism for AN students $F(2, 192) = 14.10$, $p < .001$; partial $\eta^2 = .13$ (medium effect size), but not for SW students.

Using Bonferroni adjustment, pairwise comparisons explored AN students' levels of exhaustion in different ac-years. Significant mean differences were found between PG and UG-L, -1.58, 95% CI [-2.38, -.78], $p < .001$ and between UG-L and UG-F, .99, 95% CI [.37, 1.61], $p <.001$. These results indicate that UG-L students reported greater levels of exhaustion. In cynicism comparisons were significant only between UG-L and UG-F, .69, 95% CI [.38,1.00], $p < .001$ and again showing UG-L the most cynical group. (Table 37). The effect of course showed to be statistically significant at PG level for exhaustion scores, $F(1, 192) = 15.63$, $p < .001$; partial $\eta^2 = .08$; (medium effect size), but not for cynicism. Pairwise comparison indicated SW-PG students significantly more exhausted than AN-PG, 1.35, 95% CI [.68, 2.02], $p< .001$ (Table 38).

Table 37

Exhaustion and Cynicism Pairwise Comparisons - Depending on Course

	Course	Comparison's differences	*Mean* Exhaustion Difference	*SE*	95% CI Lower Bound	95% CI Upper Bound
Exhaustion	AN	PG - UG-L	-1.58**	.33	-2.38	-.78
		UG-L - UG-F	.99**	.26	.37	1.61
		PG - UG-F	-.594	.32	-.137	.18
	SW	PG - UG-L	.27	.35	-5.7	1.11
		UG-L - UG-F	.22	.36	-.65	1.10
		PG - UG-F	.49	.32	-.26	1.25
Cynicism	AN	PG - UG-L	-.46*	.17	-.85	-.06
		UG-L - UG-F	.69**	.13	.84	1.00
		PG - UG-F	.238	.16	-.15	.62
	SW	PG - UG-L	-.04	.17	-.22	.54
		UG-L - UG-F	.20	.18	-.23	.64
		PG - UG-F	.16	.16	-.22	.54

** *p* < .001 * *p* = .02

Note: *p* < .01 (significant)

Table 38

Exhaustion and Cynicism Pairwise Comparisons – Depending on AC-Year

	AC-Year	Comparisons	*Mean Exhaustion Difference*	*SE*	95% CI	
					Lower Bound	Upper Bound
	PG	SW vs. AN	1.35**	.34	.68	2.02
Exhaustion	UG-L	SW vs. AN	-.50	.34	-1.17	.16
	UG-F	SW vs. AN	.26	.29	-.31	.83

** $p < .001$

6.5.6. Mindfulness and self-compassion MANOVA Assumptions' Analyses

A two-way MANOVA was conducted with independent variables with two groups at three levels (SW, AN, UG-F, UG-L, PG) and two dependent variables (mindfulness and self-compassion). A minimum sampling of 138 participants was detected after considering alpha level of .05, power of .80 and a medium effect size ($f = .25$) also indicating the current sample size to be adequate for the test. All assumptions were met, including the homogeneity covariance of matrices assessed by Box's M test ($p = .74$) and Levine's test of variance ($p>.05$).

6.5.7. Mindfulness and self-compassion MANOVA Results

The interaction effect between course and ac-year on the combined dependent variables was not statistically significant, $F(4, 384) = .81$, $p = .52$; Pillai's Trace = .02; partial $\eta^2 = .01$. The effect of course on the combined variables was not significant $F(2, 191) = 1.93$, $p = .15$;

Pillai's Trace = .02; partial η^2 = .02 and neither was the effect of ac-year $F(4, 384)$ = 1.41, p = .31; Pillai's Trace =.03; partial η^2 = .02.

6.6. Summary

Most students were females (AN = 87%, SW = 90.4%),18 to 32 years old (AN = 70.5% and SW = 77.1%), and never practiced yoga or meditation (AN = 83.2% and SW = 85.2%). More SW (60.2%) were on placement compared to AN (22.6%), mostly on paid employment (74.8%), but both with similar working hours on top of their study activity. Much greater percentage of SW reported having children without a partner to share the responsibility. Descriptive analysis indicated SW and UG-L as course and ac-year reporting lower mean scores of mindfulness; self-compassion and higher exhaustion; cynicism. In relation to course, quartile analyses indicated more SW with lower engagement vigour; dedication and absorption. In relation to ac-year more UG-L with lower vigour and more PG with lower dedication and absorption. When examining number of students reporting low study/work well-being thorough low engagement and high burnout, SW and UG-L are respectively the course and ac-year indicating to be most at risk.

A MANOVA examining burnout and engagement indicated significant interaction effect considering both variables combined ($p < .002$). Further analysis indicated significant results for exhaustion ($p < .001$) and a trend of significance for cynicism ($p < .07$). Considering that MANOVA is a robust test, results for cynicism were also reported. Differences in AN pointed to UG-L statistically more exhausted than UG-F and PG ($p < .001$, respectively) and more cynical than UG-F ($p < .001$) and PG ($p = .02$). Although SW was not significantly cynical, SW-PG was

significantly more exhausted than AN-PG ($p< .001$) and their level of exhaustion was not

statistically different across training.

Chapter 7. Discussion

7.1. Main Contribution of the Study

Included recently in the 11th Revision of the International Classification of Diseases (2019), burnout is now recognised by the WHO as "a syndrome that results from occupational chronic stress that has not been successfully managed" (WHO, 2019). The evidence found in the present study reinforces the complexity of burnout and also its impact on health and social care students. This is the first study to explore the possibility of an interaction effect of distinct health and social care courses and academic years affecting levels of study burnout, academic engagement, mindfulness and self-compassion. The choice of conducting a MANOVA in two different categories of the health and social care sector (SW and AN), enabled findings regarding burnout during training to be compared.

As discussed below, the MANOVA points to burnout significantly increasing during nursing undergraduate training, but invariant for SW across academic progression; including PG level. No significant variance in burnout was found between SW and AN across UG training, but SW reported significant greater exhaustion than AN at PG level. No significant variances or interaction was found for engagement, mindfulness or self-compassion. All findings are considered in relation to previous research, with the study strengths and limitations starting this discussion.

7.2. Study Strengths and Limitations

The cross-sectional design of the main study does not reveal the nature and causes of differences and relationships between variables or how individuals change over time. The primary aim of the thesis however, was achieved by adopting a robust multifactorial analysis. The design complies with numbers in cells not inferior to the number of dependent variables and

sample sizes of at least 20 subjects in the smallest group (Tabachnick & Fidell; 2014). Despite differences in PG group numbers (SW, $n = 35$, 42.2% and AN, $n = 21$, 18.3%), the assumption of homogeneity was met. Every step was taken to reinforce robustness and Pillai's trace was adopted for the interpretation of results, due to variation in cell sizes, which can be particularly unfavourable for MANOVA.

Although data was collected solely in North Wales, demographic results in relation to gender and age are in line with the UK Higher Education Statistics Agency (HESA, n.d.). Both categories were formed mostly by females (AN = 87% and SW = 90.4%) and according to HESA, the enrolment percentage of male students during 2016-17 was between 11.6% for nursing and 11% for SW education. In addition, over 40% of students in both groups were below 24 years old, also indicating representativeness (HESA, n.d.).

The SW undergraduate sample was in full-time education and tailored around generic practice. It is important to note that nursing undergraduate courses may focus in either adult (full or part time), children, mental health or disability sectors. Thus, as explained in the method section (chapter three), aiming to reduce confounding variables, AN-UG sampling purposively included full-time students training in generic practice (adult nursing).

On the other hand (and beyond our control), both PG groups were formed by mixed professional background students. Consequently, diversity in both PG samples reduces representativity of "pure" nursing and SW students, but may ironically increase the group's overall similarity. Most data were collected at the end of each academic year, with preliminary analysis showing significant differences in vigour from data collected in the beginning of academic years. This was not treated as a confounding variable due to the interest in analysing vigour independently in the MANOVA.

Confounding variables in the present study may also include social support, self-esteem, depression, anxiety, or other measures of mental health symptomatology; which seem to control against burnout (Shirom, 2005). In addition, family life conflicts also appear to interface with academic work predicting psychological distress in students from several different fields (Levecque, Anseel, De Beuckelaer, Van der Heyden, & Gisle, 2017); this points to the bi-directionality of 'conflict of work with family' and 'conflict of family with work', affecting student's mental health well-being (Levecque, et al., 2017). This seem to be particularly relevant taking into account some differences in the study sample. For instance, greater numbers of SW reported having children without a partner to share the responsibility. Thus, possibly experiencing more stress than AN students in their personal life. In addition, the SW undergraduate sample derives from a 'widening access' course. According to a course lecture (personal communication, November, 16, 2018), students are more likely to be mature and with lived experiences, more likely to be managing home/caring duties, to have bigger and longer-term financial commitments, to have given up a wage to study and to have their own lives reflected in the lives of those they work with (clients).

Furthermore, generally, SW students will much earlier than nurses, pick up 'lead' and primary case work responsibility, delivering what might be perceived as 'life changing interventions' (course lecture; personal communication, November, 16, 2018). Putting it simply, these factors may have added extra pressures on these students, which may explain SW exhaustion levels to be high in all academic years; discussed further below.

It is not possible however to account for every factor in order to better understand student's study/work well-being. In addition, although this thesis explored study/work well-being through the dynamic of study burnout (high) and academic engagement (low), the main purpose was to

explore associations between these variables with dispositional mindfulness and self-compassion; well known to be linked with health professional student psychological well-being (Mc Conville, McAleer, Hahne, 2017). In particular this thesis adopted well established questionnaires and a robust test that enabled the understanding of the interaction effect between different courses and academic years; neglected by research to date.

The study depended on student's understanding and motivation to answer questions honestly. In order to minimise bias in self-reported data, surveys were anonymous and questionnaire booklets of the main study were organised in different order. Despite anonymous answers, responding questionnaires in the classroom could have resulted in social desirability bias (Rosenman, Tennekoon, & Hill, 2011). Furthermore, by relying on psychometric measures, scholars depend on validated and reliable constructs. A strength of this thesis is the verification of study burnout and engagement validity (Chapter four) and reliability of all measures (Chapter five). The aim of conducting such analyses was to understand the performance of all scales in the present sample.

Dispositional mindfulness in the present study was assessed by CAMS-R (Feldman, et al., 2007), a measure particularly useful regardless of any meditation experience (Bergomi et al., 2013b; Raul & Williams, 2016). There is evidence suggesting acceptable internal consistency of CAMS-R, with Cronbach's alpha ranging from .61 to .81 (Park, et al., 2013). In contrast, Cronbach Alpha values lower than .46 would lead to serious implications, compromising the research results (Ursachi, Horodnic, & Zait, 2015). Ursachi and colleagues also suggest that when subjects are very heterogeneous (not the case of the present sample), reliability issues may be worst.

Internal consistency analysis revealed CAMS-R items two, three, five, six and seven not significantly associated with some items of the scale. In particular, items two and five showed negative internal correlations with some of these items; which could indicate the assessment of a distinct construct. Items two, three, five and seven also showed poor loading in the original validation of the scale. Particularly, items two and seven appeared to be confounded with worry; but kept by the authors due to their "substantial theoretical contribution to the mindfulness factor model" (Feldman et al., 2007; p.181). The argument was based on evidence suggesting that broad constructs such as mindfulness may yield smaller factor loadings for some items. In the CAMS-R Portuguese validation however, Teixeira, Ferreira and Pereira (2017) decided to eliminate three items that yield poor loading on the exploratory factor analysis.

It may be possible that high levels of exhaustion in the current sample of students could have affected the performance of the scale, just like in the clinical population and to whom the 10-item version is more appropriate. On the other hand, it is suggested that reverse coded items can compromise the understanding of questionnaires (Suárez-Alvarez et al., 2018; van Sonderen, Sanderman, & Coyne, 2013). Thus, reversed items two, six and seven could have perhaps confused some students, reducing their inter-item correlation values.

In sum, although in the present study three items influenced the internal consistency of CAMS-R, the scale demonstrated acceptable reliability ($r = .77$). Suggesting the aforementioned issues not compromising the results and the scale to be reliable for the assessment of mindfulness in AN and SW. This is congruent with other research comparing mindfulness measures in relation to sustained attention and attributing the overall internal consistency of the scale as 'fair'; despite some inter-item correlations below suggested criteria (Schmertz, Anderson, & Robins, 2009).

As previously mentioned in chapter 2.5, the SCS is the only available scale assessing self-compassion (Strauss et al., 2016). The assessment is made by the balance of the SCS positive and negative components simultaneously with the overall construct (Neff, 2015; Neff, 2016). In our sample however, less isolation does not seem to relate to its positive counterpart (common-humanity) due to non-significant inter-correlation of these variables. Other research found isolation relating to psychopathology, indicating social withdraw and loneliness (Muris, Otgaar, & Petrocchi, 2016; Muris & Petrocchi, 2017). Despite the aforementioned, a systematic review on various measures of compassion, found the SCS items relating to four out of five elements defining compassion: "understanding of universality of suffering, emotional resonance, the ability to tolerate distressing feelings, and motivation to act or acting to help ameliorate one's suffering"; indicating the SCS as one of the strongest compassion scales currently available (Strauss, et al., 2016; p.23). In our sample, total SCS showed moderate to high reliability (Cronbach's alpha = .82).

Different models of academic engagement (UWES-S) and study burnout (MBI-SS) questionnaires were also tested by CFA (see chapter four for specific findings and discussion). Conducted prior to the reliability analyses, this step relates to the secondary aim of this dissertation. Answering the first question of this secondary objective, two of the four tested models of the Maslach Burnout Inventory-Student Survey (MBIS-SS, Schaufeli et al., 2002) appeared to be adequate for the assessment of study burnout in higher education students in the UK. Both, the three-factor module (exhaustion, cynicism and efficacy) and the two-factor (exhaustion and cynicism), known as "core dimensions of burnout" (Schaufeli & Teris, 2005) presented a good fit. The core dimensional structure was adopted in this study due to slightly superior fit than the three-factor. Indeed, mounting evidence indicates disagreement around the

burnout efficacy subscale (Schaufeli & Salanova, 2007; Salanova et al. 2009) with scholars claiming no empirical and theoretical support for efficacy as part of the construct of study burnout (Maroco & Campos, 2012; Maroco, et al., 2016; Qiao & Schaufeli, 2011). In our sample of health and social care students, exhaustion showed high reliability and cynicism moderate to high reliability (Cronbach's alphas = .90 and .88 respectively). Both components comprising significant and positive inter-item correlations. These results indicate superior reliability, compared to the original validation and alphas ranging from .74 to .80 for exhaustion and .79 to .86 for cynicism (Schaufeli, et al 2002).

Answering the question two of the secondary objective, the three-factor structure of the Utrecht Work Engagement Scale for Students - Short Version (UWES-S-9; Schaufeli and Bakker, 2003) indicate superior fit for the assessment of academic engagement in higher education students in the UK. Vigour, dedication and absorption demonstrated acceptable reliability and internal consistency (Cronbach's alpha = .75, .74, .76 respectively). This is in line with a study investigating academic engagement in Italian university students from different fields and academic years (Loscalzo & Giannini, 2018).

7.3. Main Findings

7.3.1. Mindfulness and Self-Compassion

Answering the first main question of the study in relation to mindfulness and self-compassion, the results indicated no significant variances and interaction effect between course (SW and AN) and academic year (UG-F; UG-L; PG). This is particularly interesting, giving significant variance in how exhaustion appears to manifest in SW and AN across academic progression (further discussed in the following section 7.3.2). Possibly an indication that

mindfulness and self-compassion will not vary across academia or between SW and AN, unless formally taught to students. Although no previous studies were found comparing dispositional mindfulness (DM) across different academic years, similarly, in primary health multi-professional teams no significant variance in DM was reported across service time; despite higher levels of perceived stress in those working one year or more in the same service (Atanes et al., 2015).

The current data revealed DM scores similar to other students from the health and social care sector (Chamberlain et al., 2016). For instance, Chamberlain and colleagues demonstrated average DM in third-year nursing students and medium levels of resilience; with 45% of the resilience effect depending on DM. This reinforces the importance of boosting the levels of mindfulness in students, especially when taking in consideration that DM appears to be a better predictor of resilience in students working 20 hours or more, which is the case of the current sample (AN = 30.77 and SW = 24.84); who seem to be overstretched between working hours on top of full-time education. Indeed, in the present sample of health and social care students, DM scores are lower than normative values based on general population (Feldman et al., 2007). This could be a reflection of high levels of exhaustion in these students (see section 7.3.3). Low DM findings are particularly helpful towards the understanding of well-being, health and stress management; possibly suggesting the need for psychosocial interventions (Tomlinso, Yousaf, Vitterso, Jones; 2018)

Self-compassion results are also congruent with existing findings of moderate self-compassion in nursing students and no significant differences between UG attending first, second, third and fourth grades (Senyuva, et al., 2014). Senyuva and colleagues (2014), also found significant lower levels of emotional intelligence in those at third grade, meaning that

those students had lower self-awareness (leading to lower self-management; per se contributing to lower self-care). Low emotional intelligence also denotes lower individual awareness of other people's emotions, which could compromise compassion.

The aforementioned suggest the students' average levels of self-compassion in the current study, may have compromised self-care increasing student exhaustion. Which in turn reinforces the significance of formally incorporating mindfulness and self-compassion practices into the curricula to improve student's levels of self-observation, as well as self-kindness and common-humanity that is particular to self-compassion. As mentioned earlier in chapter two, students may have learned about caring (a verb that denotes the professional care giver's actions that arise from the understanding of suffering); however, self-compassion involves "the state of being and the understanding of suffering beyond the definition of illness, disease, and pain" (Reyes 2012; p. 88).

This state of "being" is also intrinsic to the capacity of the accepting openness to experience underlined by mindfulness. If on one hand increased attention make people more aware of discomfort and problems, on the longer timescale the affective acceptance mechanism (based on the equanimity of all feelings), modifies the relationship with exacerbated experiences and connects people with a sense of aliveness leading to eudaimonic well-being (Hookham, 2015b; Garland, Farb, Goldin, & Fredrrickson, 2015).

Thus, with the support of an experienced mindfulness teacher, health and social care students may be able to learn to trust this sense of aliveness and well-being; noticing their tendency to close off to difficult experiences and exhaustion, as well as learning to self-care. This seems particularly relevant, given that exhaustion seems to increase barriers to compassionate care, whilst self-compassion appears to protect professionals from some of these barriers (Dev et al., 2018; p.86). According to these scholars, exhaustion indeed may be associated with greater barriers of

compassion in relation to staff's personal conduct. Thus, by learning mindfulness and self-compassion, students could become less likely to experience barriers to compassion.

Further reflections regarding non-significant results of the mindfulness and self-compassion MANOVA, may lay on some limitations of multivariate analysis of variance and covariance. Tabachnick and Fidel (2014, p. 291) propose that "it is best to choose uncorrelated DVs because they each measure a separate aspect of the influence of the IV. When DVs are correlated, they measure the same or similar facets of behaviour in slightly different ways". Thus, assessing mindfulness and self-compassion, when the latter is also composed by a mindfulness sub-scale, may have compromised the significance of the MANOVA. Furthermore, Tabachnick and Fidel suggest that singularity may be a problem occurring with total scores that depend on the sum of subscales containing redundant information. This the case of the SCS with subscales formed by positive and negative composites encompassing a particular theoretical domain of the self-compassion construct (e.g. more self-kindness rather than less self-judgement; more common-humanity and less isolation; more mindfulness and less over-identification). Hence, this could be indicative of the SCS construct not be appropriate for assessment using MANOVA, especially if simultaneously investigating mindfulness.

7.3.2. Burnout and Engagement - An Interaction Effect of Course and Academic Year

The first main question of the study also investigates significant variances and interaction effect between course and academic year in relation to burnout and engagement . There is evidence indicative of the interaction effect influencing the way (when) burnout can manifest during training stages in distinct fields of the health and social care sector. The interaction effect was significant for exhaustion and indicated a trend toward significance for cynicism ($p = .07$).

Indeed, study burnout was significantly greater for AN at UG-L (but not at PG) and no significant differences were detected in SW across all different training stages. Indicating SW with unchanging high levels of exhaustion from the end of the first academic year onwards.

Hence, although the cross-sectional design is unable to inform how individuals change (over time) across different academic years, the present study does provide additional evidence whereby different professional groups may manifest burnout in different ways during training. This is in contrast to previous longitudinal research proposing that burnout increases in students according to academic progression (Rudman, & Gustavsson, 2012). It is not clear why the current PG nursing data indicated lower burnout than UG. One explanation may lay on the study burnout focus, compared to previous research emphasis on work burnout.

When the focus is on study burnout, UG training nursing students in the final year appear to report significantly higher levels than work burnout during their employment; agreeing with the present study results (Robins et al., 2018b). In their longitudinal study, Robins and colleagues found that "student exhaustion and cynicism were important predictors to work exhaustion and cynicism" (p. 126). Furthermore, organisational demands and shortage of resources, significantly contributed to cynicism (10%), but not to exhaustion or professional efficacy. The study also points to the burnout curve appearing to be increasing with time in those professional nurses; which is suggestive of stronger link between cynicism and work demands rather than course-work. In addition, at this stage of the study, Robins and colleagues assessed burnout with the MBI-GS (rather than the MBI-SS). Hence, when assessing PG students (already inserted at work), adopting the MBI-SS could have buffered the effects of cynicism at work.

Although work demands seem to influence cynicism in nurses, work stressors (such as role conflict and role ambiguity) in SW professionals, appear not to directly impact depersonalization

(an outcome equivalent to cynicism), only exhaustion. SW depersonalization indeed correlated with work exit and work stressors, but the link was indirect via exhaustion. This may be another indication of distinctive ways to how cynicism is manifested in nursing and SW and reinforces the present results pointing to burnout manifesting differently in these categories already from training.

Interestingly, in SW students, course-work stress appears to be uncorrelated to field-work stress, with the latter also indicating greater impact on student's health than the former (Butler, Carello, & Maguin, 2017). Indeed, Giurgiu and Marica (2013) found significative distinctions between SW student and SW professional intimate convictions, beliefs and values; a theme of little exploration (Giurgiu, & Marica, 2013). Whereas SW professionals appear to hold values and beliefs based in practicality and realism, altruism and creativity were dominant in SW students. Explaining why, the current results indicated no significant variance in cynicism in SW students, including those at PG level; a sample qualifying through a pathway degree in order to register as SW (see session 3.2). Possibly, SW students' belief of their work making a difference, protected them from cynicism.

On the other hand, as mentioned previously in this chapter, SW students will much earlier than nurses, pick up 'lead' and primary case work responsibility, delivering what might be perceived as 'life changing interventions'. Whilst research shows prevalence of stress during SW training (Collins et al., 2010; Pottage & Huxley, 1996; Tobin & Carson, 1994), intensified field-work responsibilities, as opposed to course-work, may be the cause of increased stress levels in SW students. Thus, based on speculation, the current focus of study burnout could have missed deeper issues contributing to cynicism in SW students.

Furthermore, differences in study characteristics may affect satisfaction and well-being/mental health (Levecque, et al., 2017). Out of 80% of students reporting to be happy with their studies, 25% were presenting mental health issues. Out of the 20% who were not happy with their studies, 60% presented mental health issues. This reinforces the complexity of student mental health with the emerging effect of exhaustion indeed of concern. Moreover, exhaustion appears to have a greater degree of association with depression and lower life satisfaction during nursing UG-L and at work one-year post-graduation (Rudman & Gustavsson, 2012). Considering that SW students in the present study reported significant greater exhaustion than AN during PG training, this could be an indication of SW-PG poorer mental health.

Indeed, the body of literature in SW students indicates self-esteem issues and over-identification with clients (Collins et al. 2010, Han et al., 2012), as well as high prevalence of burnout in SW students experiencing trauma before attending the degree (Diaconescu, 2015). Many SW studies however, adopted the ProQOL for the analysis of burnout, a measure assessing CF, CS and professional hopelessness or inefficacy at work (see Han et al., 2012; Harr, & Moore, 2011; Humphrey, 2013). Not surprisingly, the outcome emphasis of such studies included field-work stress and associations between burnout and secondary trauma (see Diaconescu, 2015; Hooper, et al., 2010; Harr et al., 2014). As opposed to the focus on study burnout through the assessment of exhaustion and cynicism in relation to study activity.

In relation to engagement, there seems to be a time-lag of one year between engagement and burnout, specially exhaustion (Maricuțoiu, Sulea, & Iancu, 2017). According to Maricutoiu and colleagues, exhaustion is an antecedent of work-engagement. These findings seem to be similar for school-based students with burnout, negatively predicting engagement of school-work after one year (Samela-Aro, Upadyaya, 2014). This is an indication that without a longitudinal

design, differences in engagement may not be possible to capture; explaining why the cross-sectional design did not find variance in vigour, dedication and absorption across different stages of training.

7.3.3. Descriptive Burnout and Engagement – Not Considering the Interaction Effect

The descriptive analyses were conducted for course and academic years independently, prior to the MANOVA analysis and pair-wise comparisons. These analyses, although not statistically supported, enabled the visualisation of groups reporting the lowest study/work-related well-being: high-burnout (upper quartile score distribution of exhaustion and cynicism) and low-engagement (lower quartile score distribution of vigour, dedication and absorption).

Answering the main question two in relation to course (which group indicates lower study/work-related well-being by reporting a) high burnout, and b) low engagement?), greater number of SW displayed high burnout and low engagement, indicating that SW had poorer study/work-related well-being compared to AN. Answering the main question three (in relation to academic year (UG-F, UG-L, PG), which group indicates lower study/work-related well-being by reporting a) high burnout, and b) low engagement?), a greater number of UG-L reported high burnout and low engagement, denoting students at final undergraduate degree with lowest study/work-related well-being. These results agree with studies analysing only the nursing field, also finding students at UG-L with higher levels of burnout and disengagement (Rudman, & Gustavsson, 2012). This supports the importance in future research of considering the interaction effect between academic progression in distinct courses.

Other studies investigating nursing and medical students independently (both categories notably known for their levels of burnout), reported mean scores for exhaustion ranging from

1.86 to 3.57 and cynicism from .69 to 2.34 (Silva et al., 2014; Galán, Sanmartín, Polo, & Giner, 2011; Liu, et al., 2018). In the present study 'high exhaustion' scores appear to be at the upper end of this spectrum for SW (3.26) course and UG-L (3.56) students. When comparing our SW (1.18) and UG-L (1.46) mean levels of cynicism with other studies it may be possible to conclude that these groups are not concernedly cynical. Distributing mixed health students (medical, nursing, dentistry) in lower grade (first and second-year students) and upper grade (third, fourth and fifth-year), Liu et al., 2018 found greater means of cynicism even in lower grade students (1.96). Similarly, high cynicism means in medical students in Spain were greater than 2.25 (Galán et al., 2011).

When exploring values of low engagement, our results appear to be representative of "very low" vigour, "average" dedication and "low" absorption, according to the scale norms (Schaufeli et al., 2003). These results possibly indicate that despite revealing "very low" vigour and low concentration, students in these groups demonstrated dedication similar to other populations.

7.3.4. Associations Between Burnout, Engagement, Mindfulness and Self-Compassion

In response to the fourth main question, Pearson's correlations showed statistically significant negative associations between study burnout and all the remaining variables and positive associations between mindfulness and self-compassion. These results are congruent with robust evidence in health and social care professionals and students, which indicates mindfulness positively associating with self-compassion and negatively with burnout (Guillaumie, Boiral, & Champagne, 2016; Irving et al., 2009; Raab, 2014).

Associations between academic engagement with mindfulness and self-compassion were positive. These associations were of large magnitude between mindfulness with self-compassion

($r \geq .50$; Cohen's, 1988) but of small magnitude between engagement with self-compassion ($r \geq .30$; Cohen's, 1988). One explanation may be the positive focus of engagement (Bakker, et al., 2008; Kahn 1992; Schaufeli, 2002b) compared to self-compassion balance between positive and negative components (Neff, 2003; Neff, 2015); although this is speculative. The negative components within the construct of self-compassion were particularly criticised, as non-representative of compassion (Muris, Otgaar, & Petrocchi, 2016; Muris & Petrocchi, 2017) and indeed the need of an alternative compassion measure has been expressed by some scholars (Dev, Fernando, Lim, & Consedine, 2018; Williams, et al., 2014).

Similarly, despite the positive drive underlying mindfulness, the present study found small size correlations with vigour ($r = .28$), absorption ($r = .26$) and dedication ($r = .29$). Although Leroy et al., (2013) found medium associations between engagement and DM mindfulness at base line ($r = .34$), the focus was on work engagement, rather than academic engagement as in the present study. Furthermore, mindfulness was assessed by the MAAS and therefore restricted to attention and awareness; in contrast with the duo mechanisms of attention, awareness and acceptance investigated by CAMS-R.

Other research found FFMQ mindfulness and engagement correlations to be of small magnitude, but slightly higher with the non-reactivity subdimension (Coo, & Salanova, 2018; Malinowski & Lim, 2015). The emphasis of these studies however were on state rather DM mindfulness. Coo and Salanova in particular, found post intervention associations increasing slightly between total FFMQ-total mindfulness with vigour and FFMQ-non-reactivity with engagement. Moreover, the study points to significant improvement in participants' levels of mindfulness and work engagement after an abbreviated two-week mindfulness program.

Thus, by learning mindfulness, health and social care students could also experience increased energy and reduced reactivity at work. Mindfulness interventions in health and social care students could not only support self-observation, but indeed promote positive eudaimonic well-being, intrinsic to work engagement (Kahn, 1992; Coo, & Salanova, 2018; Garland et al., 2015). Notwithstanding these reflections, the body of research exploring associations between mindfulness with engagement is in its infancy and more research is needed to improve the understanding of these variables' relationship.

7.4. Considerations for Further Research

Studies should further understand the impact of the interaction effect between academic year and course/field impacting specially study burnout and academic engagement. Indeed, evidence shows that study withdrawal can be different between students attending different academic years and institutions (Willcoxson, Cotter, & Joy, 2011). Preference should be given to data collected from distinct geographical areas and across different points of distinct academic years. In relation to SW and AN, special attention should be given recruiting PG students under advanced qualification programs, rather than qualifying pathways. For instance, in the UK, institutions training undergraduate SW students began to offer an advanced four-year course (Masters in Social Work (Hons)), combining practice and education in the final year. These students would provide a fertile environment for researchers in the UK to assess the progression of study burnout in social-work education.

Investigating alternative nursing pathway training, could expand the understanding of differences within this category; highlighting further vulnerable groups. An example is to compare students attending traditional training and the nursing degree apprenticeship. Whilst

investigating high levels of exhaustion, cynicism and low levels of engagement, researchers could also investigate mental health issues or personality traits such as depression, anxiety, neuroticism, extraversion, loneliness and social support (Langelaan, et al., 2006, Levecque, et al., 2017).

In addition, rather than identifying "those who possess the appropriate values, attitude and behaviours" towards providing compassionate care (Francis in brief; n.d.), focus should be given on research further identifying groups lacking self-compassion. This is due to evidence indicating that self-compassion and self-care are linked and lead to greater quality of care and compassionate care provision (Mills, Wand, & Fraser, 2015; Schofield, 2016). Providing visibility to possible gaps in self-care, may not solve the complexity of implementing compassion in service (Schofield, 2016), but could set further steps towards continuous development in health and social care standards (Mills et al., 2015).

Researchers wanting to assess mindfulness with CAMS-R, should consider the 10-item version even for non-clinical research; especially on highly exhausted participants. Special attention should be given to item five, reporting any further negative correlations with the rest of the scale. Further psychometric investigation of the 12-item version of the scale is warranted in students, clinical/non-clinical, general community members with and without previous meditation experience. Researchers detecting poor items, should continue reporting to contribute to the body of evidence regarding the performance of the scale.

Research assessing study burnout in higher education in UK, may choose from two different versions of the MBI-SS. Both, the full version (exhaustion, cynicism and efficacy) and the core dimensions (exhaustion and cynicism) proved to be psychometrically adequate questionnaires. Nevertheless, researchers considering to assess study burnout adopting the full

version should be aware of theoretical and empirical criticism regarding efficacy (Maroco &

Campos, 2012; Maroco, et al., 2016; Qiao & Schaufeli, 2011). Indeed, lack of coherence in the

tri-dimensional MBI, produced by weak correlations between efficacy and the other two

dimensions, was suggested by Schaufeli and De Witte (2017); compromising the assessment of

burnout with the original structure of the MBI. Furthermore, researchers should be aware of

recent studies in contradiction of one underlying burnout syndrome. Instead, researchers

adopting the tri-dimensional MBI are currently encouraged to investigate a set of profiles:

burnout, disengaged, overextended, ineffective and engaged (Leiter, & Maslach, 2016; 2017).

According to Leiter and Maslach (2017) this also follows the low correlations between efficacy

with the remaining dimensions of the MBI and a construct formed by items with a positive spin

(such as in efficacy) and items with a negative connotation (such as in exhaustion and cynicism).

7.5. Practical Implications

The study points to a number of issues that educators should be aware of and steps that

might be taken. A considerable proportion of health and social care students reported high levels

of exhaustion, according to this and other studies. Thus, it is evident that students require

support. SW students appear to be in need of support from the first year of training onwards,

whilst AN seem to be particularly vulnerable in their final undergraduate year.

Curtis (2014) stresses the importance of students learning during graduation (through case

studies) the balance between having the courage to engage in emotional labour and self-

compassion (kindness to oneself and self-forgiveness), rather than self-blame. Thus, mindfulness

and self-compassion skills could be taught to empower students to self-care against stress.

underpinning compassionate care.

An important point to raise, is the increasing criticism towards the onus of burnout being carried solely by the individual (who should practice mindfulness and resilience strategies) rather than burnout also addressed at organizational and system levels (Corbridge & Melander 2019). The literature pointed to a number of organizational and environmental factors impacting health and social care burnout. Specifically, high demands, target-base service having a negative impact in student values of first-year nursing students (Cooper & Scammell, 2013). But our results also indicated that a great number of students in both categories, specially AN, were working long hours on top of full-time study. This may lead to increased stress compromising AN mental health, explaining higher levels of cynicism in this category of students.

 Indeed, Corbridge and Melander (2019; p.11,12) stress the need for strategies to be in place for both; individuals and organizations. Individuals should indeed benefit from mindfulness; self-care and rest; exercise; breaks from work; engaging the support of managers, colleagues and friends; practice positivism and resilience; work collaboratively as a team and adopt skilled communication. Whilst organizations must propagate a healthy work environment through a number of measures: decreased electronic documentation; promotion of skilled communication; appropriate staffing; opportunities for meaningful recognition; authentic leadership and effective decision-making. In particular, the authors propose that "top-of license' practice (quality, patient experience, cost and provider's well-being) and inter-professional team collaboration are of major importance and the latter should be encouraged by educators: "Inter-professional education must occur earlier in order to ensure mutual respect and trust from the start".

In particular, cross institution inter-professional learning involving different schools appears to be beneficial to a more cohesive healthcare force (Pasquale, Gardner, & McCullough;

2004). Linking the school of pharmacy and medicine, the authors found that both categories of students increased the understanding of roles, responsibilities and skills and were particularly favorable of small group work and case studies. Thus, educational institutions should put in place strategies to credit students at all levels participating in cross institution inter-professional education between SW and AN categories through simulating case studies and facilitating placements opportunities that would enable such experience.

Providing social work and health sciences students the opportunity to learn with and from each other seems to be a measure that could benefit both sectors; possibly a step forward against burnout. Furthermore, the provision of mindfulness and self-compassion training could also provide an opportunity for health and social care students of different fields to learn mindfulness and self-compassion together in a format of mutual respect and collaboration, also supporting multidisciplinary work and compassionate care.

At the very least, there should be consideration of the inclusion of mindfulness and compassion training in AN and SW curricula to further support new graduates. Indeed, skills appearing to empower students for fitness to practice are in line with standards and frameworks for health and social care education, training, conduct and performance (Care Council for Wales, 2013; HCPC, n.d.; NMC, 2018). If allied/nurses and social workers are bound to take transformative compassionate action, they must learn skills that further support them to engage with their feelings of exhaustion with openness and self-compassion before starting professional registration.

Chapter 8. Conclusion

This thesis implemented a quantitative cross-sectional design analysing two courses from the health and social care sector (SW and AN) in different training stages (UG-F, UG-L, PG). The study found evidence of positive associations between academic engagement, dispositional mindfulness, and trait self-compassion and negative associations of these variables with study burnout. Notwithstanding these associations, the study found interaction of distinct courses and academic years affecting study burnout (exhaustion and cynicism). Study burnout appears to be significantly higher in AN during UG-L than UG-F and PG. SW students on the other hand, didn't appear to be significantly cynical but with higher exhaustion than AN during PG training. Most importantly these levels of exhaustion in SW students indeed appeared to be unchangingly high across all training stages.

Groups with lower work-related well-being in relation to their studies, reported a) high burnout, and b) low engagement and were identified by descriptive analyses conducted for course and academic years independently (not taking into account an interaction effect). The results of these preliminary analyses, although not statistically bound, are particularly relevant in relation to past research (e.g. Rudman, & Gustavsson, 2012; Robins et al., 2018b) and signpost that without considering the possibility of an interaction effect between course and academic year, scholars may wrongly assume that student burnout is higher at the end of UG training in every field.

On the other hand, no variance was found in dispositional mindfulness, self-compassion and academic engagement between AN and SW at different training stages. This could be an indication that current curricula are not addressing student exhaustion and burnout prevention. Mindfulness practices can increase dispositional mindfulness enabling people to connect to their own experience, from a place of acceptance, kindness and compassion. Mindful acceptance is

not a passive quality, involving courageous and creative engagement with present moment experience; whether on an individual or societal level. Kindness conveys the warmth, without which mindfulness could be just a cold and detached attentional practice.

Implementing these skills to AN and SW curricula could support students to hold their personal suffering and the suffering of others with kindness, not only against increased levels of exhaustion, but in taking potentially transformative compassionate action; the essence of care. Furthermore, by formally teaching mindfulness and self-compassion skills to AN and SW using inter-professional learning, institutions may further support the integration of health and social care. If adopting such learning approach, institutions may focus on undergraduates at their final undergraduate year. This could further facilitate the exchange of experience and collaborative care, encouraging students from these two fields to focus on their similarities rather than differences.

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Appendix A

Ethics Approval

COLEG BUSNES, Y GYFRAITH, ADDYSG A GWYDDORAU CYMDEITHAS
COLLEGE OF BUSINESS, LAW, EDUCATION AND SOCIAL SCIENCES

PRIFYSGOL
BANGOR
UNIVERSITY

17 October 2016

Dear Ana Atanes

Re: Mindfulness, Self-Compassion, Academic Engagement and Burnout in University Students in Health and Human Care

Thank you for amending the study documentation. I am writing to confirm approval, on behalf of the CBLESS Research Ethics Committee, for the commencement of your project. Please note:

1. Participant initials *should not* be included in the participant code that is allocated to individuals returning the survey.

2. In terms of using the electronic dataset for future collaborative studies, you should consider obtaining permission at the outset from potential study participants rather than making a separate application to the committee at a later point in time.

I wish you well with your research.

Yours sincerely

Dr. Diane Seddon
Chair, College Ethics Committee

cc – Professor Peter Huxley

Appendix B

Email Introducing the Study – School of Health Sciences

YSGOL GWYDDORAU CYMDEITHAS
Neuadd Ogwen, Ffordd Coleg, Bangor, Gwynedd, LL57 2DG

SCHOOL OF SOCIAL SCIENCES
Neuadd Ogwen, College Road, Bangor, Gwynedd, LL57 2DG

17 April 2020 20:35:18

Annwyl Athro
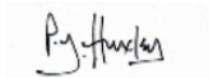
Mae un o'n myfyrwyr PhD yn dymuno trefnu mynediad at fyfyrwyr israddedig ac ôl-raddedig yn eich Ysgol ar gyfer ei hymchwil. Teitl ei thraethawd ymchwil yw Ymwybyddiaeth Ofalgar, Hunan-Drugaredd, Ymgysylltu Academaidd a Gorweithio ymhlith Myfyrwyr Iechyd a Gofal Dynol yn y brifysgol.

Mae hi'n dymuno recriwtio myfyrwyr israddedig o'r flwyddyn gyntaf a'r flwyddyn olaf a phob myfyriwr ôl-raddedig (Graddau Meistr a PhD) i gwblhau arolwg 15 munud. Mae'r arolwg yn casglu data am lefelau ymwybyddiaeth ofalgar, hunan-drugaredd, ymgysylltu â gwaith academaidd a gorweithio ymhlith myfyrwyr. Mae'r llenyddiaeth yn awgrymu y gellir nodi

gorweithio hyd yn oed yn y cyfnod cynnar hwn mewn gyrfa, ac mae'n bosibl y bydd y gwaith ymchwil yn helpu i nodi ffactorau sy'n rhagfynegi gorweithio ac ymgysylltu.

Ei goruchwylwyr yw'r Athro Peter Huxley a'r Athro Rob Poole, sy'n barod iawn i ateb unrhyw ymholiad a all fod gennych chi. Os ydych chi'n barod i fod yn gysylltiedig â'r astudiaeth, a allech chi eu cyfeirio nhw at aelod (neu aelodau) allweddol o staff, y gallwn drafod y trefniadau ymarferol ar gyfer casglu data gyda nhw, fel y gallwn leihau unrhyw amhariad neu anghyfleustra i fyfyrwyr a staff? Cyflwynwyd a chadarnhawyd cymeradwyaeth foesegol gan y Coleg Busnes, y Gyfraith, Addysg a Gwyddorau Cymdeithas ym Mhrifysgol Bangor. Gallwn ddarparu'r cais (gan gynnwys y mesurau) a'r protocol yn ôl y gofyn.

Yn gywir

Peter Huxley

17 April 2020

Dear Prof

One of our PhD students wishes to arrange access to undergraduate and postgraduate students in your School for her research. Her thesis title is Mindfulness, Self-Compassion, Academic Engagement and Burnout in University Students in Health and Human Care.

She wishes to recruit first and last-year undergraduate students and all postgraduate students (Masters and PhD) to complete a 15-minute survey. The survey collects data on students' levels of mindfulness, self-compassion, academic work engagement and burnout. The literature suggests that burnout can be identified even at this early stage in a career, and the research may help to identify factors that predict burn out and engagement.

Her supervisors are Professors Peter Huxley and Rob Poole who are happy to answer any queries you may have. If you are prepared to be associated with the study could you refer them to a key member (or members) of staff with whom we can discuss the practical arrangements for data collection so we can minimize any disruption or inconvenience to students and staff? Ethics approval has been submitted and confirmed by The College of Business, Law, Education and Social Sciences at Bangor University. We can make the application (including the measures) and the protocol available as required.

Yours sincerely

P.J.Huxley

_____

Peter Huxley

YR ATHRO/PROFESSOR MARTINA FEILZER, PENNAETH YR YSGOL/HEAD OF SCHOOL, 01248 388171 / E-MAIL: m.feilzer@bangor.ac.uk
Rhif Elusen Gofrestredig 1141565 - Registered Charity No. 1141565

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Appendix C

Survey with Bilingual Information About the Study

YSGOL GWYDDORAU CYMDEITHAS
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SCHOOL OF SOCIAL SCIENCES
Neuadd Ogwen, College Road, Bangor, Gwynedd, LL57 2DG

Taflen Wybodaeth i Fyfyrwyr

Annwyl fyfyriwr

Cyf. Ymwybyddiaeth Ofalgar, Hunan-Drugaredd, Ymgysylltu Academaidd a Gorweithio ymhlith Myfyrwyr Prifysgol mewn Iechyd a Gofal Dynol

Rydyn ni'n eich gwahodd chi i gymryd rhan mewn prosiect sy'n edrych ar y cysylltiad rhwng ymwybyddiaeth ofalgar, hunan-drugaredd, ymgysylltu academaidd a gorweithio. Byddai hyn yn cynnwys ateb pump o holiaduron byr.

Chi sydd i benderfynu a ydych chi eisiau cymryd rhan. Os byddwch yn gwrthod cymryd rhan, ni fydd eich astudiaethau'n cael eu heffeithio. Drwy gwblhau a dychwelyd yr

arolwg yma, rydych chi'n cytuno i gymryd rhan yn yr astudiaeth yma ac yn rhoi caniatâd i'r data gael eu defnyddio at y dibenion sy'n cael eu hesbonio yn y Daflen Wybodaeth yma.

Cyflwyniad:

Mae'r gwaith ymchwil yma'n dadansoddi sut mae ymwybyddiaeth ofalgar a hunan-drugaredd wedi'u cysylltu â gorweithio ac ymgysylltu academaidd ymhlith myfyrwyr israddedig yn ystod eu blwyddyn academaidd gyntaf ac olaf a hefyd myfyrwyr ôl-raddedig (graddau Meistr a PhD mewn unrhyw flwyddyn). **Os nad ydych chi'n bodloni'r meini prawf yma, dychwelwch yr arolwg heb ei ateb.**

Beth ydi pwrpas yr astudiaeth?

Er bod ymwybyddiaeth ofalgar a hunan-drugaredd wedi dod i'r amlwg fel ffactorau gwarchodol i atal gorweithio mewn gwahanol gategorïau proffesiynol, mae'r llenyddiaeth yn awgrymu bod posib canfod gorweithio mewn cyfnod academaidd mewn gyrfa hyd yn oed. Felly nod yr ymchwil yma ydi ateb y cwestiynau canlynol:

Beth ydi'r cysylltiad rhwng ymwybyddiaeth ofalgar, hunan-drugaredd, gorweithio ac ymgysylltu academaidd? Beth yw lefelau cyfartalog ymwybyddiaeth ofalgar, hunan-drugaredd, gorweithio ac ymgysylltu academaidd ymhlith myfyrwyr mewn gwahanol gyfnodau yn y meysydd canlynol: Seicoleg, Gofal Cymdeithasol ac Iechyd? Sut byddai'r amrywiadau hyn yn cysylltu mewn gwahanol grwpiau o fyfyrwyr?

Beth fydd yn digwydd os byddaf yn penderfynu cymryd rhan?

Rydym yn eich gwahodd chi i ateb y 5 holiadur canlynol drwy ateb bob cwestiwn gyda'r ateb mwyaf priodol i chi. Does dim atebion cywir nac anghywir. Dewiswch **un ateb yn unig** ar gyfer pob eitem. Mae'r holiadur byrraf yn cynnwys 10 eitem a'r hiraf 26 eitem.

A fydd fy nghyfraniad at yr astudiaeth yma'n cael ei gadw'n gyfrinachol?

Bydd. Byddwn yn creu cod dienw i bob cyfranogwr, yn seiliedig ar ysgol, rhaglen cwrs a blwyddyn academaidd. Bydd y wybodaeth fyddwch chi'n ei rhannu'n cael ei thrin yn gyfrinachol. Bydd data ffisegol yn cael eu cadw mewn cabinet dan glo, mewn ystafell sydd wedi'i gwarchod gan god, ac unwaith bydd y data'n cael eu trosglwyddo i fas data electronig, byddant yn cael eu storio mewn man diogel a warchodir gan gyfrinair yn system gyfrifiadurol y Brifysgol (gyriant M). Bydd yr holl ddata'n cael eu cadw nes bod yr ymchwil wedi'i ddyfarnu a bydd y copi papur yn cael ei rwygo. Ni fyddwch yn cael eich adnabod mewn unrhyw adroddiadau na chyhoeddiadau.

Beth fydd yn digwydd i ganlyniadau'r astudiaeth?

Drwy esbonio perthynas amrywiadau'r astudiaeth mewn gwahanol grwpiau o fyfyrwyr, efallai y down ni o hyd i ffactorau sy'n rhagweld gorweithio. Gallai'r astudiaeth ychwanegu at y corff o dystiolaeth ac efallai y caiff ei chyhoeddi mewn cylchgronau gwyddonol. Mae posibilrwydd o ddefnyddio'r data ar gyfer astudiaethau cymharol yn y dyfodol.

Cofiwch roi gwybod i ni a ydych chi'n cytuno i'r defnydd o'ch data:

☐Ydw; Nac ydw ☐

Beth sy'n digwydd os oes gen i unrhyw bryderon am y prosiect yma?

Cewch gysylltu â'r Athro Peter Huxley dros y ffôn neu ar 01978 727903 (p.huxley@bangor.ac.uk)

Cysylltwch am fwy o wybodaeth:

Os hoffech gael mwy o wybodaeth, cysylltwch â Cristina Atanes ar e-bost (psp510@bangor.ac.uk).

YR ATHRO/PROFESSOR MARTINA FEILZER, PENNAETH YR YSGOL/HEAD OF SCHOOL, 01248 388171 / E-MAIL: m.feilzer@bangor.ac.uk
Rhif Elusen Gofrestredig 1141565 - Registered Charity No. 1141565

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Student Information Sheet

Dear student

Ref. Mindfulness, Self-Compassion, Academic Engagement and Burnout in University Students in Health and Human Care

We are inviting you to take part in a project looking at the associations of mindfulness, self-compassion, academic engagement and burnout. This would involve answering five short self-report questionnaires.

It is up to you to decide whether you would like to take part. If you decline to take part, your studies are not going to be affected. By completing and returning this survey you agree to participate in the study and consent for the data to be used for the purposes explained in this Information Sheet.

Introduction:

This research is analysing how mindfulness and self-compassion are associated to burnout and academic engagement in undergraduate students on their first and last academic year and postgraduate students (Masters and PhD enrolled in any year). **If you are outside these criteria, please return this survey unanswered.**

What is the purpose of the study?

Whilst mindfulness and self-compassion have shown to be protective factors to burnout in different professional categories, the literature suggests that burnout can be identified even at academic stage in a career. Therefore this research aims to answer the following questions:

What are the associations between mindfulness, self-compassion, burnout and academic engagement? What are the mean levels of mindfulness, self-compassion, burnout and academic engagement amongst students at different stages of the following areas: Psychology, Social Care and Health? How would these variables associate in different student groups?

What will happen if I decide to take part?

You are invited to answer the following 5 questionnaires by answering each question with the most appropriate answer for you. There are no right or wrong answers. Just choose **only one answer** for each item. The shortest questionnaire has 10 items and the longest 26 items.

Will my taking part in this study be kept confidential?

Yes. We will create an anonymous code per participant, based on school, course programme and academic year. The information you share will be treated in confidence. Physical data will be stored in a locked cabinet, in a code-protected room, and once data is passed to an electronic database, this will be stored on a password protected secure area of the University computer system (M drive). All data will be stored until the thesis is awarded and the hard copy will be shredded. You will not be identified in any reports or publications.

What will happen to the results of the study?

By clarifying the relationship of the study variables in different student groups, we may find factors predicting burnout. The study could add to the body of evidence and may be published in scientific journals. There is a possibility to use data for future comparative studies.

Please let us know if you agree with your data being used: ☐ Yes ; No ☐

What happens if I have any concerns about this project?

You may contact Professor Peter Huxley by telephone on 01978 727903 (p.huxley@bangor.ac.uk)

Contact for further information:

If you would like more information, please contact Cristina Atanes by e-mail

(psp510@bangor.ac.uk).

PARTICIPANT QUESTIONNAIRE

Your Consent:

"By Completing and returning this survey I agree to participate in the study and consent for the data to be used for the purposes explained in the Participant Information Sheet"

Please confirm that you agree with your data being used in future comparative studies

☐ Yes ☐ No

Please answer the following questions choosing **only one answer** that best describes your situation.

1. School

   ☐ Health
   ☐ Social Sciences
   ☐ Psychology

2. Course

   ☐ Undergraduate attending first academic year
   ☐ Undergraduate attending last academic year
   ☐ Postgraduate (Masters or PhD)
   ☐ None of the above

3. Gender:

   ☐ Female
   ☐ Male
   ☐ Transgender
   ☐ Prefer not to respond

4. Age

☐ 18-25
☐ 26-32
☐ 33-39
☐ 40 and above
☐ Under 18

5. Do you currently undertake paid work on top of your study work?

☐ Yes   ☐ No

6. Are you currently on a fieldwork placement?

☐ Yes   ☐ No

7. Considering any paid work and placements, how many hours per week altogether on top of your study work?

☐ : ☐
(Number of hours)

9. Which statement best describes your current living situation?

☐ I live alone
☐ I live with other students
☐ I live with roommates who are not students
☐ I live with my parents
☐ I live with a partner/significant other
☐ I live with my children

10. Please tick the best statement that applies to you

☐ I practice mindfulness or yoga or any meditation regularly
☐ I practice mindfulness or yoga or any type of meditation sometimes
☐ I practice mindfulness or yoga or any type of meditation very rarely
☐ I have never practiced these activities before

HOW I TYPICALLY ACT TOWARDS MYSELF IN DIFFICULT TIMES

Please read each statements carefully before answering.

To the left of each item, **indicate only one number that best represents** how often you behave in the stated maner by using the following scale:

Almost Never				Almost Always
(1)	**(2)**	**(3)**	**(4)**	**(5)**

_____ 1. I'm disapproving and judgmental about my own flaws and inadequacies.

_____ 2. When I'm feeling down I tend to obsess and fixate on everything that's wrong.

_____ 3. When things are going badly for me, I see the difficulties as part of life that everyone goes through.

 _____ 4. When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world.

 _____ 5. I try to be loving towards myself when I'm feeling emotional pain.

_____ 6. When I fail at something important to me I become consumed by feelings of inadequacy.

_____ 7. When I'm down and out, I remind myself that there are lots of other people in the world feeling like I am.

_____ 8. When times are really difficult, I tend to be tough on myself.

 _____9. When something upsets me I try to keep my emotions in balance.

_____10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.

_____11. I'm intolerant and impatient towards those aspects of my personality I don't like.

 _____12. When I'm going through a very hard time, I give myself the caring and tenderness I need.

Almost Never				Almost Always
(1)	(2)	(3)	(4)	(5)

_____ 13. When I'm feeling down, I tend to feel like most other people are probably happier than I am.

_____ 14. When something painful happens I try to take a balanced view of the situation.

_____ 15. I try to see my failings as part of the human condition.

_____ 16. When I see aspects of myself that I don't like, I get down on myself.

_____ 17. When I fail at something important to me I try to keep things in perspective.

_____ 18. When I'm really struggling, I tend to feel like other people must be having an easier time of it.

_____ 19. I'm kind to myself when I'm experiencing suffering.

_____ 20. When something upsets me I get carried away with my feelings.

_____ 21. I can be a bit cold-hearted towards myself when I'm experiencing suffering.

_____ 22. When I'm feeling down I try to approach my feelings with curiosity and openness.

_____ 23. I'm tolerant of my own flaws and inadequacies.

_____ 24. When something painful happens I tend to blow the incident out of proportion.

_____ 25. When I fail at something that's important to me, I tend to feel alone in my failure.

_____ 26. I try to be understanding and patient towards those aspects of my personality I don't like

THANK YOU!

Cognitive and Affective Mindfulness Scale-Revised

Please respond to each item by marking one box per row.	Rarely/ Not at All	Some Times	Often	Almost always
1. It is easy for me to concentrate on what I am doing	1 ☐	2 ☐	3 ☐	4 ☐
2. I am preoccupied by the future	1 ☐	2 ☐	3 ☐	4 ☐
3. I can tolerate emotional pain.	1 ☐	2 ☐	3 ☐	4 ☐
4. I can accept things I cannot change.	1 ☐	2 ☐	3 ☐	4 ☐
5. I can usually describe how I feel at the moment in considerable detail.	1 ☐	2 ☐	3 ☐	4 ☐
6. I am easily distracted.	1 ☐	2 ☐	3 ☐	4 ☐
7. I am preoccupied by the past	1 ☐	2 ☐	3 ☐	4 ☐
8. It's easy for me to keep track of my thoughts and feelings	1 ☐	2 ☐	3 ☐	4 ☐
9. I try to notice my thoughts without judging them.	1 ☐	2 ☐	3 ☐	4 ☐
10. I am able to accept the thoughts and feelings I have.	1 ☐	2 ☐	3 ☐	4 ☐

	1	2	3	4
11. I am able to focus on the present moment.	☐	☐	☐	☐
12. I am able to pay close attention to one thing for a long period of time.	☐	☐	☐	☐

THANK YOU

Utrecht Academic Engagement Scale for Students

The following statements are related to feelings / emotions of students in schools. Please read each statement and decide on how often you feel this way according to the following table. Please indicate in the space provided **only one number that best describes your answer** .

Never	Almost never	Sometimes	Regularly	Many Times	Almost always	Always
(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**
Not once	Few times per year	Once a month	Few times per month	Once a week	Few times per week	Every day

1. _____When I study, I feel like I am bursting with energy

2. _____I find my studies to be full of meaning and purpose

3. _____Time flies when I am studying

4. _____When studying I feel strong and vigorous

5. _____I am enthusiastic about my studies

6. _____When I am studying I forget everything else around me

7. _____My studies inspire me

8. _____When I get up in the morning I feel like going to class

9. _____I feel happy when I am studying intensively

10._____ I am proud of the work I do

11. _____I am immersed in my studies

12. _____I can continue for a very long time when I am studying

13. _____I find my studies challenging

14. _____ I can get carried away by my studies.

15. _____At my work as a student I am very resilient, mentally

16. _____It is difficult to detach myself from my studies.

17. _____At my work as student, I always persevere, even when things don't go well.

THANK YOU!

Maslach Burnout Inventory Student Survey (Adapted from Maroco & Tecedeiro, 2009)

The following statements are related to feelings / emotions of students in schools . Please read each statement and decide on how often you feel this way according to the following table. **Please tick the box that indicates the number best representing your answer.**

Never	Almost never	Sometimes	Regularly	Many Times	Almost always	Always
(0)	(1)	(2)	(3)	(4)	(5)	(6)
Not once	Few times per year	Once a month	Few times per month	Once a week	Few times per week	Every day

Items	Never						Always
1. I feel emotionally drained by my studies.	(0) ☐	(1) ☐	(2) ☐	(3) ☐	(4) ☐	(5) ☐	(6) ☐
2. I feel used up at the end of a day at university.	(0) ☐	(1) ☐	(2) ☐	(3) ☐	(4) ☐	(5) ☐	(6) ☐
3. I feel tired when I get up in the morning and I have to face another day at the university	(0) ☐	(1) ☐	(2) ☐	(3) ☐	(4) ☐	(5) ☐	(6) ☐
4. Studying or attending a class is really a strain for me	(0) ☐	(1) ☐	(2) ☐	(3) ☐	(4) ☐	(5) ☐	(6) ☐
5. I feel burned out from my studies.	(0) ☐	(1) ☐	(2) ☐	(3) ☐	(4) ☐	(5) ☐	(6) ☐
6. I have become less interested in my studies since my enrolment at the university.	(0) ☐	(1) ☐	(2) ☐	(3) ☐	(4) ☐	(5) ☐	(6) ☐

	(0)	(1)	(2)	(3)	(4)	(5)	(6)
7. I have become less enthusiastic about my studies.	☐	☐	☐	☐	☐	☐	☐
8. I have become more cynical about the potential usefulness of my studies.	☐	☐	☐	☐	☐	☐	☐
9. I doubt the significance of my studies.	☐	☐	☐	☐	☐	☐	☐
10. I can effectively solve the problems that arise in my studies.	☐	☐	☐	☐	☐	☐	☐
11. I believe that I make an effective contribution to the classes that I attend.	☐	☐	☐	☐	☐	☐	☐
12. In my opinion, I am a good student.	☐	☐	☐	☐	☐	☐	☐
13. I feel stimulated when I achieve my study goals.	☐	☐	☐	☐	☐	☐	☐
14. I have learned many interesting things during the course of my studies.	☐	☐	☐	☐	☐	☐	☐
15. During class I feel confident that I am effective in getting things done.	☐	☐	☐	☐	☐	☐	☐

THANK YOU!

Appendix D

Bilingual E-Mail Inviting Doctoral AN Students to Take Part in The Study

Annwyl fyfyriwr

Rydym yn eich gwahodd chi i gymryd rhan yn ein harolwg yn edrych ar y cysylltiad rhwng ymwybyddiaeth ofalgar, hunandosturi, ymgysylltu academaidd a gorweithio. Byddai hyn yn cynnwys ateb pump o holiaduron hunangofnodi byr sy'n cymryd oddeutu 20 munud i'w hateb.

https://bangor.onlinesurveys.ac.uk/mindfulness-self-compassion-burnout

Chi sydd i benderfynu ydych chi eisiau cymryd rhan. Byddai unrhyw wybodaeth y byddech chi'n ei rhannu'n cael ei thrin yn gwbl gyfrinachol – ni fyddech yn cael eich enwi mewn unrhyw adroddiad neu allbwn yn codi o'r gwaith yma.

Mae'r ymchwil yn cael ei ddatblygu gan Ysgol Gwyddorau Cymdeithasol Prifysgol Bangor gyda chyllid gan CNPq - Conselho Nacional de Desenvolvimento Científico e Tecnológico, o Weinyddiaeth Gwyddoniaeth, Technoleg ac Arloesi Brasil.

Mae Taflen Wybodaeth am y prosiect wedi'i chynnwys gyda'r arolwg, ond os oes gennych chi ragor o gwestiynau neu os hoffech gael gwybod mwy am y gwaith yma, gallwch gysylltu â mi Cristina Atanes (psp510@bangor.ac.uk) neu fy ngoruchwylydd Peter Huxley (p.huxley@bangor.ac.uk).

Llawer o ddiolch

Ana Cristina Atanes.

Myfyriwr PhD

Ysgol Gwyddorau Cymdeithasol, Prifysgol Bangor

Dear student

We are inviting you to take part in our survey looking at the associations of mindfulness, self-compassion, academic engagement and burnout. This would involve answering five short self-report questionnaires taking approximately 20 minutes to answer.

https://bangor.onlinesurveys.ac.uk/mindfulness-self-compassion-burnout

It is up to you to decide whether you would like to take part. Any information you share would be treated as strictly confidential – you would not be identified in any reports or outputs arising from this work.

The research is being developed by the School of Social Sciences from Bangor University and is funded by CNPq - Conselho Nacional de Desenvolvimento Científico e Tecnológico, of the Ministry of Science, Technology and Innovation of Brazil.

An Information Sheet about the project is enclosed with the survey, but if you have any further questions or would like to know more about this work, you can contact myself Cristina Atanes (psp510@bangor.ac.uk) or my supervisors Peter Huxley (p.huxley@bangor.ac.uk).

Many thanks

Ana Cristina Atanes.

PhD Student

School of Social Sciences, Prifysgol Bangor University

Appendix E

Ethics Committee Amendment Approval

COLEG BUSNES, Y GYFRAITH, ADDYSG A GWYDDORAU CYMDEITHAS
COLLEGE OF BUSINESS, LAW, EDUCATION AND SOCIAL SCIENCES

PRIFYSGOL
BANGOR
UNIVERSITY

03/04/2017

Annwyl/ Dear Ana Cristina Atanes

Yng/ Re: Mindfulness, Self-Compassion, Academic Engagement and Burnout among University Students in Health and Human Care

Diolch am eich diwygiadau diweddar i Bwyllgor Ymchwil Moeseg CBLESS.

Mae'r pwyllgor wedi ystyried eich diwygiadau i'r cais, ac fe wyf yn awr mewn sefyllfa i roi caniatâd, ar ran y Pwyllgor Ymchwil Moeseg CBLESS, i chi gychwyn/ barhau gyda eich prosiect ymchwil.

Dymunaf yn dda i chi gyda'ch ymchwil.

Thank you for your recent amendment to the CBLESS Research Ethics Committee. The Committee has considered your amendment and I am now able to give permission, on behalf of the CBLESS Research Ethics Committee, for the commencement/ continuation of your research project.

I wish you well with your research.

Yn gywir iawn/ Yours sincerely

[signature]

Dr. Marguerite Hoerger
Chair, CBLESS Research Ethics Committee
Cadair, Pwyllgor Ymchwil Moeseg CBLESS

Cc: Goruchwyliwr/ Pennaeth Ysgol
Supervisor/Head of School

Appendix F

Online Survey – Psychometric Study

Psychometric-MBISS-UWESS

Student Information Sheet

You are invited to take part in a questionnaire study looking at academic burnout and engagement. Before you decide whether or not to participate, it is important for you to understand why the project is being done and what it will involve. Please take the time to read the following information.

What is the purpose of the study?

This study seeks to:

Understand the psychometric properties of two questionnaires answered by students in the United Kingdom: Utrecht Academic Engagement Scale for Students and Maslach Burnout Inventory-Student Survey.

Why have I been chosen?

You are studying a course in an institute of Higher Education in The United Kingdom.

Do I have to take part?

It is up to you to decide whether or not to take part. Your decision **will not** affect you in any way. Please feel free to print out and keep this information sheet.

What will happen if I decide to take part?

You are invited to fill in an online questionnaire. We will ask you about your experience of studying and attending class. We will also ask you to answer some demographic questions (e.g. age, gender, etc.). Completing the questionnaire will take about 10 minutes.

Will my responses in the questionnaire be kept confidential?

Yes. The information you share will be treated **in confidence**. Your responses will not be shared in any way that can be linked to you as an individual.

Do I have to give my name or student id?

You can complete this survey completely anonymously, and the researchers will not be able to find out your identity. If you wish to be part of a prize draw for one of five £20 Amazon Vouchers, you need to click a separate link provided when you finish the survey. Please be assured that we will keep your e-mail address separated from your responses when the data are collected and you will not be identified as the respondent to anyone on your course.

What will happen to the results of the study?

The general findings from this study will eventually be published. You **will not** be individually identified in any reports or publications. Your answers will be combined with data from other participants.

Who is organizing the research?

This study is funded by the Ministry of Science, Technology and Innovation of Brazil (CNPq - Conselho Nacional de Desenvolvimento Científico e Tecnológico), organized by Ana Cristina Atanes (psp510@bangor.ac.uk) and Prof Peter Huxley (p.huxley@bangor.ac.uk) at the School of Social Sciences, Bangor University, Gwynedd LL57 2DG and has the collaboration of Dr Katia Vione (k.vione@derby.ac.uk) at the University of Derby Online Learning, Department of Psychology, University of Derby, Derby, (DE1 3LA).

What happens if I have any concerns about this project?

If you are concerned about any aspect of this project, you can contact Prof Peter Huxley at the School of Social Sciences at p.huxley@bangor.ac.uk or telephone 01978 727903.

Contact for further information:

If you would like more information, please contact Ana Cristina Atanes at psp510@bangor.ac.uk or Dr Katia Vione at k.vione@derby.ac.uk.

Next steps:

If you decide that you would like to take part, please continue to the next page.

Thank you for taking the time to read this information.

Consent

"By Completing and returning this survey I agree to participate in the study and consent for the data to be used for the purposes explained in the Participant Information Sheet"

Please confirm that you agree with your data being used in future comparative studies

Yes ☐

No ☐

Utrecht Academic Engagement Scale for Students

The following statements are related to feelings/emotions of students in schools. Please read each statement and decide on how often you feel this way according to the following table. Please

0	1	2	3	4	5	6
Never	Almost never	Some times	Regularly	Many times	Almost always	Always
or	or	or	or	or	or	or
Not once	Few times per year	Once a month	Few times per month	Once a week	Few times per week	Every day

indicate in the space provided **only one number that best describes your answer**.

Please don't select more than 1 answer(s) per row.

1. When I am doing my work as a student, I feel bursting with energy						
2. I find my studies to be full of meaning and purpose						
3. Time flies when I am studying						
4. I feel strong and vigorous when studying or going to class						

5. I am enthusiastic about my studies						
6. When I am studying I forget everything else around me						
7. My studies inspire me						
8. When I get up in the morning I feel like going to class						
9. I feel happy when						

I am studying intensively							
10. I am proud of my studies							
11. I am immersed in my studies							
12. I can continue studying for very long periods of time							
13. To me, my studies are challenging							
14. I get carried away							

when I am studying.							
15. At my work as a student I am very resilient, mentally							
16. It is difficult to detach myself from my studies							
17. At my work as student, I always persevere, even when things don't go well							

Thank You. Please answer the following

Maslach Burnout Inventory Student Survey

The following statements are related to feelings / emotions of students in schools. Please read each statement and decide on how often you feel this way according to the following table. **Please tick the box that indicates the number best representing your answer.** *Optional* Please don't select more than 1 answer(s) per row.

	0	1	2	3	4	5	6
	Never or Not once	Almost never or Few times per year	Some times or Once a month	Regularly or Few times per month	Many times or Once a week	Almost always or Few times per week	Always or Every day
1. I feel emotionally drained by my studies.							
2. I feel used up at the end							

of a day at university.						
3. I feel tired when I get up in the morning and I have to face another day at the university						
4. Studying or attending a class is really a strain for me						
5. I feel burned out from my studies.						
6. I have become less interested in						

my studies since my enrolment at the university.						
7. I have become less enthusiastic about my studies.						
8. I have become more cynical about the potential usefulness of my studies.						
9. I doubt the significance of my studies.						
10. I can effectively solve the						

problems that arise in my studies.						
11. I believe that I make an effective contribution to the classes that I attend.						
12. In my opinion, I am a good student.						
13. I feel stimulated when I achieve my study goals.						
14. I have learned many interesting						

things during the course of my studies.						
15. During class I feel confident that I am effective in getting things done.						

Thank You. Please answer the following

Country of Origin

Please let us know what is your country of origin.

English Proficiency

Please let us know what is your level of English

☐

 English is my first language

☐

 I consider myself to be a fluent English speaker

☐

 I consider myself to be an advanced English speaker

☐

 I consider myself to be an intermediate English speaker

Academic information

Please tell us the name of your university

School

☐ Health

☐
 Social Sciences

☐
 Psychology

☐
 Other

Course

☐
Undergraduate

☐
Postgraduate (Masters or PhD)

☐
Is your course online or on-campus?

☐
On Campus Course

☐
Online Course

Do you consider yourself:

☐ Female

☐ Male

☐ Transgender

☐ Prefer not to respond

Please tell us how old you are

Do you currently undertake paid work on top of your study work?

☐
Yes

☐
No

Are you currently on a fieldwork placement?

☐

Yes

☐

No

Considering any paid work and placements, how many hours and minutes per

week altogether do you work?

_____

Which statement best describes your current living situation?

☐

I live alone

☐

I live with other students

☐ I live with roommates who are not students

☐

I live with my parents

☐

I live with a partner/significant other

☐

I live with my children

☐

I live with a partner/significant other and my children

Please Keep this page with you if you wish to take part on the Amazon Prize Draw

Actions after taking part

You have reached the end of the survey. If you feel you need help with your stress levels, please don't wait to access the counselling or support department from your University or College. High levels of stress can be very debilitating and may affect your academic performance. If you don't have access to support at your College or University, you may find the following web page helpful. http://www.actionforhappiness.org/take-action

Thank you for taking part in this survey!

Amazon Prize Draw

TO TAKE PART ON THE AMAZON PRIZE DRAW PLEASE CLICK ON THE LINK BELOW

https://bangor.onlinesurveys.ac.uk/amazon-price-draw

Appendix G

E-mail communicating randomly selected participants about prize draw results

Dear participant

I am pleased to inform you that your e-mail address was electronically-randomly selected for the £20 voucher prize to participants who answered our study: Academic Burnout, Engagement.

You must sign a subject payment form in order to receive the voucher at the Social Sciences PhD room A2.06 - Alun Building, Management Centre, College Road, Bangor LL57 2DG.

Please send me a message so we can make arrangements for this procedure to be completed and collection of your voucher.

We want to thank you for your participation.

Kind regards

Ana Cristina Atanes

PhD Student

School of Social Sciences