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Perfectionism and well-being: associations and developing a dual-Factor intervention for UK undergraduates

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**Perfectionism and Well-Being: Associations and Developing a
Dual-Factor Intervention for UK Undergraduates**

Lucy Nicola Cooper

A thesis submitted in partial fulfilment of the requirements of
Sheffield Hallam University for the degree of Doctor of
Philosophy

December 2022

Candidate Declaration

I hereby declare that:

1. I have not been enrolled for another award of the University, or other academic or professional organisation, whilst undertaking my research degree.
2. None of the material contained in the thesis has been used in any other submission for an academic award
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4. The work undertaken towards the thesis has been conducted in accordance with the SHU Principles of Integrity in Research and the SHU Research Ethics Policy.
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Abstract

The aim of this research was to better understand the relationships between multidimensional perfectionism, well-being, and mental health in UK undergraduates, and investigate the effectiveness of a new dual-factor intervention for perfectionist students, incorporating cognitive-behavioural and positive psychology principles. Studies 1 and 2 examined the nomological network of perfectionism amongst UK undergraduates, using data collected from a large-scale survey ($N = 1136$), including measures of mental health, well-being, and social-media use. Zero-order correlations (Study 1) found Perfectionistic Concerns (PC) was consistently related to poorer mental health and well-being in students, however Perfectionistic Strivings (PS) was considered more “neutral” in its primarily weak relationships with key factors, supporting existing theoretical perspectives (i.e., perfectionism cognition theory, Flett et al., 2016; diathesis-stress model, Hewitt & Flett, 2002; social-disconnection model, Sherry et al., 2016). Multiple regression analyses (Study 2) were used to identify unique relationships of perfectionism dimensions and subscales, finding PS significantly predicted higher well-being and the reverse for PC, providing further evidence of suppression effects. This suggests PS may be adaptive for students, when overlap with PC is statistically controlled for, indicating possible limitations in the application of existing theories for understanding how perfectionism impacts students’ well-being. A pilot dual-factor intervention was developed and delivered in Study 3. Wilcoxon signed-rank tests found a significant decrease in PS and PC in participants ($n = 7$) post-intervention (compared with no significant change for control group; $n = 25$), but no significant change in anxiety nor flourishing. Themes of “Usefulness” and “Connectedness” were generated following thematic analysis of participants’ feedback, highlighting the benefit of integrating positive psychology interventions. Implications for extending knowledge of perfectionism and well-being in UK undergraduates are discussed, as well as the application of a promising dual-factor perfectionism intervention, and the limitations of using the Perfectionism Inventory (Hill et al., 2004, 2010).

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List of Abbreviations

This list describes the meaning of abbreviations used through the thesis:

Abbreviation	Meaning
(M)ANOVA	(Multiple) Analysis of Variance
ANCOVA	Analysis of Covariance
APS	Almost Perfect Scale (Slaney and Johnson (1992)
APS-R	Almost Perfect Scale-Revised (Slaney et al., 2001)
BACP	British Association for Counselling and Psychotherapy
BAI	Beck Anxiety Inventory (Beck et al., 1988)
BCa	Bias-corrected and accelerated (bootstrap interval)
CBT	Cognitive Behavioural Therapy
CI	Confidence Intervals
CMPB	Comprehensive Model of Perfectionistic Behaviour
DAA	Doubts About Actions (MPS-F subscale)
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders – Fourth Edition
GAD	Generalised Anxiety Disorder
GAD-7	7-item Generalised Anxiety Disorder Scale (Spitzer et al., 2006)
GDPR	General Data Protection Regulation
GHQ	General Health Questionnaire (Goldberg & Hillier, 1979)
HEI(s)	Higher Education Institution(s)
HSfO	High Standards for Others (PI subscale)
IPPR	Institute for Public Policy Research
IQR	Interquartile Range
MCAR	Missing Completely at Random
MHC	Mental Health Condition
MHI	Mental Health Inventory (Veit & Ware, 1983)
MHI-5	5-item Mental Health Inventory (Stewart et al., 1988)
MPS-F	Multidimensional Perfectionism Scale (Frost et al., 1990)
MPS-HF	Multidimensional Perfectionism Scale (Hewitt & Flett, 1991)
NICE	National Institute for Health and Care Excellence
OOP	Other-Oriented Perfectionism (MPS-HF subscale)
PANAS	Positive and Negative Affect Schedule (Watson et al., 1988)
PC	Perfectionistic Concerns
PCI	Perfectionism Cognitions Inventory (Flett et al., 1998)
PCT	Perfectionism Cognition Theory
PI	Perfectionism Inventory (Hill et al., 2004)
PPI(s)	Positive Psychology Intervention(s)
PS	Perfectionistic Strivings
PSWQ	Penn State Worry Questionnaire (Meyer et al., 1990)
RCT	Randomised Control Trial
RS-14	14-item Resilience Scale (Wagnild & Young, 1993)

SDM	Social Disconnection Model
SDT	Self-Determination Theory
SHU	Sheffield Hallam University
SOP	Self-Oriented Perfectionism (MPS-HF subscale)
SPANE	Scale of Positive and Negative Experience (Diener et al., 2010)
SPP	Socially Prescribed Perfectionism (MPS-HF subscale)
SPS	Social Provisions Scale (Curtona & Russell, 1983)
SPSS	Statistical Package for the Social Sciences
SSI	Somatic Symptom Inventory
STAI	State-Trait Anxiety Inventory (Spielberger et al., 1983)
TA	Thematic Analysis
UCAS	Universities and Colleges Admissions Service
UUK	Universities UK
VIA-IS	Values in Action Inventory of Strengths
VIF	Variance Inflation Factor
WDQ	Worry Domains Questionnaire (Tallis et al., 1992)

Preface - Personal Introduction

The overall aims of this research project are driven by an aspiration to better understand UK undergraduates' mental health and well-being and identify ways in which to better support this population through effective therapeutic intervention. My motivations for investigating this topic came from numerous sources. Following my BSc Psychology degree at the University of Sheffield, I began working with students in a support and conduct role alongside my MSc Integrative Counselling and Psychotherapy course (accredited by the British Association for Counselling and Psychotherapy [BACP]), integrating person-centred, cognitive-behavioural, and psychodynamic counselling. I subsequently worked in various mental health roles (e.g., as a Strengths-Based Mental Health Practitioner, a Counsellor, and a Specialist Mental Health Mentor in universities) and became increasingly aware of the trends, causes, and growing demand for student mental health and well-being support, motivating me to identify and develop more efficacious and effective interventions for this population.

I continued these student support roles alongside the current research programme, and by studying and discussing the relevant literature (together with anecdotal evidence in my employment), I developed a greater understanding of the varying impact perfectionism can have on students' mental health, well-being, and academic engagement. I also developed my understanding and interest for positive psychology, in particular how or why students may succeed and flourish in life, and whether students' attributes, resources, and well-being could be *enhanced* through therapeutic intervention. Through applying my counselling practice to research as a developing scientist-practitioner, I became interested in how positive psychology could further support the well-being of perfectionist students, as opposed to the deficit-based approach commonly found within clinical psychology.

My previous experience in academia focused on quantitative research, however, I have since developed my skills in qualitative methodology following my MSc, enhancing these through teaching as a Demonstrator, Associate Lecturer and at present, a full-time Lecturer. My pluralistic, mixed methods approach to the intervention study mirrors my own therapeutic approach in adopting reflexive, evidence-based practice when working with clients (see Chapter 2). Prior to the PhD, I had a comprehensive theoretical and applied understanding of cognitive-behavioural principles; advantageous in informing the programme of research. I was also able to apply my growing understanding of perfectionism and positive psychology into delivering training to other mental health practitioners, multiple conference presentations to academics and practitioners (e.g., Sheffield Hallam University, Student Mental Health Research Network Conference, and BACP Research Conference), and lectures and seminars to students on perfectionism, cognitive behavioural therapy, positive psychology, and research methods. By carrying out the research programme alongside my work as a lecturer and mental health practitioner, I have jointly developed my research, teaching, and therapeutic skills throughout, becoming a more well-rounded and effective academic-practitioner when supporting students.

Chapter 1 – Introduction and Review of Literature

There is a large body of evidence demonstrating a high prevalence of mental illness in students with rates reportedly increasing (Royal College of Psychiatrists, 2011; Thorley, 2017), and even reaching global concern (Storrie et al., 2010; Rückert, 2015). The Institute for Public Policy Research (IPPR), working in partnership with Universities UK (UUK), produced an evidence-based report on mental health in higher education (Thorley, 2017). The report found that levels of mental illness, distress and low well-being among UK students are increasing, and that universities are experiencing a dramatic increase in the number of students seeking support, primarily through counselling services. Finally, the report summarised that poor well-being and mental ill health could affect students' academic performance and retention rates at university, as well as contribute to death by suicide, rates of which are also increasing among students (15% since 2009/10; Gunnell et al., 2020).

Coinciding with the IPPR report, the UUK produced the #Stepchange framework (now “Stepchange: mentally healthy universities”; Universities UK, 2021), to support senior teams within Higher Education Institutions (HEIs) to adopt a whole university approach to mental health. This was part of a programme launched in 2016 to make mental health in HEIs a proactive policy priority, the first objective being to develop, agree and launch a framework for university leaders to adopt. This highlights the growing urgency and importance placed upon universities to help support their students' mental health and well-being and indicates the necessity for empirical research to support this endeavour.

Background for Mental Health, Well-Being, and Perfectionism among UK

Undergraduates

Macaskill (2012) identified that rates of mental ill health in students are similar to those within the total population of young adults. However, students may encounter

particular challenges or unique demands during university that place them at greater risk of poorer mental health in comparison to young adults, such as the combination of academic, financial, and social pressures that were suggested by the IPPR report. The development of a mental illness may be due to a complex influence of genetic, biomedical, and social factors. Diathesis-stress models (e.g., Ingram & Luxton, 2005) outline the ways in which different vulnerabilities (psychological, genetic, biological, and cultural) can interact with stressors to increase the likelihood of mental illness occurrence. However, protective factors such as high self-esteem, academic achievement, and good social support networks, can modify how individuals cope with an encountered stressor, preventing the development of a mental health disorder, even in the presence of diathesis (Rutter, 2007; Macaskill, 2012). Whilst the context of higher education could lead to a greater likelihood of students experiencing stressors (e.g., financial, academic, and social), there may also be a lack or impairment of previously existing protective factors due to students needing to adapt to the new university context. For instance, the student previously protected by a supportive network of family and friends may need to build new relationships upon transitioning to a university in a new location.

Stressors regarding increased financial pressures on students have been linked to concerns for student mental health (Robotham & Julian, 2006; Royal College of Psychiatrists, 2011; Denovan & Macaskill, 2016), particularly following changes in the higher education system over the last thirty years. Following the Dearing (1997) report, student tuition fees were reintroduced in 1998 to fund expanding student enrolment and provision of infrastructure, with variable tuition fees of up to £3,000 for universities in England under the 2004 Higher Education Act. The Browne (2010) report identified that the reforms in student tuition fees enabled increased income for HEIs, however several challenges (such as widening participation) remained, and subsequently in the

2012-13 academic year, the £9,000 fee cap was introduced. However, research does not consistently demonstrate the link between tuition fees and student mental ill health; Richardson et al. (2015) identified undergraduates' mental health was partially affected by the differing level of tuition fees (between pre- and post-2012 fee levels) but did not appear to have had a lasting impact. A more recent rapid review by McCloud and Bann (2019) found little evidence to support the amount of debt was associated with mental ill health, however, greater subjective financial stress was associated with greater mental ill health.

The changing context of UK HEIs may have had other indirect impacts on student's mental health. Apart from a small decline in 2012 applications, there has been a consistent, increasing rate of students attending university (UCAS, 2017), potentially creating more competition for jobs post-graduation, exacerbating perceived pressure for students to obtain a "respectable" degree and achieve top marks (Johnson & Crenna-Jennings, 2018). Furthermore, the HEI reforms have seemingly shifted universities into a more economic-driven, neoliberal discourse (Matthews et al., 2018), where students are constructed more as "customers" than learners (Gravett et al., 2020), and with increasing numbers and larger class sizes, students may receive less personalised support (Brown, 2016), as well as a loss of identity and connectedness where "you are just lost in a crowd" (Scanlon et al., 2007). Indeed, McIntyre et al. (2018) found loneliness was a strong predictor of mental distress in students, but strong social identity, particularly within university friendship groups, was the most protective. This corresponds with previous survey results by YouGov (Aronin & Smith, 2016) where 31% of 1061 students felt lonely "fairly often" to "almost constantly" (YouGov, n.d.), and research by Richardson et al., (2017), who found that loneliness was a significant predictor for greater anxiety, stress, and depression in UK undergraduates. Farrer et al. (2016) found the psychosocial factors "feeling too much pressure to succeed", "lack of

confidence” and “difficulty coping with study” were significantly associated with risk of generalised anxiety disorder in Australian undergraduates.

Loneliness is likely to be exacerbated by the transition to university, a particularly stressful time for students that involves them adapting to new environments, including building a new sense of self and relationships (Scanlon et al., 2007), with such a transition contributing to student distress (Fisher, 1994; Ross et al., 1999; Bojuwoye, 2002). Knoesen and Naudé (2018) found South African first year students’ well-being “languished” during the overwhelming experience of beginning university, finding academic work particularly challenging and experiencing loneliness. As well as loneliness predicting distress, McIntyre et al. (2018) found academic stress was the strongest predictor for academic outcome, and 71% of students reported academic study as the primary cause of stress in the aforementioned YouGov survey (Aronin & Smith, 2016). However, a review of qualitative research (Hurst et al., 2012) found relationship stressors (e.g., leaving family and friends behind and developing new relationships) as the most commonly reported source of stress among students, followed by a lack of resources (e.g., time and money), living up to high expectations from oneself and others (with some specifically noting perfectionism), and academic stressors.

Defining Mental Health and Well-Being

Concern for rising student mental ill health has also extended to the media, with regular reports regarding rates of student mental ill health, university services struggling with demand, and links between social media and student suicide (Weale, 2018). However, Brown (2016) suggests it is difficult to accurately identify prevalence of student mental ill health due a lack of robust data, citing a well-publicised National Union of Students (2015) survey which reported eight out of 10 students had experienced a mental health issue, yet “mental health issue” was not clearly defined. Ecclestone and Lewis (2014) suggest definitions of mental ill health have become so

imprecise they encompass “mundane” and everyday experiences resulting in exaggerated claims of student mental ill health. A lack of clear terminology between surveys could be responsible for such differing estimates of student mental ill health (Barkham et al., 2019) and is a concern for researchers. In response, recent initiatives have focused upon increasing funding to enhance the scientific rigor of student mental health research (see Student Mental Health Research Network; <https://www.smartem.org.uk/>).

To aid clarity, distinctions between the related but independent concepts of well-being, mental health and mental ill health are set out for the current programme of research. “Well-being” concerns a person’s perception, evaluation, and experience of their life (Keyes, 2002), and how they are in themselves; how they feel (affective) and how they function (psychosocial; Diener et al., 2010; New Economics Foundation, 2012). From a hedonic perspective, well-being concerns emotional (feeling good) and evaluative (satisfaction with life) components, and a eudemonic perspective considers well-being as a process of flourishing or fulfilling one’s potential, with core dimensions of personal growth, purpose in life and positive relationships (Ryan & Deci, 2001; Sirois, 2011). Although well-being is considered subjective, it can also be observed objectively, therefore the term “well-being” is commonly used instead of “subjective well-being” to avoid the inference that it is arbitrary or unknowable (Diener, 2006). Poor well-being or “ill-being” reflects a deficit in health, happiness, or prosperity.

Mental health is one aspect that matters for well-being, however mental health is not simply the opposite of mental illness; one can have a mental illness and still have high levels of well-being. Furthermore, someone can have poor, or low levels of well-being, without having a mental illness. Similar to Weich et al. (2011), the term “mental health” within the current programme of research is taken to mean the full spectrum of mental health states; “mental ill health” would concern the negative or detrimental end

of the spectrum and conversely “mental well-being” the positive. “Psychological distress” refers to non-specific symptoms of stress, anxiety, and depression. “Mental illness”, “mental health condition” (MHC), and “mental health disorder” may be used interchangeably to describe a diagnosable health condition characterised by a significant disturbance of thoughts, emotions, or behaviours, and associated with high levels of distress or impairments of functioning (World Health Organization, 2019).

Despite issues with terminology, and the repercussions for accurate data, what is more certain is the rise in *demand* for higher education mental health services (Mair, 2016; Randall & Bewick, 2016; British Association for Counselling and Psychotherapy [BACP], 2017; Broglia et al., 2017) with calls for more funding for these services and interventions to increase students' resilience (Pointon, 2014; Ecclestone, 2016), due to the key role resilience plays in students meeting the challenges of higher education (Brewer et al., 2019). It is therefore pertinent to identify the role of key factors that can reflect mental ill health and poor well-being amongst students, to better identify effective and appropriately targeted interventions for students that will not only support their mental health and well-being, but also could reduce the overwhelming demand for support services in universities.

Perfectionism and Undergraduate Students

As well as growing mental ill health, another reported increase is that of perfectionism rates among students in UK HEIs. Curran and Hill (2019) recently produced a meta-analysis of studies based on 164 samples of students across the US, Canada, and UK that captured levels of perfectionism using Hewitt and Flett's (1991) multidimensional perfectionism scale (MPS-HF). They found students' mean perfectionism scores displayed linear increases from 1989 to 2016, which remained constant between country and gender differences. In particular, they found a sizeable increase in socially prescribed perfectionism (SPP), a dimension of perfectionism within

the MPS-HF that is strongly related to greater psychopathology and suicidal ideation (Smith et al., 2017), particularly within students (Stanley et al., 2009). Curran and Hill (2019) suggest this rise in perfectionism is in response to neoliberal governance of the US, UK, and Canada, which contributes to young peoples' competitive individualism, preoccupation with upward social comparisons, and belief in the need to perfect themselves and their lifestyles. Indeed, Rice and Slaney (2002) commented on the rather high percentage of students in their perfectionist group samples, suggesting this may be explained by the competitive tendencies in universities. These neoliberal cultural values, similar to that echoed by Matthews et al. (2018), may result in young people experiencing status anxiety and dissatisfaction with what they have and who they are.

Curran and Hill (2019) also suggest such dissatisfaction is exacerbated by new social media platforms that tend to intensify young persons' body image concerns and sense of social alienation. Social media has been considered to have an impact on student well-being (Weale, 2018), supported by Burke and Kraut (2016) whose extensive literature review found that whilst some people may derive benefits from online social media use, it was dependent on communication type and tie strength. Drawing from social comparison theory, they found some types of online communication could be harmful, as there is a predilection for social media users to present themselves in a self-enhancing, positive way, and such a bias can result in viewers to overestimate others' happiness and standards and underestimate others' difficulties, as has been found offline (Jordan et al., 2010). Some studies have also found associations between students viewing others' social media stories to ego-deflation, upward social comparison, envy, and subsequent feelings of depression (Chou & Edge, 2012; Steers et al., 2014).

Curran and Hill (2019) argue that the internalised sense of the ideal, perfect self is unrealistic, yet still seemingly desirable and obtainable to young adults, and leaves

them vulnerable to criticism and failure. They conclude the increase in SPP has the potential to partly explain the reported increase in prevalence of mental ill health among students due to the alienation and need for approval that perfectionists experience, which leaves them susceptible to mental ill health.

Whilst perfectionism could be considered a beneficial attribute or personality disposition within the realm of academia (a context that favours the continual seeking of better, flawless performance and the achievement of the highest of standards) the potential consequences of this are frequently seen within higher education counselling and well-being services. As a university counsellor, I have increasingly encountered students struggling with the following difficulties: procrastination (Sirois et al., 2017), stress (Flett et al., 1995), depression and anxiety (Frost et al., 1993; Bieling et al., 2004), excessive rumination and worry (Macedo et al., 2014), poor well-being (Chang, 2006; Hill et al., 2010), social isolation (Sherry et al., 2016) and suicidal ideation (Stanley et al., 2009; Smith et al., 2017). These were all seemingly associated with perfectionism during therapeutic case formulations (Nezu et al., 2004). However, the existing nomological network of perfectionism does not include consistent relationships between perfectionism and negative psychological outcomes, as shown in the review by Stoeber and Otto (2006) who found higher order dimensions of perfectionism could also be “adaptive”.

Before discussing how therapeutic interventions for perfectionism in university students may support their mental health and well-being, it is first important to outline the complexity of perfectionism; how it is conceptualised and measured, the theories that underpin how and why it is associated with mental health and well-being outcomes, and finally why it is pertinent to examine the nomological network of perfectionism within the context and population of university students.

Background of the Conceptualisation and Measurement of Perfectionism

Extant literature broadly defines perfectionism as not just the setting of excessively high, often unrealistic standards, but also the tendency for overly critical self-evaluation (Frost et al., 1990). Perfectionism is commonly regarded as a fairly stable personality trait or disposition, yet it can be understood differently depending on the theoretical approach adopted. If considering perfectionism from a cognitive perspective, there is an understanding of perfectionism as state-related automatic perfectionist thoughts. Similarly, a social or behavioural perspective may shed light on state-related perfectionistic self-presentation behaviours (Sirois & Molnar, 2016). However, perfectionism as a trait is the most prevalent conceptualisation within research, and there are many measures available that assess perfectionism at this level (Enns & Cox, 2002; Flett & Hewitt, 2015b; Sirois & Molnar, 2016). The measurement and conceptualisation of perfectionism has changed considerably since it was first described in the mid-twentieth century. Earlier research into the construct of perfectionism considered the personality characteristic as neurotic or dysfunctional (Stoeber, 2018a); a one-dimensional construct derived from the psychodynamic writings of theorists such as Karen Horney (1950), who notably considered perfectionism “the tyranny of the should” (p .64) and something devoid of positive aspects.

However, for the last 30 years perfectionism research has dramatically increased (Stoeber, 2018a) largely due to the conceptual shift following two independent research teams, Frost et al. (1990) and Hewitt and Flett (1991), conceptualising and measuring perfectionism as multidimensional, creating multidimensional perfectionism measures referred to as MPS-F and MPS-HF respectively. Through understanding perfectionism as multi-faceted, it has led to a broad shift in thinking with general agreement amongst researchers that perfectionism is a multidimensional construct (Frost et al., 1990; Hewitt

et al., 2003), to be examined more comprehensively and therefore is not necessarily a unidimensional, negative personality trait to be treated in its entirety. However, this agreement is not unanimous (see section “Unidimensional Clinical Perfectionism Model” later in the chapter), and there is also disagreement between the researchers who would otherwise agree perfectionism is multidimensional, but offer different definitions, conceptualisations, and assessments (Sirois & Molnar, 2016; Stoeber, 2018a).

Such differences continue to be debated among researchers and have implications for the role perfectionism has in (student) mental health and well-being. These contemporary issues include; the measurement and conceptualisation of perfectionism (as developed from different theoretical perspectives; Sirois & Molnar, 2017), the utilisation of a two-factor higher order model for perfectionism, whether perfectionism and/or its components are considered adaptive or maladaptive (as associated with health and well-being outcomes), whether suppression effects have been taken into account, what indirect pathways (as identified by theory) linked with perfectionism and health and well-being are included, and the context and/or population within which perfectionism is studied (Molnar & Sirois, 2016). A discussion of each of these issues in relation to the proposed thesis is provided next, beginning with a brief overview of different measures and conceptualisations of perfectionism commonly used within research.

Existing Measures and Conceptualisations of Perfectionism

The trait measures outlined below comprise various intrapersonal and interpersonal components of perfectionism which hold differing associations with health and well-being outcomes, and with some constructs overlapping (Enns & Cox, 2002; Hill et al., 2004). This highlights the complexity of conceptualising multidimensional perfectionism in regard the roles that different constructs that may confer risk, or

resilience, to mental health and well-being. However, this may also enable more accuracy when targeting relevant factors in interventions (Sirois & Molnar, 2016), which is key for the current programme of research in its intentions to identify effective interventions that support the mental health and well-being of university students. As such, a brief overview of the unidimensional clinical perfectionism model (Shafran et al., 2002) is also provided, in regards its specific relevance for a cognitive-behavioural treatment model for perfectionism.

Multidimensional Perfectionism Scale (MPS-F; Frost et al., 1990). The MPS-F (Frost et al., 1990) reflects certain characteristics of perfectionism through six dimensions or subscales; Personal Standards (evaluating oneself against high standards of performance), Parental Criticism and Parental Expectations (perceiving high expectations from parents, or that they are overly critical), Organisation (being neat and organised), Doubts About Actions (DAA; a mix of concern over getting things right, repeating work and getting behind), and Concern Over Mistakes (tendency to interpret mistakes as failures). The 35-item 5-point Likert-type scale is widely used and has demonstrated good psychometric properties, including internal consistency in adults ($\alpha = .77$ to $.93$; Frost et al., 1990), but it is also criticised conceptually for not measuring perfectionism as such, but rather its outcomes or correlates (Sirois & Molnar, 2016). The Parental Criticism and Expectations subscales may be considered antecedents of perfectionism, as opposed to a core component of perfectionism, thus confounding its conceptualisation.

Multidimensional Perfectionism Scale (MPS-HF; Hewitt & Flett, 1991). Unlike Frost et al.'s (1990) conceptualisation of perfectionism as primarily self-focused characteristics, the MPS-HF by Hewitt and Flett (1991) considers both intrapersonal and interpersonal components of perfectionism, loosely identified as the different direction that perfectionism is oriented towards or from. The MPS-HF contains 45

items, rated on a 7-point Likert-type scale. Hewitt and Flett (1991) identified three subscales; the previously mentioned SPP (perception of standards imposed by others), Self-Oriented Perfectionism (SOP; setting and evaluation of high personal standards), and Other-Oriented Perfectionism (OOP; holding high standards for others). Similar to the MPS-F, the MPS-HF also holds good psychometric properties, with items that are high in face validity (Flett & Hewitt, 2015b), and demonstrated good internal consistency ($\alpha = .88, .74, \text{ and } .81$ for SOP, OOP, and SPP, respectively; Hewitt & Flett, 1991). However, the core components have been criticised by Shafran et al. (2002), who support a clinically based, unidimensional conceptualisation of perfectionism and argue that only the SOP dimension of the MPS-HF reflects the perfectionism construct, and the interpersonal dimensions (SPP and OOP) should be regarded as associated features of perfectionism. However, in response to this critique, Hewitt et al. (2003) drew on writings from Horney (1950), Burns (1980), Hollender (1965) and Hamachek (1978), that had not only informed their own multidimensional conceptualisation of perfectionism, to include both intrapersonal and interpersonal orientations, but they argued this therefore refuted such a unidimensional, solely intrapersonal conceptualisation of perfectionism offered by Shafran et al. (2002).

Almost Perfect Scale-Revised (APS-R; Slaney et al., 2001). Considering the multidimensional conceptualisation of perfectionism, and the potentially positive, or adaptive aspects of perfectionism (discussed later in this chapter), the Almost Perfect Scale (APS) was created by Slaney and Johnson (1992, cited by Slaney et al., 2001), who sought to better distinguish between positive and negative aspects, in an attempt to provide guidance for counsellors working with perfectionists. However, this ultimately included more negative than positive dimensions in the scale, and later the APS was revised (APS-R) by Slaney et al. (2001) to a three-factor measure for perfectionism with subscales; (high) Standards (incorporating elements of the MPS-F measurement of

Personal Standards and the MPS-HF measurement of SOP), Order, and Discrepancy, the latter measuring the more negative self-critical evaluation found in perfectionism. The generally inconsequential associations between the Discrepancy and Standards subscales (Slaney et al., 2001) suggests these are measuring two well-defined forms of perfectionism (Sirois & Molnar, 2016). The scale contains 23 items on 7-point Likert type ratings and there is various support for the psychometric properties of the APS-R (Flett & Hewitt, 2015b). Each subscale has good internal consistency; $\alpha = .85, .86,$ and $.92$ for Standards, Order and Discrepancy respectively (Slaney et al., 2001). Rice et al. (2016) advocate using the APS-R due to the orthogonal relationship between Standards and Discrepancy subscales, however, it has been argued that the Standards subscale may be assessing a component that is more akin to striving for excellence due to its lack of reference to “perfection”, so may not be capturing the more extreme form of *perfectionistic* expectations (Flett & Hewitt, 2015b; Blasberg et al., 2016).

Perfectionism Inventory (PI; Hill et al., 2004). A less commonly used multidimensional measure is the Perfectionism Inventory (PI; Hill et al., 2004, 2010), a 59-item, 5-point Likert-type scale measure of perfectionism with eight subscales. The measure was designed to capture the components of both the MPS-F and MPS-HF more efficiently (in light of overlapping constructs between the two; Enns & Cox, 2002), creating a more conceptually comprehensive scale. As such, researchers could avoid having to use both scales to capture the full range of perfectionism components or having to choose between the MPS-F and MPS-HF, and risk omitting potentially relevant aspects of perfectionism. Following factor analyses, Hill et al. (2004) identified only six constructs that were necessary to include in the new measure, but subsequently included two additional components that were not necessarily captured by either the MPS-F or MPS-HF: Rumination and Planfulness. Hill et al. (2004) noted repeated, prior evidence of strong, positive associations between perfectionism and rumination

symptoms, as such their Rumination subscale was developed to help assess rumination about past errors, less than perfect performance, or future problems. Planfulness was identified as a tendency to carefully and deliberately think ahead before making decisions, and thus it was included as a cohesive construct that was strongly associated with other perfectionism scales.

The resulting eight PI subscales comprise of: Concern over Mistakes, Need for Approval, Perceived Parental Pressure and Rumination (comprising a composite for PC, formerly Self-Evaluative Perfectionism; Hill et al., 2010), and High Standards for Others, Organisation, Planfulness, and Striving for Excellence (comprising a composite for PS, formerly Conscientious Perfectionism; Hill et al., 2010). Hill et al. (2004) also found good psychometric properties of the PI, with good convergent validity with the MPS-HF and the MPS-F, good test-retest reliability correlation coefficients over four to five weeks ranging from $r = .71$ to $.91$ for the eight subscales, and good variability and clear unidimensional structures, as reflected in exploratory principal components analyses and confirmatory factor analyses. The eight subscales hold good internal consistency ranging from $\alpha = .83$ to $.91$ (Hill et al., 2004).

Unidimensional Clinical Perfectionism Model. Although the present thesis will focus on a multidimensional conceptualisation of perfectionism, it is necessary to briefly acknowledge the unidimensional clinical perfectionism model (Shafran et al., 2002), due its use of cognitive-behavioural therapy (CBT) in the treatment of perfectionism, one of the most predominantly researched treatment models for perfectionism (Lloyd et al., 2015). Further discussion of the treatment model is found later in this chapter and will partly inform the intervention protocol in Study 3 (see Chapter 4).

Despite the shift in conceptualising perfectionism as multidimensional, Shafran et al. (2002) advocated for a unidimensional model of perfectionism, which emphasises

the intrapersonal focus of perfectionism as most relevant in clinical interventions. Their model was influenced by literature on the psychopathology of eating disorders, viewing perfectionism as integral to this. Shafran et al. (2002) focussed on what they have termed “clinical perfectionism”, defined as “the overdependence of self-evaluation on the determined pursuit of personally demanding, self-imposed standards in at least one highly salient domain, despite adverse consequences” (Shafran et al., 2002, p. 778). Their conceptualisation held the adverse consequences of clinical perfectionism as emotional (e.g., anxiety), social, physical, cognitive, and/or behavioural (procrastination). Shafran et al.’s (2002) definition centred around perfectionists having dysfunctional evaluations of self, in that such an overdependence of achieving personally demanding standards is extremely vulnerable to failure, resulting in self-criticism and negative self-evaluation, and that the self-evaluation is highly dependent upon the domain in which perfection is sought.

What distinguishes clinical perfectionism from the healthier pursuit of excellence is the *dependence* of the perfectionist’s view of oneself on meeting such high standards, and therefore the self-criticism that arises from failure. Following the debate between Hewitt et al. (2003), Shafran et al. (2003), and Dunkley et al. (2006); Egan et al. (2011) suggested there was nothing maladaptive in striving for excellence in itself, however when the clinical perfectionist’s self-worth is overly dependent on striving and they express excessive concern over mistakes, perfectionism is then problematic. Egan et al. (2011) argue findings relating to different components of perfectionism that emphasise the maladaptive nature of basing one’s self-evaluation on striving and concern over mistakes (i.e., PC), are in accordance with the model of clinical perfectionism and treatment based upon this.

Two Higher Order Perfectionism Dimensions

Whilst the multidimensional scales are frequently used when measuring trait perfectionism, research has also identified that two potential underlying higher order dimensions of perfectionism can be extrapolated from these measures. Frost et al. (1993) first identified common aspects within the MPS-F and MPS-HF, and when subjecting all nine dimensions to a factor analysis, two higher-order dimensions arose. These two dimensions were initially called “Personal Standards” and “Maladaptive Evaluation Concerns” perfectionism (Frost et al., 1993), but are since commonly referred to respectively as Perfectionistic Strivings (PS) and Perfectionistic Concerns (PC). PS reflects “a self-oriented striving for perfection and exceedingly high personal standards of performance” (Stoeber & Gaudreau, 2017, p. 379; Stoeber & Otto, 2006) and PC reflects “concerns over making mistakes, fear of negative social evaluation if not perfect, doubts about actions, feelings of discrepancy between one’s high standards and actual performance, and negative reactions to imperfection” (Stoeber & Gaudreau, 2017, p. 379; Stoeber & Otto, 2006). As well as the results from Frost et al. (1993), other studies have also found support for these two higher order factors across different measures (Rice et al., 1998; Stöber, 1998; Enns & Cox, 2002; Stoeber & Otto, 2006; see also Cox et al., 2002; Dunkley et al, 2000).

The conceptualisation of PS and PC are comprised of different subscales from the aforementioned trait measures of perfectionism. The SOP subscale from the MPS-HF, the Personal Standards subscale from the MPS-F, and the High Standards subscale from APS-R are all indicated as comprising the PS dimension (Stoeber & Gaudreau, 2017). Subscales reflecting a need for order (i.e., APS-R; Rice et al., 1998) and organisation (i.e., MPS-F; Frost et al., 1993) may also comprise PS. Finally, the four aforementioned PI subscales that make up the previously termed “Conscientious Perfectionism” composite may also comprise PS (Hill et al., 2010). For PC, the Concern

Over Mistakes and DAA subscales from the MPS-F have been indicated (see Stöber, 1998), as well as the SPP subscale from the MPS-HF and the Discrepancy subscale from the APS-R (Stoeber & Gaudreau, 2017). The Parental Expectations and Parental Criticism subscales from the MPS-F may also comprise PC (Frost et al., 1993). The four aforementioned PI subscales that comprise the previously termed “Self-Evaluative Perfectionism” (Hill et al., 2010) are also indicated for PC.

The changing terms for the PI composites highlights another issue within perfectionism research, where there have been numerous terms adopted for the two dimensions, such as “adaptive or maladaptive” perfectionism (Rice et al., 1998; Enns et al., 2001) and “healthy or unhealthy” perfectionism, which is problematic if research has not directly assessed health and well-being (Stumpf & Parker, 2000) and suggests different operational definitions of perfectionism. For clarity, this programme of research will use the terms PS and PC throughout, and where appropriate, it will indicate what subscales have comprised a measurement for PS and PC when discussing prior and current research.

As well as distinguishing two higher order components of perfectionism, researchers have found differentially related associations between PS and PC with health and well-being factors, which have particular implications for clinical interventions and thus serve a core interest for the current programme of research. Studies have found the PC dimension is related to detrimental outcomes, such as negative affect, poorer well-being and less flourishing (Frost et al., 1993; Hill et al., 2010; Stoeber & Corr, 2016), lower resilience (Klibert et al., 2014), poorer academic performance or achievement (Enns et al., 2001; Bieling et al., 2003), lower self-esteem (Rice et al., 1998), avoidant coping styles (Dunkley et al., 2000) and mental ill health, such as depression and anxiety (Frost et al., 1993; Bieling et al., 2004). In contrast, some studies have found PS is associated with more “positive” or “adaptive”

characteristics, such as positive affect, well-being, and flourishing (Frost et al., 1993; Hill et al., 2010; Stoeber & Corr, 2016; Suh et al., 2017) active and adaptive coping styles (Dunkley et al., 2000) and achievement and academic performance (Enns et al., 2001, Bieling et al., 2003; Madigan, 2019). As such, perfectionism research has seen a rising interest in investigating the potential adaptiveness of PS, in part, due to the parallel growth of the positive psychology movement (Seligman & Csikszentmihalyi, 2000; Sirois & Molnar, 2016), discussed later in this chapter.

However, there is not consistent agreement amongst researchers as to whether or not PS is adaptive. Both desirable *and* detrimental outcomes have been associated with PS (Bieling et al., 2003; Bieling et al., 2004) calling into question whether there is indeed a “positive” form of perfectionism. Greenspon (2000) considered “healthy perfectionism” an oxymoron, citing clinical and anecdotal experience that perfectionists describe it as a burden and unlike striving for excellence. Flett and Hewitt (2002, 2005, 2006; see also Benson, 2003) also note that whilst some positive outcomes may develop from a perfectionistic approach to certain contexts (e.g., an elite athlete or a surgeon), ultimately, the negative consequences of perfectionism far outweigh the benefits. When examining the role of perfectionism in the context of chronic illness, Molnar et al. (2016) did not make adaptive or maladaptive distinctions between perfectionism dimensions due to the lack of theoretical and empirical distinctions between perfectionism components within the context of chronic illness. Molnar et al. (2016) suggested that whilst there may be circumstances in which perfectionism has benefits, it is too costly a price to pay in the context of chronic illness. Therefore, under some contexts or circumstances the distinction between PS and PC on the basis of relative adaptiveness has less bearing.

Differences between the measurements for PS and PC, such as the theoretical perspective through which the measures were developed (Enns & Cox, 2002; Sirois &

Molnar, 2016), can have implications for the respective associations to mental health and well-being outcomes. Evidence suggests measures of trait perfectionism tap different facets, such as the APS-R Discrepancy subscale tapping negative affect (Flett, Mara et al., 2016), and the APS-R Standards subscale reflecting conscientious achievement striving (Blasberg et al., 2016). Sirois and Molnar (2017) note that whilst measures may be highly related to each other, this does not mean equivalence, particularly in respect to health outcomes. For instance, they found PC was associated with poorer self-rated health, but this effect was moderated by sample type (chronically ill vs student vs community adult samples) and the perfectionism measure used (MPS-HF vs APS-R). However, they did not find evidence to support moderation of associations between PS and self-rated health, but state this may have been due to a lack of power in the study. The role of context and sample (i.e., university students) for the potential benefit of PS is discussed later in this chapter.

In light of the disagreement regarding PS “adaptiveness”, Stoeber and Otto (2006) sought to provide an overview of literature identifying how facets of perfectionism can differentiate positive and negative forms of perfectionism. Their review identified 35 studies that used several measures for perfectionism and represented various outcomes associated with PS, from both a dimensional conception as well as group-based conceptions (the notion of healthy and unhealthy perfectionists). They found PS was related to higher levels of positive affect, satisfaction within life, active coping styles and achievement and when accounting for the overlap of variance from the PC dimension, PS was also related to lower levels of depression, self-blame, and perceived hassles. This was also supported in group-based approaches, where “healthy perfectionists” (who score high in PS and low in PC), show higher levels of self-esteem, agreeableness, social integration, and academic adaption, as well as lower

levels of anxiety, depression, procrastination, maladaptive coping styles and interpersonal styles.

As such, Stoeber and Otto (2006) demonstrate converging evidence of the differentiation between PS and PC associations with health and well-being outcomes, particularly when the overlapping variance of PS and PC has been partialled out; another key factor to be considered when exploring findings concerning perfectionism, health, and well-being (Molnar & Sirois, 2016).

Perfectionism Partiality Debate. In response to Stoeber and Otto (2006), Hill et al. (2010) further investigated the potential overlap of the PI dimensions, reporting multiple regression analyses for PS and PC and their prediction of desirable, more positive outcomes, such as psychological well-being. They found that PC serves as a suppressor variable that reduced the strength of positive associations between PS and positive psychological outcome variables. When variance from PC was partialled out, Hill et al. (2010) concluded that the more an individual endorses PS characteristics, such as being organised and having high standards, the more they endorse positive psychological well-being and mood. They also identified practical implications in that supporting the development of interventions that promote PS could be associated with improved positive psychological outcomes, and those who struggle with high levels of PC would benefit from interventions that reduce these. This dual-process approach has also been advocated by Rice and colleagues (Rice et al., 1998; Rice & Mirzadeh, 2000; Rice & Dellwo, 2002) who suggest counsellors should not presume an entirely maladaptive, unidimensional construct, but consider working with and strengthening the components of perfectionism that can be adaptive (dependent on context).

Suppression effects are now considered a pertinent issue within the perfectionism field to be carefully attended to (Molnar & Sirois, 2016), with researchers testing multiple dimensions of perfectionism simultaneously to account for the joint

variance and thus “purify” the dimension of interest (e.g., to better understand the potentially adaptive effects of PS). Hill (2014) previously raised concerns that upon identifying the effects of partialling and suppression, the conceptual meaning of the original, pre-partialled construct of PS also changes, questioning if it differs from general achievement strivings and warrants the label *perfectionistic* striving. However, Stoeber and Gaudreau (2017) argued that Hill (2014) had inaccurately described defining features of perfectionism (e.g., *conditional* self-worth) asserting it is possible to strive for perfection, without being concerned about imperfection. Whilst they agreed with Hill (2014) that caution should be taken when discussing the unique relations of PS and PC (compared with bivariate relations), they concluded that there are no satisfactory alternatives to partialling PS and PC that can help with understanding the dual nature (although alternative methods have been proposed, e.g., utilising a hybrid-model or person-centred approach; Molnar & Sirois, 2016). Regardless of statistical technique employed, researchers are still unclear about what the purified PS is representing once the joint variance with PC has been accounted for. It could be PS is uniquely adaptive, or is simply *less* maladaptive than PC (i.e., “neutral”; Bieling et al., 2004), or it could be that we are no longer assessing PS, but rather “conscientiousness” (Molnar & Sirois, 2016).

As well as lack of clarity surrounding the “conceptual meaning” of PS when PC is partialled out, there are also concerns in restricting analyses to only a condensed two-factor model, where PS could represent different constructs depending on the measurement(s) used. For instance, subscales reflecting a need for order (i.e., APS-R; Rice et al., 1998) and organisation (i.e., MPS-F; Frost et al., 1993) have previously comprised the PS dimension. However, Stoeber and Otto (2006) suggested that these facets could be disregarded for PS, as confirmatory factor analyses found these two facets formed a third, separate factor independent of PS and PC (Rice et al., 2005;

Suddarth & Slaney, 2001). They also suggested that OOP (Hewitt & Flett, 1991), or analogously the High Standards for Others subscale within the PI, is also disregarded. Therefore, they determine the core facets of PS as Personal Standards, SOP, High Standards and Striving for Excellence. Although Hill et al. (2004) identified four subscales belonging to PS, conceptually it may be only one (Striving for Excellence) that is relevant. Therefore, restricting investigations to a more condensed higher-order model can result in a “loss of precision and richness” (Molnar & Sirois, 2016, p.289), which could otherwise be offered through using measures that include more discriminating subscales, such as the PI.

Rationale for Using the Perfectionism Inventory

Hill et al. (2004) have suggested that it would be more fruitful to use the eight subscales of the PI due such a mixed array of associations between the two higher-order dimensions with the existing multidimensional scales. Investigating the eight subscales may provide a more meaningful insight into the associations between specific facets of perfectionism, and mental health and well-being outcomes, which subsequently support the goals of therapy. As mentioned above, Molnar and Sirois (2016) suggest using the more condensed two-factor model of PS and PC may subsequently create a loss of fidelity and accuracy in clinical interventions, and potentially undermines treatment efforts. For instance, in therapeutic interventions (such as CBT) the practitioner will develop a case-formulation in collaboration with the client to identify the network of numerous and specific factors that are functionally related to the client’s presenting issues (Nezu et al., 2004). In producing an accurate and comprehensive case-formulation, the therapist is then better able to delineate treatment objectives through prioritising factors that are important to be targeted for maximal change (Nezu et al., 2004). However, Haynes et al. (2011) note the importance of specificity of measuring a variable, and its inverse relationship to the degree of aggregation. Aggregated variables

are limited due to the masking of important sources of variances, making it difficult for accurate inferences to be made about the functional relations of important components of the measure. Haynes et al. (2011) conclude that whilst aggregated measures may be appropriate for brief screening or diagnosis, it is inappropriate for a comprehensive case-formulation that seeks to identify and target specific variables for treatment.

Whilst this could be achieved through incorporating additional measures (e.g., including the MPS-HF, MPS-F and APS-R) to assess a fuller range of facets, multiple measures may impact accuracy of participant responses (discussed in Chapter 2). In addition, previous research has suggested the APS-R may not be an appropriate measure for research investigating associations between PS and PC with health outcomes (Flett, Mara et al., 2016; Blasberg et al., 2016; Sirois & Molnar, 2017). A recent data-driven factor analytic approach for conceptualising perfectionism in undergraduate students (Robinson et al., 2022) found five distinct dimensions of perfectionism that largely represent those captured by the MPS-HF and the MPS-F, suggesting this is because several perfectionism scales used in their study (i.e., the PI) were derived from the MPS measures. Therefore, it is suggested that the PI may be beneficial in efficiently and comprehensively encapsulating the strengths of two of the most commonly used MPS measures, avoiding the need to choose between both (Hill et al., 2004).

As well as its encouraging psychometric properties (as discussed earlier in the chapter), a further strength of the PI is its unique inclusion of the Rumination subscale, created in light of findings identifying associations between perfectionism and rumination (Hill et al., 2004; Flett et al., 2016). The Rumination subscale is defined as the “tendency to obsessively worry about past errors, less than perfect performance, or future mistakes” (Hill et al., 2004, p. 83). Whilst measuring a personality construct, this subscale can give insight into the ongoing degree of cognitions relating to past and

possible future mistakes. Researchers have previously argued for a definition of perfectionism that encapsulates cognitive patterns and treats affect responses as correlative, seeking to reduce overlap with the perfectionism construct and potential affective criterion variables used in mental health and well-being research (Flett et al., 1998; see also Flett, Mara et al., 2016). The theoretical and empirical support for including rumination (see later section in this chapter; “Perfectionism Cognition Theory”) as a relevant construct for perfectionism has also led to Flett et al. (2016) to begin developing their own inventory for ruminative cognitive perseveration to supplement their research with the Perfectionism Cognitions Inventory (PCI; Flett et al., 1998).

Finally, Hill et al. (2010) state that future researchers should be mindful that a lack of significant zero-order correlation between PS and more desirable, positive criterion variables, could be due to the PC suppressor relationship. Indeed, Molnar and Sirois (2016) stress the importance of researchers moving beyond bivariate correlations (see also, Stoeber & Gaudreau, 2017), and seek to examine underlying mechanisms between perfectionism, health, and well-being. This could result in more concise models being built, thus further informing interventions such as that proposed in this programme of study. As such, this research proposes to investigate not just zero-order correlations of the PI subscales and higher order dimensions, but also partial correlations to further illuminate unique relationships between perfectionism dimensions and mental health and well-being, and better inform treatment efforts.

Theoretical Perspectives of Perfectionism, Mental Health, and Well-Being

As Molnar and Sirois (2016) identified, a large body of perfectionism work has been atheoretical. Therefore, whilst recognising the complexity of conceptualising and measuring perfectionism, the controversy regarding PS “adaptiveness”, the need for more nuanced assessments, and the presence of suppression effects; it is vital to next

consider theoretical perspectives for perfectionism. This will help clarify how and why specific processes that link perfectionism to mental health and well-being, thus identifying the key factors that influence the processes under study and better inform therapeutic interventions.

Perfectionism Cognition Theory

There are dynamic interrelations of affect and cognition that underlie how perfectionism relates to poorer well-being and mental ill health. The perfectionism cognition theory (PCT) proposed by Flett et al. (2016) is a theoretical model that provides a conceptual framework for multidimensional perfectionism to enable examination and analysis of the cognitive processes and mechanisms. Flett et al. (2016) focus on two similar, but distinguishable, forms of preservative cognition; worry and rumination, which are associated with negative outcomes, and both play important roles in the perfectionism-distress link. The PCT is outlined in three themes; the first that perfectionists are more likely to be chronic overthinkers, based on numerous studies summarised by Flett et al. (2016) finding correlations between cognitive perseveration and both SOP and SPP (along with other evaluative concerns perfectionism), although some studies would potentially suggest smaller correlations for SOP. The second theme focuses on the associations between perfectionism and the cognitive perseverations that are unique to perfectionism, thus separating it from other personality traits. The final theme focuses on how cognitive perseveration implicates vulnerability to psychological distress and physical illness in perfectionists. First, an overview of the worry and rumination constructs is provided below.

Cognitive Perseverance: Worry and Rumination. Worry is noted as the central (Newman et al., 2013) or cardinal (Fisher & Wells, 2011) feature of generalised anxiety disorder (GAD), which is one of the least successfully treated anxiety disorders (Newman et al., 2013). Worry is defined as a relatively uncontrollable series of

primarily verbal-linguistic thoughts about uncertain events with the potential for future negative outcome (Borkovec et al., 1983; Pruzinsky & Borkovec, 1990). There are various proposed models for GAD and worry, such as cognitive avoidance theory of worry (Borkovec et al., 2004), the intolerance of uncertainty model (Dugas et al., 2004), the metacognitive model of GAD (Wells, 1999), the emotional dysregulation model (Mennin et al., 2002) and the contrast avoidance model (Newman et al., 2013). The models have a number of overlapping features: the nature of worry as perseverative thinking in response to triggering thoughts, feelings, and events, that worry involves thinking about methods for coping with potential negative events and that worry can disrupt coping and heighten anxiety. However, there is disagreement amongst models over whether the individual worrier holds a positive belief about the usefulness of worry, and how worry becomes excessive, generalised, and uncontrollable.

The cognitive avoidance theory of worry (Borkovec et al., 2004) derives from behavioural psychology; when an immediate threat is detected, behaviours are initiated to deal with that threat, such as fight or flight. However, if the threat is a non-tangible, non-corporeal entity, such as an imagined future event, behavioural avoidance is an unsuccessful solution in minimising or removing the threat, leaving the problem unsolved except for cognitive activity. Worry is therefore a cognitive attempt to "solve" a problem of a possible future threat (Borkovec & Inz, 1990; Borkovec & Hu, 1990). Due to this avoidance, the strategy of worrying becomes maintained through operant conditioning, and may be further maintained through the illusion of control or preparation that worry can bring (Stapinski et al., 2010). It has also been suggested that patients with GAD may worry about everyday concerns (with minimal threat) as a way of avoiding thinking about more distressing topics such as underlying interpersonal difficulties or childhood experiences (Borkovec & Roemer, 1995). Although worry may initially help dampen affect in the short term, reinforcing the belief it is a helpful

process, it may actually lead to the maintenance of anxiety long term through lessened emotional processing (Borkovec & Roemer, 1995).

Research has also identified the pertinence of worry within student populations, given the range of stressors they may experience, as mentioned previously. Carleton et al. (2019) found a statistically significant increase in levels of intolerance of uncertainty (a trait-like construct thought to develop and maintain worry; Dugas et al., 2004) in college students from 1999 to 2014. A large survey of 38,000 students in the UK also found high levels of anxiety and worry, with 42.8% reporting being often, or always, worried (Pereira et al., 2019). Donovan and Macaskill (2013) identified worries pertinent to undergraduates, such as concerns about change (e.g., coping with the transition to university), anxiety over meeting new people (placing importance on the development of support networks), and academic difficulties as a source of stress (e.g., presentations and examinations). Macaskill (2018) also identified students in a “clinical group” (i.e., students who scored highly on the General Health Questionnaire-28; Goldberg & Williams, 1991, as cited in Macaskill, 2018) when asked to reflect on their worries at university, appeared to frequently use worry as a coping strategy as opposed to seeking advice or taking action to solve the problem.

Rumination is characterised by a tendency to engage in repetitive negative thinking (Papageorgiou & Siegle, 2003), and is associated with psychological distress. A meta-analysis of 114 studies, Aldao et al. (2010) found rumination was associated with elevated levels of psychopathology, with a large effect size for rumination and anxiety and depression. Lyubomirsky et al. (2015) also reviewed the work of Nolen-Hoeksema and her response styles theory which identified rumination as a maladaptive pattern of response to distress, repetitively and passively focussing on meanings, causes, and consequences of one’s symptoms of depression, rather than actively working towards how to resolve these (Nolen-Hoeksema et al. 2008). Watkins and Nolen-

Hoeksema (2014) conceptualised rumination as a mental habit, the developmental antecedents of trait-like rumination, as well as explaining why it is difficult to break from rumination. Watkins and Nolen-Hoeksema's (2014) framework proposed episodes of repetitive rumination (triggered by goal discrepancies and the co-occurrence of negative mood states) that can become habitual. This is through the automatic association between repeated behavioural responses of rumination, and the repeated context rumination performs within (e.g., environment and mood). Rumination is identified as a strong predictor of the onset of depression, as well as maintaining and exacerbating depression.

Nolen-Hoeksema et al. (2008) also identified that whilst rumination and worry are typically correlated, they differ in regard to time orientation, topic focus and degree of certainty and controllability, and conscious motives. Rumination is focused on the past with themes of loss, meaning and a lack of self-worth. It is considered certain, uncontrollable, and used to gain insight to solve problems (Papageorgiou & Wells, 2003) despite actually being negatively related to problem solving (Aldao et al., 2010). Worry, however, is focused on the future with focus on uncertain, anticipated threats, in an attempt to anticipate, prepare and ultimately control the threat (Nolen-Hoeksema et al., 2008; Lyubomirsky et al., 2015). Cognitive perseveration maintains and exacerbates distress and is also found to prolong depressed mood (Nolen-Hoeksema et al., 1993). However, depression can also trigger perseverative cognition, leading to individuals feeling more distress, creating a vicious cognitive-emotional circle (Spasojević & Allow, 2001). Following work by Nolen-Hoeksema, Flett et al. (2016) noted the need for further exploration of perfectionism as an antecedent of rumination.

Relationship between Perfectionism and Cognitive Perseveration. Both PS and PC are found to be correlated with worry (Blankstein & Lumley, 2008; Flett et al., 2011), although in some studies, PS tended to have smaller, but still significant

associations. For example, Santanello and Gardner (2006) identified in a student sample that PC (assessed by combining subscales Concern Over Mistakes and Doubts About Action, as well as Parental Expectations and Criticism from the MPS-F; Stöber, 1998) was associated with higher levels of worry; measured using the Penn State Worry Questionnaire (PSWQ, Meyer et al., 1990). PC was also related to experiential avoidance, which in turn, was positively related to worry. Stöber and Joormann (2001) also used a sample of student participants to explore the association between perfectionism (assessed using the Concern Over Mistakes, Parental Expectations, and Personal Standards subscales of the MPS-F) with pathological and non-pathological worry (measured using the PSWQ). The PC scores were positively correlated with both pathological and non-pathological worry, and there was a small, positive correlation between PS and nonpathological worry.

Flett et al. (2016) emphasise the prevalence of socially and self-evaluative concerns as reasons why perfectionists may engage with worry (Borkovec et al., 1986). Blankstein et al. (1993) found similar fears that are prevalent for student perfectionists (e.g., making mistakes, failing tests, and loss of control) were all strongly associated with both SOP and SPP, but fear of looking foolish and being criticised was associated with SPP only. Perfectionists may also use worry as a cognitive strategy to avoid or distract from criticism or failure (Borkovec et al., 2004; Flett et al., 2016). Whilst Macedo et al. (2014) suggest perfectionists consider worry as useful in averting the experience of strong emotions from a metacognitive perspective, Flett et al. (2016) suggest perfectionistic worry is due to the high focus towards evaluative cues of imperfection.

Research has supported the relationship between rumination and multidimensional perfectionism, and that rumination acts as a mediator between perfectionism and negative outcomes (Flett et al., 2016). Harris et al. (2008) found

rumination (specifically, brooding) mediated the relationship between PC (using MPS-F subscales Concerns Over Mistakes and DAA) and depression. However, PS (using MPS-F subscales Personal Standards and Organisation) was not linked with rumination. O'Connor et al. (2007) found SOP and SPP were positively related with a brooding, ruminative response style, with rumination mediating the relationship between perfectionism and depression. Furthermore, rumination mediated the relationship between SPP and depression after a 2-month period. Olson and Kwon (2008) found both SOP and SPP were positively associated with brooding, and that both SOP and SPP interacted with brooding and stress (i.e., the extent to which negative experiences have been a part of participants' lives) to predict depression. Blankstein and Lumley (2008) SPP as positively associated with rumination in relation to distress, and both SOP and SPP were related to worry. Whilst Short and Mazmanian (2013) found both SOP and SPP were positively associated with worry and rumination in students, only SPP was related with negative affect, depression, and anxiety (although both SOP and SPP was significantly, positively related to stress). They also identified worry and rumination mediated the relationship between SPP and negative affect. Flett et al. (2016) also notes the Rumination subscale within the PI was positively correlated with MPS-F and MPS-HF subscales, in particular the Concern Over Mistakes, DAA and Personal Standards subscales of the MPS-F, and both SOP and SPP subscales of the MPS-HF. The Rumination subscale had the highest correlation with obsessive-compulsive disorder symptoms and distress, in comparison to other subscales, consistent with persistent obsessive worry common to both constructs (Hill et al., 2004) and was positively correlated with indexes of psychological symptoms.

Whilst the aforementioned research supports the relevance, and mediating effect of, worry and rumination in SPP and negative psychological outcomes, the relationship with SOP was less conclusive. However, a recent study by Xie et al. (2019) identified in

a meta-analysis of 15 studies using the MPS-HF that SOP has a medium positive relationship with worry, and a small-to-medium positive relationship with rumination. SPP had a medium-to large positive relationship with worry, and a medium positive relationship with rumination.

Unique Perfectionist Cognitive Perseverations. The second theme of Flett et al.'s (2016) PCT is the association between perfectionism and various types of cognitive perseveration, including those which are unique to perfectionism; anticipatory thinking, types of rumination (e.g., post-event and social comparison rumination), and types of frequent automatic thoughts. With regards to the latter, the PCI (Flett et al., 1998) was developed to assess frequency of automatic thoughts that reflect the need to be perfect, however, Flett et al. (2016) have since suggested other unique cognitive perseverations existed within perfectionists, and draw on studies (Frost & Henderson, 1991; Besser et al., 2004) that provide support for perfectionism and cognitive rumination over mistakes. They conclude it is important to include rumination within perfectionism measures, such as the Rumination subscale in the PI, and as such, are developing their own new measure of mistake rumination that “accounts uniquely for psychological distress beyond the variance attributable to the PCI.” (Flett et al., 2016, p. 143). Other unique types of cognitive perseveration include post-event rumination and social comparison rumination (Flett et al., 2016).

According to the PCT, unique perfectionistic cognitive perseverations are implicated in the exacerbation and prolonging of distress. Within the context of universities that are oriented towards achievement, perfectionist students who do not perform as well as they had hoped on university assessments could be more prone to ruminate on their mistakes (Harris et al., 2008), and could also be prone to greater social comparison if preoccupied with their standing relative to peers in an increasingly competitive neo-liberalist culture of UK universities (Curran & Hill, 2019). As well as

sustaining high levels of academic performance, students must also adapt to a new social environment, which can contribute to feelings of distress for a large number of students (Fisher, 1994; Ross et al., 1999; Bojuwoye, 2002). Marsh and Hau (2000) identified how students who experience a “big-fish-little-pond-effect”, may experience more demanding upward social comparisons for their own accomplishments when transitioning to higher education. Upward social comparison is also identified as a performance related behaviour that maintains clinical perfectionism in Shafran et al.’s (2010) cognitive-behavioural treatment model. Therefore, perfectionist students could be prone to experiencing unique perfectionistic cognitive perseverations due to particular context of higher education.

The Cost and Consequences of Cognitive Perseverations on Perfectionists.

The third theme of the PCT outlines how rumination and worry has many costs and consequences to a perfectionist by mediating the relationship between perfectionism and mental health or well-being outcomes (Short & Mazmanian, 2013; Xie et al., 2019; O’Connor et al. 2007). Flett et al. (2016) also propose excessive cognitive activation leads to further maintenance of perfectionistic cognitions; overdeveloped memory for stressful events that highlight personal inadequacy (mistakes or failures), high cognitive salience of previous mistakes or failures, hyper-vigilance (or cognitive bias) towards cues that signal the possibility of imperfection, and the heightened impact of negative ruminations in perfectionists who engage in overgeneralisation (of the self or in everything the perfectionist does). This is reminiscent of the selective attention and overgeneralisation biases which main perfectionism according to Shafran et al.’s (2010) cognitive-behavioural treatment model.

Pirbaglou et al. (2013) note that the presence of, and attention towards, negative perfectionistic cognitions may distinguish between perfectionists characterised by PS and PC, in that perfectionism could combine normative aspirations, with maladaptive

demands; that negative automatic thoughts define the boundary between what are adaptive or maladaptive tendencies. They found students with high levels of “maladaptive perfectionism” were particularly sensitive to anxiety and tended to experience frequent negative thoughts, including fears relating to the consequences of anxiety, thus leading to an increase in anxiety and depression experiences. This supports the use of cognitive therapeutic interventions in lowering the negative impact of perfectionism on students’ mental health.

Finally, Flett et al. (2016) note other costs and consequences of cognitive perseveration such as diminished attention and cognitive capacity, emotional (and physical) exhaustion, and more intense and enduring stress reactions and negative emotions (in keeping with an expanded diathesis-stress perspective, discussed next).

Diathesis-Stress Model

As discussed earlier, diathesis-stress models have outlined the ways in which psychological vulnerabilities can interact with stressors to increase the likelihood of mental ill health occurrence in students (Rutter, 2007; Macaskill, 2012). Hewitt and Flett (1993, 2002) argue perfectionism can be conceptualised as functioning within a diathesis-stress framework (consistent with Bolger & Zuckerman’s 1995 framework), where a particular personality diathesis can lead to psychopathological symptoms through interacting with differences in exposure and reactivity to stressors. With focus on perfectionism as the personality variable, Hewitt and Flett (2002) propose how perfectionism interacts with stress to produce or maintain psychopathology in four ways; stress generation, anticipation, perpetuation (all relating to the degree or amount of stress exposure) and enhancement (the manner in which a person reacts to stress). As such, perfectionists are vulnerable to experiencing psychological distress because they experience high levels of stress exposure and will react to stress in maladaptive ways.

Furthermore, Hewitt and Flett (1993) propose a specific-vulnerability hypothesis, whereby SOP would most likely trigger self-oriented achievement-related stressors and SPP would trigger socially-prescribed, interpersonally-related stressors. As such, stressors that are congruent with the orientation of perfectionism will be experienced as more aversive than non-congruent stressors, because the former are ego-involving, creating a greater aversive negative impact, therefore leading to psychological distress (Hewitt & Flett, 2002).

Stress Mechanisms in Perfectionism and Psychopathology. The diathesis-stress model proposes that perfectionists, relative to non-perfectionists, are at risk of psychopathology because they are likely to take an active role in creating or generating stress. For example, a student with high levels of SOP is likely to turn a relatively successful achievement into personal failure due to their striving for excessively high standards (e.g., anything less than an A+ is unacceptable; Hewitt & Flett, 2002). Similarly, the perfectionist may generate stress through applying too much pressure on themselves. For example, SPP is likely to contribute to stressful conflict and interpersonal problems due to high sensitivity to criticism and excessive reassurance seeking to satisfy need for approval. Dunkley et al. (2000) found the relationship between distress and perfectionism was stronger for perfectionist students who held more negative perceptions of social support (an otherwise effective buffer against stress generation), than those with positive perceptions.

There is also a tendency for perfectionists to anticipate stress (such as failure or criticism) and respond as though the incident has occurred (Hewitt & Flett, 2002). As per the PCT, perfectionists can become preoccupied with worrying about potential failure and likelihood of criticism. The anticipation of future negative events can be viewed as a form of hopelessness and pessimism, which are key factors in the development of depression (Beck, 1967). Research by Martin et al. (1996) with

university students indicated that SPP is associated with trait pessimism, where levels of depression symptoms were higher among SPP perfectionists with low levels of self-efficacy. Therefore, perfectionists who anticipate stressful events with pessimism may be at risk of depression.

Perfectionists may also perpetuate stress through use of maladaptive coping styles that result in prolonging stressful episodes. For example, perfectionists are likely to engage in cognitive perseveration (as per the PCT), as well as self-blame, which are unhelpful coping mechanisms when dealing with failure and stress. Hewitt and Flett (2002) suggest that stress is a signal that one's life is not perfect, and that this is prolonged by negative automatic thoughts regarding the failure to achieve perfectionist standards. As well as the cognitive features, the interpersonal style can influence the perpetuation of stress, in that perfectionists may struggle to admit to imperfection and avoid seeking help from social support networks or professionals (an otherwise more effective way to deal with stress or distress; Bouteyre et al., 2007). In failing to access support, it can prolong or even exacerbate the distress.

Finally, whilst stress generation, anticipation and perpetuation relate to the degree or amount of stress exposure, in keeping with Bolger and Zuckerman (1995), Hewitt and Flett (2002) identify that stress reactivity (as measured by coping choices made in response to stress) is just as important. The fourth mechanism of stress enhancement occurs because of the manner in which a person evaluates and appraises the meaning of a particular life event, and stressors which are perceived as more important to the self will produce more extreme reactions. Where a perfectionist equates their self-worth with the achievement of perfection, stressors that are appraised as relevant to the self-concept, or self-worth, will therefore elicit an especially strong response to perfectionists. Heightened stress reactivity is also expected due to perfectionist's tendency to overgeneralise, a maladaptive cognitive bias (Beck, 1967),

and in the case of perfectionists, this could be a tendency to overgeneralise failure to all aspects of the self.

Empirical Support for Diathesis-stress Model. Research has supported the moderating role of perfectionism in its relationship between stress and psychopathology, for instance, Flett et al., (1995) found individuals high in SPP reported elevated depressive symptoms when experiencing high levels of negative life stress. Joiner and Schmidt (1995) found both SOP and SPP interacted with stress to predict depression over time in undergraduates, however only SPP interacted with stress to predict anxiety, and they found no evidence to support specific interactions between SPP or SOP and congruent stress (i.e., social stressors and self-related achievement stressors respectively). Hewitt and Flett (2002) suggest these findings could be due to the way in which perfectionism was measured (six items taken from the Eating Disorders Inventory; Garner et al., 1983, as cited in Joiner & Schmidt, 1995).

Other research has found support for the specific vulnerability hypothesis, in that PS demonstrates stress generation and reactivity in relation to academic stress (Békés et al., 2015; La Rocque et al., 2016). A doctoral thesis by Lee (2007) found only “adaptive” perfectionism, measured using SOP, OOP, and the Personal Standards and Organisation subscales of the MPS-F, was found to prospectively predict appraised achievement stress. Furthermore, individuals high in adaptive perfectionism or SOP, who also experienced higher numbers of stressful life events, were particularly vulnerable to anxious arousal (i.e., somatic tension and hyperarousal).

However, only partial support for the diathesis-stress model was found by Chang and Rand (2000), who found an interaction between SPP and stress whereby greater distress (psychological symptomology) was reported by university students with SPP and stress (self-appraised life-stress). However, there were no significant interactions involving SOP. Enns et al. (2005) also examined the diathesis-stress model

with medical students and found no support for the specific vulnerability hypothesis, such that the SOP and achievement stress events interaction, and SPP and interpersonal stress events interaction were not found to significantly predict depression or hopelessness. However, they did find DAA and Concern Over Mistakes (subscales from MPS-F), and SPP all interacted with total number of stress events to predict depression and hopelessness, providing support for a general diathesis-stress model. Interestingly, SOP was considered a potential resilience factor; participants low in SOP were vulnerable to hopelessness in the context of negative life events, whereas participants high in SOP showed no association.

Dunkley et al. (2003) found students high in PC reported more persistent daily hassles and suggested they are more at risk to interpersonal stress, but there was a lack of unique effects for PS on stress or psychological distress beyond PC. Dunkley, Ma, et al. (2014) found the positive relationship between PC and negative affect was mediated by daily avoidant coping, and the negative relationship with positive affect was mediated through lower perceived social support. However, PS had an indirect relation with positive affect through higher average daily problem-focused coping. Dunkley, Mandel et al. (2014) found participants with higher PC (assessed at six months and three years before reporting daily stress levels) had greater increases in depressive affect on the days they experienced higher levels of daily stress. PS was mostly found to mitigate the effects of stress on psychological distress. Finally, research by Dunkley et al. (2017) found PS associated with more adaptive coping processes, such as problem-focused coping, mitigating psychological distress.

In summary, there is empirical support for the general diathesis-stress model (Flett et al., 1995; Chang & Rand, 2000), but only partial support for the specific-vulnerability model. Both PS and PC are considered vulnerability factors for stress (Hewitt & Flett, 2002; Lee, 2007), however some studies have found no effects with PS

(Dunkley et al., 2003), and others that PS acts as a resiliency factor (Enns et al., 2005) potentially mitigating psychological distress due to the greater likelihood of utilising more adaptive coping strategies (Dunkley et al., 2017). Studies have found support for PC as a vulnerability factor for stress (Joiner & Schmidt, 1995; Dunkley et al., 2003; La Rocque et al., 2016), and some have shown support for PS as a vulnerability factor for achievement stress (Lee, 2007) and stress generation and reactivity (Békés et al., 2015; La Rocque et al., 2016).

Diathesis-stress Model and Students. The diathesis-stress model provides useful a framework for understanding why perfectionist students may be vulnerable to mental ill health, particularly due to the likelihood students will experience numerous stressors whilst at university (Robotham & Julian, 2006). Achievement-related variables are an implicit focus for university contexts, and according to the specific vulnerability model, perfectionists with contingent self-worth based on achievement (i.e., student perfectionists), may be vulnerable to achievement related stressors that reflect failure and loss of control. Research investigating the way in which students cope with stress can give insight into their potential psychological distress. Jones and Johnston (1997) identified problem-focused coping in first year nursing students was associated with fewer sources of stress (perceived or identified) and lower levels of distress. Evans and Kelly (2004) found when student nurses relied on emotion-focused coping (i.e., decreasing negatively toned emotions) for stress, they experienced more exhaustion and pressure.

Avoidant and emotion-focused maladaptive coping, and problem-focused coping have been identified as mediators between perfectionism and distress in students (Dunkley et al., 2016), and undergraduates higher in SPP who reported greater use of avoidant coping were found to have higher distress symptoms (O'Connor & O'Connor, 2003), with avoidance moderating the link between perfectionism and psychological

well-being. O'Connor and O'Connor (2003) also found SOP linked to increased hopelessness if adaptive coping strategies (such as positive reinterpretation and acceptance) are not used. The study by Dunkley et al. (2003) found more self-blame was coupled with greater negative affect for students with higher PC, whilst more problem-focused coping and less avoidance, was coupled with greater positive affect for students lower in PC. Using more positive reinterpretation was coupled with greater positive affect for students higher in PC (Dunkley et al., 2003) with similar results identified by Stoeber and Janssen (2011) who found students with high PC that used positive reinterpretation, experienced greater satisfaction at the end of the day. Therefore, where perfectionist students are likely to experience stress given the context of university, the use of adaptive coping strategies, such as cognitive reframing, positive reinterpretation, and problem-focused coping, could be beneficial in increasing well-being for perfectionist students, particularly those high in PC.

As well as adaptive, problem focused coping strategies (e.g., positive reinterpretation) perfectionists high in PC lack other helpful resources, such as perceived social support that can make stressors seem less overwhelming (Dunkley et al., 2016). Perceived social support and event stress were identified as mediators between the relationship of PC perfectionism and maintenance of lower positive affect (Dunkley, Ma, et al., 2014). Given the stress-generation mechanism of perfectionism, Dunkley et al. (2016) suggest higher levels of perceived social support may buffer against maladjustment in comparison to those with lower perceived social support. This is again pertinent for university students, as the transition to university involves not only an increased academic workload, but adapting to new social environments, which amongst first year students is a particularly apparent stressor relating to feelings of distress (Bojuwoye, 2002).

A qualitative study by Maunder et al. (2013) found a key challenge for students transitioning to university was forming new peer groups. However, if social support can be established, it can buffer against anxiety and depression experiences, as well as lead to less emotion oriented coping strategies when overwhelmed by daily hassles (Bouteyre et al., 2007). Therefore, where students are at increased risk from stress due to the transition to university and loss of support networks, perfectionist students are particularly vulnerable to psychological distress through stress perpetuation and maintenance in struggling to perceive social support; a likelihood for those high in SPP given its association with sensitivity to criticism and inability to admit one's own imperfection (Hewitt & Flett, 2002).

Research investigating the diathesis-stress model also indicate recommendations for interventions. For instance, Chang and Rand (2000) suggest interventions should incorporate identify, reduce, or restructure perfectionistic negative automatic thoughts and maladaptive cognitive biases that lead to maladjustment (Beck, 1976). Dunkley et al. (2003, 2017) and Békés et al. (2015) suggest targeting perfectionists' dysfunctional characteristics (e.g., contingent self-worth, avoidant coping, interpersonal functioning) that otherwise perpetuate a chronic sense of hopelessness in the context of chronic stress. Finally, Klibert et al. (2014) suggest enhancing resilience to stress in perfectionist students, due to the positive associations between all MPS-HF subscales and anxiety.

In summary, the perfectionism diathesis-stress model posits that perfectionism is a vulnerability factor predisposing individuals to experience increased distress during stressful times. Given that the university context is open to numerous stressful experiences for students, as well as high levels of perfectionism in students, it is therefore likely perfectionist students will experience increased psychopathologic symptoms during university.

Social Disconnection Model

The social disconnection model (SDM) was originally proposed by Hewitt et al. (2006) to explain the relationship between PC and suicidal behaviour. The SDM posits that the relationship between perfectionism and psychopathology is mediated by differing forms of social disconnection; objective (e.g., reported issues with interpersonal relationships, infrequent social contact) and subjective (perceiving the self to be isolated) social disconnection, as well as interpersonal hostility and sensitivity (Hewitt et al., 2006; Sherry et al., 2016). Sherry et al. (2016, p. 225) state the SDM is an *integrative* theoretical framework that clarifies how perfectionism generates distress through “negative social behaviours (e.g., conflictual interactions), cognitions (e.g., seeing others as disappointed) and outcomes (e.g., romantic breakups)”. Hewitt et al. (2006) suggest that SPP in particular will increase the likelihood of objective social isolation through generating interpersonal hostility due to the belief that others will be overly critical, thus leading to negative social interactions. Subjective social isolation can also be experienced due to a perfectionist’s self-worth being contingent on a need for acceptance and approval of others (Hewitt et al., 2006). Overtime, these experiences (subjective or objective) can lead perfectionistic individuals to become more socially isolated.

People high in PC are likely to experience interpersonal problems due to a distressing sense of disconnection from and disharmony with others (Sherry & Hall, 2009; cited by Sherry et al., 2016). “Loneliness, problems with perceived social support, intense interpersonal conflicts, daily interpersonal hassles, feeling deficient in the eyes of other people, hostility, marital difficulties, relationship dissolution, and disagreeableness” (Sherry et al., 2016, p. 226) are some of the interpersonal problems experienced by those high in PC. Self-determination theory (SDT; Ryan & Deci, 2000) posits that people will experience deficits in well-being when their needs for autonomy,

competence and/or relatedness are not met. If the perfectionist experiences social-disconnection and struggles in their interpersonal relations, it follows that their capacity for well-being will be inhibited (Mackinnon et al., 2017).

Sherry et al. (2013) obtained empirical support for the SDM in finding undergraduate students high in PC (measured using the MPS-F) perceived other people as dissatisfied and disapproving, it influenced depressive symptoms, therefore interpersonal discrepancies mediated the link between PC and depressive symptoms. Molnar et al. (2012) also found the relationship between SPP and poorer physical health in students was fully mediated by higher levels of perceived stress and lower levels of perceived social support. Finally, Smith et al. (2018) identified that SPP conferred vulnerability for depressive symptoms via interpersonal discrepancies and social hopelessness in a longitudinal study with students.

Sherry et al. (2016) also expand the SDM by integrating the mediators focused within the SDM (i.e., personality-dependent problems) with the more established diathesis-stress model that focuses more on moderators (i.e., personality-independent problems). Mediators could comprise interpersonal hyper-competitiveness, loneliness, and need for approval, and moderators could include dissolution of friendship networks, high (sub)cultural expectations, or displacement of family due to social circumstances. Not only are these moderators likely to be stressful experiences, but there is also a high likelihood these will be encountered by students at university (Scanlon et al., 2007; Macaskill, 2012; Hurst et al., 2012; McIntyre et al., 2018), indicating risk for perfectionist students' mental health and well-being.

The Role of Perfectionistic Striving in the Expanded Social Disconnection Model. As well as identifying PC as a vulnerability for mental health and well-being, the expanded SDM also incorporates relationships between PS and various negative outcome variables. Those high in PS may also confer risk through an imbalanced set of

life experiences where opportunities for social relationships are missed or avoided (Sherry et al., 2016). For example, a university student high in PS, may have a compulsive, self-imposed need to be perfect, so spends too little time investing in relationships with others by spending too much time in the library. Nepon et al. (2011) found empirical support for PS as a vulnerability factor using a sample of 155 university students. They found all subscales of the MPS-HF (SPP, SOP and OOP) related to anxiety and depression through links with rumination about interpersonal offences, suggesting those high in SOP may also want to be perfect in social situations. Magson et al. (2019) also found support whereby both SPP and SOP were related to greater interpersonal difficulties (rejection sensitivity and social isolation), although the association for SOP was weaker than SPP.

However, Wu and Wei's (2008) found that PS (measured using the APS-R Standards subscale and the MPS-F Personal Standards subscale) was negatively associated with "the need for reassurance from others" and positively associated with "the capacity for self-reinforcement" when controlling PC (measured using the APS-R Discrepancy subscale, and the MPS-F Concern Over Mistakes and DAA subscales). PS was also negatively associated with anxiety and depression, but self-validation and validation from others only partially mediated the relationship between PS with anxiety and depression, implying there are other mediators for the PS-distress relationship. They conclude that interventions for PC perfectionists should focus on reducing their excessive need for reassurance from others (such as examining perfectionistic beliefs through cognitive therapies) and enhancing their capacity for self-reinforcement.

In summary, the expanded SDM brings greater clarity and coherence in understanding the distress that may be experienced by students who are perfectionistic, particularly when considering the likelihood of mediators and moderators for this population. Sherry et al. (2016) suggest therapeutic interventions that help develop more

positive social identities and supportive social networks, as well as enhancing interpersonal functioning, may reduce perfectionists' vulnerability to mental ill health and poor well-being. This could be particularly pertinent for students who experience loneliness and a loss of identity and relationships (Scanlon et al., 2007; Macaskill, 2012; Hurst et al., 2012; McIntyre et al., 2018), particularly when transitioning to university (Fisher, 1994; Ross et al., 1999; Bojuwoye, 2002) into large class sizes with less personalised support (Brown, 2018).

Potential Benefit of Perfectionistic Strivings for Well-being: Role of the University Context

The previous theoretical perspectives have demonstrated, together with empirical evidence, how and why PC may confer a risk of poor health and well-being. There is also empirical evidence that PS poses risk for poor well-being as proposed by the PCT (e.g., Xie et al., 2019), the diathesis-stress model (e.g., Flett et al., 1995; Chang & Rand, 2000) and the SDM (e.g., Nepon et al., 2011). However other research would suggest a more ambivalent or neutral relationship between PS and well-being (PCT; O'Connor et al., 2007, Harris et al., 2008, diathesis-stress model; Dunkley et al., 2003, SDM; Magson et al., 2019), and some suggests PS could promote well-being (diathesis-stress model; Enns et al., 2005, SDM; Wu & Wei, 2008).

These findings add to the contentious conceptualisation of the relative "adaptiveness" of PS, potentially due to the various dependent factors suggested by Molnar and Sirois (2016), such as the different indirect pathways (as identified by the three theoretical perspectives presented) that link PS with mental health and well-being outcomes. They also suggest that the relative healthiness of PS may depend on the context under study. For example, in the context of chronic ill health, PS would indicate a particular vulnerability factor for poorer health and well-being (Molnar et al., 2016), but this may not be as pronounced in student samples. Molnar and Sirois (2016, pg.

295) refer to a forthcoming study by Sirois, Molnar and Methot-Jones, where findings suggest PS contributes to poorer health in chronically ill samples, and to a lesser degree community samples, but found it is not significantly related to health in university students. Rice et al. (2016) suggest the evaluation of PS as “adaptive” is relative to the value or cost of perfectionism consequences within its given context. It is therefore necessary to highlight research that pertains to the specific context under study, undergraduate students in a UK university context, in identifying the relative benefit of PS.

The achievement of high (potentially perfectionistic) standards are valued and consistently rewarded in academic settings (Curran & Hill, 2019), therefore PS may be “adaptive” where the consequences may be of high value to students (i.e., academic achievement). This is supported by Brown et al. (1999) who found both Personal Standards (PS) and Concern over Mistakes (PC) using the MPS-F were positively associated with weekly number of hours studying. However, Concern over Mistakes (but not Personal Standards) was associated with greater perceived course difficulty and more negative mood before exams, and Personal Standards (but not Concern over Mistakes) was associated with better grades. Rice et al. (2006) identified that university students high in PS (compared to PC) were also more likely to better self-regulate in terms of stress perception and better academic adjustment, where PS comprises the partialled High Standards subscale and PC the Discrepancy subscale of the APS-R. Eum and Rice (2011) used the same partialled subscales of the APS-R and found PS (when controlling for PC) was associated with mastery and performance approach goal orientations, and only PC was associated with cognitive test anxiety.

Stoeber, Haskew, et al. (2015) identified PS (using the SOP subscale) could positively predict performance in an exam, through the use of both approach-oriented goals (striving to achieve) and avoidance-goals (avoiding failure). When overlapping

variance was controlled for, PC (using the SPP subscale) could negatively predict exam performance. Stoeber (2012) also identified in a review of $k = 26$ studies, the majority ($k = 18$) of these supported a positive relationship between academic achievement and PS, as indicated by certain subscales from various multidimensional perfectionism scales (see Stoeber, 2012, p. 3). Madigan (2019) extended upon this review through a meta-analysis, identifying a small to medium positive relationship between academic achievement and PS, and a small to medium negative relationships between academic achievement and PC from 37 identified studies.

Whilst the outcome of academic achievement may be considered adaptive in a university context, achievement does not necessarily confer wider adaptive benefits, such as well-being. In a meta-analysis by Bückner et al. (2018), they found a small to medium correlation between academic achievement and subjective well-being in university students, regardless of demographic variables, domains of well-being or measures of academic achievement. However, they conclude that high-achieving students do not automatically experience high levels of well-being. Therefore, whilst PS may confer an adaptive behavioural outcome, it does not necessarily mean a student high in PS will also have positive well-being and satisfaction.

Although researchers may utilise a measurement (such as average grades) that they, or others, determine as “academic success”; it may not result in a sense of well-being and satisfaction for the perfectionist who holds such high and unrelenting standards. For instance, Flett and Hewitt (2015a) suggest that perfectionism could undermine flourishing; the combination of emotional, physiological, and social well-being (Keyes, 2002; Diener et al., 2010), and that managing extreme perfectionism and reducing pressure could enable the benefits of conscientious striving to be realised. However, a study by Stoeber and Corr (2016) using the MPS-HF identified students scoring high in PS and low in PC (accounting for overlapping variance) were more

likely to experience higher levels of flourishing, as well as positive affect and less negative affect. Therefore, PS could be considered adaptive in both an objective measurement of academic success (such as grade point average), as well as more subjective measure of well-being and satisfaction.

Whilst PS may be associated with greater academic achievement, or later flourishing, the stress generated or enhanced to achieve high standards could result in poorer well-being outcomes (as per the diathesis-stress model). However, Rice et al. (2016) reported a year-long study of academic stress amongst STEM (Science, Technology, Engineering, and Math) students producing a reliable latent class structure of three student groups (adaptive, maladaptive, and non-perfectionists) using subscales from the MPS-HF, MPS-F and APS-R. They identified that adaptive perfectionists (i.e., high standards, low levels of problems) was related with significantly lower and relatively stable stress over the year, however, maladaptive perfectionists (i.e., high levels across all perfectionism and problem subscales) and non-perfectionists (i.e., low in standards levels and perfectionist concerns) had higher, but also stable, levels of stress. Adaptive perfectionists also had significantly higher academic achievement compared with maladaptive perfectionists. Overall, the higher academic performance of adaptive perfectionists, compared with lower performance of maladaptive and non-perfectionists, were more consistent with stress-dampening effects of adaptive perfectionism, than stress-enhancement effects of maladaptive perfectionism.

Rice et al. (2016) suggests the lower levels of perceived academic stress reported by adaptive perfectionist students reflects better stress-reactivity abilities, through better problem solving, management of demands through deployment of academic skills, and motivation, instead of reducing high personal standards. This is supported by Richardson et al. (2014) who also latent profile analysis of the short version of the APS-R subscales; Standards and Discrepancy. They found adaptive

perfectionist students may possess healthy responses to stress such as emotion regulatory capacities, in comparison to maladaptive perfectionist students, who are more likely to experience psychological distress, mediated by emotional dysregulation (Aldea & Rice, 2006).

Research thus far would suggest that PS is adaptive in the relationship between academic achievement, lower stress, adaptive coping styles and flourishing, however the relationship is more ambivalent following failure. Hill et al. (2011) identified students high in SOP reported an increase in threat, reduction of effort, and decrease in satisfaction (together with greater levels of distress) following failure. Stoeber et al. (2014) also found those high in SOP were predicted to have higher levels of anxiety (although only after repeated failure), but students high in SPP were predicted to have increases in anxiety, and anger and depression after failure, with anger further increased after repeated failure, suggesting less resilience and adaptive coping styles than that of SOP.

However, Stoeber and Diedenhofen (2017) found SOP was positively related with upward counterfactuals (e.g., “how much better things could have been”) and negatively related with downward counterfactuals (e.g., “how much worse mark I could have got”) in relation to hypothetical academic failure, suggesting failure could be a motivator for those high in SOP. In an experimental manipulation of success or failure, Stoeber, Kempe and Keogh (2008) found SOP (using facets “perfectionistic striving” and “important of being perfect”; Campbell & DiPaula, 2002, as cited in Stoeber & Diedenhofen, 2017) to be associated with higher levels of pride after success. However, SPP (using facets “others’ high standards” and “conditional acceptance”; Campbell & DiPaula, 2002, as cited in Stoeber & Diedenhofen, 2017) was related to shame and guilt in situations of perceived failure. This may be partly explained by the findings from Gilbert et al. (2006) who identified a lack of a relationship between self-blame and

undergraduates high in SOP, instead, they were more likely to engage in self-correcting. Similarly, Stoeber and Janssen (2011) reported students high in PS (comprising SOP and the Personal Standards subscale from the MPS-F) were less likely to engage self-blame following failure, than those high in PC (comprising SPP, and the Concern over Mistakes and DAA subscales from the MPS-F). Overall, it appears students high in PS are likely to have less maladaptive reactions following failure than PC (e.g., greater resilience, less depression or anger), however, may still experience anxiety.

In summary, evidence suggests that the context (i.e., academia/university) may have a role in determining the relative benefit of PS for a particular population (i.e., students), however, this is not definitive. Rice et al. (2016) attests that high standards may still hold space for adaptive and positive outcomes when considering the academic context, given there is not unilateral support for the “destructiveness” (Blatt, 1995) of perfectionism, and the cause and effect of perfectionism and psychological distress, respectively, are not well differentiated. Therefore, this programme of research seeks to extend knowledge of the relationships between perfectionism dimensions with mental health and well-being outcomes, specifically for undergraduate students within a UK university context.

This could also identify whether or not perfectionism components may be adaptive for students, which may highlight potential limitations in applying existing theoretical perspectives to this specific context, and further inform more effective intervention efforts for perfectionist students. For instance, Lo and Abbott (2013) recommend the use of cognitive behavioural interventions for perfectionist students that focus on their cognitions related to standard setting, following their evidence that students high in PC (measured using the APS-R Discrepancy subscale) will experience greater maladjustment caused by such high standards. However, Rice et al. (2016) refute the notion of interventions that target the amendment of standards in

perfectionists, arguing it is too challenging to definitively identify what is considered a “realistic” standard, and that having high standards could serve personal and social good for PS perfectionists. Instead, they suggest a focus on reducing self-criticism in perfectionists, and enhancing capacities to regulate emotions and cognitions in response to stress and failure (as per the PCT). They also suggest the provision of support, encouragement, and opportunities for social engagement for perfectionist students in an attempt to buffer against stress, given social support could moderate anxiety in students high in PS (Dunkley et al., 2000) as well as decrease distress and academic problems. Arguably this focus would also be in keeping with the diathesis-stress model, as well as the SDM.

Theoretical Implications for Perfectionism Therapeutic Interventions

According to PCT, high cognitive salience of past mistakes and failures among perseverating perfectionists, accompanied by a hypervigilance and cognitive bias towards related cues that signal possible future failure, mistakes and social evaluations, is a key contributor to health and well-being problems and amplified stress (Flett et al., 2016), with cognitive appraisals serving as a critical explanation for the relationship between stressful experiences and outcomes (Dunkley et al., 2016). Given the high levels of frequent negative automatic thoughts in perfectionists (Pirbaglou et al., 2013), cognitive interventions that aid cognitive restructuring could help ameliorate the negative impact of perfectionism on mental ill health (Burgess & DiBartolo, 2016). Furthermore, supporting perfectionists to engage with more positive reinterpretation may result in less distress (Dunkley, Mandel et al., 2014; Stoeber & Janssen, 2011).

Given such critical tendencies in perfectionists high in PC, Rice et al. (2016) encourage supporting perfectionists to reduce such criticism, and Dunkley et al. (2016) suggest this could be ameliorated by encouraging greater self-compassion in perfectionists. Several researchers also propose the use of more adaptive coping

strategies, such as less avoidant-coping strategies in perfectionists high in PC, and more problem-focused coping in perfectionists high in PS to help offset negative outcomes of distress (Dunkley et al., 2016). In line with the diathesis-stress model, Burgess and DiBartolo (2016) also suggest that avoidant coping indicates the pathway to perfectionism and psychopathology, and therefore propose behavioural approaches such as exposure therapy, as well as coaching in more positive coping strategies to enhance emotional regulation and resilience (Klibert et al., 2014). Rice et al. (2016) also suggest the lowering of self-criticism and avoidant coping strategies, and promotion of problem-focused coping could enhance emotional regulation in response to stress.

Finally, drawing on the SDM, as well as PCT and diathesis-stress model, a perceived lack of social support is identified by several researchers in regard to the relationship between perfectionism and distress. Dunkley et al. (2016) suggest PC perfectionists perceive others as unwilling or unable to support them in times of stress, thus promoting perceived social support could encourage more adaptive coping strategies to make stressors appear less overwhelming. Fostering greater self-compassion could also decrease a perfectionist's perceptions of criticism from others and increase perceptions of social support. Reconceptualising and reinterpreting their social relationships could prevent social disconnection (Dunkley et al., 2016). Rice et al. (2016) also encourage greater social support and opportunities for social engagement within an academic context to buffer against stress and decrease distress for perfectionists high in PC. The SDM would also encourage the examining and addressing of interpersonal problems, for example through interpersonal therapy (Sherry et al., 2016), and promotion of social networks to reduce a perfectionist's vulnerability to mental ill health.

In summary, cognitive restructuring/positive reinterpretation, promotion of resilience and problem-focused and/or adaptive coping strategies, and greater social support could support perfectionist students, particularly those high in PC.

Cognitive-Behavioural Treatment Model for Perfectionism

One of the most predominantly researched treatments for perfectionism is that of cognitive-behavioural therapy (CBT) (Lloyd et al., 2015), which typically involve the modification of an individual's maladaptive ideation (distorted cognitions) or reducing the personal importance of the ideation. At present, National Institute for Health and Care Excellence (NICE, 2019) guidelines recommend the use of CBT for treating anxiety disorders such as GAD, therefore it follows CBT may also be beneficial for reducing anxiety commonly associated with perfectionism. Egan, Wade, Shafran and Antony (2014) have also suggested that there are promising results regarding the use of CBT for clinical levels of perfectionism, although it is acknowledged more research is needed to truly identify the real-world effectiveness, as opposed to the controlled efficacy, of CBT.

In keeping with the cognitive-behavioural model of clinical perfectionism, Shafran et al. (2010) produced a self-help book; “Overcoming Perfectionism”, which informed an updated protocol for use in perfectionism treatment studies (Egan, van Noort, Chee, Kane, et al., 2014). The treatment model targets specific cognitive and behavioural maintaining factors identified within the cognitive-behavioural model of perfectionism (Egan, Wade, Shafran & Antony, 2014). These include: self-evaluation overly dependent on striving and achievement, inflexible/rigid standards, cognitive biases (such as dichotomous thinking, selective attention, “should” and “musts”, overgeneralising and double standards), performance-related behaviour (goal achievement behaviour, testing performance, comparisons and reassurance seeking)

counterproductive behaviours, self-criticism, and resetting of standards following the failure or belief that the standard is not sufficiently high enough.

Egan et al. (2011) summarised studies with promising evidence for the use of CBT in the treatment for perfectionism and the reduction of symptoms found within anxiety disorders. Expanding this further, Egan, van Noort, Chee, Kane et al. (2014) reviewed the evidence for the efficacy of CBT for perfectionism, identifying predominantly large effect sizes in terms of reducing psychological symptoms across a range of disorders. Lloyd et al. (2015) also conducted a systematic review and meta-analysis to identify whether psychological interventions reduce perfectionism. All eight studies that were identified utilised a CBT treatment, and overall large effect sizes were found for reductions in SOP and the MPS-F subscales Personal Standards and Concern over Mistakes subscales, and medium sized effects for reduced SPP. It also found medium pooled effect sizes for reduction in symptoms of anxiety and depression. In summary, CBT-based treatment of perfectionism appears effective in decreasing rates of perfectionism and associated symptomology such as anxiety.

Theoretical Relevance of the Cognitive-Behavioural Treatment Model for Perfectionism. The aforementioned evidence for using the CBT model is situated in the context of the clinical perfectionism model, with its focus on specific self-oriented mechanisms that maintain perfectionism. However, the PCT draws upon a multidimensional conceptualisation that emphasises the inclusion of relational and motivational elements (Hewitt et al., 2017), therefore the CBT treatment model proposed by Egan, Wade, Shafran and Antony (2014) may not be sufficient to comprehensively address perfectionism for mental health and well-being outcomes as outlined by the PCT. For instance, Hewitt et al. (2017) argue that perfectionists will likely defend against aversive affective and self-states, therefore by only removing perfectionistic behaviour without providing more adaptive coping strategies and

resources, this may lead to further exacerbation of distress. They also argue perfectionists are overrepresented among those who do not respond well to CBT; the perfectionism is potentially too persistent, or ingrained, and the nature of perfectionism could interfere with this particular type of therapy. They recommend using treatments that better reflect the multidimensional nature of perfectionism through targeting the use of interpersonal strategies given the role of self within a social context (as per the SDM).

Shafran et al. (2003) have previously contested Hewitt et al.'s (2003) critique of their perfectionism conceptualisation, arguing that a broader model is not necessary for treatment stating that evidence for treating psychopathology is focused on the specific mechanisms of maintenance. However, they do acknowledge that perfectionism has interpersonal consequences which may further maintain perfectionism. Whilst the CBT model for treatment is primarily focused on the intra-personal, Rozental (2020) has indicated support for using this treatment to also address a broad range of difficulties, including interpersonal relationships. Arguably, using CBT to address perfectionists' cognitive appraisal and bias of their social relationships could lead to greater reliance on social support and therefore enhanced well-being, as per the SDM (Sherry et al., 2016; Dunkley et al., 2016). This is supported by Rozental et al.'s (2020) qualitative study, which found participants reported improved interpersonal relationships as a benefit of the CBT treatment. Indeed, Hewitt et al. (2017) acknowledge that the work by Shafran and colleagues is still useful in many respects, such as the addressing underlying schemas and reducing symptoms.

Therefore, it is argued that whilst the cognitive-behavioural model for perfectionism and the PCT may draw from different conceptualisations of perfectionism, both encourage the modification of cognitive biases such as inflexibility, rigidity, and overgeneralisation (Shafran et al., 2002; Flett et al., 2007). As such, the

CBT treatment model for perfectionism is considered appropriate for addressing the maladaptive cognitive biases indicated within the PCT, and therefore may also address the associated psychological distress and symptomology (Pirbaglou et al., 2013).

Qualitative research, whilst sparse in comparison to quantitative research, would also support this. Riley and Shafran (2005) found themes of self-criticism following failure, rules, rigidity, and avoidance amongst individuals with clinical perfectionism, however these themes are also relevant within the PCT. In addition, Rozental et al. (2020) thematically analysed participants' responses following an internet-based CBT treatment for perfectionism. One out the five themes was "Noticing the positives", which describes how participants reconsidered their perfectionism by addressing their cognitive biases (i.e., rigid rules and focusing on the negatives) by broadening their perspective through more flexible thinking and noticing the positives. Taking this theme, and the aforementioned improvement in interpersonal relationships, this would indicate CBT treatment models for perfectionism holds relevance within the PCT.

The CBT treatment model for perfectionism would also hold relevance within the diathesis-stress model, in that perfectionists may generate and perpetuate stress through maladaptive behavioural coping strategies, such as avoidance (Hewitt & Flett, 1993, 2002). Such counterproductive behaviours are addressed within the CBT treatment model through the use of behavioural experiments and exposure, which Burgess and DiBartolo (2016) recommend for enhancing perfectionists' resilience and emotional regulation in response to stress.

As previously mentioned, Rice et al. (2016) advocate for interventions that do not attempt to lower standards or exclusively address the maladaptive aspects of perfectionism. Instead, they encourage interventions that may work with the strengths of perfectionism. Instead, they encourage interventions that may work with the strengths of adaptive perfectionism (Rice et al., 1998) such as enhancing levels of organisation (Rice & Mirzadeh, 2000) or committing to an "assets and strengths perspective" (Rice &

Dellwo, 2002, p. 195). This is reminiscent of the concluding remarks by Stoeber and Otto (2006, p. 316); “if only perfectionists could focus on doing their best rather than worrying about mistakes, enjoy striving for perfection rather than being afraid of falling short of it, and concentrate on what has been achieved rather than pondering the discrepancy between what has been achieved and what might have been achieved if everything had worked out perfectly. In this form, perfectionism would be a perfectly positive disposition.”

In summary, whilst evidence suggests that CBT-based treatment for perfectionism may be beneficial in addressing cognitive biases, maladaptive coping styles, and symptoms (as per the PCT and diathesis-stress model), it may not be sufficient in itself, and may not fully address interpersonal issues (as per the SDM). Therefore, interventions for perfectionism could build upon the CBT model by including the provision and promotion of adaptive coping strategies and resources to improve resilience against aversive affective and self-states, as identified by the PCT. The CBT model could also be enhanced by acknowledging perfectionism further from a relational perspective, through the targeting and use of interpersonal strategies is needed within the social context of perfectionism, as per the SDM. These additional components could be found within positive psychology.

Positive Psychology Approach and Interventions

Positive psychology is a recent theoretical approach which is primarily focused on the study of human flourishing (Seligman & Csikszentmihalyi, 2000) and protective aspects of human function, as opposed to a preoccupation with human problems. In paraphrasing Martin Seligman, we should “be as focused on strength as weakness, as interested in building the best things in life as in repairing the worst” (Peterson & Steen, 2002, p. 251). Whilst psychology has facilitated a significant understanding in how or why individuals may suffer, and how to perhaps avoid such internal or external

stressors, Seligman and Csikszentmihalyi (2000) argue a lack of progress has been made regarding understanding how and why individuals may thrive; what conditions influence happiness, fulfilment, and civic engagement. As Rashid notes, “Psychology is not just a health science concerned with illness; it could be larger” (2009, p. 464), and whilst psychology has been successful at turning a negative to something more neutral, it is not so good at understanding how to grow from a neutral position to something positive (Gable & Haidt, 2005).

Following the recognition of this imbalance, a positive psychology “movement” (Gable & Haidt, 2005, p. 103) of research has emerged, along with published textbooks, university courses, and with new or previously neglected and understudied areas, such as optimism, gratitude, hope and forgiveness, being investigated. Positive Psychology has grown significantly in both scientific and lay interest due to its focus on well-being and the potential for positive psychology interventions (PPIs) to promote positive feelings, thoughts, and behaviours to support health and well-being, as opposed to solely removing or reducing negative symptoms.

Positive psychology proposes that we all have personal assets that can be developed further or used more effectively to improve our well-being and capacity to cope in adversity (Macaskill & Denovan, 2013). There is a growing body of research investigating the effectiveness of PPIs in promoting well-being and adding to or increasing strengths and resources for promoting well-being, as opposed to only removing negative factors. For example, Seligman et al. (2005) identified that the use of character strengths and gratitude interventions increased happiness and decreased depression. Macaskill and Denovan (2013) identified that the use of character strengths can increase students’ self-esteem and autonomous learning, in comparison to control groups. Ouweneel et al. (2014) also identified that the use of gratitude and acts of kindness as interventions related to more positive emotions and academic engagement.

Meta-analyses by Sin and Lyubomirsky (2009) and Bolier et al. (2013) concluded that PPIs will increase well-being and decrease depressive symptoms.

However, in the implication that the rest of psychology is negative, the positive psychology approach has the potential to neglect prior knowledge and understanding from other areas of psychology, through adopting such a separatist emphasis (Held, 2004). Similarly, it has the potential to neglect, discount or minimise the very real negative effects on individual's lives. Gable and Haidt (2005) dismiss this claim, stating that positive psychology does not deny the distressing or unpleasant aspects of life, but it seeks to establish greater *balance* following the more dominant negative focus of clinical psychology. As Seligman et al. (2005) note, the intent of positive psychology is to supplement, not replace our existing understanding of human suffering, it includes "the peaks, the valleys, and everything in between" (Seligman et al., 2005, p. 875) to create a more complete and balanced understanding of the human experience.

Another criticism is that positive psychology does not provide a new approach but is in fact a reformulation of the humanistic approach, such as Maslow's (1968) work on healthy individuals. However, whilst similarities between the two approaches exist, Seligman and Csikszentmihalyi (2000) claim positive psychology is distanced from humanistic psychology because the latter holds an inadequate empirical foundation with unscientific methodologies (Froh, 2004), whereas the former emphasises the use of empirically testable constructs (see Chapter 2 for further discussion). In emphasising the scientific focus, reviews and meta-analyses have purported the efficacy and effectiveness of using PPIs for enhancing well-being (Duckworth et al., 2005; Sin & Lyubomirsky, 2009; Bolier et al., 2013), yet the standards of evaluation have been criticised for lacking sufficient quality (Coyne, 2014), in particular the meta-analysis by Bolier et al. (2013). The definition of PPIs has become more nuanced and balanced, seeking to consider both positive and negative emotions, strengths, and disorders

(Rashid et al., 2014). A more thorough and up to date systematic review and meta-analysis by Carr et al. (2020) has since been conducted which concludes that PPIs are effective for well-being enhancement, that group PPI programs may be offered as preliminary low-intensity interventions, but that randomised control trials (RCTs) should be more methodologically rigorous.

Positive Psychology Interventions for Perfectionism. To date, no specific PPI has been tested in its use for perfectionism, however research suggests that PPIs are as effective as cognitive techniques for managing common associated factors with perfectionism, such as worry and anxiety (Geraghty et al., 2010). As Egan, Shafran, Wade and Antony (2014) suggest that adding interventions such as mindfulness could be beneficial in the treatment of perfectionism. This suggestion was made following the surprising findings of a study by Steele and Wade (2008) who sought to compare use of CBT for perfectionism or bulimia nervosa. Despite using a mindfulness intervention as the placebo control group, they found an observed decrease in Concern over Mistakes perfectionism for the so-called “placebo” group, suggesting mindfulness interventions could perhaps contain active therapeutic ingredients.

A particular aim of positive psychology is to identify psychological strengths and create interventions to help develop these in an effort to foster well-being (Seligman & Csikszentmihalyi, 2000). By not solely focusing on lower standards or exclusively attending to PC (Rice et al., 2016), and instead incorporating working with the potential strengths of adaptive perfectionism in students (Rice et al., 1998), it could therefore follow that PPIs could be a supportive intervention for students’ well-being. There is a wealth of empirical support for the use of PPIs in enhancing or promoting well-being in individuals (Sin & Lyubomirsky, 2009), however, there is difficulty in identifying a unifying theoretical framework for positive PPIs with Parks and Biswas-Diener (2013) noting that there have been few attempts to infuse them with theory. Some researchers

have thus begun to address the “how” and “why” PPIs may work in enhancing well-being and reducing mental ill health symptomology.

Character Strengths Intervention. Rashid (2013) notes psychotherapy is as much about the cultivation of wellness, as it is the alleviation of distress, therefore it is necessary to assess strengths together with symptoms for balanced, comprehensive practice. Character strengths are identified as descriptive traits (and therefore open to empirical examination) as well as morally desirable traits of human existence (Rashid, 2013). In an effort to focus on what is ‘right’ about people, specifically the strengths of character that make the good life possible, Peterson and Seligman (2004) identified 24 core character strengths, subsumed under six broader categories called “virtues”. These strengths comprise the Values in Action Inventory of Strengths (VIA-IS; Values in Action Institute www.viacharacter.org) for which a good amount of reliability and validity data has been published, for example, all scales demonstrating satisfactory alphas ($>.70$). Park et al. (2004) used the VIA-IS to investigate the relationship between character strengths and life satisfaction and found consistent and robust associations with the strengths “hope, zest, gratitude, love, and curiosity”. Researchers (Wright & Lopez, 2005) argue that these strengths can provide resources for individuals to use in improving their well-being, including Seligman et al. (2005) who state developing individuals’ psychological strengths to foster resilience, will enable them to cope better with life stress.

Seligman et al. (2005) conducted several PPIs, including “using signature strengths in a new way” which resulted in positive results, where significant differences in levels of depression and happiness were identified across 1- to 6-month periods in comparison to control groups. Participants took the VIA-IS and received feedback with their top five ‘signature’ strengths and instructions to use one of these strengths in a new and different way, every day, for one week. Their study was successfully replicated

by Mongrain and Anselmo-Matthews (2012), although effects with depression were considered more modest. Using a slightly different intervention paradigm Rust et al. (2009) found significant gains in life satisfaction for students instructed to work on two of their character strengths following VIA-IS assessment, versus a no-treatment control group. Linley et al. (2010) also found use of strengths leads to better goal progress, as well as greater well-being. Finally, Macaskill and Denovan (2013) also utilised a character strength assessment with personalised guidance for students to apply to their academic modules. When compared against a control group, students who received the character strengths intervention were subsequently more confident with levels of self-esteem and autonomous learning increased significantly.

Research has not yet identified definitively the mechanisms of action through which character strengths interventions enhance well-being, however, research has begun identifying some potential theoretical frameworks (Quinlan et al., 2012), such as SDT (Ryan & Deci, 2000). SDT is principally understood as a theory of motivation (i.e., extrinsic vs intrinsic), but is also concerned with human development and flourishing, in considering what is necessary for positive motivation, experience, performance and well-being (Ryan & Deci, 2000). It postulates that individuals have fundamental psychological needs of autonomy, competence, and relatedness, and when these needs are satisfied, it facilitates intrinsic motivation, enhances engagement and effort, and promotes well-being (Ryan & Deci, 2000).

Linley et al. (2010) suggested that a potential mechanism of action for character strengths interventions and well-being is through the pursuit of personal goals that are self-concordant; consistent with the person's interests and values, thus serving the psychological needs of autonomy, competence, and relatedness. They found that goals that are personally associated with autonomy are significantly associated with greater well-being; therefore, where character strengths interventions help an individual to

identify concordant goals, it leads to needs satisfaction, which in term, mediates well-being, as per SDT. Meyers and van Woerkom (2017) also suggest that the use of character strengths interventions raises an individual's awareness of personal resources that promotes resilience, triggers self-efficacy, builds optimism, and enables individuals to set and pursue self-concordant goals, thus increasing hope.

SDT has also been explored in relation to perfectionism, whereby Stoeber et al. (2017) examined relationships between autonomous and controlled motivation, with different regulatory styles associated with amotivation, intrinsic and extrinsic motivation. Their review identified distinct motivational qualities between PS and PC, referring to the "double-edged sword" of perfectionism, in that it may energize or paralyse perfectionists. PS was predominantly associated with motivations and regulatory styles characteristics by higher levels of self-determination (e.g., intrinsic motivation, integrated regulation and identified regulation). However, PC was associated with lower degrees of self-determination (e.g., amotivation, external regulation, and introjected regulation). Stoeber et al. (2017) argue this is in keeping with the distinctions between the more approach-oriented regulatory style of PS and the avoidance-oriented PC (and lacking in self-determination).

Providing a character-strengths intervention for perfectionistic students that leads to greater autonomy and self-determination (Linley et al., 2010; Quinlan et al., 2012) may therefore enhance greater approach-oriented motivation in the pursuit of goals and improve well-being. As per the diathesis-stress model, Dunkley et al., (2016) and Burgess and DiBartolo (2016) encourage the promotion of less avoidant styles of coping with stress for perfectionists, to help protect against distress and promote well-being. The use of character-strengths interventions may also enhance a perfectionist's personal autonomy and sense of competence, thus improving approach-oriented motivation. The SDM posits a perfectionist's struggle in interpersonal relationships

(e.g., social negativity evoked by need for approval) leads to poorer well-being (Mackinnon et al., 2017). However, greater intrinsic motivation from character-strengths interventions could lead to less negative social comparisons, less social threat and allow greater connectedness, promoting well-being for the perfectionist.

Three Good Things / Gratitude Intervention. One of the ‘virtues’ associated with transcendence in the VIA-IS Character Strengths (Peterson & Seligman, 2004) is gratitude. Whilst very difficult to define, a core theme associated with gratitude is the response arising from the sense of having received a gift, but not restricted to a physical object; “gift” can include a general sense of life (Emmons & McCullough, 2003). Gratitude may be important for the experience of both subjective well-being (emotionally pleasant and satisfying life) and eudemonic well-being (living life to the fullest, flourishing and making most use of potential and growth). Gratitude appears to foster eudemonic well-being, conferring resilience to mental ill health, and demonstrates unique, adaptive social characteristics that enable cooperation with others (Wood et al., 2010).

Gratitude interventions have arguably the strongest evidence base among PPIs (Sin & Lyubomirsky, 2009). In an experimental investigation into counting your blessings (gratitude) versus your burdens, Emmons and McCullough (2003) found that feeling gratitude towards life experiences through a daily notes intervention resulted in a stronger effect on positive emotions than a weekly one. Two other intervention groups within the study by Seligman et al. (2005) focused on gratitude; one exercise (the gratitude visit) asked participants to write and deliver a letter of gratitude in person to someone who had been especially kind to them, but they had never properly thanked them. Another was the “Three Good Things in Life” intervention, where participants were asked to write down three things that went well each day, and the causes, every night for one week. The latter exercise increased happiness and decreased depressive

symptoms for six months. The gratitude visit exercise caused large positive changes for one month, participants were significantly happier and less depressed than control groups; the largest change in the whole study. However, this was not sustained as after 3 months, happiness and depression levels were the same at baseline.

As with the character strengths replication, Mongrain and Anselmon-Matthews (2012) also replicated the Three Good Things in Life exercise and found similar results to Seligman et al. (2005) happiness increased significantly at 1-, 3-, and 6-month follow-ups. Geraghty et al. (2010) asked participants to use a gratitude diary every day for 14 days, listing up to six things for which they felt grateful for, the intention being for participants to broaden attention and reduce worry. They found the intervention as successful as the CBT “Thought Diary” intervention in reducing worry relative to waitlist controls, suggesting gratitude can reduce anxiety at a comparable rate to standard CBT approaches. Ouweneel et al. (2014) carried out RCTs on the use of modified existing PPIs to increase general happiness for use within academic contexts. They found the gratitude intervention had a significant positive effect on participants’ daily positive emotions.

Wood et al. (2010) state it is challenging to identify how and why gratitude interventions work, due to a difficulty in establishing mediation effects in gratitude interventions. However, they suggest four potential mechanisms of action; a schematic hypothesis, the coping hypothesis, the positive affect hypothesis, and the broaden-and-build hypothesis. The first hypothesis would suggest grateful people have characteristic schemas that influence how they interpret the cost, value, and altruistic intention of any given situation. If accurately perceived as high across all three interpretations, the person could experience gratitude. If perceived inaccurately, with a lack of gratitude, it may represent a more psychopathological reaction, thus more generally gratitude could be related to well-being through schematic or biased processing. The second coping

hypothesis would explain gratitude as a more adaptive, positive coping strategy; a study by Wood et al. (2007) identified grateful people are more likely to seek out and use emotional social support (which is also consistent with the schematic hypothesis), as well as more approach-oriented problem solving, and less avoidant coping strategies. This is in line with diathesis-stress models, whereby more adaptive coping in times of stressful events could buffer against the experience of distress.

A more general hypothesis of positive affect would suggest gratitude as a positively valenced emotion that is therefore related to the habitual experience of positive emotions, leading to greater life satisfaction. Finally, the broaden-and-build theory by Fredrickson (2001) suggests that each positive emotion has unique evolutionary purposes in broadening thought to encourage more cognitive and behavioural activities that build resources for problem solving during stressful events, whereas negative emotions narrow attention when dealing with problems. Fredrickson (2004) suggests that gratitude is one such process that could build social bonds during stressful times, an additional resource for a person, and therefore compatible with both the schematic and coping hypotheses (Wood et al., 2010). Therefore, it could be hypothesised that in providing a gratitude intervention for perfectionistic students, (which theoretically could lead to greater adaptive coping and use of social relationships as a resource) it may therefore improve well-being. This is again in line with both the diathesis-stress model and the SDM.

Self-Compassion Intervention. Neff (2003a) described self-compassion as a perspective in which one embraces a positive view of oneself with self-appraisals rooted in kindness (as opposed to self-esteem which is associated with self-regulation failure). Where one experiences suffering or failure, self-compassion entails self-kindness (as opposed to self-criticism), an understanding of one's experience as part of the larger common human experience (as opposed to being imperfect in isolation), and

mindfulness; an ability to accept an experience for what it is and hold one's pain in a balanced awareness (as opposed to over-identification). Self-compassion has also been associated with effective self-regulation and low negative affect (Neff, 2003a).

When developing a scale to measure self-compassion, Neff (2003b) found self-compassion was significantly negatively correlated with depression and anxiety. There is both theoretical and empirical support for the self-compassion and well-being relationship (Ferguson et al., 2014). Acting self-compassionately gives rise to proactive behaviours that promote or maintain well-being (Neff, 2003a). Self-compassion enables clarity of one's limitations and recognition of unhealthy behaviour (such as social comparison), which promotes growth and improvements in well-being (Berry et al., 2010). Therefore, self-compassion can be a viable resource for flourishing (Ferguson et al., 2014). Each of the three components of self-compassion (self-kindness, common humanity, and mindfulness) facilitate adaptive self-regulatory responses to failures, and are therefore associated with well-being, reduced stress, and more frequent healthy behaviours (Neff, 2003a). In a series of studies with students, Leary et al. (2007) identified that self-compassion buffers against the impact of negative events in its moderation of reactions to stressful situations, such as failure, rejection, and embarrassment. Self-compassion was associated with lower negative affect following real, recalled, or imagined events (Leary et al., 2007). Furthermore, the trait of self-compassion has been associated with feelings of autonomy, competence, and relatedness (Neff, 2003b), suggesting the construct meets the psychological needs as defined by SDT (Ryan & Deci, 2000).

Shapira and Mongrain (2010) investigated the effectiveness of a self-compassion intervention for individuals vulnerable to depression, compared with an optimism intervention (where participants imagined a positive future) and a control group (where participants described early memories in detail). The self-compassion intervention

involved a daily letter writing exercise, where participants were instructed to consider a distressing event that occurred that day and left them feeling upset. Then, they were to write a paragraph directed to themselves in the first person, with what they would possibly say to a friend in a similar situation. A repeated measures ANOVA identified at three months those in the self-compassion condition were significantly less depressed and scored higher in happiness than individuals in the early memories condition. Following a successful pilot study, Neff and Germer (2013) developed an 8-week Mindful Self-Compassion program for participants, consisting of mindfulness-based foundations and developing a compassionate inner voice and values. When compared against a waitlist control group, the researchers found not only did happiness increase, and anxiety decrease, but the intervention was also able to cultivate a significant increase in self-compassion. This suggests the intervention improves correlated factors of self-compassion as well as enhancing self-compassion as a state.

Neff (2003b) also found self-compassion was negatively correlated with “neurotic perfectionism” (measured by the APS-R Discrepancy subscale) yet had no significant relationship with the Standards subscale. Mehr and Adams (2016) found a lack of self-compassion mediated the relationship between PC and depression, and Stoeber et al. (2020) also identified that all three orientations of the MPS-HF showed negative relationships with self-compassion (although OOP was no longer significantly related when unique relationships were examined). Furthermore, self-compassion positively predicted well-being, and SOP and SPP predicted well-being via low self-compassion.

Such negative associations between perfectionism and self-compassion could be due to the self-critical nature of perfectionism (Frost et al., 1990; Blatt, 1995), where self-criticism is the antithesis to self-compassion. Self-criticism has been linked to an inability to generate feelings of self-directed warmth, soothing, reassurance and self-

liking (Gilbert, 2000; Neff, 2003a). Where self-criticism lacks self-kindness, the use of self-compassion is a beneficial strategy for emotional regulation in self-critical individuals (Gilbert & Procter, 2006; Diedrich et al., 2014). According to PCT, perfectionists experience frequent self-critical thoughts and worry is used to avoid or distract from criticism or failure (Flett et al., 2016). The diathesis-stress model identifies perfectionists are at risk to psychopathology because they are likely to contribute to stressful conflict due to high sensitivity of criticism, as well as anticipate stress through a preoccupation with the likelihood of criticism and perpetuate stress by dealing with failure with self-blame and criticism (Hewitt & Flett, 2002). Cognitive reappraisal and acceptance are considered as potentially adaptive emotion regulation strategies (Aldao et al., 2010), but whilst self-critics may be able to generate alternative thoughts to self-criticism by understanding the logic of cognitive reappraisal, they may still struggle to *feel* reassured by this (Lee, 2005). The modification of thoughts and behaviours in perfectionists is encouraged (as per the PCT), however without also providing adaptive strategies, they may still defend against aversive affect and further exacerbate distress. Positive reframing, acceptance and humour could promote higher satisfaction for perfectionist students following bothersome failures (Stoeber & Janssen, 2011). Therefore, it would be beneficial to integrate CBT cognitive reframing with self-compassion interventions to help further combat perfectionistic self-criticism through the use of self-kindness and mindful acceptance; a more adaptive coping strategy that could lead to greater well-being.

In addition, self-compassion could also encourage greater social-connection, potentially minimising the likelihood of poor-wellbeing through disconnection as identified in the SDM (Sherry et al., 2016). Self-compassion is distinct from self-esteem, in that it yields similar mental health benefits, however, self-compassion does not have the same pitfalls of social comparison as self-esteem (Neff & Germer, 2017).

Findings by Neff and Vonk (2009) would suggest those high in self-compassion are less focused on evaluating themselves, feeling superior to others, or worrying about others' evaluation. Whereas feelings of isolation can occur when failure and imperfection are not understood as part of the shared human experience, self-compassion can support kindness toward oneself and understanding the common humanity of being flawed and imperfect (Neff & Vonk, 2009). As such, self-compassion could support perfectionists to not only recognise that imperfection is part of the shared human condition, and perhaps treat themselves with more kindness and acceptance, it could also soften potential interpersonal conflicts that are otherwise borne from the belief that others will be overly critical, or that their self-worth is contingent on others' approval and acceptance (Hewitt et al., 2006). If a perfectionist student becomes less preoccupied with what others think, it may enable greater connection and willingness to seek social support (Dunkley et al., 2016; Rice et al., 2016), thus supporting their well-being.

Rationale of Research Programme

The overall aim of the current research programme is to extend the knowledge and understanding of perfectionism, mental health, and well-being in UK undergraduates, and how to promote perfectionist students' well-being. Thorley (2017) indicates that the rates and disclosures of student mental ill health are rising, which is increasing demand on support services. Curran and Hill (2019) suggest this may be partly explained by the increase of multidimensional perfectionism (measured by the MPS-HF) in students, where perfectionism, particularly PC, is related to lower well-being (Chang, 2006; Hill et al., 2010) and mental ill-health (Frost et al., 1993; Bieling et al., 2004). However, there is some evidence PS is related to greater positive affect, well-being, and flourishing (Frost et al., 1993; Stoeber & Otto, 2006; Stoeber & Corr, 2016; Suh et al., 2017) particularly when overlapping variance is considered (Hill et al., 2010; Stoeber & Corr, 2016).

Theory also supports how and why perfectionism confers risk to mental ill health (such as anxiety) and poorer well-being, through frequent and unique perfectionist cognitions relating to higher levels of worry and rumination (Flett et al., 2016), through the interaction between perfectionism and stress to maintain psychopathology (Hewitt & Flett, 2002), and the likelihood of social disconnection in perfectionists, leading to lower well-being (Sherry et al., 2016). Whilst perfectionism, particularly PC, may be considered maladaptive for students, PS could hold value for students specifically (Rice et al., 2016). This is due to the relationship between PS and greater achievement and academic performance (Enns et al., 2001, Bieling et al, 2003; Madigan, 2019) and PS being related to more adaptive coping response styles to stress (Richardson et al., 2014; Rice et al., 2016), such as greater perceived social support (Dunkley et al., 2000) than that of PC.

Given the numerous, and sometimes varying associations between perfectionism dimensions and other factors, it would be pertinent to identify the associations between perfectionism and positive or negative psychological outcomes by means of testing a nomological network within the specific context of UK undergraduates. Obtaining data for perfectionism and associated factors (anxiety, worry, resilience, well-being, mental ill health, social media use and academic attainment), could extend our understanding of the nomological network of perfectionism, specific to UK undergraduates, as well as aid the development of appropriate interventions that could in turn help reduce the currently unsustainable demand on welfare and support services in UK universities.

To the researcher's knowledge, there is no previous research that has investigated these specific factors all together, and no previous research that has exclusively focused on UK undergraduates. This research project aims to address this first by examining the relationships between perfectionism, mental health, and well-being outcomes by means of a nomological network, by obtaining data via a large

national survey and investigating correlations between the aforementioned factors. As previously discussed, perfectionism will be measured using the PI due to its more comprehensive conceptualisation of perfectionism, achieved by combining the strengths of both the MPS-F and MPS-HF, thus capturing a fuller range of perfectionism components. The PI also incorporates a Rumination subscale, an important factor for mental health and well-being in light of PCT. Finally, the eight subscales of the PI also allow for examining associations at both the higher order two-factor level, as well as a more nuanced individual subscale level, enabling greater accuracy in the identification of specific perfectionism components and their associations, for utilisation in therapeutic interventions. Following an examination of correlations between perfectionism and associated factors, a second study will examine the unique variance of perfectionism components with psychosocial and affective well-being through regression analyses.

Despite the increased rates of students reporting mental ill health, to the author's knowledge there is also no published dual-factor intervention for students that seeks to target both the maladaptive aspects of perfectionism, as well as strengthening potentially adaptive aspects. Therefore, this research will pilot a dual-factor intervention by integrating CBT interventions (effective in managing maladaptive aspects of perfectionism) and PPIs (i.e., character strengths, gratitude and self-compassion interventions). Drawing from recommendations made by previous researchers which are theoretically and empirically informed, it is predicted that a dual-factor intervention may help to not only ameliorate the maladaptive aspects of PC through CBT, but also enhance potentially adaptive factors that may be attributable to PS, and improve psychosocial well-being in perfectionist students (Keyes, 2002). It is anticipated this will be achieved by fostering greater intrinsic motivation, competence, and connectedness through the character strengths intervention (Linley et al., 2010; Meyers

& van Woerkom, 2017), by facilitating more adaptive coping and approach-oriented problem solving through the gratitude intervention (Wood et al., 2007) and by promoting greater self-kindness, acceptance, and social connection through the self-compassion intervention (Neff & Germer, 2013).

In summary, this research programme aims to develop an empirically and theoretically informed intervention to not only support student well-being, but also potentially alleviate increased pressure on UK university support services. To identify the efficacy and validity of the intervention on student perfectionism and associated factors, the research programme will pilot the intervention with UK undergraduates and evaluate its effectiveness using mixed methodology (discussed in Chapter 2). The present research will also provide further data regarding possible interventions that could be delivered in UK universities.

Research Aims

1. To extend knowledge and understanding of the possible role of key factors that reflect mental health and well-being outcomes in UK undergraduates in relation to perfectionism dimensions by examining its nomological network, as identified by theory and empirical evidence.
2. To extend knowledge and understanding of the unique relationships between perfectionism dimensions (perfectionistic strivings and concerns) with psychosocial and affective well-being in UK undergraduates.
3. To design an intervention informed by both cognitive-behavioural theory and PPIs for students with high levels of perfectionism, aimed at reducing PC and associated factors such as anxiety, whilst increasing PS and well-being.
4. To evaluate the effectiveness of this intervention, in comparison to a wait-list control group, through both quantitative and qualitative analyses.

Thesis Outline Summary

Following the introduction, review of literature, thesis rationale and aims within this chapter, Chapter 2 includes a discussion of the methodology; offering justification for the methods used throughout the thesis and critical discussion of alternatives. The positivist, quantitative approach is considered first, with focus on common place correlational analyses used within perfectionism research. A justification is provided for the examination of the nomological network of perfectionism associations with key factors, and the use of regression analyses, within Study 1 and 2 respectively. The use of positivist paradigms within positive psychology is also explored, with justification for an experimental design used in evaluating the intervention in Study 3. Finally, the incorporation of qualitative approaches is also discussed, concluding with a justification for using a pragmatist, mixed methods approach, relevant to the research aims and the researchers' existing experience as a counsellor and psychotherapist, as discussed in the Preface.

Chapter 3 analyses data from a large-scale survey distributed to UK undergraduates measuring numerous variables: multidimensional perfectionism, worry, generalised anxiety, resilience, psychosocial wellbeing (flourishing), affective well-being, social media use, mental health, mental health condition and/or treatment and demographic data. Study 1 examines the nomological network for perfectionism, mental health and well-being in students testing hypotheses drawn from existing empirical evidence identifying magnitude and direction of correlations between factors. Study 2 further examines the partialled relationships between perfectionism dimensions and well-being in students using regression analyses.

Chapter 4 (Study 3) presents the development and delivery of a dual-factor intervention to perfectionist undergraduate students, by integrating a cognitive-behavioural treatment model with positive psychology. The effectiveness of the pilot intervention is

subsequently evaluated using both quantitative and qualitative methods. The overall discussion is then presented in Chapter 5, where the implications of perfectionism for student mental health and well-being are discussed in relation to the theoretical perspectives presented in Chapter 1. The research approach of the project is evaluated in terms of its contribution to knowledge, its applications for university mental health practitioners and its limitations, ending with suggestions for future research in how to build upon or improve the programme of research.

Chapter 2 – Methodology

Following the background, literature review, rationale, and aims of the programme of research introduced in Chapter 1, this chapter will discuss the different methodological perspectives considered for achieving the aims. The use of quantitative, qualitative and mixed-methods designs will be reviewed in the context of existing psychological research, discussing the benefits and limitations of each, and identifying the methods most appropriate for each study in the current programme of research.

Quantitative Approach

Quantitative research is considered the traditional scientific approach for research and is underpinned by the positivist philosophical paradigm (Walker, 2005). Positivism is the dominant paradigm in social science, it is deterministic and emphasises causal relationships and laws, empirical observations, and value-free research (Neuman, 2014). Positivism adopts a realist ontology, that there is an objective reality, truth exists and is waiting to be discovered (Neuman, 2014). Quantitative research seeks to measure and analyse causal relationships among variables, purportedly from within a value-free framework (Denzin & Lincoln, 2011). Epistemologically, within quantitative research the investigator and investigated are considered independent, therefore the investigator can study phenomena without influencing them (Sale et al., 2002). The quantitative approach will place value on rationale, objectivity, prediction, and control (Streubert & Carpenter, 1999, as cited in Walker, 2005), characterised and distinguished by the gathering of measurable, numerical data that is analysed using statistical procedures (Creswell & Creswell, 2017).

Within quantitative research, a sample is drawn from the population, due to the expense and impracticality of measuring an entire population. However, the sample size should be sufficiently large enough in order to be representative of the study population

(Thompson, 1999). Furthermore, strategies such as random sampling increase the likelihood of generalising results, as well as using standardised measures and procedures to increase reliability of findings (Neuman, 2014). The quantitative approach will use, broadly, experimental designs that seek to determine if a specific variable influences an outcome, and correlational designs, using statistics to describe and measure associations between two or more variables (Creswell & Creswell, 2017).

Correlational Design for Perfectionism Studies

The investigation of personality focuses on the individual differences of human behaviour between one another, and traditionally assesses concepts such as traits, types, and temperament to determine how people are different from each other, and what is the structure of human individuality, through the use of correlational studies (Robins et al., 2007). Raymond B. Cattell, known for his efforts in advancing the psychometric approach to personality research believed that the essence to understanding traits, as a fundamental conceptual unit of personality, was in correlation (John et al., 2008). Correlational studies are typically cross-sectional and investigate the nature of associations between and among variables, identifying if change in one variable is related to change in one or more other variables (Sousa et al., 2007). It condenses information pertaining to the association into a single number that can express the strength and direction of the association (Neuman, 2014).

The most widely used social science data-gathering technique is the use of surveys, it can provide accurate, reliable, and valid data (Neuman, 2014). Survey research grew within the positivist approach to social science, and enables researchers to ask multiple questions at once, therefore measuring multiple variables and testing multiple hypotheses (Neuman, 2014). The correlational method, through the use of surveys, is considered a suitable research strategy for focusing on individual differences, as the presumed stable and consistent individual differences can be related

to variations in behaviour and health (Robins et al., 2007). The use of self-report in surveys has a particular advantage in that a large amount of information on multiple characteristics, from multiple participants across a wide geographical area can be collected at one time with relative ease and minimal cost (Robins et al., 2007; Neuman, 2014). Researchers suggest that self-report is the most adequate method for measuring certain constructs or personality-related concepts such as well-being (Diener et al., 1991). The use of a survey rarely requires more incentive from the participant than the opportunity to express oneself, or if further incentive is needed, the provision of personality feedback or extra course credit (for students) will suffice (Robins et al., 2007).

However, whilst including multiple scales within surveys may allow for richer data and various trait and state constructs to be examined, incorporating additional scales could be too onerous for participants. This could result in refusal to participate, or a tendency to respond to items carelessly or in an inconsistent fashion due to variable motivation, boredom, or fatigue (Burisch, 1984; Krosnick, 1999; Robins et al., 2007; Oppenheimer et al., 2009). This is a concern for personality research where respondents may differ in their tendency to consistently engage, creating a confounding between the response style and personality content scales, thus impacting the validity of the results (Robins et al., 2007). The selection of self-report scales to be used in a survey must therefore be economical to ensure greater likelihood of participants to respond and with accuracy.

The present research will focus on the role of individual differences among undergraduates in relation to multidimensional perfectionism, mental health, and well-being. For this purpose, a correlational design would be appropriate in order to investigate how perfectionism dimensions are related to mental health and well-being outcomes. For most perfectionism research, correlational designs are the most

frequently applied methods to investigate perfectionism and typically examine associations between perfectionism and outcomes, leading to greater understanding of the nomological network of perfectionism in regards mental health and well-being outcomes. Following the multidimensional perfectionism scales by Hewitt and Flett (1991) and Frost et al. (1990), perfectionism researchers have primarily focused on refining earlier psychodynamic-informed conceptualisations of perfectionism and examining how it relates to various types of psychological distress, primarily through quantitative inquiry in correlational studies. However, correlational studies do not permit us to make inferences about causality, or its direction (Coolican, 2019), for example, if the predictor variable(s) cause the outcome or vice versa.

Stoeber (2018a) notes the vast majority of research on perfectionism also uses cross-sectional designs, where all measures are taken at a single point of time, and that more longitudinal research is needed to be able identify whether perfectionism is an antecedent or a consequence of another variable, and whether perfectionism predicts changes in an outcome variable over time (Stoeber, 2018b). However, the practical limitations of longitudinal research can make this difficult to implement; it is time-consuming, expensive, open to bias due to participant familiarity and is highly vulnerable to attrition (Coolican, 2019). Therefore, this research will reflect a typical correlational analysis and is beneficial because it enables perfectionism to be researchable. Furthermore, given concerns of suppression effects in perfectionism research (Hill et al., 2010; Molnar & Sirois, 2016), in addition to following good research practice and reporting the bivariate correlations (Stoeber, 2018b), this research will also describe the unique (partialled) relations to different dimensions of perfectionism (Stoeber & Gaudreau, 2017).

Nomological Network for Perfectionism, Mental Health, and Well-Being

The strength of the correlational approach is that it can explore a complex array of variables relevant to perfectionism, such as mental health and well-being. The relevance of such variables was introduced in Chapter 1, where several theoretical frameworks outlined how and why perfectionism may confer risk to mental ill health and poor well-being. Furthermore, the potential adaptive qualities of PS in its relationships with psychological outcomes (Stoeber & Otto, 2006) were also considered. Molnar and Sirois (2016) stress a difficulty in our understanding of perfectionism in health and well-being is due to research being largely atheoretical. Therefore, not only are the relationships between perfectionism dimensions and mental health and well-being outcomes within UK undergraduates to be considered in this programme of research, but it will be done through examination of the nomological network of perfectionism in this population.

A nomological network is defined by the American Psychological Association (APA; 2022) as “a broadly integrative theoretical framework that identifies the key constructs associated with a phenomenon of interest and the associations among these constructs.” The term nomological network was introduced by Cronbach and Meehl (1955) describing the interlocking system of laws, which constitute theory, that occurs to “make clear what something is” (p. 290). In a psychological context, a nomological network is a form of construct validity; how well a psychological scale measures its theoretical construct. This can be achieved through comparing relationships between measures of interest, and as more measures are compared and related to each other, a “network” is formed. Nomological networks can be used as conceptual representation devices, to support the organisation of phenomena and develop empirical, testable models of the respective phenomena (Alavi et al., 2018). Both positive and negative correlations can be explored in a nomological network, thus determining the true nature

of what is being measured by the scale (Nichols, 2011). In regard to perfectionism, examining positive and negative correlations between perfectionism dimensions and several desirable or deleterious psychological outcomes could provide insight into the adaptive or maladaptive nature of perfectionism. The aim of this research is to further examine the relationships between perfectionism and mental health and well-being outcomes within UK undergraduates to gain further understanding of whether perfectionism, and how its PS and PC dimensions, may reflect desirable or detrimental outcomes, thus giving insight into how adaptive or maladaptive perfectionism may be for students.

As such, testing a nomological network of perfectionism may provide a conceptual representation about the way in which key factors that reflect mental health and well-being outcomes in UK undergraduates in relation to perfectionism dimensions. The nomological network is informed by theory outlined in Chapter 1; the diathesis-stress model (Hewitt & Flett, 2002), social-disconnection model (SDM, Sherry et al., 2016), and perfectionism cognition theory (PCT, Flett et al., 2016), as well as empirical evidence (to be introduced in Chapter 3). This will enable several hypotheses to be generated regarding the strength and direction of relationships between the key constructs and perfectionism to help extend upon knowledge of the nomological network of perfectionism within UK undergraduate populations.

Correlational Design for Positive Psychology Studies

The associations between perfectionism and two specific variables (affective and psychosocial well-being; Diener et al., 2010) are taken from positive psychology research; an approach which also emphasises a quantitative methodological orientation. Positive psychology is primarily focused on the study of human flourishing (Seligman & Csikszentmihalyi, 2000), with a quantitative methodological orientation embedded into the research objectives of the approach. Whilst similar to humanistic psychology in

its focus to help people fulfil their potential and maximise well-being, positive psychology distances itself from the scepticism towards scientific methods adopted by humanists, and instead relies on empirical research, viewing both strength and weakness as amenable to scientific inquiry (Peterson & Steen, 2002; Froh, 2004). Given the supposed ‘adaptive’ as well as ‘maladaptive’ dimensions of perfectionism (Stoeber & Otto, 2006), it is therefore fitting to also include variables possibly related to perfectionism from a positive psychology approach. The inclusion of such variables would also add to the positive psychology commitment to rigorous scientific inquiry (Froh, 2004).

A quantitative methodology using a correlational/survey design is therefore appropriate to empirically test the nomological network of perfectionism and relationships to mental health and well-being outcomes. This is consistent with existing individual differences research, as well as the positive psychological approach. In doing so, findings can be drawn from a sufficiently large representative sample of the intended population (Thompson, 1999); for this study, the population will be UK undergraduate students. Within the quantitative paradigm, the researcher remains detached and objective, to ensure that results are relatively independent of the researcher (Sale et al., 2002), which enables validity in ensuring the outcomes are based on the facts of the findings. Finally, the quantitative approach enables replication of independent samples through the use of standardised measures and procedures, which can facilitate greater reliability of findings (Neuman, 2014).

Experimental Designs for Perfectionism Dual Intervention

Whilst a correlational design is prevalent within individual differences research, it is unable to indicate causality amongst variables (Coolican, 2019). Another predominant research approach within the quantitative paradigm is the experimental design (Creswell & Creswell, 2017). It is able to test cause-effect relationships and is

considered the optimum approach by many researchers for acquiring reliable information from interventions (Walker, 2005). The strength of this design lies in its use of controls, such as applying standardised measures to help minimise erroneous conclusions and controlling for bias (e.g., through the use of blinding to conditions and inclusion/exclusion criteria). It enables the researcher to be confident that results can be credited to the effects of the experiment, increasing internal validity and the likelihood of generalising results beyond the sample within the study (Walker, 2005).

The experimental design is also recommended for determining whether or not an intervention works in producing positive outcomes for health (Walker, 2005), as the focus on cause and effect helps identify if the intervention causes change and is responsible for helping to improve mental health outcomes. Existing research on treatments or interventions for perfectionism utilises experimental designs and appears to focus primarily on the cognitive-behavioural approach to treatment (Lloyd et al., 2015; Hewitt et al., 2017), with some evidence that psychodynamic and interpersonally oriented treatments that focus on causal mechanisms could be effective in reducing perfectionism.

The emphasis on the experimental design also exists within positive psychology, transferring existing sophisticated experimental methods of mainstream psychology, to determine the effects of PPIs (Seligman, 2002). Intervention research within positive psychology consists of studies designed to test certain therapeutic methods or treatments in order to convert this knowledge into practices aimed at promoting health and well-being (Keyes & Lopez, 2002). This is achieved by developing and evaluating PPIs, such as gratitude and “use your strengths” exercises (Seligman et al., 2006) that can help improve the human condition beyond simply removing psychopathological symptoms, but by also enhancing positive emotions to help buffer against negative symptoms and build on resources to limit future recurrence. Rashid (2009) notes that

psychotherapy should engage in this hybrid enterprise of both promoting happiness, as well as alleviating psychopathological symptoms, through a broader conceptualisation of mental health (Keyes, 2003), not just the absence of mental illness, but also the presence of flourishing.

This research will therefore utilise an experimental design to establish the effectiveness of the dual-factor intervention, incorporating both CBT and PPIs. Some researchers consider the most effective research design for establishing the effects of interventions to be the true experimental design in using a randomised allocation of participants to conditions, the use of a control group, and the manipulation of an independent variable(s) (Sousa et al., 2007; Coolican, 2019). In an effort to maintain control and reduce bias, true experimental designs will use randomised allocation of participants to conditions (for example, an equal chance of a participant being assigned to either a control or intervention group), so that if the independent variable truly has no effect, minor differences between conditions will be due to the random variation amongst participants or other non-systematic variables (Coolican, 2019). Within experimental research, the control group is referred to as a group of participants who have not received treatment, in order to compare the results of the same variable(s) to that of the experimental group, inferring the effect of the treatment or intervention (Coolican, 2019).

There are several types of experimental design, and for this research a pre-test/post-test control group design will be utilised, where groups are measured repeatedly on the same variables over time (Sousa et al., 2007). Both groups are tested before being introduced to the intervention to create a baseline for comparison (pre-test), then when the experimental group has undergone treatment, both groups are tested again (post-test). Ethical considerations must be considered when conducting a true-experimental design; it would not be deemed ethical to create new inequalities in

completely forgoing treatment for the control group (Neuman, 2014), therefore this research intends to utilise a wait-list control, where the control group is placed on a waiting list to receive the same treatment once the experimental group has completed it.

Although considered one of the strongest or most rigorous designs (Sousa et al., 2007), the true-experimental design is difficult to establish within research as it requires a relatively large sample size and sufficient time to establish and treat both groups whilst testing at numerous time points. Where this cannot be achieved, a quasi-experimental, non-equivalent pre-test/post-test control group design may be used (Sousa et al., 2007), where only the experimental group is exposed to treatment. Whilst similar to a true-experimental design, in examining cause-and effect relationships between independent and dependent variables, one of the characteristics of the true-experimental design (the random allocation of participants to conditions) is missing in the quasi-experimental. However, it is still considered closer to natural settings, and therefore useful in testing the effectiveness of an intervention (Sousa et al., 2007).

Despite being close to natural settings, a distinct weakness in all experimental designs, is that of external validity. The more tightly controlled the experiment, the harder it is to verify whether the same results could be found in real life. The emphasis on hypothesis testing can cause the researcher to miss out relevant phenomena not captured by the narrowed, predetermined responses of questionnaires (Coolican, 2019), and may not capture the participants' experiences. In summary, the quantitative experimental approach is suitable in addressing the aims of the intervention study; assessing variables before and after treatment relative to a control group to establish the impact of the intervention. However, there is the potential to miss pertinent information regarding the students' experience of the perfectionism intervention. To overcome this limitation, a qualitative approach will also be utilised to explore the subjective perspective of students.

Limitations of Quantitative Designs for Therapeutic Interventions

Despite a wealth of quantitative literature for perfectionism (Rice et al., 2003; Hewitt et al., 2017), there is a lack of research exploring perfectionism using qualitative methodology (Woloshyn, 2007; Egan et al., 2013; Farmer et al., 2017). Woloshyn (2007) argues this limits counsellors' and mental health professionals' treatment options in how to work with perfectionistic clients, because little is known about the *lived experience* of perfectionism that could otherwise be gained through qualitative methodologies. This issue is not just restricted to perfectionism research, but also counselling and psychotherapy more broadly. McLeod (2011) notes counselling psychology has been dominated by positivist, quantitative methods, but Ponterotto (2005) argues such a narrow paradigmatic focus has limited advancement for the field.

To progress counselling psychology as a scientific field, Ponterotto (2005) states researchers must expand their research methodology to include qualitative approaches. Whilst research exploring therapeutic interventions may primarily focus on quantitative experimental methods, qualitative approaches also exist (Levin, et al., 2003). As one of the aims of this programme of research is to develop and evaluate an intervention for perfectionism to be utilised by counsellors and other mental health professionals supporting perfectionist students, it would be pertinent for the researcher (a practicing counsellor/psychotherapist) to also include a qualitative approach when evaluating the intervention. In doing so, this would support advancement of the counselling field, gain a richer understanding of the subjective experience of students (to be discussed next), and more authentically situate the research in the researcher's pluralistic paradigm (see Mixed Methods Approach).

Qualitative Approach

The primary foundations for qualitative research methods are the interpretivist and constructivist paradigms (Sale et al., 2002; Creswell & Creswell, 2017), which

emphasise the goal of understanding the lived experience from the point of view of those who live it day to day (Ponterotto, 2005). Qualitative research is focused on process and meanings (Sale et al., 2002) and on the description, explanation and interpretation of data obtained from language or observation, translated to create a particular construction, as opposed to treating data as ‘facts’ (Coolican, 2019). It does not focus on cause-and-effect relationships, instead, qualitative researchers are concerned with meaning, and how participants make sense of the world and experience events (Willig, 2013). Therefore, qualitative research is not concerned with pre-defined variables which would otherwise impose meanings onto the research or impede the participant’s sense-making of the investigated phenomena.

The ontological position within qualitative research is typically that of relativism, that there are multiple, equally valid, and socially constructed realities (Ponterotto, 2005; Lincoln et al., 2011), as opposed to the one objective reality waiting to be found through quantitative methods (Sale et al., 2002). Qualitative research can also be from a critical realist ontology, which assumes processes of a social and/or psychological nature can be identified in knowledge generation (Willig, 2013). The critical realist approach assumes reality is “out there”, but access to it is mediated by the participant’s and researcher’s interpretative resources (Terry et al., 2017). Therefore, qualitative research would not strive for absolute objectivity, but rather recognises a subjective epistemology; that there is no independent access to reality from our minds and the researcher and researched are interactively linked. Findings are co-created, with research conducted as closely as possible with the participants (Coolican, 2019), with the researcher actively reflecting upon their beliefs, values, and influences on the research (Sale et al., 2002; Ponterotto, 2005; Lincoln et al., 2011).

A strength of qualitative research is it enables findings to be relevant to the individual’s personal experience, through the creation of understanding by using data

that is based on the participant's own subjective meaning (Coolican, 2019). This emphasis on subjectivity is akin to the values and practice of most counselling and psychotherapy approaches, which are focused on engagement with the clients' unique experiences (Vossler & Moller, 2015). Another strength of qualitative research is its focus on obtaining rich descriptions of experience, providing a depth not found in quantitative research, and affording researchers and practitioners further insight into the phenomenon under investigation, in this instance, students' experience of a perfectionism intervention.

Whilst quantitative research relies on large samples for generalising findings to the population (Willig, 2013), participant samples in qualitative research are small and purposeful (Sale et al., 2002), often a criticism directed at the approach (Reid, 1996). However, the aim of qualitative research is rarely to generalise, but instead to provide detailed information regarding the subjective experiences relevant to the 'local' context of those contributing to the research (Coolican, 2019). Similarly, qualitative research does not follow conventional quantitative issues of bias, reliability, validity, and generalisability (Finlay, 2015). Whilst there is risk of bias, as results and interpretations are channelled through the researcher (Coolican, 2019), qualitative research adheres to different ontological and epistemological assumptions than those of quantitative research. As such, qualitative research adopts other means to establish quality through trustworthiness and credibility (Lincoln et al., 2011, Finlay 2015). For example, the authors of the popular Thematic Analysis (TA) method (Braun & Clarke, 2006) note that qualitative research cannot be judged against the same criteria for quantitative research, such as managing researcher subjectivity. Instead, they emphasise the importance of using this subjectivity as a resource within the approach through researcher reflexivity (Clarke & Braun, 2018), and employing different criteria for

conducting good, rigorous qualitative analysis (Braun & Clarke, 2006; Elliott et al., 1999).

Qualitative Analysis: Thematic Analysis

Although there are different versions of TA (Braun et al., 2015), the approach outlined by Braun and Clarke (2006) is useful for summarising meaning and focusing on participants' experiences (Clarke & Braun, 2018), and is therefore commonly used within psychology and counselling research due to its flexibility and accessibility (McLeod, 2011). Whilst TA can be used within different theoretical frameworks (Finlay, 2015), Clarke and Braun (2018, p. 109) make clear that "theory is not optional in TA!". The use of TA must be underpinned by theory, and the researcher must choose the theory that will inform their use and implementation of the TA method. Braun et al. (2015) also state that in recognising the theoretical paradigm choices of TA, it helps the researcher to reflect on their active role in the process and generation of results. The reflexivity required of a good qualitative researcher is also necessary for being a good practitioner and is therefore a useful method for counsellors and psychotherapists (Braun et al., 2015).

TA is compatible with both relativist and critical realist ontologies (Braun & Clarke, 2006). By adopting the latter, participant's words can provide access to their version of reality, and the researcher produces interpretations of this reality (Terry et al., 2017). Willig (2012, p. 67) describes the researcher much like a "detective" in this approach; using one's skills, knowledge, and experience to uncover what is really going on. Clarke and Braun (2017) argue that due to its flexibility and accessibility, TA is also an attractive method for qualitative researchers within positive psychology, helping research to move beyond the exclusive use of the more dominant positivist paradigm.

Braun and Clarke (2006) provide an outline guide of six phases for TA: familiarisation with data, generating initial codes, searching for themes, reviewing

themes, defining/naming themes and finally, producing the report. They also describe a number of choices that must be explicitly considered both prior to and during analysis as part of the ongoing reflexive process (Braun & Clarke, 2006, 2019), for example, whether the analysis is carried out inductively ('bottom-up' approach where identified themes are data-driven) or deductively ('top-down' approach where the analysis is driven by the researcher's theoretical interest). Furthermore, the coding and theme development can be carried out in a semantic or latent way; the former reflects the explicit content of the data, whereas the latter reports concepts and assumptions that underpins the data. However, whilst the semantic approach does not necessarily look beyond what the participant has said or written, the analysis goes further than a "description" of the data and progresses to an interpretation of the significance of the patterns and broader meanings and implications. Often inductive, semantic, and critical realist approaches tend to cluster together, in comparison to deductive, latent and constructionist approaches.

When evaluating the dual-factor perfectionism intervention, the researcher will adopt a critical realist approach for the TA of the open text responses by participants, with a primarily inductive and semantic approach to coding and theme development (Braun & Clarke, 2006; Terry et al., 2017). However, Braun and Clarke (2006, p. 27) highlight the importance of the researcher *rigorously* applying a qualitative method of analysis to the data, by making clear and explicit "what you are doing, and [this] needs to match up with what you actually do" to ensure the quality of the research. Qualitative research does not use the quantitative criteria of validity and reliability (Golafshani, 2003), rather it is considered trustworthy when processes are presented transparently, taking into consideration rigour, credibility, and quality (Finlay, 2015). One criterion to establish quality is that by Elliott et al. (1999); the "Evolving Guidelines", which represent practices and concerns for a broad range of social science qualitative

researchers. Instead of using a rigid “checklist”, which is arguably unsuitable for the qualitative TA method (Braun & Clarke, 2006), these flexible guidelines emphasise transparency through the researcher’s practice of reflexivity (Braun & Clarke, 2006, 2019; Toyé et al., 2013).

To establish the quality of the TA carried out in Chapter 4, the following provides an explanation of how this study intends to use Elliott et al.’s (1999) guidelines. Chapter 4 will provide an appropriately clear description of the research participants within the method and results sections in order to “situate the sample”. Likewise, a “grounding in examples” will be demonstrated in the use of verbatim quotations to help illustrate the analysis within the results section. “Coherence” will be demonstrated by presenting all results in a clear, coherent, and integrated manner. The guidelines also emphasise “accomplishing general vs. specific research tasks”; as such the overall research aims are stated in Chapter 1, and a discussion of whether or not these were met, highlighting applications, strengths, and limitations of the research, is provided in Chapter 5. However, more specific aims for individual studies are also outlined and discussed, in Chapters 3 and 4. In “resonating with readers”, the research seeks to extend knowledge about perfectionism in students, to benefit other researchers and mental health practitioners. Finally, “owning one’s perspective” and “providing credibility checks” is demonstrated through reflexive practice.

Reflexive Practice in Qualitative Research and Counselling/Psychotherapy

It is important for qualitative researchers to adopt a reflexive account of their research journey, by reflecting on how their own position could impact the research process (Coolican, 2019), as the researcher will produce findings in partnership with participants. Elliott et al. (1999) describes “owning one’s perspective” as the researcher specifying their own theoretical orientation as well as any personal anticipations that could be derived from personal orientations or experiences such as training relevant to

the subject matter. This helps the researcher and reader to understand the role that these values and assumptions may play in the interpretation of data. My own experiences in training and working therapeutically were outlined as part of the Personal Introduction to the thesis, identifying how this has influenced the programme of research, and vice versa. For instance, not only will I use my skills and experience as a trained psychotherapist in the development and competent delivery of the intervention, but I also bring the reflexive attitude found within both counselling/psychotherapy and qualitative research (Finlay, 2015).

As a counsellor/psychotherapist, reflexivity is a dynamic skill that therapists learn to use in practice (Etherington, 2016) as this leads to enhanced understanding when working with clients (Levitt et al., 2015). It requires a therapist to be able to reflect on oneself, as well as knowing the inner story we tell ourselves, as we listen to our clients' stories (Rennie, 1998, as cited in Levitt et al., 2015; Etherington, 2004). Personal experience is at the heart of therapy, and whether a researcher or therapist, we are part of relationships that will influence, inform, and shape knowledge in a co-created way (Etherington, 2016). It is also considered necessary (to varying degrees depending on the research and paradigm) to adopt a reflexive attitude when conducting qualitative research as a means to help check against subjective bias, which helps to interpret our own interpretations, not only do we show what we have discovered, but also how (Etherington, 2004), and this enhances trustworthiness, as well as rigour.

Reflexivity can be carried out in numerous ways, but for the purposes of this research, a reflexive journal will be kept (Morrow, 2005, Braun et al., 2015). This will enable me to reflect upon decisions regarding theoretical orientation (see Mixed Methods Approach, below), methodological design (e.g., the construction of survey questions and intervention protocol), the delivery of the intervention, and the TA and interpretation process. In addition, ongoing communication and debriefing with my

Director of Studies, also a trained psychotherapist, will aid reflexivity. Consultation with a qualitative research colleague regarding the findings will help provide credibility checks (Elliot et al., 1999), and to mirror and reflect (Morrow, 2005). Finally, it is helpful to state clearly my theoretical orientation for the study (Elliot et al., 1999); a pragmatism, pluralistic, mixed methods approach, which is outlined below.

Mixed Methods Approach

Reflecting upon my personal experiences and research process, I have identified the overall philosophical positioning within the research is that of the pluralism (Cooper & McLeod 2011). This is similar to my own therapeutic practice and acknowledges how the scientist-practitioner model will pragmatically draw upon a range of methodologies to achieve the most beneficial outcomes (Corrie & Callahan, 2000). In my background of both counselling and psychology, I have been strongly influenced by dominant positivist discourses within the study of psychology (Walker, 2005) and its application to evidence-based practice within CBT (Grant & Townend, 2009), whilst also appreciative of the interpretivist-constructionist approaches favoured among therapists (Trierweiler & Stricker, 1998, as cited in Corrie & Callahan, 2000; Ponterotto et al., 2017). As McAteer (2010, p. 6) states: “pluralistic epistemology is at the core of counselling psychology and represents its engagement with a wide variety of perspectives that clients bring to therapy, or that are evident when conducting research”. My pluralistic influence is also evident in Chapter 1 in the various theoretical orientations (personality, cognitive and social psychology) that have influenced my understanding of the conceptualisation of perfectionism.

The increasingly popular mixed methods approach (Creswell and Creswell, 2017) seeks to not only take advantage of the strengths of both quantitative and qualitative approaches, but weaknesses in one can be somewhat compensated by the strengths of the other (Steckler et al., 1992). Combining both is widely accepted and

practiced in many areas of health research (Sale et al., 2002). However, some social science researchers would argue that, given the different ontological and epistemological paradigms implicit in quantitative and qualitative research methods, both are incompatible (Steckler et al., 1992). Despite these differences, the approaches also share similarities; both approaches share the goal of understanding the world we live in (Sale et al., 2002) and both seek to answer research questions through the application of a rigorous method. As such, the mixed methods approach addresses the concerns of both quantitative and qualitative researchers by suggesting all human inquiry involves some interpretation but must also be grounded in empiricism. The argument for using mixed methods resides on the assumption of pragmatism, where the aim of inquiry is not to seek truth independent of human experience, but to achieve a richer experience through any productive combination of approaches. This enables the researcher to investigate phenomena more comprehensively from different angles (Yardley & Bishop, 2017), than if they were to focus on a single method design.

Mixed methods research is particularly useful for complex areas of research, for example, health promotion and health education problems (Steckler et al., 1992). To ensure efficacy of therapeutic interventions, it is pertinent to use methods that work best to investigate the phenomena, utilising the strengths and minimising the limitations of different methods. This process is comparable to pluralistic counselling and psychotherapy practice in its deliberate engagement and negotiation with diverse client perspectives to improve therapeutic outcomes (McAteer, 2010; Cooper & McLeod, 2011). The manner in which qualitative and quantitative methods are combined for health education research can depend on sequence or integration, for instance qualitative findings are included to help interpret and explain the initial quantitative findings of a study (Steckler et al., 1992). This approach was utilised by Casale (2015, cited by Yardley & Bishop, 2017) who first conducted a survey to establish statistical

relationships amongst mental health variables, and then explored participants' experiences through qualitative interviews. This enabled the identification of psychosocial processes to further explain the initial quantitative findings. Terry et al. (2017) notes that there has been a widespread uptake of TA in applied areas of psychology, for example, where the overall research question is more critical-realist in orientation, qualitative research can also take place as part of the larger mixed-method project. This offers a useful and valuable tool for the practical application of research.

In summary, this research programme will draw on a positivist paradigm in utilising quantitative methods such as correlational designs, for the purpose of ascertaining associations with perfectionism and other factors, and an experimental design for ascertaining the effectiveness of the intervention developed. This is in keeping with the prevailing research into individual differences (Robins et al., 2007; John et al., 2008), positive psychology (Froh, 2004), perfectionism and its treatment (Woloshyn, 2007; Hewitt et al., 2017). However, interpretivist-constructivist approaches are favoured within counselling and psychotherapy practice (Trierweiler & Stricker, 1998, as cited in Corrie & Callahan, 2000; Ponterotto et al., 2017), and the over-reliance of the positivist paradigm within counselling psychology (Ponterotto, 2005) risks missing the deeper understanding or "insight into the experiences of people who are living with specific problems" (McLeod, 2011, p. 7). Not only has this influenced the rationale for using the PI (see Chapter 1), but it has also led to the decision to include the critical realist method of reflexive TA (Braun & Clarke, 2006; 2019) to the intervention study, a more valuable practical application for improving therapeutic outcomes (Cooper & McLeod, 2011; Terry et al., 2017). As such, this pluralistic, mixed methods approach supports the overall aim of the research programme; to extend knowledge for researchers and therapists in better understanding UK undergraduates' mental health and well-being, as well as identifying therapeutic

interventions to effectively support this population. It is in keeping with the researcher's own theoretical orientation, with therapeutic practice more broadly (McAteer, 2010), and with the expanding field of counselling psychology research (Ponterotto, 2005).

Chapter 3 - Studies 1 and 2: Relationships between Multidimensional Perfectionism, Mental Health, and Well-Being Outcomes in UK Undergraduates

As discussed in Chapter 1, theoretical frameworks and empirical evidence have indicated how and why perfectionism can confer risk to detrimental mental health outcomes in the context of student populations in higher education, as well as the potential benefit of PS as “adaptive” for this population (Stoeber & Otto, 2006). To investigate this, this chapter will comprise of two studies. Study 1 will examine correlations between perfectionism and mental health, well-being, and academic outcomes, as a means to examine the nomological network (see Chapter 2) of perfectionism amongst UK undergraduates. These findings will inform Study 2, which will investigate further the unique relationships between perfectionism dimensions with psychosocial and affective well-being, using regression analyses. These studies seek to extend understanding of the roles in which specific perfectionism factors can reflect mental ill health and poorer well-being in UK undergraduates, as informed by the PCT, the diathesis-stress model, and the SDM. First, by drawing on existing empirical evidence presented below, hypotheses will be made for Study 1 regarding the strength and direction of relationships between perfectionism dimensions and key mental health and well-being constructs. These constructs will be grouped thematically under desirable and detrimental outcomes.

Relationships between Perfectionism Dimensions and Desirable Outcomes:

Existing Empirical Evidence

This section offers an overview of results from previous empirical studies that state the magnitude and direction of relationships between PS and PC with desirable outcomes for students: positive affect, flourishing, academic achievement, and resilience. Relevance of these findings to the three theoretical frameworks for perfectionism (discussed in Chapter 1) will also be summarised.

Positive Affect

From a hedonic perspective, subjective well-being can be indicated through high levels of positive affect (Deci & Ryan, 2006). Research investigating relationships between perfectionism and positive affect has varied, as whilst a negative relationship between PC and positive affect has been consistent, the relationship between PS and positive affect is less clear. As mentioned in Chapter 1, the seminal article by Frost et al. (1993) found PS was positively correlated with positive affect (as measured by the Positive and Negative Affect Schedule [PANAS]; Watson et al., 1988), whereas PC held a non-significant relation with positive affect. Using only the MPS-HF, Molnar et al. (2006) found SOP was related to high positive affect, and SPP was related to high negative affect.

Bieling et al. (2003) identified that whilst PS was related to higher levels of positive affect, it was also related to high levels of negative affect. However, when partialled out by Stoeber and Otto (2006), the relationship between PS and negative affect became non-significant, whilst the positive relationship between PS and positive affect remained. Hill et al. (2010) also found partialling out PC impacted the results between PS and positive affect; zero-order correlations were non-significant, but after controlling for PC, PS held a significant, positive relationship to positive affect.

Dunkley et al. (2003) found a significant negative relationship with PC and positive affect, however, a non-significant relationship between PS and positive affect. A subsequent study by Dunkley, Ma, et al. (2014) identified that the negative relationship between PC and positive affect was mediated by lower perceived social support (supporting the SDM) and problem-focused coping. However, they also found a positive relationship between PS and positive affect when mediated by higher than average daily problem-focused coping. Dunkley et al. (2016) conclude that individuals high in PC lack the compensatory experiences of positive affect (which provides

psychological respite) due to a lack of engagement with social support resources and problem-focused coping strategies, whereas individuals high in PS, whilst still experiencing high levels of stress, may still experience positive affect through better use of problem-focused coping strategies. In keeping with the SDM and diathesis-stress model (although less so the specific-vulnerability model), this would account for the apparent dissociation between PC/PS with regards to positive affect.

Flourishing

Flourishing was first introduced by Keyes (2002) who described mental health as a separate dimension of positive feelings and functioning, where those who are flourishing are happy and satisfied; they have meaning and purpose in life, engagement (including with others and feeling related to others), mastery and growth. Flourishing goes beyond satisfaction with life, and combines emotional, physiological, and social well-being (Diener et al., 2010). As a construct, Diener et al. (2010) identified flourishing as social-psychological prosperity and functioning.

Rashid et al. (2017) describe flourishing in the context of university students as having healthy mental functions as well as being resilient, and are developing programmes to build on students' strengths, enhance their resilience and in turn, their flourishing. Denovan and Macaskill (2017) found that resilience has a positive impact on students' flourishing, and that positive affect can mediate this relationship, suggesting students that are resilient are more likely to find ways to create positive affect through adaptive coping, and counteract the experience of stress, thus promoting flourishing. Knoesen and Naudé (2018) found students were more vulnerable to languishing in their first year of university due the daunting transition into the unknown, new practical difficulties, finding academia overwhelming and experiencing social isolation. However, they began to flourish upon achieving more academic mastery, personal growth, independence and establishing a more secure social support system.

Flett and Hewitt (2015a) suggest multidimensional perfectionism (MPS-HF) would undermine flourishing, and that managing extreme perfectionism and reducing pressure is needed to enable flourishing. However, Stoeber and Corr (2016) argue this management of perfectionism is what could potentially result in the undermining of flourishing in some perfectionists. For students in particular, where flourishing occurs following greater mastery of academic skills (Knoesen & Naudé, 2018), it could be that striving for excellence helps support academic achievement and therefore flourishing. Stoeber and Corr (2016) provided the first empirical study on perfectionism and flourishing, in an attempt to distinguish between Flett & Hewitt's (2015a) comments regarding the undermining of flourishing versus the healthy psychological associations of perfectionism (Stoeber & Otto, 2006). They found PS was positively correlated with flourishing, positive and negative affect (measured using the PANAS; Watson et al., 1988), and PC significantly negatively correlated with flourishing and positive affect, but positively correlated with negative affect. However, when using multiple regression, they found PC undermined perfectionism, but PS did not. Those scoring high in PS and low in PC experienced high levels of flourishing, whereas those scoring high in PC and low in PS were likely to experience low levels of flourishing, indicating evidence of suppression effects (Stoeber & Corr, 2016).

Academic Achievement

Whilst not a mental health or well-being outcome, as discussed in Chapter 1, academic achievement is considered a desirable outcome within higher education, and can be impacted by a student's mental health, well-being, and perfectionism. The IPPR report identified that poor well-being and mental ill health could affect students' academic performance (Thorley, 2017), and Rice et al. (2016) and Madigan (2019) have identified that PS is related to higher academic achievement, whereas PC is negatively related, potentially due to the differential coping styles adopted during times of stress

and failure. High levels of psychological distress have been found to be significantly related to lower academic performance (Brachney & Karabenick, 1995) as well as depression detrimentally impacting performance on exams (Andrews & Wilding, 2004).

Research also suggests that university students with mental ill health are less likely to engage on campus and have poorer relationships with others, with both factors associated with poor academic performance (Salzer, 2012). Reflecting on these findings in relation to the SDM, it is understandable that where perfectionist tendencies provoke social disconnection, it can exacerbate poorer mental health, as well as poorer academic outcomes. Therefore, where PC may exacerbate both mental ill health and academic performance, PS may be related to higher academic achievement. Whilst some would suggest there is a cost to achievement through a student's high levels of PS, Rice et al. (2016) note that PS could be considered adaptive within the context of achievement at university. It may be that in buffering against mental ill health, PS can lead to greater achievement, or it could be possible that the self-satisfaction and likelihood of achievement increases positive affect and well-being and holds a positive influence on mental health.

Resilience

The construct of resilience is considered as the ability to adapt and overcome adversity (Wagnild & Young, 1993) through the facilitation of problem-solving and through positive coping. Due to the role resilience plays in students overcoming the challenges of higher education (Brewer et al., 2019), universities are recommended to utilise interventions that can increase students' resilience (Pointon, 2014; Ecclestone, 2016). Resilience has been found to support self-efficacy (Schwarzer & Warner, 2013) and is a significant factor in supporting student retention (Crombie et al., 2013). As previously mentioned, the more resilient students are, the more likely they can find

ways to create positive affect through adaptive coping and counteract the experience of stress whilst at university (Denovan & Macaskill, 2017).

The diathesis-stress model and SDM posit perfectionism confers risk of psychological distress due to a lowered likelihood of proactive engagement with resilience-oriented activities, such as seeking social support, for stressful experiences (Hewitt & Flett, 2002; Sherry et al., 2016). Within student populations, social support from peers in particular has been found to be a protective influence against academic stress, with friend support moderating the academic stress-resilience relationship (Wilks & Spivey, 2010). According to Burgess and DiBartolo (2016) individuals high in PC are less likely to engage in resilience-building activities, which in turn can lead to greater anxiety. However, according to Dunkley et al. (2016) PS appears to be primarily associated with active, problem-focused coping; more resilient strategies for coping with stress, and therefore fostering any resilience found in PS students could serve to protect against negative impacts of stress.

Using the MPS-HF, Klibert et al. (2014) found that despite all three dimensions being associated with greater depression and anxiety, resilience was negatively correlated only with SPP and partially mediated the relationship with anxiety. Their results support the mediational role of coping response in the perfectionism-anxiety relationship, thus providing some support for the diathesis-stress model, in which students high in PC are likely to experience lower resilience to stress and thus greater psychological distress. However, Klibert et al. (2014) also found SOP held a non-significant relationship with resilience, despite a significant relationship with anxiety and depression. This could be because PS may reflect better stress-reactivity abilities (Rice et al., 2016) with PS holding greater likelihood of utilising more adaptive coping strategies (Dunkley et al., 2016). In summary, students high in PS may also be more resilient and experience greater well-being due to the context of higher education,

particularly if utilising social support as an adaptive coping strategy, however those high in PC may experience poorer well-being and resilience in their difficulty to facilitate adaptive coping strategies.

Relationships between Perfectionism Dimensions and Detrimental Outcomes:

Existing Empirical Evidence

This section offers an overview of results from previous empirical studies that state the magnitude and direction of relationships between PS and PC with detrimental outcomes for students: anxiety, worry, negative affect, and mental ill health. Relevance of these findings to the three theoretical frameworks for perfectionism (discussed in Chapter 1) will also be summarised.

Anxiety

Burgess and DiBartolo (2016) reviewed evidence that highlighted the well-established relationship between anxiety and PC, however there is an inconsistent relationship with PS, where a “detrimental” (i.e., positive) relationship between PS and anxiety may change (becoming non-significant or negative) once PC is accounted for. Burgess and DiBartolo (2016) suggest PC is related to anxiety through stress and coping style (such as avoidant coping) via mediation and/or moderation, as per the diathesis-stress model (Dunkley et al., 2000). Burgess and DiBartolo (2016) also conclude PC is related to anxiety due to social-disconnection, citing Dunkley et al.’s (2000) finding that a lack of social support mediates the relationships between PC and anxiety, with high levels of social support reducing distress for those high in PC. Wu and Wei’s (2008) study also supported the SDM in identifying a need for reassurance from others, or “Other-Validation” in those high in PC, with a strong, positive relationship to anxiety. Finally, the PCT posits individuals high in PC hold maladaptive cognitive biases (such as memory, interpretative and attentional biases focused on threat) that may generate anxiety (Flett & Hewitt, 2002). Research by Pirbaglou et al. (2013) supports this

relationship in identifying how anxiety sensitivity and automatic negative thoughts can predict anxiety; those high in PC tend to experience frequent negative thoughts, leading to greater likelihood of experiencing anxiety.

The relationship between PS and anxiety is less clear; Gnilka et al. (2012) found no significant relationship between PS (measured by the Standards subscale of the APS-R) and trait anxiety, and Short and Mazmanian (2013) found no significant relationship between SOP and anxiety symptoms. However, Klibert et al (2014) found a small, but significant relationship between SOP and anxiety symptoms. In line with the diathesis-stress model, Dunkley et al. (2000) found those with higher PS (in comparison to those with lower levels) experienced a larger increase in distress when moderated by the presence of stressful hassles, and this reduced the ability to pursue positive coping strategies. Wu and Wei (2008) found PS was negatively associated with anxiety, and self-validation and validation from others only partially mediated the relationship between PS with anxiety. However, Dunkley et al. (2000) found a positive relationship between PS and anxiety in conditions of low social support, thus consistent with the SDM that anxiety and PS may be related in particular social circumstances (Burgess & DiBartolo, 2016).

Finally, identifying how negative automatic thoughts mediated the relationship between PC and anxiety, Pirbaglou et al. (2013) suggested that PS and PC could be theoretically distinguishable on the basis that PC combines a normative aspirational component, with a more maladaptive, demanding component. However, Burgess and DiBartolo (2016) conclude individuals high in PS will also hold perfectionistic cognitions including increased contingent self-worth based on achievement, and thus may overestimate the probability and cost of negative events, such as failure, along with their own personal responsibility, all leading to an increase in anxiety. Anxiety could then be further exacerbated by moderators in particular conditions of high stress and

low social support. The reviewed evidence suggests a negative or non-significant relationship between PS and anxiety, but protective factors of social support and positive social feedback may protect against the development of anxiety for individuals high in PC and PS.

Worry

The relationships between PS and PC with worry are comprehensively discussed by Flett et al. (2016) in relation to the PCT (see Chapter 1), who summarised both PS and PC are found to be correlated with worry. This is supported by Xie et al. (2019) who found both SOP and SPP were related to worry, although the former had a smaller effect size than SPP. However, when using the MPS-F, Stöber and Joorman (2001) found worry was related to Concern Over Mistakes, DAA, Parental Criticisms and Expectations, but found no meaningful correlation with Personal Standards, although it was positively correlated with non-pathological worry. Santanello and Gardner (2007) did not find a significant relationship between PS and worry; however, PC held a positive, significant relationship.

The PCT posits that a perfectionist's tendency to worry is due to their high focus to evaluative cues (Flett et al., 2016) and will use worry as a cognitive strategy to avoid threat (Borkovec et al., 2004) and dampen the negative affect experienced when a positive evaluation of self is threatened. The predilection to use worry as an avoidance coping strategy may explain why worry is more strongly related to PC than to PS, as individuals high in PS are more likely to engage in problem-focused coping strategies (Dunkley et al., 2000; Dunkley et al., 2003). Macedo et al. (2014) suggest that whilst perfectionists high in PS may experience high levels of stress, the negative impact of this could be offset by the tendency for PS perfectionists to engage in active, problem-focused coping (Dunkley et al., 2000).

Negative Affect

As previously discussed, the positive relationship between PC and negative affect has been consistently identified (Frost et al., 1993; Bieling et al., 2003; Molnar et al., 2006; Short & Mazmanian, 2013; Stoeber & Corr, 2016). The daily diary study by Dunkley et al. (2003) identified that the use of avoidant coping strategies by perfectionists high in PC to ineffectually regulate stress explained their higher levels of negative affect, supporting the diathesis-stress model (Hewitt & Flett, 1993, 2002). Furthermore, the PCT (Flett et al., 2016) also supports the propensity for perfectionists to ruminate, further increasing both the intensity and duration of negative affect, and findings by Short and Mazmanian (2013) identified PC (measured using the SPP subscale), rumination and worry were all related to higher levels of negative affect. Frost et al. (1993) also identified the positive relationship between PC and negative affect, however found a non-significant relationship between PS and negative affect, similar to Molnar et al. (2006). The non-significant PS and negative affect relationship was not found in the study by Bieling et al. (2003), who found PS to be positively related to negative affect, however, when the correlation was partialled out, the relationship between PS and negative affect was non-significant. Interestingly, Hill et al. (2010) found no zero-order correlation between PS and negative affect, however upon partialling out PC, PS held a significant, negative relationship to negative affect.

Mental Ill Health

Whereas mental health is taken to mean the full spectrum of mental health states, mental ill health would concern the negative or detrimental end of the spectrum, such as a diagnosable mental illness or psychopathology. As identified in the introductory chapter, empirical evidence has supported the association between perfectionism and mental ill health, with theoretical models such as the diathesis-stress model, PCT, and SDM identifying how and why perfectionism could confer risk to mental ill health.

Perfectionism (particularly the PC dimension) has been shown to be consistently higher in individuals with mental health conditions/diagnoses (Limburg et al., 2016), such as generalised anxiety disorder (Handley et al., 2014), and similar patterns are found in non-clinical populations with high correlations between PC and psychopathology symptoms (Bieling et al., 2004) and occasionally PS. Whilst a narrative review of perfectionism and psychopathology across various disorders identified the transdiagnostic risk of perfectionism (Egan et al., 2011), Limburg et al. (2016) conducted a meta-analysis seeking to quantitatively synthesise relationships between psychopathological outcomes (i.e., clinical disorders, symptoms of disorders and outcomes related to psychopathology) and perfectionism, in particular, clarifying distinctions between PS and PC. Results found both PS and PC dimensions were associated with psychopathology outcomes across studies, but in the majority of outcomes, PS was less related to psychopathology than PC, particularly in nonclinical populations.

Relationships between Perfectionism Dimensions and Social Media Use

This section offers an overview of results from previous empirical studies that state the magnitude and direction of relationships between PS and PC with desirable outcomes for students: positive affect, flourishing, academic achievement, and resilience. Relevance of these findings to the three theoretical frameworks for perfectionism (discussed in Chapter 1) will also be summarised.

Students' social media use is another potentially important factor to explore within the nomological network, as both Brown (2016) and Curran and Hill (2019) suggest the rise of social media popularity, particularly with perfectionist young adults, is likely to affect their well-being. This is supported by Burke and Kraut (2016) who found some types of online communication could be harmful in the context of social comparison theory. They found a predilection for social media users to present

themselves in a self-enhancing, positive manner, and such a bias can result in viewers overestimating others' happiness and standards and underestimating others' difficulties, as has been found offline (Jordan et al., 2010). Evidence also suggests students viewing of others' social media stories is associated with ego-deflation, upward social comparison, envy, and subsequent feelings of depression (Chou & Edge, 2012; Steers et al., 2014). Finally, students with increased mobile phone and internet usage (supposedly for reassurance-seeking) are more likely to experience "intolerance of uncertainty" (Carleton et al., 2018); relevant to the development and maintenance of worry, and therefore GAD (Dugas et al., 2004).

Interest in students' perfectionism and social media use as factors in relation to student mental health is gaining traction in HEIs who consider this an important factor in rising student suicides (Weale, 2018). According to the PCT, there is a self-presentational element for the association between perfectionism and cognitive perseveration, where perfectionists may hide their worry and rumination for fear of negative social evaluations. Flett et al. (2016, p. 127) describe the phenomenon as "perfect on the outside but brooding on the inside". Preliminary results of a new measure for social comparison rumination reveal SPP and perfectionistic self-presentation as positively linked with social comparison rumination and poorer mental health (Flett et al., 2016). The above would suggest that if a perfectionist high in SPP/PC also frequently engages in social media use, the combination could lead to a greater likelihood of perfectionistic self-presentation or enhancement, resulting in poorer mental health outcomes.

There may also be associations between students' perfectionism, well-being, and social media use, following evidence that these factors are associated with procrastination. Social media, or social networking sites, have been described as a "tool for procrastination" (Lavoie & Pychyl, 2001), and procrastination is considered to be

the voluntary delay of important or necessary action, despite knowing there will be negative consequences (Sirois et al., 2017) and is a common behaviour of perfectionism (Egan, Wade, Shafran & Antony, 2014). A meta-analysis by Sirois et al. (2017) found that trait procrastination held small positive associations with PC, and small negative associations with PS. This indicates that PS may have some benefits for timely goal achievement, in comparison with PC, whereby procrastination may be characterised by negative self-evaluation tendencies, interfering with effective self-regulation. Procrastination is also understood as a maladaptive emotion-focused coping strategy, a self-regulation failure resulting from a desire to feel good, or rather not feel bad, now (Pychyl & Sirois, 2016), conferring risk for well-being. Furthermore, both procrastination and perfectionism have negative consequences for academic performance (Rice et al., 2016; Sirois & Giguère, 2018).

There is an increasing interest in research regarding the relationships between students' use of social media for procrastination, with poorer well-being and academic performance (Meier et al., 2016; Panek, 2014; Rosen et al., 2013), but there appears to be a lack of research that includes perfectionism within these associations. There is some evidence to suggest low levels of social support can mediate the relationship between problematic internet usage and SPP in men (Cassale et al., 2014), which according to the SDM, could therefore confer risk to well-being. It would be pertinent to include social media use as a factor in the present study. Social media use could result in poorer mental health and well-being outcomes for perfectionist students high in PC, particularly if used as tool for procrastination and social comparison.

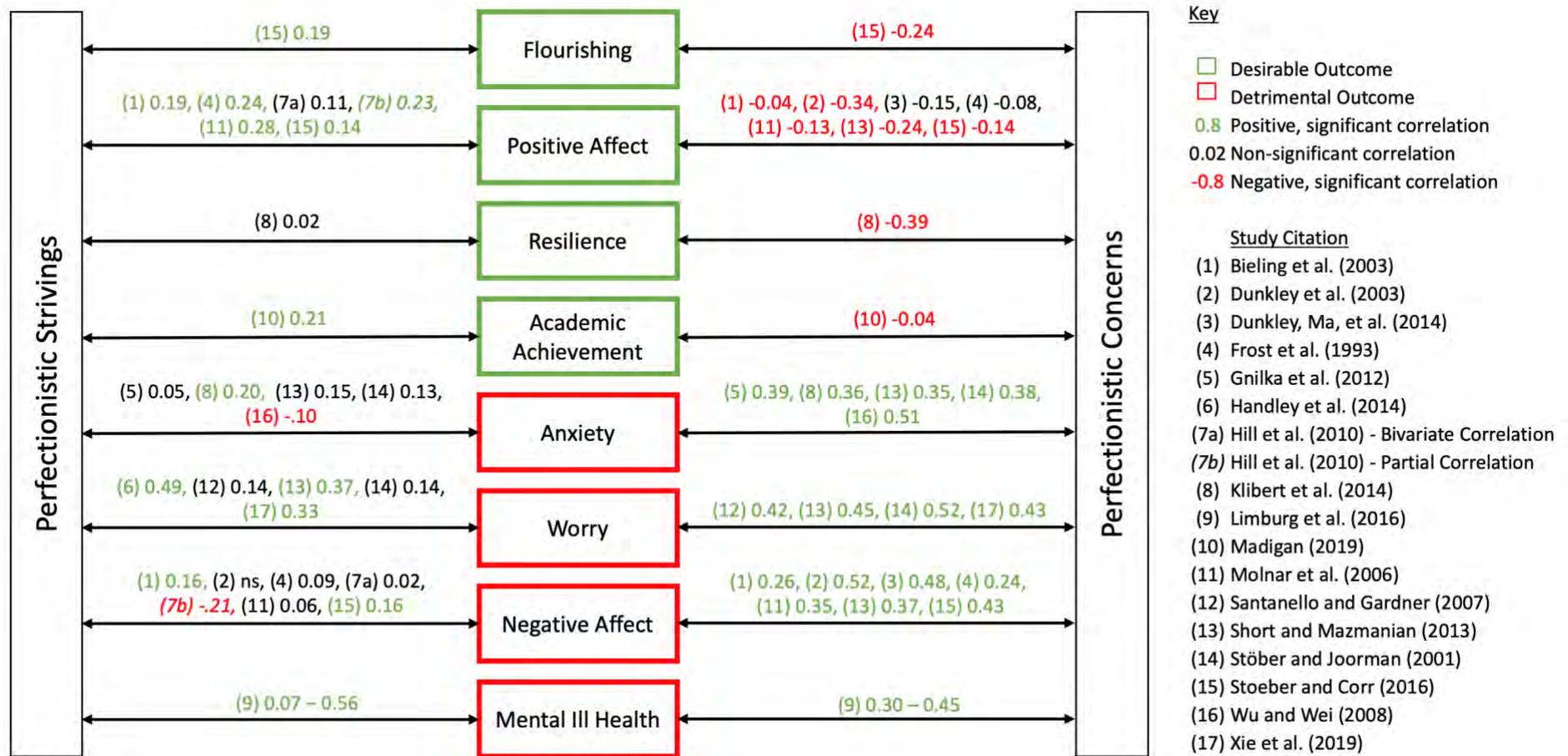
Study 1

To consolidate the empirical findings described above, Figure 1 provides a network of correlations between PS, PC, desirable and detrimental outcomes. These include the direction and magnitude of the correlations, using Cohen's (1992)

suggestions for effect sizes (small, medium, and large effect sizes for r). In summary, PC appears to consistently hold primarily small-medium, negative, significant relationships with desirable outcomes, and medium-large, positive, significant relations with detrimental outcomes. PS appears to hold primarily small-medium, positive, significant relationships with desirable outcomes, except for a non-significant relationship found for PS and resilience (Klibert et al., 2014), and in Hill et al.'s (2010) study, a non-significant zero-order correlation found for PS and positive affect. However, a significant, small-medium, positive relationship was found when PC was partialled out. PS holds either a small-medium, positive relationship with detrimental outcomes, or a non-significant relationship. Exceptions to this are for anxiety, where Wu and Wei (2008) found a small, negative, significant relationship between PS and anxiety, and secondly for negative affect, where Hill et al. (2010) found a non-significant relationship between PS and negative affect. However, when PC was partialled out, this relationship was a small-medium, negative, significant relationship.

Figure 1

Network of Existing Correlations between Perfectionistic Strivings and Perfectionistic Concerns with Desirable and Detrimental Outcomes



Aims

Study 1 aims to examine further the helpful or harmful relationships multidimensional perfectionism has to mental health and well-being outcomes in university student populations. Correlations between perfectionism and several factors (i.e., positive and negative affect, flourishing, resilience, academic achievement, anxiety, worry, mental ill health and social media use) will be conducted as a means to examine the nomological network of perfectionism amongst undergraduates, and to test the possible role of key factors that can reflect mental ill health in students, identified by theory and empirical evidence. Study 1 will examine not only the relationships between the PS and PC higher order dimensions, but also the individual subscales, attempting to provide additional data for the nomological network from the potentially nuanced relationships between different perfectionism components, to subsequently inform treatment interventions. Findings from this study can be used to inform the subsequent Study 2 which will examine the unique relationships between PS and PC with psychosocial well-being (flourishing) and affective well-being (positive and negative affect), following evidence and concern surrounding how suppression effects can obscure the magnitude of relationships between perfectionism and well-being outcomes (Hill et al., 2010; Stoeber & Corr; 2016; Molnar & Sirois, 2016).

Hypotheses

Hypothesis 1: Perfectionistic Concerns. It is expected that PC (measured using the PI; Hill et al., 2004, 2010) will hold a medium-large, positive, significant correlations with detrimental outcomes (Hypothesis 1a), and a small-medium, negative, significant correlation with desirable outcomes (Hypothesis 1b). Theory and research have consistently demonstrated that PC and its dimensions are associated with negative characteristics and outcomes.

Hypothesis 2: Perfectionistic Strivings. Given the ambivalent relationships identified within empirical research regarding the harmfulness or helpfulness of perfectionism surrounding PS (measured using the PI; Hill et al., 2004, 2010), four alternative versions of Hypothesis 2 are proposed. PS would hold significant, small-medium, positive associations with positive outcomes (Hypothesis 2a), or hold no significant relationship with positive outcomes (Hypothesis 2b). Similarly, PS would hold no significant relationships with negative outcomes (Hypothesis 2c), or would hold small-medium, significantly positive associations with negative outcomes (Hypothesis 2d).

Findings supporting Hypothesis 2a would be consistent with the perspective that PS is adaptive and can be positively associated with desirable outcomes (Stoeber & Otto, 2006), findings supporting Hypotheses 2b and 2c would be consistent with the perspective that PS is neither helpful nor harmful (Bieling et al., 2004). Finally, findings supporting Hypothesis 2d would be consistent with the perspective that PS is not adaptive and is positively associated with detrimental outcomes (Flett & Hewitt, 2002, 2005, 2006).

Hypothesis 3: Social Media Use. It is expected that PC will be significantly, positively correlated with social media use (Hypothesis 3a), and PS will be significantly, negatively correlated with social media use (Hypothesis 3b).

Hypothesis 4: Mental Health Condition. It is expected that there will be a significant difference in scores for PS and PC, between participants who declare a mental condition, and those who do not. Specifically, those with a mental health condition will hold higher levels of PC (Hypothesis 4a), and lower levels of PS (Hypothesis 4b), than those without.

Method

Participants and Procedure

A sample of 1,633 university students participated in the survey, however, data for $n = 487$ participants were removed and deleted. This was due to the participants completing less than 75% of the survey ($n = 482$), and/or stating they were not an undergraduate ($n = 6$), therefore did not meet the inclusion criteria (to be a current, UK, undergraduate student at the time of study). The remaining sample ($n = 1145$) consisted of 280 males and 845 females, 5 transgenders, 8 described themselves as "Other", and the remaining 7 opted not to provide their gender. Mean age was 21.60 years ($SD = 5.68$) and ranged from 17 to 73 years. "Home" students comprised a large majority (96.33%), and 84.72% were White - British, English, Northern Irish, Scottish or Welsh (see Table 1 for full demographic frequencies and descriptive statistics).

The convenience sample of students was primarily recruited by emailing staff from various HEIs (e.g., Student Well-being/Support professional services) and University Students' Unions (e.g., Welfare Officers) to request their support in disseminating the survey to undergraduates at their respective institution via e-mail or social media platforms (see Appendix A), as well as other HEI affiliated organisations or services that may have access to undergraduate students (e.g., the Association of Managers of Student Services in Higher Education and Student Minds). In an effort to obtain a larger sample size and greater coverage, a list-based sample (Couper, 2000) of all Sheffield Hallam University (SHU) undergraduates were also invited to participate (see Appendix B) by using lists of undergraduate student e-mail addresses held by Registry Services, following permission from the SHU Dean of Students. Finally, a slightly amended version of the survey was also created for use on SHU's Psychological Research Participation Scheme (SONA), offering undergraduate psychology students' credits as part of their course requirements in return for participating in the study.

Participation was voluntary and other than SONA credits, there was no compensation for completion. The survey was based on the Qualtrics platform and took approximately 15-20 minutes to complete with a total of 130 question items (see Appendix C for full Qualtrics survey distributed to participants).

Table 1*Descriptive Statistics for Participant Demographic Characteristics*

Demographic Characteristic	Frequency, <i>n</i> (%)
Gender	
Female	845 (73.80%)
Male	280 (24.45%)
Other	8 (0.70%)
Prefer not to say	7 (0.61%)
Transgender	5 (0.44%)
Level of Study	
Level 3	9 (0.79%)
Level 4	470 (41.05%)
Level 5	323 (28.21%)
Level 6	343 (29.96%)
Home or Overseas Status	
Home	1103 (96.33%)
International	33 (2.88%)
Unsure	9 (0.78%)
Ethnicity	
Any other Asian background	6 (0.52%)
Any other ethnic group	1 (0.09%)
Any other mixed or multiple ethnic background	10 (0.87%)
Any other white background	43 (3.76%)
Arab	4 (0.35%)
Asian/Asian British - Bangladeshi	5 (0.44%)
Asian/Asian British - Chinese	4 (0.35%)
Asian/Asian British - Indian	10 (0.87%)
Asian/Asian British - Pakistani	27 (2.36%)
Black/Black British - African	19 (1.66%)
Black/Black British - Caribbean	4 (0.35%)
Prefer not to say	10 (0.87%)
White - British, English, Northern Irish, Scottish or Welsh	970 (84.72%)
White - Irish	9 (0.79%)
White and Asian	11 (0.96%)
White and Black African	2 (0.17%)
White and Black Caribbean	10 (0.87%)
Mental Health Diagnosis	
Yes	472 (41.22%)
No	625 (54.59%)
Prefer not to Say	48 (4.19%)
University	
Russell Group	15 (1.31%)
Other	1130 (98.69%)

Measures

Several scales were considered for measuring each of the different factors discussed in the introduction. A brief rationale for the scales chosen for the current study is given below including a description of the scales' general psychometric properties (Cronbach's alphas and descriptive statistics for all scales and subscales found in the current study are located in Table 2).

Multidimensional Perfectionism. The PI (Hill et al., 2004, 2010) is a self-report measurement for multidimensional perfectionism comprising 59-items, from which eight subscales are derived. Four subscales (Concern over Mistakes, Need for Approval, Perceived Parental Pressure and Rumination) comprise a composite for PC, and the remaining four (High Standards for Others, Organisation, Planfulness, and Striving for Excellence) comprise a composite for PS. All items are rated on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Examples include, *My parent(s) are difficult to please* [Item 23], and *My workspace is generally organised* [Item 56]. The PI has good convergent validity with the MPS-HF and the MPS-F and good test-retest reliability correlation coefficients over four to five weeks ranging from $r = .71$ to $.91$ for the eight subscales, and $r = .89$ for all three composites; PC, PS and PI (Hill et al., 2004). All eight subscales hold good internal consistency ranging from $\alpha = .83$ to $.91$, as does the PC ($\alpha = .79$), PS ($\alpha = .75$), and PI ($\alpha = .83$) composites (Hill et al., 2004).

Academic Achievement. Whilst students' average grades (or "Grade Point Averages") were considered as a measure of academic attainment, this was unsuitable for the current study due to validity issues that may have arisen from grading differences between HEIs, and some participants may not have received any grades for academic work at the time of survey distribution (e.g., first year students). Instead, academic achievement was measured using Universities and Colleges Admissions

Service (UCAS) tariff points. Previous studies have found that UCAS scores are a significant predictor for students' academic achievement; the higher the previous academic grades, the more likely the students are to achieve a higher grade average (Schofield & Dismore, 2010; Cheng & Catling, 2015). The UCAS tariff is the index used for university admissions in the UK based on students' highest post-16 qualifications achieved, ranking their academic achievement on a continuum (e.g., for A levels, A = 48, B = 40, C = 32, etc.). However, there can be variations in qualifications which count towards the tariff (e.g., A Levels, BTECs, International Baccalaureate, Scottish Highers, etc.), therefore participants were asked the following open-text question; "What A-Level grades or UCAS points or equivalent qualifications did you receive for entry to your University?", similar to Cheng and Catling (2015). Where participants did not list their UCAS points, their responses were manually computed into UCAS points by converting qualifications to tariff point scores using the published UCAS conversion scales (UCAS, 2018).

Mental Health Condition and/or treatment. Participants were asked to disclose (if they wished) whether or not they had a diagnose MHC. National Health Service resources were used in order to identify which were the most common and appropriate MHCs to list as options for participants to select.

Anxiety. The 7-item Generalised Anxiety Disorder Scale (GAD-7; Spitzer et al., 2006) was developed using items that reflected the Diagnostic and Statistical Manual of Mental Disorders – Fourth Edition (DSM-IV) symptom criteria for GAD. The GAD-7 was chosen due to its comparable validity and reliability with other commonly used anxiety scales, such as the Beck Anxiety Inventory (BAI; Beck et al., 1988), and its ease of use for self-reporting anxiety. The GAD-7 has only seven or eight items, in comparison to 40 items contained within the State-Trait Anxiety Inventory (STAI; Spielberger et al., 1983), and therefore offers less likelihood of participant fatigue.

The GAD-7 asks participants how frequently they have felt bothered by seven possible problems within the previous two-weeks. Items include *Trouble relaxing* [Item 4] and *Becoming easily annoyed or irritable* [Item 6]. The seven items are on a 4-point Likert scale, ranging from 0 (Not at all) to 3 (Nearly every day). An additional eighth question asks participants the level of difficulty any selected problems have on doing work, managing the home or getting along with others, and is associated with self-reported disability days, clinic visits and general amount of difficulty patients attribute to their symptoms.

The internal consistency of the GAD-7 is excellent with Cronbach's alpha of $\alpha = .92$ (Spitzer et al., 2006). Test-retest reliability is also good, with intraclass correlation of .83. It is also reported to have good procedural validity when comparing results from self-reports, with those administered by a mental-health professional (intraclass correlation = .83), and convergent validity when correlated with the BAI ($r = .72$), and the anxiety subscale of the Symptom Checklist-90 ($r = .74$).

Worry. The PSWQ (Meyer et al., 1990) consists of 16 items to measure the trait of worry, including the uncontrollability and excessiveness of worry, as well as the associated stress experienced by those with GAD. The measure is also able to discriminate between participants with GAD and those with other anxiety disorders or healthy controls. Questions ask whether certain thoughts or behaviours are typical of the participant, measured on a 5-point Likert scale, ranging from 1 (Not at all typical of Me) to 5 (Very Typical of Me). Examples include *When I am under pressure I worry a lot* [Item 6], and *Once I start worrying, I cannot stop* [Item 14]. The measure is very reliable, for both its internal consistency and test-retest reliability, with Cronbach's alphas ranging from $\alpha = .86$ to .95. The scale also correlates positively with other emotional disturbance questionnaires measuring constructs that are meaningfully related

to worry, such as self-esteem and time urgency, and has convergent validity with other measures of worry and anxiety.

Another commonly used worry measure is the Worry Domains Questionnaire (WDQ; Tallis et al., 1992), which was developed to measure normal worry, influenced by theories of Eysenck (1984). It contains 25 items referring to worries about aspects such as relationships, work incompetence and finances. It correlates highly with the STAI trait ($r = .73$). Internal reliability is considered highly satisfactory ($\alpha = .92$).

Where the PSWQ tends to focus on the frequency and pathology of worrisome thoughts (*does* someone worry), the WDQ measures the content of the worrisome thoughts (*what* someone worries about). Therefore, the PSWQ was deemed more appropriate than the WDQ, as it is shorter, it is widely used to measure pathological worry (particularly in research regarding anxiety) and has good reliability, validity, and ease of use.

Mental Ill Health. The General Health Questionnaire (GHQ; Goldberg & Hillier, 1979) was initially considered for measuring mental ill health. The GHQ can comprise of 12, 28 or 30 items, is useful in measuring well-being and indicating mental health diagnoses. However, other scales, such as the Mental Health Inventory-5 (MHI-5; Veit & Ware, 1983; Stewart et al., 1988), have comparable reliability and validity, but are available with much fewer items. The MHI-5 consists of five items which measures current perceptions of mental health using a 6-point Likert scale, ranging from 1 (All of the Time) to 6 (None of the Time). Items include *have you felt calm and peaceful* [Item 2], and *have you felt downhearted and blue* [item 4].

Veit and Ware (1983) first developed the Mental Health Inventory (MHI) as a 38-item measure of psychological distress and well-being, by extending the definition of mental health beyond participants' reports of frequency or intensity of psychological distress symptoms, and instead, including positive psychological well-being

characteristics. Weinstein et al. (1989) used receiver operating characteristic analysis to evaluate an 18-item version of the MHI, the GHQ, and the Somatic Symptom Inventory (SSI). They found the MHI performed significantly better than the GHQ in detecting mental health disorders, concluding that the MHI could be a useful tool in screening. Following Weinstein et al.'s (1989) recommendation, Stewart et al. (1988) condensed the MHI to five items (MHI-5) and demonstrated a reliability coefficient of 0.88. Berwick et al. (1991) compared the MHI-5 to the 18-item MHI, the GHQ and SSI. They found that the MHI-5 was better than the SSI, and as good as the MHI-18 and GHQ, in detecting mental health disorders, including depression and anxiety. This was further supported by McCabe et al. (1996) who compared the MHI-5 with the GHQ-12, identifying comparable psychometric performance, and Rumpf et al. (2001) found the MHI-5 revealed the best performance for mood, followed by anxiety disorders, recommending the MHI-5 to screen for mood disorders. Therefore, the MHI-5 was chosen over the GHQ due to its comparable performance in fewer items, its high reliability and ease of use.

Psychosocial well-being. Diener et al. (2010) developed the Flourishing scale to measure social-psychological prosperity and functioning from the respondent's own point of view. It is also intended to be complimentary to other measures of subjective well-being. It consists of eight items detailing important aspects of human functioning, for example, feelings of competence. It is measured on a 7-point Likert scale of 1 (Strongly disagree) to 7 (Strongly agree), with no reverse scoring. Items include *I am engaged and interested in my daily activities* [item 3], and *I am a good person and live a good life* [Item 6]. The scale is short and easily accessible and has demonstrated good reliability with a Cronbach's alpha of $\alpha = .87$.

Affective well-being. A widespread measure of positive and negative feelings is the PANAS (Watson et al., 1988). The measure consists of two 10-item scales, asking

participants to state how they have felt during the past month on a 5-point Likert scale. Extensive literature has favoured the reliability, and validity of the PANAS (Gray & Watson, 2007). However, it is not without criticism; it is disputed that some of the items are not usually considered emotions, for example “active” or “strong”, and are predominantly high arousal feelings, thus neglects emotions such as happy or contented (Diener et al., 2010).

Diener et al.’s (2010) Scale of Positive and Negative Experience (SPANE) was developed to assess subjective feelings of well-being and ill-being and reflects all levels of arousal for both positive and negative feelings, which the PANAS may not accurately capture. The SPANE contains 12 items: six positive and six negative experiences. The scale asks participants to rate how frequently they’ve experienced a particular feeling over the past four weeks. Each item is scored on a 5-point Likert scale, from 1 (very rarely or never) to 5 (very often or always). Items include *Positive*, *Sad*, and *Contented*. The six positive (SPANE-P) and six negative (SPANE-N) items are scored separately to reflect positive and negative affective well-being respectively. The two scores can also be combined by subtracting the negative score from the positive, resulting in “SPANE-B”, or “balanced”. The subscales are also highly reliable (Diener et al., 2010); $\alpha = .87$ (SPANE-P), $\alpha = .81$ (SPANE-N) and $\alpha = .89$ (SPANE-B). Therefore, given the improvements made by the SPANE to measure existing feelings, its good reliability and ease of completion, the SPANE was favoured to measure positive and negative feelings, over the PANAS.

Resilience. The 14-Item Resilience Scale (RS-14; Wagnild & Young, 1993) measures trait resilience using a 7-point Likert scale of 1 (strongly disagree) to 7 (strongly agree), with no reverse scoring. Resilience is conceptualized with five characteristics: purpose, perseverance, equanimity, self-reliance, and existential aloneness (authenticity). Items include *I usually take things in stride* [item 3], and *I am*

friends with myself [item 4]. Other scales measuring resilience were considered, such as the Academic Resilience Scale (Cassidy, 2016); however, Wagnild and Young's RS-14 was preferred due to fewer items (enabling a more concise format and ease for participant to complete), its high internal consistency reliability with alpha coefficients ranging from $\alpha = .91$ to $.94$, and its good concurrent validity against other theoretically relevant constructs, such as Life Satisfaction, Morale, and Depression (Wagnild & Young, 1993)

Social Media Usage. Two questions regarding social media use and frequency were included into the survey to establish what (if any) social media platforms participants use on a regular basis (determined as "at least once weekly") as well as frequency of use of these social platforms within a typical week. Unfortunately, due to the novelty of research into social media usage and its impact, at the time of investigating potential measures, no standardised measure for social media use could be found. Therefore, the wording of questions for the current study was derived from a study by Steers et al. (2014), which looked at how social media usage was linked to depressive symptoms in students.

Ethical Considerations

Participants were informed of the general purposes of the study via the initial recruitment email (see Appendix A or B), and more comprehensively in the information sheet (see Appendix C) on the first page of the survey. To progress onto the survey itself, participants had to provide full consent (see Appendix C). To uphold research ethical requirements, as well as minimise socially desirable responding (Robins et al., 2007), responses were primarily anonymous, except where SHU students were able to opt-in to the follow-up study by providing their email address. Due to this anonymity, participants were informed they would no longer be able to withdraw upon completion of the survey. Where possible or appropriate, participants were given the opportunity to

decline to answer particular demographic questions. After completing the survey, on the final page participants were debriefed and given details of support services, should they require them. After closing the survey for further responses, the survey data was exported, coded and any email addresses provided, separated onto a password protected excel document. All data was saved on the university's secure research drive. Ethical approval was obtained by SHU Ethics Committee on 25th April 2018 (Ethics Review ID: ER6315121, see Appendix D).

Data Management and Dissemination Plans. A data management plan was provided to inform the ethical review (see Appendix E). Participants were made aware of data storage, access to their data and potential plans for dissemination of the anonymised results. A full General Data Protection Regulation (GDPR) statement was provided on the information sheet.

Results

Raw Data Preparation

"Year of Study" was checked to ensure all participants were Undergraduates (as per Method section, five were removed as they were regarded as Postgraduates), then re-coded to "3, 4, 5 or 6" to denote Level of Study. Several students had stated "Other"; free-text was checked, and participant given appropriate Level of Study code based on information provided. Course and University were checked to ensure all participants are studying at a UK University. Gender, Ethnicity and Home/International status was coded. Social Media Usage and MHCs were coded. Reverse scores for the MHI-5 and PSWQ scales were computed. Total scores were computed for scales GAD-7, SPANE-P, SPANE-N, SPANE-Balance, RS-14, Flourishing, MHI-5, and PSWQ. Mean scores were computed for the eight PI subscales, then the two PI dimensions (PS and PC), and finally a PI Composite.

Missing Values. A Missing Values Analysis for all standardised measures highlighted missing values for SPANE ($n = 33$; 2.9%), Flourishing ($n = 33$; 2.9%) and RS-14 ($n = 13$; 1.1%) scales. As these measures were later in the survey, missing values may be due to participant fatigue. However, Little's MCAR (Missing Completely at Random) test was non-significant (Chi-Square = 24.832, $df = 29$, $p = .687$), therefore it could be inferred those values were missing completely at random. Given the small number of missing values (less than 5%; Tabachnick & Fidell, 2007), it is unlikely the missing data will impact the analyses going forward. However, to check for this, analyses were conducted three times, once with the full data set, and again without the 13 or 33 participants (see Appendix F for examples of Statistical Package for the Social Sciences [SPSS] outputs for repeated correlation analyses). As predicted, differences were minimal, therefore analyses were conducted with the full data set, making note of different participant numbers.

Within the raw data preparation, the grades provided were also checked and approximate UCAS points were given instead based on UCAS Tariff tables (UCAS, 2018). Any grades that were ambiguous, due to participants' responses being unclear or incomplete, were deleted and regarded as a missing value, however, this resulted in $n = 426$ missing cases (37.20%). The decision was taken to remove this variable altogether as the researcher was not confident in its inclusion as an accurate and appropriate variable.

Outliers. Box plots were checked for potential outliers. One participant was identified as an extreme outlier across all scales; upon closer inspection, the participant did not appear to answer any questions appropriately and was therefore deleted due to erroneous data. Upon checking z scores for all scales, 10 z-scores were found to be below -3.29 standard deviations of the mean. However, as per Tabachnick and Fidell

(2007), a small number of standardised scores in excess of 3.29 are expected with a large sample size, therefore these were not removed.

Normality Checks. Due to the large sample size, visual inspection of the distribution was relied upon, as opposed to using formal inference tests of the skewness and kurtosis statistics, as standard errors for both skewness and kurtosis will decrease the larger the sample (Field, 2009). Histograms all appeared to be normally distributed, except for a few scales and subscales that appeared negatively-skewed; Flourishing, PSWQ, Need for Approval, Planfulness, and Rumination (see Appendix G for SPSS output for histograms). Skewness statistics for all subscales were between -0.50 and 0.50 except for Flourishing (-0.61), PSWQ (-0.77), Need for Approval (0.84), Planfulness (-0.72) and Rumination (-0.76).

Reverse score square root transformations were performed on the Flourishing and PSWQ scales to satisfy assumptions of normality. Reverse score logarithmic transformations were performed on all the PI sub-scales, even though only Need for Approval, Planfulness and Rumination suggested large skew. This is to ensure a uniform construct when creating the two higher-order factors (PS and PC) and the PI Composite.

Nine cases were identified through Mahalanobis distance as multivariate outliers with $p < .001$. All participants with these outliers were removed, leaving $n = 1136$ remaining.

Descriptive Statistics

Descriptive statistics for all scales, including statistics before and after transformations (where appropriate), are presented in Table 2. The Cronbach alphas for all scales were satisfactory ($\alpha > .70$). Further descriptive statistics for mental health conditions declared by participants and whether or not participants were receiving

treatment are presented in Table 3, and a summary of descriptive statistics for frequency of social media use and type of platform is found in Table 4.

Table 2*Descriptive Statistics for all Scales and Subscales*

Scale	<i>M</i>	<i>SD</i>	<i>Median</i>	Range	95% CI	α	<i>M</i> ^a	<i>SD</i> ^a	<i>n</i>
PI Composite	27.60	4.34	27.69	38.42 – 12.21	[27.35, 27.86]	.94	6.87	1.87	1136
Perfectionistic Concerns	13.32	2.36	13.44	19.40 – 5.48	[13.18, 13.46]	.90	3.67	0.96	1136
Concern over Mistakes	3.48	0.93	3.50	5.00 – 1.13	[3.42, 3.53]	.90	0.85	0.40	1136
Need for Approval	3.94	0.83	4.13	5.00 – 1.25	[3.89, 3.99]	.88	0.65	0.40	1136
Perceived Parental Pressure	3.00	1.07	3.00	5.00 – 1.00	[2.94, 3.06]	.92	1.02	0.42	1136
Rumination	3.87	0.84	4.00	5.00 – 1.00	[3.82, 3.91]	.87	0.68	0.39	1136
Perfectionistic Strivings	14.28	2.95	14.51	20.00 – 4.64	[14.11, 14.46]	.95	3.20	1.30	1136
High Standards for Others	2.73	0.85	2.71	5.00 – 1.00	[2.68, 2.78]	.86	1.15	0.29	1136
Organisation	3.34	0.89	3.38	5.00 – 1.00	[3.29, 3.39]	.88	0.92	0.36	1136
Planfulness	3.75	0.76	3.86	5.00 – 1.00	[3.71, 3.80]	.86	0.75	0.34	1136
Striving for Excellence	3.50	0.84	3.50	5.00 – 1.00	[3.45, 3.55]	.86	0.85	0.37	1136
PSWQ	61.46	13.36	64.00	80.00 – 20.00	[60.68, 62.23]	.96	4.14	1.56	1136
Flourishing	39.13	9.70	41.00	8.00 - 56.00	[38.56, 39.70]	.91	4.05	1.20	1103
Resilience – 14 Items	64.07	16.52	65.00	14.00 - 98.00	[63.10, 65.04]	.92	-	-	1123
SPANE – Positive	18.94	4.57	19.00	6.00 - 30.00	[18.67, 19.21]	.90	-	-	1103
SPANE – Negative	19.15	4.57	19.00	6.00 - 30.00	[18.88, 19.42]	.83	-	-	1103
SPANE – Balance	-0.21	8.25	0.00	-24.00 - 24.00	[-0.70, 0.28]	.90	-	-	1103
MHI-5	18.33	5.43	18.00	5.00 – 30.00	[18.02, 18.65]	.87	-	-	1136
GAD-7	11.65	6.25	12.00	.00 – 21.00	[11.29, 12.02]	.92	-	-	1136

Note. *Mdn* = Median. CI = confidence interval; PI = Perfectionism Inventory; PSWQ = Penn State Worry Questionnaire; SPANE = Scale of Positive and Negative Experience; MHI-5 = 5-item Mental Health Inventory; GAD-7 = 7-item Generalised Anxiety Disorder scale.

^aReverse score square root transformations for Flourishing and Worry scales, and reverse score logarithmic transformations for all PI sub-scales.

Table 3*Descriptive Statistics for Participants' Mental Health Characteristics*

Optional Responses	Frequency, <i>n</i> (%) of participants who selected option
Mental Health Condition ^a	
No Mental Health Illness	617 (54.31%)
Depression	288 (25.35%)
General Anxiety Disorder	274 (24.12%)
Panic Attacks	161 (14.17%)
Any other emotional/mental health disorder	61 (5.37%)
Prefer Not to Say	47 (4.14%)
Eating Disorder	46 (4.05%)
Post-Traumatic Stress Disorder	36 (3.17%)
Personality Disorder	30 (2.64%)
Obsessive Compulsive Disorder	30 (2.64%)
Seasonal Affective Disorder	27 (2.38%)
Attention Deficit Hyperactivity Disorder	23 (2.02%)
Bipolar Disorder	19 (1.67%)
Phobia	18 (1.58%)
Nervous Breakdown	14 (1.23%)
Psychosis	10 (0.88%)
Schizophrenia	4 (0.35%)
Attention Deficit Disorder	3 (0.26%)
Post-natal Depression	2 (0.18%)
Mental Health Treatment ^b	
Yes	243 (21.48%)
No	809 (71.21%)
N/A	56 (4.93%)
Unsure	28 (2.38%)

Note. *N* = 1136.

^a All optional responses to question “Do you currently have a diagnosis of any of the following (please tick all that apply)”. ^b All optional responses to question “Are you currently receiving any treatment for mental ill health and/or a mental health condition?”

Table 4*Descriptive Statistics for Participants' Social Media Use*

Optional Responses	Frequency, <i>n</i> (%) of participants who selected option
Social Media Platform ^a	
Facebook	956 (84.15%)
Instagram	873 (76.85%)
YouTube	808 (71.13%)
Snapchat	803 (70.69%)
Twitter	538 (47.36%)
Pinterest	144 (12.67%)
LinkedIn	100 (8.8%)
Tumblr	90 (7.92%)
Other	37 (3.26%)
Missing Data	33 (2.90%)
Time spent per day on social media ^b	
I do not use social media	14 (1.32%)
Less than 5 minutes	12 (1.14%)
5 minutes to 30 minutes	78 (6.87%)
30 minutes – 1 hour	133 (11.71%)
1 – 2 hours	248 (21.74%)
2 – 3 hours	259 (22.8%)
3 – 4 hours	172 (15.05%)

Note. *N* = 1136.

^a All optional responses to question "Which Social Media platforms do you use at least once a week?". ^b All optional responses to question "How long, on average, do you spend per day on Social Media?".

Correlations

Pearson's product moment correlations were computed to investigate the associations between all variables, except for Social Media Use due its ordinal scale measurement. Spearman's rank correlations were computed to assess the associations between social media use and all other variables (see Table 5).

Table 5*Zero-order Correlation Matrix for Study Variables*

Variable	1	2	3	4	5	6	7	8	9	10
1. Perfectionism Inventory Composite	-									
2. Perfectionistic Concerns	.88***	-								
3. Perfectionistic Strivings	.76***	.35***	-							
4. PSWQ	.61***	.65***	.30***	-						
5. Resilience – 14 items	-.24***	-.48***	.19***	-.39***	-					
6. Flourishing	-.27***	-.47***	.12***	-.35***	.80***	-				
7. SPANE – Positive	-.32***	-.47***	.00	-.45***	.66***	.71***	-			
8. SPANE – Negative	.44***	.55***	.11***	.60***	-.51***	-.53***	-.63***	-		
9. SPANE – Balance	-.42***	-.56***	-.06*	-.59***	.65***	.69***	.90***	-.90***	-	
10. Mental Health Inventory – 5 items	.45***	.57***	.10***	.60***	-.54***	-.60***	-.74***	.77***	-.84***	-
11. GAD-7	.53***	.61***	.20***	.69***	-.43***	-.46***	-.57***	.72***	-.71***	.78***
12. Concern over Mistakes	.79***	.90***	.30***	.59***	-.47***	-.46***	-.44***	.53***	-.53***	.54***
13. High Standards for Others	.41***	.19***	.55***	.06*	.09***	-.01	-.04	.09***	-.07*	.06*
14. Need for Approval	.71***	.85***	.24***	.64***	-.45***	-.41***	-.39***	.53***	-.51***	.51***
15. Organisation	.41***	.02	.77***	.07*	.28***	.25***	.16***	-.07***	.13***	-.08***
16. Perceived Parental Pressure	.55***	.63***	.21***	.22***	-.24***	-.25***	-.25***	.21***	-.26***	.25***
17. Planfulness	.56***	.27***	.73***	.28***	.12***	.11***	.02	.07*	.03	.07*
18. Rumination	.83***	.90***	.39***	.70***	-.42***	-.41***	-.45***	.55***	-.56***	.56***
19. Striving for Excellence	.75***	.50***	.78***	.42***	.04	.01	-.14***	.23***	-.20***	.24***
20. Social Media Use ^a	.03	.07*	-.040	.09***	-.09***	.03	.01	.06*	-.03	.02

Table 5. (Continued)

Variable	11	12	13	14	15	16	17	18	19
12. Concern over Mistakes	.58***	-							
13. High Standards for Others	.12***	.18***	-						
14. Need for Approval	.56***	.78***	.06*	-					
15. Organisation	-.02	-.01	.26***	-.02	-				
16. Perceived Parental Pressure	.25***	.37***	.19***	.26***	.03	-			
17. Planfulness	.15***	.23***	.14***	.26***	.44***	.10*	-		
18. Rumination	.62***	.81***	.17***	.75***	0.53	.39***	.30***	-	
19. Striving for Excellence	.31***	.45***	.28***	.35***	.43***	.27***	.44***	.55***	-
20. Social Media Use ^a	.05	.06*	-.03	.11***	-.05	.06	.01	.02	-.06*

Note. PSWQ = Penn-State Worry Questionnaire; SPANE = Scale of Positive and Negative Experience; GAD-7 = 7-item Generalised Anxiety

Disorder scale.

^a Spearman's Correlation for Average Time Spent on Social Media Per Day (all other coefficients are Pearson's Correlation Coefficients)

* $p < .05$. *** $p < .001$.

Hypothesis 1a was strongly supported, with PC holding medium-large, positive significant relationships with all detrimental outcomes. Three of the subscales of the PC dimension also held the same relationships, with Rumination holding the largest relationship with PSWQ, however, Perceived Parental Pressure held a smaller, significant relationship (varying between $r = .21$ and $.25$) with detrimental outcomes. Hypothesis 1b was also supported where PC and its respective subscales all had small-medium, significant, negative relationships with desirable outcomes.

Partial support was found for both Hypothesis 2a and Hypothesis 2b, in that PS held a significant, positive, small relationships with RS-14 and Flourishing (supporting 2a), however it held a non-significant relationship with SPANE-P scores (supporting 2b). The Organisation and Planfulness subscales consistently held small, significant correlations with desirable outcomes, except the non-significant relationship between Planfulness and SPANE-P scores. Striving for Excellence held non-significant relationships with RS-14 and Flourishing scores, however a small, negative, significant relationship with SPANE-P. Hypothesis 2d was also supported, in that PS held small-medium, positive, significant relationships with all detrimental outcomes. Upon inspecting the subscales further, Striving for Excellence held the strongest relationships (varying between $r = .23$ and $.42$). However, relationships between detrimental outcomes and the Organisation subscale correlations did not support Hypothesis 2d, as the correlations were either less than $r = .10$ or were non-significant (e.g., for GAD-7).

There was minimal evidence to support the third hypotheses; Hypothesis 3a and Hypothesis 3b, as whilst PC was significantly correlated with social media use, the size was negligible ($r = .07$) and PS held a non-significant relationship (although Striving for Excellence held a negative, significant relationship, again negligible in size). The strongest correlation was between Need for Approval however this was still small ($r = .11$).

Gender Differences

There were extreme differences in sample size across different gender identities, therefore differences in scores were only analysed between participants who defined themselves as male or female. A Multiple Analysis of Variance (MANOVA) for all continuous variables (except the two-factor perfectionism composites, due to Box's M violation) was considered for analysis given the highly significant correlations between different dependent variables, and although a significant effect of gender was found using Wilk's statistics ($\Lambda = .893$, $F(13, 1075) = 9.94$, $p < .001$) several variables did not meet the assumption of homogeneity of variance with significant scores for Levene's test of equality of variances (Tabachnick & Fidell, 2007), therefore multiple independent t tests were instead conducted with a Bonferroni adjusted alpha level of .0029.

Non-significant Levene's tests showed variances were equal for PC, PS, Flourishing, RS-14, and SPANE-P scales, as well as the following PI subscales; Concern Over Mistakes, High Standards for Others, Organisation, Planfulness, Rumination and Striving for Excellence. However, all remaining variables were significant; RS-14, $F(1, 1104) = 5.41$, $p = .020$; SPANE-N, $F(1, 1087) = 5.55$, $p = .019$; MHI-5, $F(1, 1117) = 5.01$, $p = .025$; GAD-7, $F(1, 1117) = 4.64$, $p = .031$; Need for Approval, $F(1, 1117) = 4.58$, $p = .033$; and Perceived Parental Pressure, $F(1, 1117) = 4.23$, $p = .040$. Table 6 provides t test statistics, with appropriate adjustments where the assumption of homogeneity of variance had been violated.

Table 6*Results from t Test Analyses: Comparing Scores for Study Variables between Female and Male Participants*

Variable	Female		Male		<i>t</i>	<i>df</i>	<i>p</i>	95% CI ^b	Cohen's <i>d</i>
	<i>n</i>	<i>M</i> (<i>SD</i>)	<i>n</i>	<i>M</i> (<i>SD</i>)					
Perfectionistic Concerns ^a	843	3.12 (1.28)	276	3.47 (1.33)	-3.91	1117	= .001 [†]	[-0.53, -0.17]	0.27
Concern over Mistakes ^a	843	0.84 (0.40)	276	0.91 (0.40)	-2.71	1117	= .007	[-0.13, -0.02]	0.19
Need for Approval ^a	843	0.61 (0.38)	276	0.77 (0.41)	-5.68	438.08	< .001 [†]	[-0.21, -0.10]	0.40
Perceived Parental Pressure ^a	843	1.02 (0.42)	276	1.03 (0.38)	-0.31	512.19	= .755	[-0.06, 0.05]	0.02
Rumination ^a	843	0.66 (0.38)	276	0.77 (0.40)	-4.06	1117	< .001 [†]	[-0.16, -0.06]	0.28
Perfectionistic Strivings ^a	843	3.57 (0.95)	276	3.96 (0.93)	-5.88	1117	< .001 [†]	[-0.51, -0.26]	0.41
High Standards for Others ^a	843	1.15 (0.29)	276	1.12 (0.29)	1.54	1117	= .124	[-0.01, 0.07]	0.11
Organisation ^a	843	0.89 (0.36)	276	1.01 (0.33)	-4.96	1117	< .001 [†]	[-0.17, -0.07]	0.35
Planfulness ^a	843	0.71 (0.33)	276	0.86 (0.33)	-6.59	1117	< .001 [†]	[-0.20, -0.11]	0.46
Striving for Excellence ^a	843	0.82 (0.36)	276	0.96 (0.35)	-5.76	1117	< .001 [†]	[-0.19, -0.09]	0.40
Flourishing ^a	817	3.96 (1.18)	272	4.26 (1.20)	-3.60	1087	< .001 [†]	[-0.46, -0.14]	0.25
PSWQ ^a	843	3.91 (1.51)	276	4.84 (1.52)	-8.87	1117	< .001 [†]	[-1.14, -0.73]	0.61
Resilience – 14 items	832	64.57 (15.96)	274	63.59 (17.68)	0.81	428.99	= .416	[-1.38, 3.34]	0.06
SPANE – Positive	817	19.04 (4.50)	272	18.79 (4.72)	0.77	1087	= .444	[-0.38, 0.87]	0.05
SPANE – Negative	817	19.46 (4.40)	272	18.13 (4.87)	4.01	428.38	< .001 [†]	[0.68, 1.99]	0.29
Mental Health Inventory – 5 items	843	18.56 (5.27)	276	17.48 (5.69)	2.78	439.79	= .006	[0.32, 1.84]	0.20
GAD-7	843	12.12 (6.07)	276	10.12 (6.49)	4.53	443.47	< .001 [†]	[1.14, 2.88]	0.32

Note. PSWQ = Penn State Worry Questionnaire; SPANE = Scale of Positive and Negative Experience; GAD-7 = 7-item Generalised Anxiety Disorder scale.

^a Scores displayed are following reverse score transformations; interpretation should therefore also be reversed. ^b 95% Confidence intervals (CI) of the mean difference.

[†]*p* < .0029 (Bonferroni adjustment).

There was no significant difference between males' and females' scores on RS-14, SPANE-P, MHI-5, Concern Over Mistakes, High Standards for Others or Perceived Parental Pressure. However, females scored significantly higher on all other remaining variables; PC, PS, Flourishing, PSWQ, SPANE-N, GAD-7, Need for Approval, Organisation, Planfulness, Rumination and Striving for Excellence (see Table 6; note, some variables were reverse-score transformed). Different scores in PSWQ had the largest effect size ($d = 0.61$), the smallest effect size was Flourishing ($d = 0.25$).

To identify gender differences in diagnosis of MHC, a Pearson's chi-square test was reported. First, participants who declined to answer the question were classed as "missing data", all subsequent participants ($n = 1073$) were coded to represent those who stated they did not have an MHC, and those who did (inferred by selecting which MHC(s) they had). 47.8% of females declared an MHC ($n = 385$) with 52.2% stating they did not have an MHC ($n = 420$). 28.7% of males stated they had an MHC ($n = 77$) versus 71.3% who stated they did not ($n = 191$). There was a significant association between gender and declaration of MHC, $X^2(1) = 29.90, p < .001$. Based on the odds ratio, females are 2.27 times more likely to declare an MHC than men.

Finally, gender differences in average time spent on social media use were analysed using Mann-Whitney test. Females ($n = 817$) reported significantly more time spent on social media ($Mdn = 5.00$; $IQR = 2.00$; 2-3 hours per day) than males ($n = 272$, $Mdn = 4.00$, $IQR = 2.00$; 1 – 2 hours per day); $U = 86525.50, z = -5.57, p < .001$.

Mental Health Diagnosis Differences

Differences in scores on 17 continuous variables were compared between those who declared an MHC, and those who did not, using multiple independent t tests with a Bonferroni adjusted alpha level of .0029. Non-significant Levene's tests showed variances were equal for all variables except the following: SPANE-N, $F(1, 1056) = 5.19, p = .023$; GAD-7, $F(1, 1088) = 18.83, p < .001$; Concern Over Mistakes, $F(1,$

1088) = 6.35, $p = .012$; Perceived Parental Pressure, $F(1, 1088) = 4.71, p = .030$;
Planfulness, $F(1, 1088) = 5.48, p = .019$, and Striving for Excellence, $F(1, 1088) =$
17.28, $p < .001$. Table 7 provides t test statistics, with appropriate adjustments where the
assumption of homogeneity of variance had been violated.

Table 7*Results from t Test Analyses: Comparing Scores for Study Variables between Participants with, or without, a Mental Health Condition*

Variable	MHC		No MHC		<i>t</i>	<i>df</i>	<i>p</i>	95% CI	Cohen's <i>d</i>
	<i>n</i>	<i>M (SD)</i>	<i>n</i>	<i>M (SD)</i>					
Perfectionistic Concerns ^a	473	2.76 (1.22)	617	3.56 (1.26)	-10.59	1088.00	< .001 [†]	[-0.95, -0.65]	0.65
Concern over Mistakes ^a	473	0.72 (0.39)	617	0.96 (0.37)	-10.44	982.53	< .001 [†]	[-0.29, -0.20]	0.63
Need for Approval ^a	473	0.52 (0.37)	617	0.75 (0.38)	-10.22	1088.00	< .001 [†]	[-0.28, -0.19]	0.61
Perceived Parental Pressure ^a	473	0.98 (0.43)	617	1.06 (0.40)	-3.13	973.30	= .002 [†]	[-0.13, -0.03]	0.19
Rumination ^a	473	0.55 (0.36)	617	0.79 (0.38)	-10.69	1088.00	< .001 [†]	[-0.29, -0.2]	0.65
Perfectionistic Strivings ^a	473	3.59 (0.99)	617	3.75 (0.92)	-2.74	1088.00	= .006	[-0.27, -0.05]	0.17
High Standards for Others ^a	473	1.14 (0.30)	617	1.15 (0.28)	-0.64	1088.00	= .523	[-0.05, 0.02]	0.03
Organisation ^a	473	0.94 (0.37)	617	0.91 (0.34)	1.13	1088.00	= .258	[-0.02, 0.07]	0.08
Planfulness ^a	473	0.73 (0.36)	617	0.77 (0.33)	-2.16	965.95	= .031	[-0.09, 0.00]	0.12
Striving for Excellence ^a	473	0.79 (0.39)	617	0.91 (0.34)	-5.69	938.28	< .001 [†]	[-0.17, -0.08]	0.33
Flourishing ^a	456	4.37 (1.18)	602	3.81 (1.15)	7.72	1056.00	< .001 [†]	[0.42, 0.70]	0.48
Penn-State Worry Questionnaire ^a	473	3.52 (1.40)	617	4.64 (1.51)	-12.49	1088.00	< .001 [†]	[-1.29, -0.94]	0.77
Resilience – 14 items	466	59.75 (16.3)	611	67.60 (15.81)	-7.97	1075.00	< .001 [†]	[-9.79, -5.92]	0.49
SPANE - Positive	456	17.58 (4.59)	602	20.10 (4.26)	-9.21	1056.00	< .001 [†]	[-3.06, -1.98]	0.57
SPANE - Negative	456	20.89 (4.11)	602	17.69 (4.47)	12.04	1016.81	< .001 [†]	[2.67, 3.71]	0.75
Mental Health Inventory – 5 items	473	20.42 (5.00)	617	16.57 (5.22)	12.33	1088.00	< .001 [†]	[3.25, 4.47]	0.75
GAD-7	473	14.27 (5.39)	617	9.45 (6.12)	13.82	1067.26	< .001 [†]	[4.14, 5.51]	0.84

Note. MHC = Mental Health Condition. SPANE = Scale of Positive and Negative Experience; GAD-7 = 7-item Generalised Anxiety Disorder scale.

^a Scores displayed are following reverse score transformations; interpretation should therefore also be reversed.

[†] $p < .0029$ (Bonferroni adjustment).

There was support for Hypothesis 4a; participants with a mental health condition held higher levels of PC (and all four subscales), than those without. However, Hypothesis 4b was not supported, as there was no significant difference in levels of PS (and three of the PS subscales) and whether or not participants reported a mental health condition, except for the Striving for Excellence subscale, where participants who reported a mental health condition held higher levels of Striving for Excellence than those without.

Different scores in GAD-7 had the largest effect size ($d = 0.84$), the smallest effect size was Perceived Parental Pressure ($d = 0.19$). It should be noted, the Bonferroni adjustment of 0.05 divided by 17 variables is 0.00294, Perceived Parental Pressure was significant when not limited (and therefore rounding up) to 2 decimal places; $t(973.30) = -3.13, p = .00180, 95\% \text{ CI } [-0.13, -0.03]$.

Finally, differences between those who declared an MHC versus those who did not, and on average time spent on social media use were analysed using Mann-Whitney test. There was no significant difference between those who declared an MHC ($n = 456, \text{Mdn} = 5.00, \text{IQR} = 2.00; 2\text{-}3$ hours per day) and those who did not ($n = 602, \text{Mdn} = 5.00, \text{IQR} = 2.00; 2\text{-}3$ hours per day); $U = 136248.50, z = -.21, p = .835$.

Use of Social Media Platforms

Independent t tests (with a Bonferroni adjusted alpha level of .0029) were conducted for each of the different social media platforms; Facebook, Twitter, Instagram, SnapChat and LinkedIn, to identify differences in scores on all 17 continuous variables against whether or not participants used the social media platform at least once a week. Almost all results showed non-significant differences between whether or not participants used a particular social media platform across the 17 dependent variables (see Appendix H for SPSS output), in particular there was no

significant difference for any variable with use, or lack, of Twitter. However, there were some significant differences, as displayed in Table 8.

The results would suggest that those who use Facebook, Instagram, Snapchat, and LinkedIn at least on a weekly basis have significantly higher levels of Flourishing. Those who do not use Snapchat and LinkedIn weekly score significantly higher on the PI subscale High Standards for Others, than those who do use the platforms at least weekly. Those that use Snapchat at least weekly score significantly higher on the SPANE-P subscale than those who do not. Finally, participants that use LinkedIn at least weekly score significantly lower on the SPANE-N subscale and significantly higher on the RS-14 scale than those that do not.

Table 8*Results from t Test Analyses: Comparing Scores for Study Variables between Differing Social Media Use*

Platform, Variable	Used at least once a week		Not used at least once a week		<i>t</i>	<i>df</i>	<i>p</i>	95% CI	Effect Size (<i>d</i> or <i>g</i>)
	<i>n</i>	<i>M</i> (<i>SD</i>)	<i>n</i>	<i>M</i> (<i>SD</i>)					
Facebook, Flourishing ^a	873	3.99 (1.19)	229	4.29 (1.20)	3.31	1100	< .001	[0.12, 0.47]	<i>d</i> = 0.25
Instagram, Flourishing ^a	956	4.00 (1.19)	146	4.39 (1.22)	3.66	1100	< .001	[0.18, 0.60]	<i>d</i> = 0.32
Snapchat, HSfO ^a	802	1.17 (0.28)	300	1.10 (0.31)	-3.25 ^b	482.59	= .001	[-0.11, -0.03]	<i>d</i> = 0.24
Snapchat, Flourishing ^a	802	3.97 (1.18)	300	4.28 (1.22)	3.83	1100	< .001	[0.15, 0.47]	<i>d</i> = 0.31
Snapchat, PA	802	19.22 (4.49)	300	18.18 (4.71)	-3.39	1100	< .001	[-1.65, -0.44]	<i>d</i> = 0.23
LinkedIn, Perf. Strivings ^a	100	3.32 (0.81)	1002	3.71 (0.97)	3.89	1100	< .001	[0.19, 0.59]	<i>g</i> = 0.41
LinkedIn, HSfO ^a	100	1.04 (0.03)	1002	1.16 (0.28)	4.01	1100	< .001	[0.06, 0.18]	<i>g</i> = 0.45
LinkedIn, Flourishing ^a	100	3.61 (1.14)	1002	4.10 (1.20)	3.91	1100	< .001	[0.24, 0.73]	<i>g</i> = 0.41
LinkedIn, NA	100	17.46 (4.62)	1002	19.32 (4.54)	3.90	1100	< .001	[0.92, 2.29]	<i>g</i> = 0.41
LinkedIn, RS-14	100	72.97 (15.16)	1002	63.24 (16.34)	-5.72	1100	< .001	[-13.08, -6.39]	<i>g</i> = 0.60

Note. CI = Confidence intervals; HSfO = High Standards for Others; PS = Perfectionistic Strivings; PA = Positive Affect (Scale of Positive and Negative Experience); NA = Negative Affect (Scale of Positive and Negative Experience); RS-14 = 14-item Resilience Scale.

^a Scores displayed are following reverse score transformations; interpretation should therefore also be reversed. ^b Significant Levene's test, therefore equal variances not assumed.

Discussion

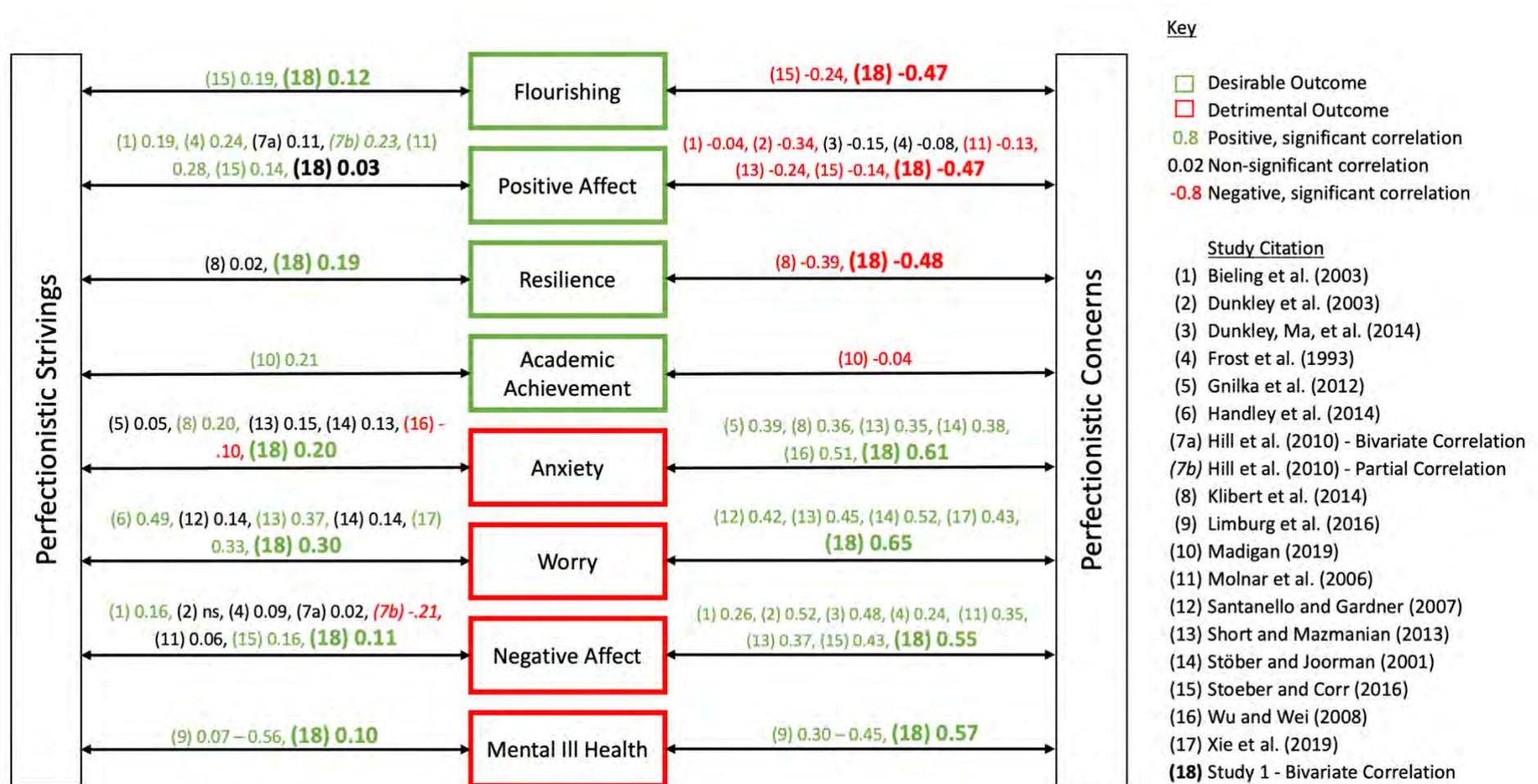
This study sought to examine the nomological network of perfectionism amongst UK HE students, to test the possible role of key factors that reflect mental health and well-being outcomes. In summary, findings of Study 1 show UK undergraduates who score high levels of PC on the PI are also significantly likely to experience high levels of negative affect, anxiety, worry and mental ill health, as well as lower levels of flourishing, resilience, and positive affect. Students who score high levels of PS on the PI are also likely to experience negative affect, worry, anxiety and mental ill health, but are also likely to experience greater levels of resilience and flourishing.

The study was advertised across various universities to ensure a large sample for enough statistical power for the study. However, in doing so it was not possible to obtain reliable data for students' academic attainment which would be useful to identify the potential adaptiveness of perfectionism within the context of universities, as described by Rice et al. (2016). Participants were asked to provide their grades attained for entry to their university, however these were not possible to standardise due to such varying responses.

To consolidate the results of Study 1, together with findings from previous empirical studies, Figure 2 provides a network of correlations between PS, PC, desirable and detrimental outcomes. These include the direction and magnitude of the correlations, using Cohen's (1992) suggestions for effect sizes (small, medium, and large effect sizes for r).

Figure 2

Network of Correlations from Figure 1, Combined with Study 1 Results



Relationships between Perfectionistic Concerns and Outcomes

The results support both Hypothesis 1a and Hypothesis 1b and is in line with the existing evidence that PC is consistently related to mental ill health and poorer well-being (Flett et al., 2016; Burgess & DiBartolo, 2016; Limburg et al., 2016), and in this instance, for UK undergraduates (Rice et al., 2016). These findings would also be in keeping with the PCT that posits perfectionists are likely to worry, and that worrying about mistakes and rumination relates to mental ill health and poorer well-being (Flett et al., 2016).

Closer inspection of the subscales revealed Perceived Parental Pressure was less detrimental for well-being and mental health for students than the other PC subscales, suggesting this particular factor may be less of a priority for therapists to target. The Perceived Parental Pressure construct is defined as the “Tendency to feel the need to perform perfectly to obtain parental approval” (Hill et al., 2004), a concept that could potentially contrast with emerging research into the “helicopter parenting” phenomenon, a term used by popular culture to describe potential over-involvement of parents in the lives of their child (Hunt, 2008; Padilla-Walker & Nelson, 2012; Schiffrin et al., 2014). The term is frequently used in popular vernacular to attribute responsibility for the apparent increasing lack of self-advocacy, resilience, and personal management in recent cohorts of undergraduate students (Hunt, 2008; Vinson, 2013). Over-involved, hovering parents are thought to diminish the personal responsibility of the student, an important trait for the level of independent and autonomous study required at undergraduate level and beyond. In establishing a measure for helicopter parenting, Padilla-Walker and Nelson (2012) identified a distinction from the behavioural and psychological control of parenting styles and helicopter parenting; whilst still

inappropriately intrusive and controlling, it is done out of strong parental concern for the student's well-being and success.

Young people indicate positive feelings from the guidance and emotional support from their helicopter parents (Padilla-Walker & Nelson, 2012), which differs with the conceptualisation of the Perceived Parental Pressure subscale, where the parents' approval is perceived as conditional upon achieving perfection. Therefore, the weaker relationship between maladaptive factors (such as worry, anxiety and poor mental health) and the Perceived Parental Pressure subscale could be because certain items within the measure reflect response to a helicopter parent's standards; thus, may not be as strongly related to factors such as anxiety or negative affect. For example, "My parent(s) are difficult to please." (Item 23) and "My parent(s) have high expectations for achievement." (Item 31) could actually be reflecting the parents' rigid high standards for others who the parents perceive as responsible for supporting their child, such as HEIs.

Relationships between Perfectionistic Strivings and Outcomes

The results found partial support for Hypothesis 2a, Hypothesis 2b and Hypothesis 2d, but no support for Hypothesis 2c (non-significant relationship between PS and negative outcomes). The positive correlations between PS and worry (as well as anxiety, negative affect, and mental ill health) support Hypothesis 2d and are in keeping with the PCT; both PC *and* PS are more likely to engage in excessive worry (Flett et al., 2016), which can confer risk to mental ill health and well-being. This is perhaps reflected in the non-significant relationship between PS and positive affect (supporting Hypothesis 2b).

However, PS was also related to greater resilience and flourishing (supporting Hypothesis 2a), suggesting PS may be adaptive for students and therefore, is not in keeping with the diathesis-stress model and SDM. The Resilience scale reflects the

ability to adapt and overcome adversity (Wagnild & Young, 1993) through the facilitation of problem-solving and through positive coping, and the Flourishing scale reflects social, as well as emotional and psychological well-being (Diener et al., 2010). However, the diathesis-stress model and SDM would posit that perfectionists are likely to experience mental ill health and poorer well-being due the way in which they generate, anticipate, perpetuate, and enhance stress; for example, through maladaptive and/or avoidant coping strategies, including avoidance of social support. However, if perfectionists are likely to use some adaptive coping strategies, such as social support, it can potentially buffer against stress and moderate anxiety (Dunkley et al., 2000).

The findings from Study 1 suggest that if a student who scores highly in PS is therefore more likely to be resilient and to flourish, this may foster a more adaptive coping style, including engaging with social support, which buffers against risk of mental ill health. This is reflected in smaller, albeit still significant, relationships with anxiety, mental ill health, and negative affect, in comparison to PC. However, it is not possible to assert if these findings would fully support, or contradict, the SDM or diathesis-stress model, as no mediation or moderation analyses have taken place with constructs that reflect social-disconnection or stress, rather the relevance is implied due to the correlations between PS and adaptive coping identified in resilience, and positive social connections identified in flourishing.

Social Media Use

Greater use of social media was found to be significantly related to higher levels of PC in students (supporting Hypothesis 3a), however there was a non-significant relationship with PS (rejecting Hypothesis 3b). Other findings appear to coincide with previous research, in that it was significantly related to greater worry and negative affect (Meier et al., 2016; Carleton et al., 2018), but these were very weak. The majority of correlations with social media use were found to be non-significant, however this

could be indicative of a lack of a standardised measure for social media use. There were also minimal significant findings in the differences in various social media platform usage on the mental health and well-being factors. Despite no significant relationship between amount of time spent on social media and flourishing, participants that used the platforms Facebook, Instagram, Snapchat, and LinkedIn at least on a weekly basis had significantly higher levels of flourishing, in comparison to those who did not. This could indicate that some involvement or engagement with social media sites captures the ‘social’ in psychosocial well-being, which the flourishing scale is built upon. As Diener et al. (2010) conceptualised, there is an importance in having supportive and rewarding relationships for psychosocial well-being, and by their nature, platforms such as Facebook, Instagram, Snapchat, and LinkedIn may offer a convenient opportunity for social connectivity with others. Indeed, Clark et al. (2018) note that the connection-promoting use of social media can increase a sense of belonging, perceived social support, and social capital, which increases well-being. Given these mixed relationships between social media use, mental health, and well-being, it would be pertinent for future research to explore this further, ideally with standardised measures for social media use and engagement.

Perfectionism, Mental Health Conditions and Demographic Information

Students who declared a diagnosis of a mental health condition held higher levels of PC (and all four subscales), than those without, supporting Hypothesis 4a. This is consistent with previous findings that identify the adaptiveness of PC. Hypothesis 4b was not supported, as there was no significant difference in levels of PS. However, students who declared a mental health condition held higher levels of Striving for Excellence than those without. This would indicate this particular facet of perfectionism is also potentially maladaptive and coincides with findings by Limburg et al. (2016).

The majority of participants (93%) were from the researcher's own HEI (SHU), therefore data from this university was used to compare demographic statistics of the sample (taken in 2018) with that of the entire student population for the institution in 2013/14 (SHU, 2016); 54% were female compared with 73.8% who were female in the present study. Such an unequal gender distribution could be a potential limitation for the study; it is fairly common in psychological research to use university students who study psychology, the majority of which (in British universities) are female (see Deevybee, 2012), however in this study approximately 22% of students were studying psychology. Therefore, whilst it is a strength of the study that participants represent a more diverse range of courses, it is unusual to see such an unequal gender distribution that is not representative of the institution. It could be further indicative of the response bias, and females were more likely than males to respond to a survey regarding mental health due to less stigma or greater mental ill health amongst females. For example, women in this study were significantly more likely to declare an MHC than men, however, there was no significant difference between scores on the MHI-5. Given the possible bias in responses, it could be that this extends to gender differences, where women may be more likely to respond to mental health surveys, or men are less likely due to stigma; females are significantly more likely than males to disclose an MHC (Thorley, 2017). However, this could also be indicative of the long-standing hypothesis that men's expression of mental ill health, such as depression, is not captured by diagnostic criteria resulting in missed or mis-diagnosed MHCs in men (Oliffe et al., 2019); therefore, less men declare a diagnosis, but are likely to reach a threshold of ill-health based on the MHI-5.

There were also significant gender differences on PC, PS, worry, negative affect and anxiety, with women scoring significantly higher on all factors, and worry in particular having the largest effect size. This supports research by Klibert et al. (2015)

who found the more maladaptive dimension of perfectionism to be related to anxiety, and that for women, different cognitive schemas mediated this perfectionism-anxiety link, however this was not significant for men, suggesting that various perfectionism dimensions operate differently for men and women.

Study 2

Results from Study 1 provided further support to the consistent, maladaptive conceptualisation of PC, and that PS is not a substantially adaptive, beneficial trait dimension to possess for UK undergraduates, however, it is not consistently deleterious either. As Bieling et al. (2004) note, it is perhaps best considered a “neutral” form of perfectionism. However, it could be, as suggested by Stoeber and Otto (2006) and supported by other studies (e.g., Hill et al., 2010; Stoeber & Corr, 2016), the negligible adaptiveness of PS may be obscured due to suppression effects, and partialling out PC may purify the relationship, identifying more positive relationships with desirable outcomes. As noted by Molnar and Sirois (2016) suppression effects are becoming a prominent issue within the perfectionism field, given that the potentially adaptive effects of PS (or its components) are sometimes only identified when controlling for PC (Hill et al., 2010; Stoeber & Corr, 2016).

Aims

Whilst Study 1 identified consistent relationships between PC and maladaptive outcomes, the correlations between PS and mental health and well-being outcomes were more neutral, however, zero-order correlations do not allow for disentangling the relationships between variables, and their unique, partial correlations. Therefore, based upon the findings of Study 1, the second study aims to use multiple regressions to examine unique relationships between perfectionism dimensions (PS and PC), and psychosocial well-being (Flourishing) and affective well-being (Positive and Negative Affect). It will focus on the partialled relationships between PS, PC, and well-being,

using multiple regressions to identify if the magnitude and significance is different between Flourishing and Positive or Negative Affect, and PS and PC, once PC and PS are statistically controlled for respectively. As per the first study, the second will examine not only the relationships between the PS and PC higher order dimensions, but also the individual subscales.

Hypotheses

Hypothesis 5: Perfectionistic Concerns. It is expected that the negative, significant relationships between the PC composite dimension (and its subscales) with desirable outcomes (Flourishing, Hypothesis 5a; Positive Affect, Hypothesis 5b) will become stronger than the zero-order correlations, and the positive, significant relationships with the Negative Affect subscale (Hypothesis 5c) will become stronger than the zero-order correlations.

Hypothesis 6: Perfectionistic Strivings. It is predicted that the positive, significant relationship between the PS composite dimension (and its subscales) and Flourishing will become stronger than the zero-order correlation (Hypothesis 6a). It is also predicted that the relationships between the PS composite (and its subscales) with the Positive Affect subscale will become significant and positive (Hypothesis 6b), in comparison to the zero-order correlations. Finally, the relationships between the PS composite (and its subscales) with the Negative Affect subscale will become significant and negative (Hypothesis 6c) in comparison to the zero-order correlations.

Method

The same sample as Study 1 was used for this study, using the same screened data set for variables measuring perfectionism dimensions PC and PS (PI; Hill et al., 2004), Flourishing (Diener et al., 2010), and Positive Affect (using the SPANE-P subscale) Negative Affect (using the SPANE-N subscale; Diener et al., 2010). Several separate multiple regressions were carried out, with predictors entered simultaneously

using standard enter method. The first multiple regression analyses examined relationships between the two higher-order factor model of perfectionism, then again with the eight subscales.

Results

Multiple Regressions for Perfectionistic Strivings and Perfectionistic Concerns

To test Hypothesis 5a and Hypothesis 6a, Flourishing was regressed onto PC and PS, and showed there was a significant relationship ($R = .56$) between perfectionism dimensions and Flourishing, $F(2, 1100) = 251.38, p < 0.001$, where perfectionism dimensions explained 31.24% of variance in Flourishing. The perfectionism dimensions showed similar relationships as the bivariate correlations; in that PC showed a significant negative regression coefficient, and PS showed a significant positive coefficient, although the relationships became stronger, in particular PS had a small, positive zero-order correlation, but then a medium relationship when PC was statistically controlled for. See Table 9 for summary of results, and Figure 3 for a schematic representation of the model with zero-order correlations and standardized regression coefficients.

Table 9

Results from Multiple Regression Analyses: Perfectionistic Strivings and Perfectionistic Concerns Predicting Flourishing

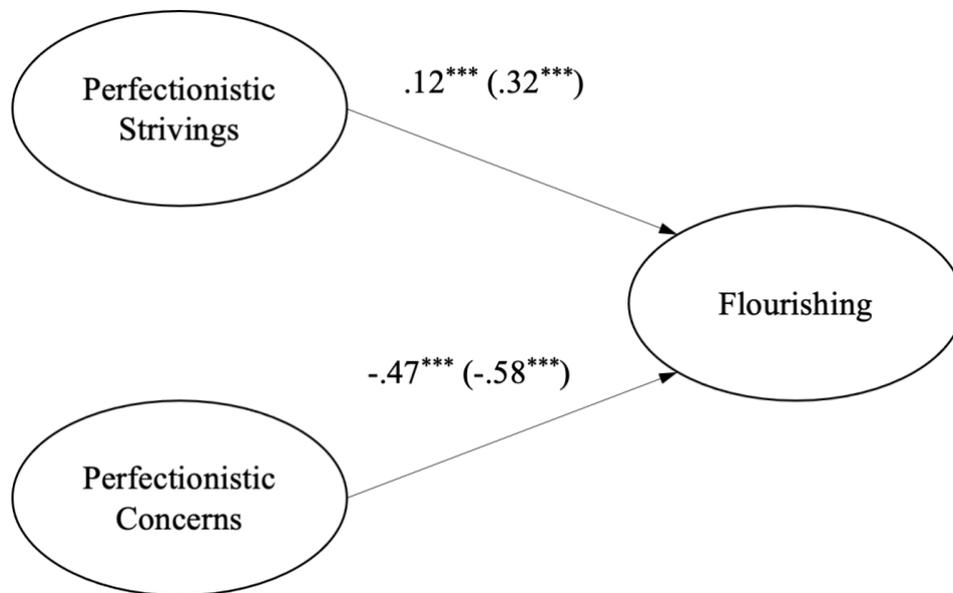
DV = Flourishing	ΔR^2	β	Zero-order Correlation	Semi-partial Correlation
Regression	.31***			
Perfectionistic Concerns		-.58***	-.47	-.55
Perfectionistic Strivings		.32***	.12	.30

Note. $N = 1103$. DV = dependent variable. β = standardized regression coefficient.

*** $p < .001$.

Figure 3

Results from Multiple Regression Analyses: Perfectionistic Strivings and Perfectionistic Concerns Predicting Flourishing



Note. Zero-order correlations are shown, with standardized β coefficients in brackets.

*** $p < .001$.

Two more simultaneous multiple regressions were carried out to test Hypothesis 5b and Hypothesis 5c; Positive Affect regressed onto PS and PC, and Hypothesis 6b and Hypothesis 6c; Negative Affect regressed onto PS and PC. There was a large significant relationship ($R = 0.50$) between Positive Affect and Perfectionism; $F(2, 1100) = 179.90, p < .001$. There was also a significant relationship ($R = 0.56$) between Negative Affect and Perfectionism; $F(2, 1100) = 250.89, p < .001$. Despite PS having a non-significant zero-order correlation ($r = .00, p = .461$), the regression found PS could significantly predict increased Positive Affect; $\beta = .19, t(1100) = 6.68, p < .001, 95\% \text{ CI } [0.62, 1.14]$. Similar to Hill et al. (2010), this represents another situation of classical suppression (Tabachnick & Fidell, 2007) in which PC acted as a suppressor, by removing variance from PC, prediction of the positive outcome of Positive Affect by PS was enhanced. Similarly, the significant zero-order relationship between PS and Negative Affect was positive, but the significant semi-partial correlation was negative

when PC was statistically controlled for. See Table 10 and 11 for summary of results, and Figure 4 and 5 for schematic representations of the models with zero-order correlations and standardized regression coefficients.

Table 10

Results from Multiple Regression Analyses: Perfectionistic Strivings and Perfectionistic Concerns Predicting Positive Affect

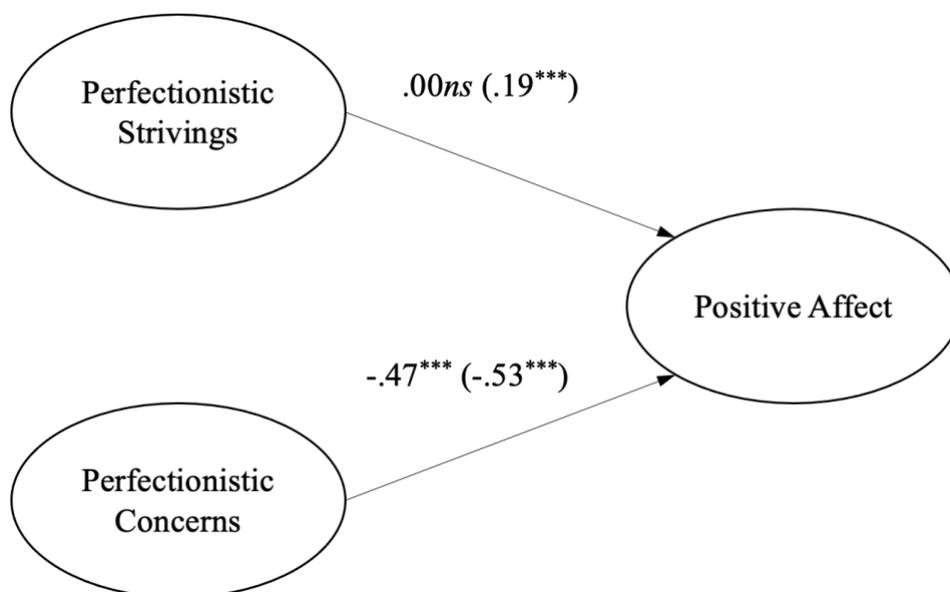
DV = Positive Affect	ΔR^2	β	Zero-order Correlation	Semi-partial Correlation
Regression	.26***			
Perfectionistic Concerns		-.53***	-.47	-.50
Perfectionistic Strivings		.19***	.00 <i>ns</i>	.18

Note. $N = 1103$. DV = dependent variable. β = standardized regression coefficient.

*** $p < .001$. *ns* = not significant.

Figure 4

Results from Multiple Regression Analyses: Perfectionistic Strivings and Perfectionistic Concerns Predicting Positive Affect



Note. Zero-order correlations are shown, with standardized β coefficients in brackets.

*** $p < .001$. *ns* = not significant.

Table 11

Results from Multiple Regression Analyses: Perfectionistic Strivings and Perfectionistic Concerns Predicting Negative Affect

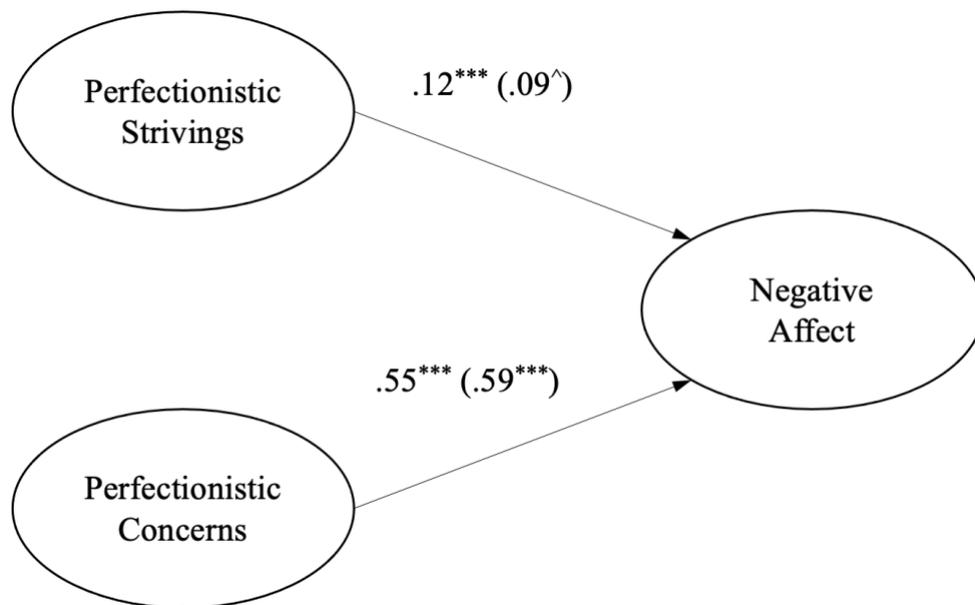
DV = Negative Affect	ΔR^2	β	Zero-order Correlation	Semi-partial Correlation
Regression	.31***			
Perfectionistic Concerns		.59***	.55	.55
Perfectionistic Strivings		-.09 [^]	.12	-.09

Note. $N = 1103$. DV = dependent variable. β = standardized regression coefficient.

*** $p < .001$. [^] $p = .001$.

Figure 5

Results from Multiple Regression Analyses: Perfectionistic Strivings and Perfectionistic Concerns Predicting Negative Affect



Note. Zero-order correlations are shown, with standardized β coefficients in brackets.

*** $p < .001$. [^] $p = .001$.

Multiple Regressions for Perfectionism Inventory Subscales

To examine the unique predictive properties of the different dimensions of the PI onto Flourishing, and further test Hypothesis 5a and Hypothesis 6a, all subscales were entered into a multiple regression. There was a significant relationship ($R = 0.58$) between Flourishing and the perfectionism subscales; $F(8, 1094) = 67.75, p < .001$), the model accounting for 32.64% of variance. See Table 12 for summary of results, and Figure 6 for a schematic representation of the model with zero-order correlations and standardized regression coefficients.

Table 12

*Results from Multiple Regression Analyses: Perfectionistic Inventory Subscales
Predicting Flourishing*

DV = Flourishing	ΔR^2	β	Zero-order Correlation	Semi-partial Correlation
Regression	.33***			
Concern Over Mistakes		-.29***	-.46	-.14
Rumination		-.23***	-.41	-.11
Striving for Excellence		.18***	-.01 <i>ns</i>	.13
Planfulness		.14***	.11	.12
Organisation		.12***	.25	.09
Perceived Parental Pressure		-.11***	-.25	-.10
Need for Approval		-.11*	-.41	-.06
High Standards for Others		.00	-.01 <i>ns</i>	.00

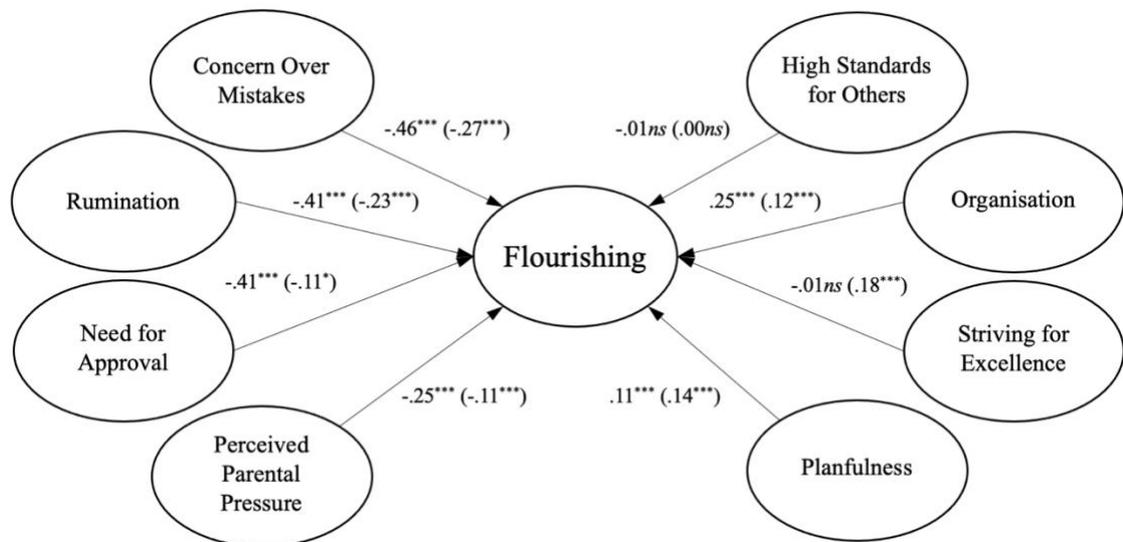
Note. $N = 1103$. DV = dependent variable. β = standardized regression coefficient.

* $p < .05$. *** $p < .001$. *ns* = not significant.

Figure 6

Results from Multiple Regression Analyses: Perfectionistic Inventory Subscales

Predicting Flourishing



Note. Zero-order correlations are shown, with standardized β coefficients in brackets.

* $p < .05$. *** $p < .001$. ns = not significant.

All but two subscales retained held the same significant relationship and direction with Flourishing, as their zero-order correlation, for instance, all but one of the subscales (High Standards for Others) could significantly predict Flourishing, and despite a non-significant zero-order correlation ($r = -.01, p = .353$), the multiple regression identified that Striving for Excellence could significantly predict Flourishing ($t(1094) = 5.27, p < .001$). Given that only the subscales Concern Over Mistakes and Rumination have a correlation coefficient with magnitude above .80 ($r = .81$), but also the variance inflation factor (VIF) values for all variables were all below 5.00, and the value of tolerance for all variables were above .20, it would suggest the Striving for Excellence subscale is a suppressor variable.

Suppressor effects of the Striving for Excellence subscale. Despite Hill et al. (2004) noting the importance of examining the PI subscales together with the higher-order dimensions, Hill et al. (2010) did not investigate suppression effects using the

eight subscales. For exploratory purposes only, multiple regressions were systematically performed to inspect further the potential suppressor effects of the Striving for Excellence subscale. These exploratory analyses are not included here, as these were not part of the original aims or hypotheses of the study. However, as the results could potentially be of benefit for future researchers who wish to examine the PI further, the results are included in the appendices (see Appendix I). Results found further evidence of the suppressor effects of the Striving for Excellence subscale, where zero-order correlations between Flourishing and the two predictors (Striving for Excellence subscale and one other PI subscale) for each regression were less than their respective semipartial correlation coefficients (Pandey & Elliott, 2010).

Multiple Regressions for Perfectionism Inventory Subscales and Affect.

Finally, all subscales were entered into additional two simultaneous multiple regressions, one for Positive Affect (to further test Hypothesis 5b and Hypothesis 6b), and the next for Negative Affect (to further test Hypothesis 5c and Hypothesis 6c). First, there was a significant relationship ($R = 0.52$) between Positive Affect and the perfectionism subscales; $F(8, 1094) = 49.31, p < .001$, the model accounting for 25.96% of variance. See Table 13 for summary of results, and Figure 7 for a schematic representation of the model with zero-order correlations and standardized regression coefficients.

Table 13

*Results from Multiple Regression Analyses: Perfectionistic Inventory Subscales
Predicting Positive Affect*

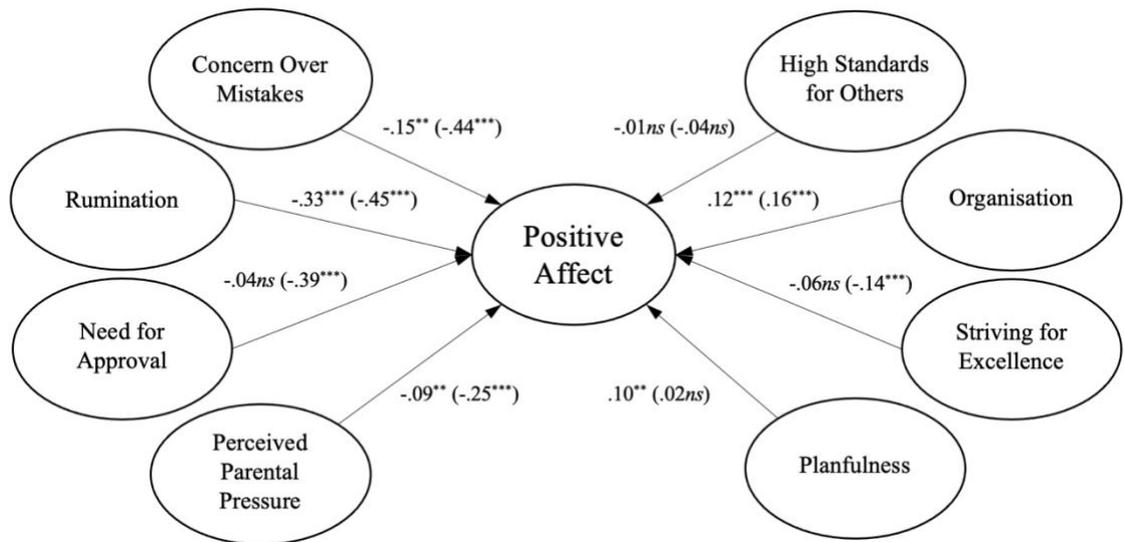
DV = Positive Affect	ΔR^2	β	Zero-order Correlation	Semi-partial Correlation
Regression	.26***			
Concern over Mistakes		-.15**	-.44	-.08
Rumination		-.33***	-.45	-.17
Striving for Excellence		-.06ns	-.14	.04
Planfulness		.10**	.02ns	.08
Organisation		.12***	.16	.09
Perceived Parental Pressure		-.09**	-.25	-.08
Need for Approval		-.04ns	-.39	-.02
High Standards for Others		.01ns	-.04 ns	.01

Note. $N = 1103$. DV = dependent variable. β = standardized regression coefficient.

** $p < .01$. *** $p < .001$. ns = not significant.

Figure 7

*Results from Multiple Regression Analyses: Perfectionistic Inventory Subscales
Predicting Positive Affect*



Note. Zero-order correlations are shown, with standardized β coefficients in brackets.

** $p < .01$. *** $p < .001$. ns = not significant.

All but three of the subscales (High Standards for Others, Need for Approval, Striving for Excellence) could significantly predict Positive Affect. Despite a non-significant zero-order correlation ($r = .02, p = .269$), the Planfulness subscale could significantly predict Positive Affect; $t(1094) = 3.16, p < .01$). Again, VIF values for all variables were all below 5.00, and the value of tolerance for all variables were above .20, thus suggesting Planfulness could also be a suppressor variable.

There was also a significant relationship ($R = 0.60$) between Negative Affect and the perfectionism subscales; $F(8, 1094) = 74.93, p < .001$, the model accounting for 34.92% of variance, and only Concern over Mistakes, Rumination, Planfulness and Need for Approval subscales could significantly predict Negative Affect. See Table 14 for summary of results, and Figure 8 for a schematic representation of the model with zero-order correlations and standardized regression coefficients.

Table 14

Results from Multiple Regression Analyses: Perfectionistic Inventory Subscales Predicting Negative Affect

DV = Negative Affect	ΔR^2	β	Zero-order Correlation	Semi-partial Correlation
Regression	.35***			
Concern over Mistakes		.11*	.53	.05
Rumination		.35***	.55	.18
Striving for Excellence		-.03 ns	.23	-.02
Planfulness		-.09**	.07	-.08
Organisation		-.05 ns	-.07	-.04
Perceived Parental Pressure		-.00 ns	.21	.00
Need for Approval		.21***	.53	.12
High Standards for Others		.03 ns	-.09	.03

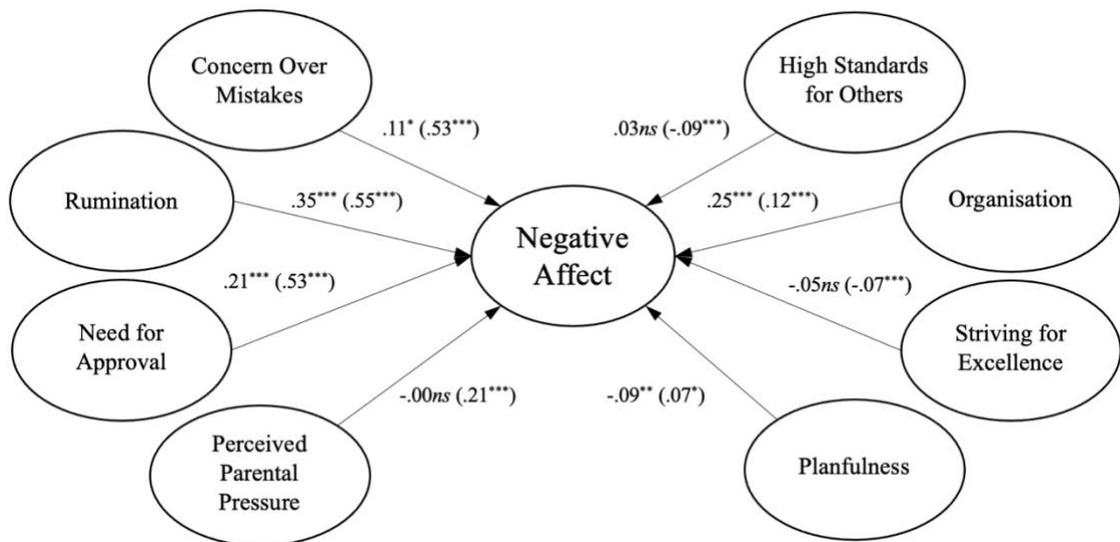
Note. $N = 1103$. DV = dependent variable. β = standardized regression coefficient.

* $p < .05$. ** $p < .01$. *** $p < .001$. ns = not significant.

Figure 8

Results from Multiple Regression Analyses: Perfectionistic Inventory Subscales

Predicting Negative Affect



Note. Zero-order correlations are shown, with standardized β coefficients in brackets.

* $p < .05$. ** $p < .01$. *** $p < .001$. ns = not significant.

Striving for Excellence had differing zero-order correlations with Positive Affect ($r = -.14, p < .001$) and Negative Affect ($r = .23, p < .001$). However, it was not a significant predictor for either in the multiple regressions. Furthermore, Need for Approval had a significant, negative zero-order correlation with Positive Affect ($r = -.39, p < .001$), but a non-significant standardised regression coefficient in the multiple regression. Also, Perceived Parental Pressure had a significant, positive zero-order correlation with Negative Affect ($r = .21, p < .001$), but a non-significant standardised regression coefficient in the multiple regression.

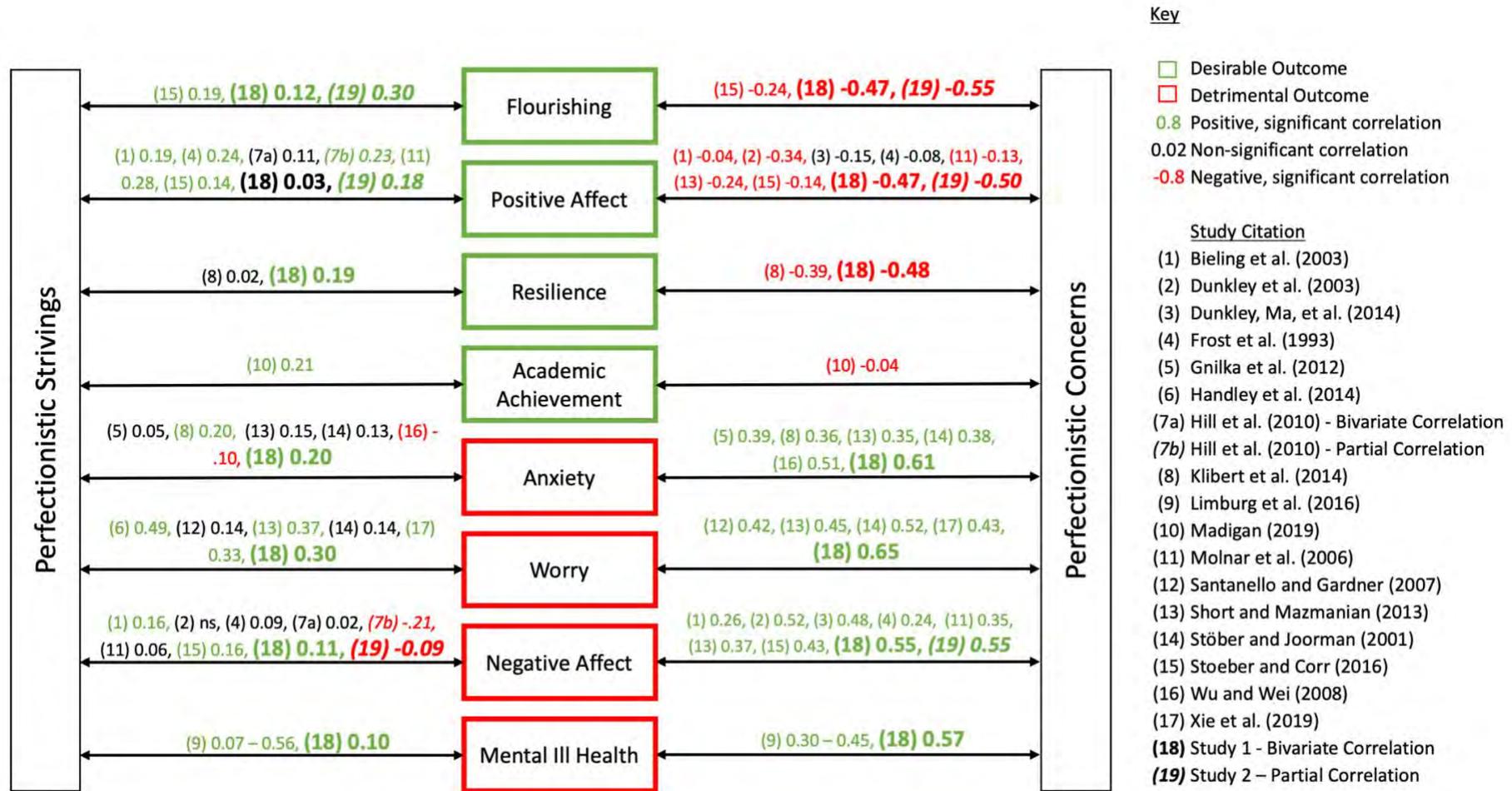
Discussion

The aim of this study was to extend upon Study 1 in further exploring the unique relationships between PS and PC, flourishing and affect, after accounting for suppression effects as previously identified in studies by Hill et al. (2010) and Stoeber and Corr (2016), as well as exploring unique relationships between eight subscales of

perfectionism in regard to potential suppression effects. Results supported Hypothesis 5a and Hypothesis 5b, where the relationship between PC and both flourishing and positive affect became slightly stronger. However, Hypothesis 5c was not supported, in that the relationship between PC and negative affect became slightly weaker, however it still remained a large, significant positive relationship. Similarly, Hypothesis 6a was supported, in that the relationship between PS and flourishing became stronger when PC was controlled for. Hypothesis 6b was also supported, where the non-significant zero-order correlation between PS and positive affect became a small, positive, significant relationship when PC was controlled for. Finally, Hypothesis 6c was also supported where PS and negative affect was initially a positive relationship, but then became a significant negative relationship. To consolidate the results of Study 1, together with findings from previous empirical studies, Figure 9 provides a network of correlations between PS, PC, desirable and detrimental outcomes. These include the direction and magnitude of the correlations, using Cohen's (1992) suggestions for effect sizes (small, medium, and large effect sizes for r).

Figure 9

Network of Correlations from Figure 2, Combined with Study 2 Results



To inspect the unique relationships of the perfectionism subscales with flourishing, positive and negative affect, the subscales were entered into a multiple regression and found broadly consistent results (i.e., respective PS and PC subscales retained similar relationships and direction with the dependent variables). However, the Striving for Excellence subscale was a significant positive predictor of flourishing, despite holding a non-significant zero-order. This suggested the Striving for Excellence subscale could be a suppressor variable (Pandey & Elliot, 2010).

The findings provide further support for suppression effects and suggest that when accounting for the joint variance of PC, the “purified” PS in students is associated with higher levels of flourishing and positive affect. These findings offer important considerations for university support services who are seeking to identify solutions for the rising demand of mental health support (Broglia et al., 2017). Should universities adopt interventions that target the entirety of perfectionism, it could potentially risk undermining the adaptive qualities of PS and, as this research demonstrates, flourishing. Rashid et al. (2017) describes flourishing university students as also being resilient, and indeed findings in Study 1 identified a strong, positive association between flourishing and resilience. It would be pertinent to foster resilient, adaptive coping strategies (such as engaging with supportive relationships), as this may buffer against the risk PC poses for student mental health and well-being. Therefore, similar to recommendations originally made by Rice et al. (1998), this gives support for dual-factor interventions (Keyes, 2002), where practitioners working with perfectionist clients should consider the multidimensional nature of perfectionism in interventions, taking into account the capacity to flourish in PS, and not just exclusively focusing on PC to minimise mental ill health within the therapeutic process.

General Discussion for Studies 1 and 2

The overall aim of these studies was to examine relationships between perfectionism and mental health and well-being outcomes in UK undergraduates, as previously identified by theory and empirical research. Results supported existing research that PC is related to detrimental outcomes such as greater mental ill health, anxiety, worry, negative affect, and lower flourishing, positive affect, and resilience, and were therefore also in keeping with the PCT, diathesis-stress model and SDM theories of how and why perfectionism has relevance for mental health and well-being. However, it is important to note that it is not possible to draw clear conclusions on whether or not the findings of the current study directly support the aforementioned theories, as the methods employed (i.e., a lack of mediational or moderational analyses) would not support making such conclusions.

Findings from the present study were in keeping with the PCT (Flett et al., 2016) which posits in its first theme that PC is correlated with cognitive perseveration, and in this study, worry was highly correlated with PC. University students are likely to frequently worry (Pereira et al., 2019) and use worry as a coping strategy as opposed to seeking advice or taking action to solve their concerns (Macaskill, 2018). Considering the academic pressures and stressors of university students, including “feeling too much pressure to succeed” (Farrer et al., 2016), it is understandable that the evaluative concerns surrounding fear of failure (a core reason for why perfectionists may worry; Flett et al., 2016) would be a prevalent worry for perfectionist students (Borkovec et al., 1986; Flett et al., 2016). The second theme of the PCT concerns the association of perfectionism with various types of cognitive perseveration, including types that are unique to perfectionism, such as mistake rumination, given empirical support for this as a particular type of perfectionistic cognitive perseveration (Flett et al., 2016). In the present study, the rumination subscale of the PI was strongly correlated with more

detrimental mental health and well-being outcomes, thus providing support for the association between perfectionistic rumination and mental ill health. However, it is not possible to assert clear evidence in support for the PCT with this association, as the rumination subscale of the PI was not developed to reflect specific cognitions, in comparison to items from scales such as the PCI.

The diathesis-stress model posits that perfectionism acts as an underlying vulnerability within the diathesis-stress model to increase the likelihood of emotional distress and psychopathology when an individual is faced with challenging life events. The results of the present study could also support the initial premise of the diathesis-stress model in that a strong, positive relationship was found between PC and worry in students; where worry is considered a maladaptive, avoidant coping strategy (Borkovec et al., 2004) in the anticipation and perpetuation of stress. Closely related to coping strategy is resilience, as within the diathesis-stress model perfectionism would confer risk of poorer well-being due to the lowered likelihood of perfectionists to proactively engage in resilience-oriented activities when encountering stressful events, thus perpetuating and enhancing stress. As such, a strong, negative relationship with PC and resilience is therefore expected, and was subsequently found in students within the present study. Students are exposed to numerous stressors whilst at university; the transition to university, financial pressures, examiners and study related stressors (Robotham & Julian, 2006), and according to the diathesis-stress model, the results of this study would suggest students high in PC are likely to suffer poorer mental health and well-being.

Finally, the results are also in keeping the SDM, which posits PC would be associated with poorer mental health and well-being due to objective and subjective social disconnection. Whilst flourishing does not measure social disconnection, it does capture social-psychological prosperity (Diener et al., 2010) such as through items “My

social relationships are supportive and rewarding” and “I actively contribute to the happiness and well-being of others”. It would therefore be expected, in keeping with the SDM, that PC would be negatively related to flourishing, and in the present study this was found to be the case.

In summary, the findings of the present studies support existing evidence within the nomological network of perfectionism relationships with mental health and well-being that PC within students is indeed strongly related to detrimental outcomes. However, recognising the “adaptiveness” of PS for students is less clear. The PCT would posit PS also confers risk to mental health and well-being in its association with worry, and the present study also found a relationship between PS and worry, albeit not as strong as PC. Worry as a maladaptive coping strategy is also a feature of the diathesis-stress model, through the use of worry in perpetuating and enhancing stress, however, PS was also positively related to resilience, and whilst this finding could conceptually contrast with the diathesis-stress model, it should be noted the magnitude of the relationship was still small. It is likely that for PS to be sufficiently adaptive for students, a relationship of greater magnitude between PS and resilience is needed, to buffer against the risk of exacerbating and perpetuating stress through maladaptive coping.

A similar consideration could be made for the associations between PS, affect and flourishing. The bivariate correlations would not suggest PS is particularly adaptive for students, however, when controlling for PC, the adaptiveness of PS shone through, in its stronger relationship to flourishing, and its significant, positive relationship with positive affect (following a non-significant zero-correlation). The SDM would posit that perfectionism confers risk to mental health and well-being, and this extends to PS whereby those scoring high on PS are likely to avoid or miss the support potentially gained through social relationships, due to social isolation. However, findings from

Study 2 would suggest students high in PS (when PC is controlled for) are likely to engage in social relationships, at least in the manner in which flourishing would define psychosocial well-being, and such an adaptive trait would buffer against risk of poor well-being, again, supported by the positive relationship between PS and positive affect.

Strengths and Limitations for Studies 1 and 2

A particular strength of the study is the large and varied sample to help represent the student population as a whole, not just exclusively psychology students, which many psychological research studies tend to adopt (Henrich et al., 2010). However, a limitation is the gender disparity, with 84% of the sample female. Results may be more generalisable if using a more representative sample across gender identities. The recruitment and information documents were carefully worded to not emphasise *perfectionism*, to encourage a more representative response from students, as opposed to a biased response by perfectionist students. However, the survey also stated it was investigating student *mental health*, which may have resulted in response bias. For instance, merely mentioning “mental health” could inflate and skew data with students believing they are amongst the “overwhelming majority of students [who] have mental health problems” (Brown, 2016, p. 31), or could exclusively attract a sample of students who have mental ill health and are more likely to respond by virtue of familiarity, versus those with a lack of understanding or even stigma, thus biasing data.

A successful replication of Stoeber and Corr’s (2016) study aids our understanding of perfectionism as multidimensional and the unique relationships between different perfectionism dimensions with attributes like flourishing that are desirable for students in HEIs. It also benefits the wider implications of replication issues within research (Pashler & Wagenmakers, 2012) through increased reliability of results.

As multiple standardised measures were included in the survey, a sufficiently large sample of students was needed in order to ensure enough statistical power. Therefore, the survey was advertised across various universities, but in doing so, it was not possible to collect standardised measure of academic attainment. This variable was of particular interest in seeking to understand the relative adaptiveness of PS for student populations (Madigan, 2019). Repeating this study, but with a reliable, standardised measurement of academic attainment, would help to better understand the role of academic achievement and perfectionism for students' mental health and well-being.

Limitations of the Perfectionism Inventory. In addition to the rationale outlined in Chapters 1 and 2, another reason for selecting the PI in the two studies was due to the recommendation made by Stoeber and Corr (2016, p. 52) to “profit from extending the present research to other multidimensional models...and other indicators of perfectionistic strivings and perfectionistic concerns”. However, using the PI as a measure for perfectionism has posed a limitation to findings.

The vast majority of empirical evidence that has been drawn upon to support the conceptual frameworks identified for the nomological network, used the three most commonly used measures of multidimensional perfectionism; MPS-HF, MPS-F and APS-R, as well as the PCI for the PCT. Researchers have not dismissed the PI outright, making reference to it for accompanying support for theory (e.g., Flett et al., 2016, p. 137, p. 142), and frequently highlight the contribution of the suppression effects findings from Hill et al. (2010) in regards to the argument surrounding PS adaptiveness. However, it is not a measure that has significantly contributed towards that evidence-based theory of how and why perfectionism confers risk to mental health and well-being, and the prior empirical evidence used to inform the initial nomological network predominantly measured perfectionism using either MPS-F, MPS-HF or APS-R to

measure relationships with outcomes, with the exception of the PI and affective well-being (Hill et al., 2004; 2010).

As discussed in Chapter 1, whilst the PI and the three most widely used trait measures of perfectionism all *seemingly* assess the same construct through their factors with similar titles (Flett & Hewitt, 2015b), the way in which each is conceptualising and measuring PS and PC could vary considerably across different measures (Molnar & Sirois, 2016; Sirois & Molnar, 2017), and thus could moderate associations between the dimensions with mental health and well-being outcomes. For instance, whilst the MPS-HF and the APS-R each assess PC with one subscale (SPP and Discrepancy respectively), Flett, Mara et al. (2016) have argued that the Discrepancy subscale, defined as the perceived discrepancy between one's standards and actual performance (Slaney et al., 2001), also taps dissatisfaction, interpreted as a strong negative affective reaction to imperfection. Three items of the Discrepancy subscale reference chronic negative affect, that could therefore inflate the magnitude of the association between discrepancy and negative affect. As Nicholls et al. (1982) suggest it is important for researchers to keep the content of measures in view, and whether certain scales can be used to answer their research questions. For example, it is not appropriate to use a scale in establishing whether an aspect of the construct (e.g., PC) is related to that construct (e.g., negative affect), if that aspect is already part of the scale. To the researcher's current knowledge, the PI does not appear to have undergone such scrutiny as that of the APS-R (Flett, Mara et al., 2016) and raises the question of whether or not there could be potential for content overlap with the factors assessed in the present study. Inferences about the associations between PS and PC may therefore be restricted by the way in which the PI conceptualises these two dimensions.

Sirois, Molnar and Hirsh (2017) suggest there appears to be more agreement across measures in regard to PS, that the conceptualisations of PS in MPS-F, MPS-HF

and APS-R generally describe PS as the setting and striving for high personal standards. The PI also includes strivings through its inclusion of the Striving for Excellence subscale; however, the PS dimension also includes Organisation, Planfulness and High Standards for Others, yet Stoeber and Otto (2006) would argue that OOP, and subscales reflecting organisation and order, may be disregarded when conceptualising the two dimensions of PS and PC. The PI Organisation subscale was derived from the MPS-F Organisation subscale yet Frost et al. (1990) recommended excluding their Organisation subscale when computing overall perfectionism due to its moderate correlation with MPS-F Personal Standards. Confirmatory factor analyses (Rice et al., 2005; Suddarth & Slaney, 2001) found that APS-R subscales Organisation and Order formed a third factor, independent to PS and PC, which Stoeber and Otto (2006) suggest therefore does not form part of the dimensional two-factor higher order conceptual framework.

It is also perhaps precarious to include Planfulness into the broader conceptualisation of PS when making inferences about its adaptiveness, given Planfulness was uninformed by the MPS-F or MPS-HF, but instead through an unpublished master's thesis by Kennedy (2001) that suggested "a tendency to plan ahead thoughtfully and deliberately before making decisions" (Hill et al., 2004, p. 81). Again, to the researcher's current knowledge, this subscale has not undergone further critical scrutiny. An exception would be recent paper by Robinson et al. (2022) utilising exploratory factor analysis in undergraduate students, who found Organisation (MPS-F), Order (APS-R) and Organisation and Planfulness (PI) all loaded on their Organisation factor, and as such would imply the Planfulness subscale could be disregarded in comprising PS, in a similar vein to the Organisation subscale as described above.

OOP (reflected in the High Standards for Others subscale of the PI) has been frequently disregarded in research concerning the clinical relevance of multidimensional

perfectionism, perhaps due to such ambivalent findings in its relationship with desirable and detrimental outcomes (Enns & Cox, 2002), and was also excluded when examining regressions of individual subscales in Study 2 of the present chapter due its non-significant relationships.

If the above recommendations are considered, Striving for Excellence would be the only remaining subscale to reflect PS. However, Study 1 identified significant, positive correlations between Striving for Excellence and detrimental outcomes, and significant, negative correlations with desirable outcomes. If the only remaining indicator of PS, this would instead suggest PS is not, in fact, adaptive for students' mental health and well-being. In addition, Study 2 indicated the Striving for Excellence subscale could be a suppressor variable (Pandey & Elliot, 2010). Such a finding could indicate issues with the construct validity of the PI (Watson et al., 2013), and therefore further investigation is needed to help explicate the true nature of the PI and its subscales.

Stoeber and Otto (2006) also recommended disregarding Parental Criticism and Expectations subscales of the MPS-F, as some researchers have argued these are not core characteristics of PC and may instead be better regarded as developmental antecedents of perfectionism (Stoeber & Otto, 2006; Damian et al., 2017). The associations between the Perceived Parental Pressure subscale of the PI (derived from the aforementioned MPS-F subscales) and mental health and well-being outcomes appeared less detrimental than the other subscales in the present studies. Whilst it was previously discussed that phenomena (e.g., helicopter parenting) indicated that parental pressure could be less relevant for current students in regards their mental health and well-being, broader concerns around the validity of parental pressure as a core facet of perfectionism may suggest it more pertinent to disregard it.

The rationale for using the PI outlined in Chapter 1 suggested it was a beneficial measure to use because of it could provide a more meaningful insight into the associations between specific facets of perfectionism, and mental health and well-being outcomes, as opposed to a more condensed two factor higher order model. Indeed, this has been the case for Study 1 and 2 by highlighting the differing relationships between the subscales and dimensions with desirable and deleterious outcomes for students. However, given different measures may encapsulate different facets of perfectionism, the findings from the two studies are therefore limited to the PI conceptualisation of perfectionism.

Conclusion

In summary, the findings of the present studies would support previous theoretical and empirical evidence that PC is consistently associated with negative outcomes for students, with medium-large relationships with poorer mental health and well-being outcomes. The results also suggest PS is more “neutral” (Bieling et al., 2004) or less maladaptive than PC, in its small-medium positive associations with worry, negative affect, mental ill health and anxiety, together with its small-medium relationship with flourishing and resilience, and nonsignificant relationship with positive affect. Yet, after accounting for the overlap between PC and PS, the positive relationship between PS with flourishing and positive affect within students became more apparent.

Results from Study 1 and 2 have extended the existing nomological network of perfectionism among students, indicating PC is detrimental and PS may be beneficial for students’ mental health and well-being, with support for the PCT, but indicating a potential limitation in applying the diathesis-model and SDM for students high in PS. However, these conclusions are limited to the way in which PS and PC was measured and conceptualised using the PI, as opposed to other scales (e.g., the APS-R) that have

been used when establish evidence for theoretical perspectives. If limitations of the PI are taken into consideration, it would indicate PS may not be beneficial for students' mental health and well-being, and the nomological network examined within this chapter indicates support for applying existing theoretical perspectives of perfectionism to students.

However, if considering the PI as a viable and accurate measure of perfectionism, both studies have identified differing relationships between PS and PC, and mental health and well-being outcomes in UK undergraduates. As such, a third study (Chapter 4) will look at the development, delivery and evaluation of a dual-factor intervention that seeks to ameliorate PC and anxiety in students (given the strong correlation identified in Study 1) through the use of CBT, whilst also enhancing PS and flourishing (given the positive relationship between these variables identified in Studies 1 and 2) by integrating PPIs (as identified in Chapter 1).

Chapter 4 – Study 3: Dual-Factor Perfectionism Intervention for UK

Undergraduates

The previous chapters have provided an overview of existing empirical and theoretical evidence for how and why perfectionism confers risk to student mental health and well-being, with Chapter 3 providing further supporting evidence of these relationships, in particular the medium-large positive associations between PC and detrimental outcomes in UK undergraduates. However, evidence from Study 1 would also suggest that whilst PS has small-medium relationships with some detrimental outcomes, there are also positive relationships with more desirable outcomes, and in the case of flourishing and positive affect, these became stronger after partialling out PC (see Study 2). The findings from Chapter 3 would support the assertion by Rice et al. (2016) that dimensions of perfectionism may support positive outcomes within academic contexts, encouraging therapeutic interventions to not exclusively focus on the maladaptive aspects of PC, but also consider strengthening positive, adaptive aspects of PS (Rice et al., 1998; Rice & Mirzadeh, 2000; Rice & Dellwo, 2002).

This chapter focuses on the development and implementation of a novel, dual-factor perfectionism intervention for UK undergraduates by incorporating the principles of both CBT and positive psychology. The intervention will also be evaluated using a mixed methods approach (see Chapter 2), by analysing self-report data for perfectionism, psychosocial well-being, and anxiety, as well as thematically analysing open text responses. To begin, a brief reminder is provided for why the CBT model and PPIs were chosen for inclusion in the dual-factor intervention in Study 3, with connections drawn between these approaches and the theoretical perspectives identified in Chapter 1.

Cognitive-Behavioural Therapy for Overcoming Perfectionism

The CBT treatment model outlined by Egan, van Noort, Chee, Kane, et al. (2014) has been utilised by several studies investigating the use of CBT for perfectionism (Handley et al., 2015; Rozental et al., 2017; Shafran et al., 2017). The intervention typically utilises eight to 10 modules (Rozental et al., 2017; Johnson et al., 2019; Zetterberg et al., 2019) distributed over eight to 12 weeks, delivered face-to-face in groups, or using an internet-based version. The modules include psychoeducation and exercises often used in CBT but with specific focus on the maintaining mechanisms thought to reinforce perfectionism (see Intervention Protocol below for further details).

To begin, the treatment model primarily centres around psychoeducation and monitoring so participants can understand what perfectionism is, how it can be unhelpful, and what perfectionism “is” or “means” for the participant, what their individual perfectionism cycle is, their own thoughts and behaviours, and how is maintained. Within this is a form of cost-benefit analysis, addressing the avoidance and fear commonly felt by perfectionists, particularly if their self-worth (dependent on success) is under threat. The purpose is to ensure the participant is motivated and open enough to undertake the subsequent change. Following this, counter-productive safety behaviours are discussed, as well as maladaptive beliefs and cognitive biases. These are then challenged with experiments and exercises. There are further discussions regarding the conceptualisation of self-worth, self-criticism, and self-compassion. The modules conclude with relapse prevention, maintaining change and managing perfectionism in the long term (Shafran et al., 2016).

Chapter 1 outlined the existing research that supports the use of CBT as a treatment for perfectionism (Egan et al., 2011; Lloyd et al., 2015), as well as identifying its theoretical relevance. In summary, evidence suggests that CBT-based treatment for perfectionism may be beneficial in alleviating symptoms, as well as addressing

cognitive biases and maladaptive coping styles which are implicated in the relationship between perfectionism and mental ill health or poor well-being (according to the PCT and diathesis-stress model).

Lo and Abbot (2013) suggest the CBT treatment model for perfectionist students will be particularly beneficial due to its focus on cognitions relating to the setting and achievement of high standards, pertinent for the university context (Curran & Hill, 2019). However, Rice et al. (2016) discourage interventions that target the amendment of standards in perfectionist students, believing high standards could serve personal and social good, such as academic achievement (Rice & Mirzadeh, 2000; Madigan, 2019) and flourishing (as found in Study 2). Instead, they encourage interventions that can reduce self-criticism and address cognitive and affective responses to stress and failure (as per the PCT). As Shafran et al. (2010) note, CBT “is NOT about lowering standards but is about addressing the over-dependence of your self-worth on striving and achievement” (p. 65), therefore the CBT treatment model may be particularly beneficial for perfectionist students.

However, the CBT treatment model has been shown to reduce MPS-F Personal Standards (Lloyd et al., 2015), perhaps due to its reliance on a unidimensional, as opposed to multidimensional conceptualisation of perfectionism, a criticism endorsed by Hewitt et al. (2017). They argue the CBT model neglects the relational issues pertinent to perfectionism and it is therefore insufficient in itself for perfectionists who experience distress and dysfunction. For instance, the SDM identifies how the social disconnection experienced by perfectionists can lead to poorer mental health and well-being, and whilst participants have reported improved interpersonal relationships as a benefit of CBT treatment (Rozenal et al., 2020), interpersonal processes are not prioritised in the cognitive-behavioural model for perfectionism (Shafran et al., 2003).

Hewitt et al. (2017) also argue the removal of problematic behaviour (such as avoidant coping strategies), without providing adaptive coping strategies in its place, will be insufficient for perfectionists who will likely defend against aversive affect. They advocate for the incorporation of techniques and processes in perfectionism interventions that can better address interpersonal issues (as per the SDM), as well as provide and promote adaptive coping strategies and resources that may improve resilience to stressors, which according to the diathesis-stress model and SDM, will protect against distress. Therefore, whilst the CBT treatment model for perfectionism is identified as suitable for addressing perfectionism in students, an additional factor is needed to address its limitations, and more comprehensively treat perfectionism.

Dual-Factor Intervention

The CBT model adopts a primarily clinical perspective, whereas the positive psychology approach would advocate for greater balance in identifying and enhancing existing adaptive strengths of perfectionism. Whilst the removal of negative factors is a critical pathway to creating well-being, the two-factor theory of well-being (Keyes, 2002) highlights the need for interventions to also build on positive factors. A dual-factor intervention could not only decrease negative factors (through the use of CBT) but can also enhance adaptive factors providing and building upon existing adaptive coping strategies and resources (e.g., greater social support). As indicated by the SDM and diathesis-stress models, these resources are needed to improve resilience to stress, and therefore promote greater mental health and well-being. In going beyond the traditional single factor approach to health intervention (Keyes, 2002), which only focuses on the removal or reduction of negative factors, a dual-factor intervention for perfectionism could lead to greater improvements in students' mental health and well-being. An example of such an intervention is that by James and Rimes (2018) who used mindfulness-based cognitive therapy (Teasdale et al., 2000, as cited in James & Rimes,

2018) for perfectionist students. The incorporation of both CBT and mindfulness resulted in changes in unhelpful beliefs about emotions, rumination, and daily impairment caused by perfectionism. Although the intervention was compared against a self-help CBT group (as opposed to a matched CBT intervention), James and Rimes (2018) suggest that a dual-factor intervention shows promise in treating perfectionist students and may potentially result in larger improvements than CBT alone.

In summary, an additional factor to the CBT treatment model would ideally incorporate greater emphasis on relational elements of perfectionism and promote adaptive coping strategies to improve resilience. It would also seek to promote existing adaptive resources and qualities, such as those found in PS. PPIs are arguably a beneficial second factor in their approach to enhancing personal assets and using them more effectively to improve one's well-being and capacity to cope in adversity (Macaskill & Denovan, 2013).

Positive Psychology Interventions

There is a growing body of research identifying the effectiveness of PPIs in promoting well-being and increasing strengths and resources, as opposed to only remove or replace negative factors (Seligman et al., 2005; Sin & Lyubomirsky, 2009; Bolier et al., 2013, Macaskill & Denovan, 2013; Ouweneel et al., 2014). This research was outlined in Chapter 1, as well as identifying specific PPIs that are theoretically relevant for perfectionism in students. A brief reminder is provided below.

Character Strengths Intervention

Seligman et al. (2005) state developing individuals' psychological strengths to foster resilience will enable them to cope better with life stress. Studies have found using character strengths increases happiness (Seligman et al., 2005), increases life satisfaction (Rust et al., 2009), decreases depression (Seligman et al., 2005; Mongrain & Anselmo-Matthews, 2012), enhances better goal progress and well-being (Linley et al.,

2010) and promotes greater confidence, self-esteem, and autonomous learning in students (Macaskill & Denovan, 2013).

Character strengths has been chosen as a PPI for the present study due to its potential for serving psychological needs of autonomy, competence, and relatedness (Linley et al., 2010) as per self-determination theory (Ryan & Deci, 2000), as well as raising an individual's personal resources and therefore their resilience and self-efficacy (Meyers & van Woerkom, 2017). Where the CBT intervention targets upward social comparison behaviours and cognitive bias of double standards, using character strengths daily could provide perfectionist students greater self-efficacy and perhaps less reliance on others' approval. Whilst PS has been associated with greater self-determination and intrinsic motivation, PC is associated with lower levels of self-determination and therefore more avoidant-orientated and extrinsic motivation (Stoeber et al., 2017). Using character strengths could lead to greater approach-oriented motivation in the pursuit of goals, and according to the diathesis-stress model, the promotion of less avoidant styles of coping and better regulation may improve well-being (Dunkley et al., 2016; Burgess & DiBartolo, 2016). In fostering greater personal autonomy, competence, and relatedness through use of character strengths, it could allow for greater intrinsic motivation, less social threat, and greater connectedness, which according to the SDM (Mackinnon et al., 2017), could further promote well-being.

Three Good Things / Gratitude Intervention

Gratitude appears to be related to positive mood and life satisfaction, perhaps due to fostering eudemonic well-being as well as more adaptive social characteristics enabling cooperation with others (Wood et al., 2010). The use of gratitude interventions has a strong evidence base (Sin & Lyubomirsky, 2009) with evidence it leads to stronger effects on positive emotions (Emmons & McCullough, 2003), increased happiness and decreased depressive symptoms (Seligman et al., 2005; Mongrain &

Anselmon-Matthews, 2012). In an academic context, gratitude interventions have had a significant positive effect on student's daily positive emotions (Ouweneel et al., 2014).

As discussed in Chapter 1, the coping hypothesis suggests gratitude is as an adaptive, positive coping strategy, where grateful people are more likely to seek out and use emotional social support, as well as approach-oriented problem solving (Wood et al., 2000, 2007). Whilst the diathesis-stress model suggests maladaptive coping strategies during stressful events perpetuates and exacerbates distress, utilising gratitude as a more adaptive, positive coping strategy could help mitigate against this risk.

Fredrickson (2004) suggests that the process of gratitude could potentially broaden cognitions and behaviours to then build social bonds (e.g., broaden-and-build theory; Fredrickson, 2001) during stressful events. Developing greater adaptive coping and use of social relationships as a resource through gratitude interventions, may subsequently improve well-being and mental health in perfectionists (as per the SDM). Although the CBT intervention addresses the selective attention bias of "Focusing on the Negative, Discounting the Positive", the gratitude intervention could further enhance "Focusing on the Positive" through cognitive broadening .

Self-Compassion Intervention and Positive Reframing

Neff (2003a) described self-compassion as embracing a positive self-appraisal and responding to failure or suffering with self-kindness and balanced awareness of common humanity. Self-compassion has been associated with effective self-regulation (Neff, 2003a; Gilbert & Procter, 2006; Diedrich et al., 2014), including in response to failure (Leary et al., 2007) as well as greater well-being (Berry et al., 2010) and lower depression, anxiety, and "neurotic perfectionism" (Neff, 2003b). Self-compassion interventions can also result in less depression and anxiety, and increased happiness (Shapira & Mongrain, 2010; Neff & Germer). The antithesis to self-compassion may be

self-criticism, which lacks self-kindness (Gilbert, 2000) and leads to lower well-being (Blatt, 1995).

According to the PCT and diathesis-stress model, self-critical tendencies in perfectionists (Frost et al., 1990; Blatt, 1995) may result in greater worry (used to avoid failure or distract against criticism) and distress (through the anticipation and perpetuation of stress). As such, researchers have stressed the importance of reducing criticism in perfectionism (Rice et al., 2016) through encouraging greater self-compassion and through more positive reinterpretation to reduce distress (Dunkley, Mandel et al., 2014; Stoeber & Janssen, 2011). Neff and Germer (2017) note when we are self-critical, we can lose sight of our common humanity, however increased self-compassion can lead to less preoccupation with social comparison or worrying about others' evaluation (Neff & Vonk, 2009). This could enable greater social connection and willingness to seek social support (Dunkley et al., 2016; Rice et al., 2016), which according to the SDM would promote well-being. The CBT treatment model also addresses self-criticism through cognitive reappraisal of failure, but without also providing an adaptive coping strategy, perfectionists may still struggle to *feel* reassured (Lee, 2005), rendering the intervention as insufficient (Hewitt et al., 2017). Incorporating self-compassion and positive reframing may mitigate against potential defences of aversive affect, and further enhance well-being.

Study 3

Study 3 aims to develop, deliver, and evaluate (using mixed methods) a novel, dual-factor perfectionism intervention for UK undergraduates, which incorporates both CBT and positive psychology principles. To the researcher's knowledge, there is no published dual-factor perfectionism intervention of this kind. The CBT treatment model for perfectionism focuses on the modification of counterproductive avoidant behaviours and maladaptive cognitive biases (Shafran et al., 2002; Flett et al., 2007), that could

otherwise lead to distress and mental ill health, according to the PCT and diathesis-stress model. It is therefore an appropriate intervention for perfectionism in students.

However, CBT interventions alone may not be sufficient for addressing perfectionism (Hewitt et al., 2017). Therefore, integrating PPIs through a dual-factor intervention, could not only decrease negative outcomes, but also enhance adaptive factors and well-being. Fostering greater personal autonomy, competence, and relatedness through the character strengths intervention, it could allow for greater intrinsic motivation, less social threat, and greater connectedness (Linley et al., 2010; Meyers & van Woerkom, 2017). Gratitude interventions could provide perfectionists with a more adaptive, positive coping strategy, encouraging greater social support, as well as approach-oriented problem solving (Wood et al., 2007). Finally, self-compassion interventions could also mitigate against self-criticism, and perfectionist students may respond to failure and imperfection with more self-kindness, acceptance and greater social connection in the recognition imperfection is a common human experience.

As discussed in Chapter 2, this study will adopt a mixed methods approach to evaluate the dual-factor intervention, using an experimental design to establish effectiveness, and thematic analysis to gain a richer understanding of the subjective experience of students. This is in keeping with the pluralistic, scientist-practitioner model, which seeks to achieve the most beneficial outcomes for clients by pragmatically drawing upon different methodologies (Corrie & Callahan, 2000). It could provide practitioners with greater insight of students' experience of a perfectionism intervention to better inform treatment options. Finally, in echoing the ethos of the positive psychology approach, the evaluation will not focus exclusively on the reduction of PC and symptoms of mental ill health but will also identify whether psychosocial well-

being and more adaptive components of perfectionism (PS) can increase as a result of the intervention.

Quantitative Aims

The current study seeks to deliver a dual-factor intervention that will address maladaptive aspects of perfectionism (e.g., excessive concern over mistakes, need for approval relevant to PC) through the use of CBT, whilst maintaining and strengthening the more adaptive qualities of PS for students (e.g., excellence-striving and organisation), through the use of PPIs. As such, the study also aims to decrease associated factors of PC (e.g., anxiety symptoms), whilst increasing the associated factors of PS (e.g., the adaptive coping qualities intrinsic to psychosocial well-being). The study also aims to evaluate the effectiveness of this intervention so that it may be used by mental health practitioners in universities. This will be assessed by comparing scores from standardised measures (anxiety, flourishing and perfectionism dimensions and subscales of PS and PC) taken at three time points: pre-intervention, post-intervention, and follow-up (3-months). Scores for the intervention group will also be compared against a wait-list control group to establish confidence in the effect of the intervention.

Hypotheses

Several hypotheses are provided to evaluate the effectiveness of the dual-factor intervention:

Hypothesis 1. Scores for PC and PC subscales at pre-intervention will significantly decrease at post-intervention (Hypothesis 1a), whereas scores for PS and PS subscales at pre-intervention will significantly increase at post-intervention (Hypothesis 1b).

Hypothesis 2. Scores for anxiety at pre-intervention will significantly decrease at post-intervention.

Hypothesis 3. Scores on flourishing at pre-intervention will significantly increase at post-intervention.

Hypothesis 4. These effects will be sustained at follow-up with no significant difference between scores for PS (Hypothesis 4a), PC (Hypothesis 4b), anxiety (Hypothesis 4c) and flourishing (Hypothesis 4d) at post-intervention and at follow-up (3-months).

Hypothesis 5. There will be no significant difference in scores between both groups at pre-intervention (Hypothesis 5a), and there will be no significant difference in scores between pre-intervention and post-intervention for the wait-list control group (Hypothesis 5b).

Qualitative Aims

An additional aim of this study is to evaluate participants' subjective experiences of the intervention. Participants feedback of the intervention will be captured through their open-text responses and then analysed using reflexive TA (Braun & Clarke, 2006). By including a qualitative method for evaluation of the intervention, this study seeks to gain a richer understanding of students' personal experiences of the perfectionism intervention, giving researchers and therapists further insight into the treatment of perfectionism.

Method

Participants

Eligibility Criteria. Participants were current undergraduate students within an HEI, aged over 18 years old to meet inclusion criteria. Perfectionism levels were not considered in the sampling strategy, as it was deemed to be unethical to exclude students who may not reach a "cut off", but who otherwise wanted to access the intervention for support with their self-identified perfectionism. Pre-selecting participants may also have introduced bias to the results. As per the recruitment

strategy, any student who otherwise met the eligibility criteria that wanted to seek support for their perfectionism via the pilot study were welcome to take part, regardless of initial perfectionism level.

However, participants were excluded if they had a diagnosis of a MHC that warranted more intensive care (e.g., psychosis, eating disorder, substance dependence). Should the intervention have an adverse effect for these participants, there would not be capacity to manage the risks associated with these specific MHCs and it would therefore be unethical to include them. Furthermore, participants who were currently engaged in ongoing psychological treatment or counselling were excluded due to unknown impact on their existing therapy, and vice versa, in an attempt to limit potential extraneous variability on the intervention and uphold ethical standards.

Sample Size. An *a priori* power analysis was conducted using G*Power (Faul et al., 2007). It was estimated that for the main effect of group (intervention group versus wait-list control), with the same (moderately correlated) three measures tested at five time points, based on a medium effect size (f) of 0.25, a total sample of $n = 58$ participants (29 in each group) was required to obtain the desired power level of 0.8 (actual power = 0.81).

Recruitment Procedure. Participants who completed the survey outlined in Chapter 3 and who opted to provide their e-mail address to express interest in taking part in an intervention as part of a future study ($n = 432$) were contacted inviting them to take part (see Appendix J with template e-mail), along with the advertisement attached (see Appendix K). Those that replied were sent the information sheet, consent form and the Baseline Measures online Qualtrics survey web-link (see Appendix L). Other participants were recruited using the same advertisement delivered in poster, leaflet, and digital formats. Professional student support services (and associated staff members) from SHU and University of Sheffield were also contacted (see Appendix M

with template e-mail) with the advertisement, information sheet and survey web-link to firstly, make them aware of the intervention should they receive misdirected queries from students, and secondly, with the intention that they could further advertise the study to students they may feel appropriate.

Participants were also invited to an optional information evening session to have the opportunity to learn more about the study and ask questions. Here, participants were given paper copies of the baseline measures, (including information sheet and consent form), as well as a digital Quick Response (QR) code to access the same information online. They had 48 hours in which to complete these to register an interest in the survey.

Following the change in design (see below), a control group was obtained through recruitment of psychology undergraduate students via the SHU's Psychological Research Participant Scheme, SONA. Students who opt to take part in the study are given credits to enable them to recruit their own participants for their final year dissertation project. To encourage recruitment for both T2 and T3, students were told they would receive 15 credits for their time for the first survey, and an additional 25 credits for taking part in a shorter, follow up four weeks later. It was also advertised that only those who take part in the survey at T2 would be eligible to take part again at T3.

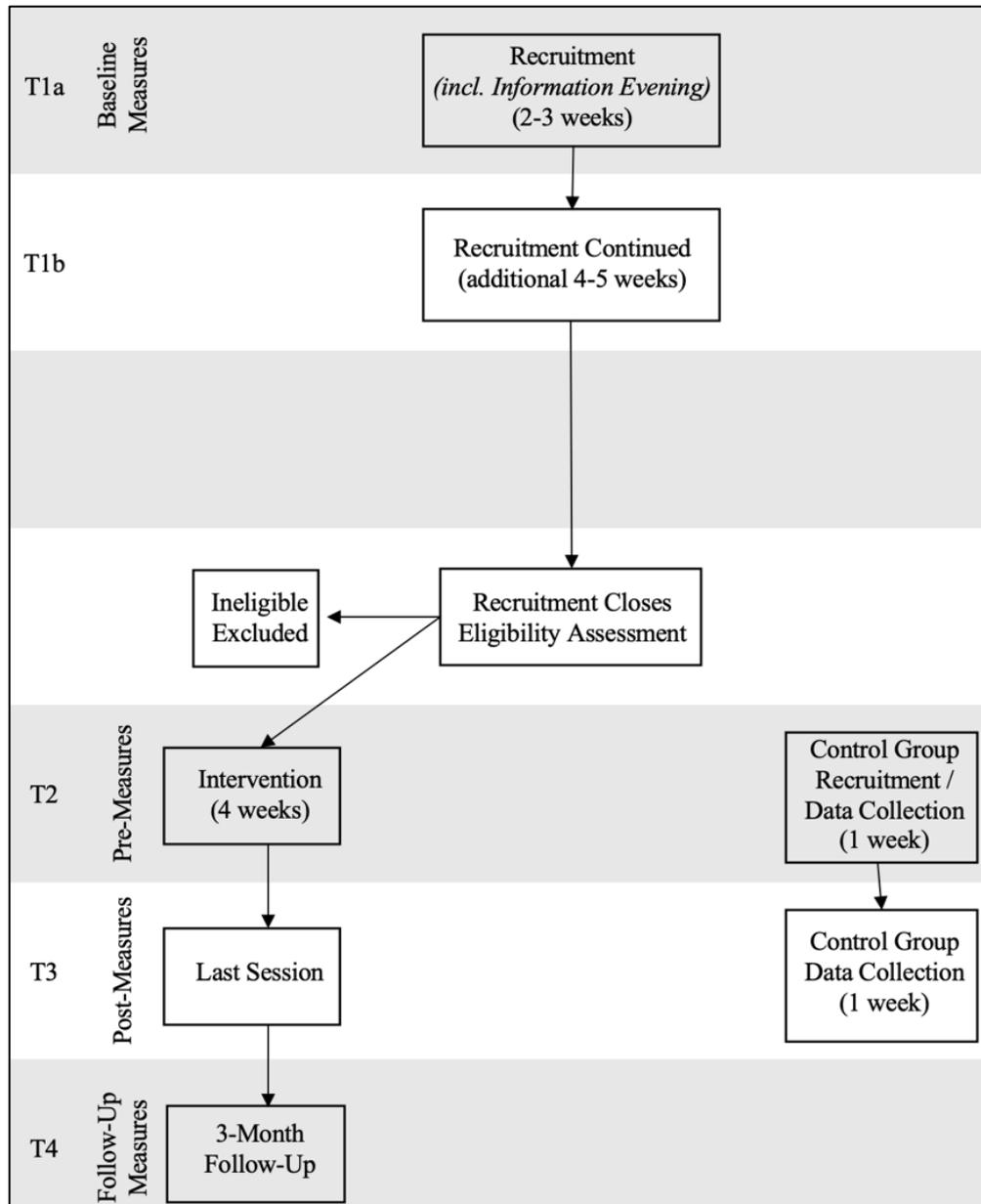
Setting. The intervention took place in a classroom at SHU from November 2019 to December 2019. SHU is a post-92 public research university in Sheffield, South Yorkshire, England and one of the UK's most diverse universities. It is also the 11th largest university in the UK out of 169. The university has close links with the other university in the city, University of Sheffield, a red brick university and member of the Russell group, where advertisement for participant recruitment also took place.

Design

This study was intended to be an RCT of a group-based intervention for perfectionism utilising a mixed-factorial design measuring changes in perfectionism, anxiety and flourishing at different time points comparing the primary intervention group against a wait-list control group. Timescales for recruitment, interventions and measurement were intended to coincide with the 12-week long academic semester (see Appendix N). However, after initial recruitment (2-3 weeks) only six participants had been recruited, therefore the sample was too small to sufficiently power the study with its intended design (see above for *Sample Size*). As such, the design changed (see Figure 10) where recruitment was held open for an extra 4-5 weeks to enable a larger sample size to be recruited. The intervention was subsequently held at what would have previously been “T3”, the 7th week of the academic semester, and instead of a wait-list control group, a control group with no intervention treatment was required to fill out the same measures as the intervention group, but with amendments made regarding any information pertaining to an intervention.

Figure 10

Amended Dates and Timescales for Participant Recruitment and Delivery of Measurements and Interventions



Intervention Protocol

The intervention for the present study utilised a CBT based perfectionism treatment model based upon the self-help book for “Overcoming Perfectionism” (Shafran et al., 2010) as outlined by (Egan, van Noort, Chee, Kane, et al., 2014). It was also informed by a practitioner’s guide written by Egan, Wade, Shafran and Antony (2014). The treatment model typically uses eight modules that include psychoeducation and exercises often used in CBT but with specific focus on the maintaining mechanisms through to reinforce perfectionism. The eight modules are as follows: 1) Understanding perfectionism, 2) Your perfectionism cycle, 3) Surveys and experiments, 4) New ways of thinking, 5) Dealing with perfectionistic behaviours/Useful skills for managing unhelpful perfectionism, 6) Self-criticism or self-compassion?, 7) Self Worth/Re-examining the way we define our self-worth, and 8) Maintaining positive change/Staying well: managing unhelpful perfectionism in the long-term. These modules were condensed for the present intervention to suit delivery over four weeks.

In addition, several PPIs were integrated into the intervention protocol; an exercise for using character strengths (based on Seligman et al., 2005), the “Three Good Things” gratitude exercise (based on Seligman et al., 2005), a self-compassion exercise (based on Shapira & Mongrain, 2010) and use of positive-reframing. Each week participants attended a classroom session for 1-2 hours, along with the principal researcher, an experienced BACP accredited counsellor, who delivered the intervention via PowerPoint Presentations and paper handouts for exercises and homework activities (see Appendices O.1 – O.14). Protocol was as follows:

First Session - Week One. The first session began with introductions, an overview of the intervention and contact details for the researchers. Participants were guided through “ground rules” of respect and confidentiality with each other. Participants were asked to complete the pre-measures questionnaire (for timepoint T2,

as below). A slide showing how the intervention was intended to help was included, as a precursor to the cost-benefit analysis and was similar to the “Introduction” chapter in “Overcoming Perfectionism” by Shafran et al. (2010). Next, participants were invited to consider different words that they associate with perfectionism and categorise into “Good” and “Bad”, intending to help participants contextualise their perfectionism and consider situations where some aspects could be beneficial, not exclusively harmful. This multidimensional definition compliments the dual-factor intervention, and contrasts with Shafran et al. (2010) whose definition regards perfectionism as “clinical”. However, following this the maintenance cycle (Shafran et al., 2010, p. 57) was still provided to help participants understand the cycle of maintaining maladaptive perfectionism (see Appendix O.1). Vignettes describing perfectionism maintenance cycles for fictitious people were provided (Shafran et al., 2010, pp. 68-71), then participants were given a blank copy of a maintenance cycle and encouraged to annotate with their own thoughts or behaviours (see Appendix O.2). After a brief break, “Myths about Perfectionism” were discussed (Shafran et al., 2010, pp. 101-112), then a section on “Preparing for Change”, where participants were given another handout (see Appendix O.3) to create their own Cost-Benefit analysis (Shafran et al., 2010, p. 79) to help prepare for difficulties such as avoidance. Participants were then given an overview of positive psychology to explain further how the intervention was designed to identify and work with their strengths. Character strengths were then introduced, and participants were encouraged to carry out an exercise for homework (see Appendix O.4) based on the same character strengths exercise by Seligman et al. (2005). The session ended with a summary and reminder to carry out the positive psychology character strengths intervention.

Second Session – Week Two. This session primarily focused on understanding, managing, and challenging perfectionistic thoughts, such as cognitive biases. The

session began with a content overview of the previous and present week. Alongside their own perfectionism maintenance cycles, “Double Standards” and “Social Comparisons” were introduced, with the activity of “Surveying” (Shafran et al., 2010, pp. 113–126) suggested. Further, the Character Strengths exercise from the previous week was reviewed, encouraging participants to focus more on their unique strengths, as opposed to focusing on social comparisons and double standards. Further guidance on utilising strengths was given. Next, “All or Nothing/Dichotomous Thinking” was introduced, and then an exercise using “Continua Ratings” (Shafran et al., 2010, p. 147) was provided (see Appendix O.5). This led onto Orthogonal Continua with anonymised vignettes of “successful celebrities” developed by the principal researcher to further illustrate that through “trial and error” and occasionally failing, one can succeed. Next, “Focusing on the Negative, Discounting the Positive” was discussed with a brief video to help illustrate the thinking pattern. Participants are given a “Broadening Attention” handout (see Appendix O.6) similar to the example by Shafran et al. (2010, pp. 164-168) to annotate, with further examples of how thinking can be biased and how to react more objectively to one’s performance. The next PPI was given (see Appendix O.7), the Three Good Things exercise, again, similar to Seligman et al. (2005), to help participants further broaden their attention to include more positive thoughts and assessments of performance. Finally, “Inflexible Standards or Rigid Rules” were described, and an additional “Flexible Guidelines” handout (see Appendix O.8) provided (drawing on Shafran et al., 2010, pp. 151-153) and an “Imperfect Experiment” handout (see Appendix O.9) was worked through, similar to the behavioural experiments by Shafran et al. (2010, pp. 153-160).

Third Session – Week Three. This session primarily focused on understanding, managing, and challenging perfectionistic behaviours. The session began with a content overview of the previous week and a review of the Three Good Things experiment, with

suggestions of free phone-based apps participants could use to log further gratitude-based thoughts in future. Content for the session was briefly introduced, and “Avoidance” (Shafran et al., 2010, pp. 34-3; pp. 132-133) was first discussed alongside their personal perfectionism cycle, including an explanation of avoidance, worry and core-beliefs. An Avoidance-Hierarchy and Gradual Exposure handout (see Appendix O.10) was given (adapted from Shafran et al., 2010, pp. 134-138), and participants encouraged to work through it, with suggestions to carry out a gradual exposure experiment over the week. Next, procrastination was discussed drawing on elements of the worksheets provided by Shafran et al. (2010, pp. 185-214) and additional material to illustrate examples, including two handouts for managing procrastination and identifying helpful mottos/statements (see Appendix O.11 and O.12 respectively). Self-compassion was then introduced, along with a handout (see Appendix O.13) for participants to complete over the week containing a similar intervention to that by Shapira and Mongrain (2010). Finally, other counter-productive behaviours were briefly discussed, and further encouragement given to take part in the self-compassion exercise over the week.

Final Session – Week Four. This session primarily focused on understanding and managing self-criticism and self-worth. Participants were given a copy of the post-treatment measures (timepoint T3, as below) to complete later during the session. The session then began with a content overview of the previous and present week. Self-criticism was introduced (see Appendix O.14), similar to Shafran et al. (2010, pp. 221-235), identifying the internal critic/bully and using the adapted Coach analogy from Pollack and Otto (2008) as cited in Shafran et al. (2010, p. 223). This was followed by a review of the self-compassion exercise and a discussion surrounding obstacles for this, expanding upon the exercise to help aid self-compassion further. Next, addressing self-criticism and failure with positive reframing and humour were discussed. Finally, a

discussion followed regarding maintenance and exercises to retry in their own time, as well as other well-being support services they can access.

Outcomes and Measures

Participants completed several self-report measures at four time points: initial baseline assessment (T1), pre-treatment (T2), post-treatment (T3) and follow-up (T4).

Figure 11 shows the measures, information, or questions that were given to each group, at each time point.

Figure 11

Timepoints for Data Collection or Recruitment Information for Intervention and Control Groups

	Intervention Group				Control Group			
	T1	T2	T3	T4	T1	T2	T3	T4
Enrolment								
Information Sheet and Consent Form*	✓					✓	✓	
Anonymised Code Creation	✓					✓		
Participant Contact Details	✓							
Debrief and Support Services Contact	✓	✓	✓	✓		✓	✓	
Intervention		◆→◆						
Brief Information Sheet Reminder*		✓	✓	✓				
Assessments/Measures								
Anonymised Code Check		✓	✓	✓			✓	
Demographic Questions	✓					✓		
Perfectionism Inventory	✓	✓	✓	✓		✓	✓	
Anxiety – GAD-7	✓	✓	✓	✓		✓	✓	
Flourishing Scale	✓	✓	✓	✓		✓	✓	
Qualitative Feedback Question			✓	✓				

Note. *Different version used for intervention group versus control group.

Demographic Information, Unique Anonymised Code and Contact

Information. All participants were asked to create their unique anonymised code in order to track a participant's results whilst maintaining anonymity. Participants were asked to provide the last three letters of their mother's name (e.g., "ARY" for Mary), the date in the month they were born (e.g., "28" for 28/07/1990) and the first three letters of the town or city they were born in (e.g., "DON" for Doncaster). If intervention participants received the T1 measures in paper format, this code was requested in both their consent form and separate measures paperwork. If participants completed T1 measures online, this was only requested once after the information sheet and consent webpage. Participants were also asked to provide their e-mail address in order to be contacted as to whether or not they had been selected to take part in the intervention. All subsequent measures (T2 - T4) requested participants provide their unique anonymised code, and no further identifying information.

Other demographic questions included age (with a reminder that the study was only available to over 18 year olds), year of study (with a reminder that the study was only available to undergraduates), gender, course they were studying, which university they were studying at, whether they were a Home or International student, and ethnicity. Participants were also asked whether or not they had a mental health diagnosis, and if so, if they were receiving any treatments for these and what these were. Responses to these were also screened for eligibility to take part in the study. Finally, participants were asked if they had a preferred date for the intervention and for their e-mail address in order to contact them with further information about the study (included in the paper consent form, or part of the survey web-link).

Perfectionism. Similar to Study 1 and 2, the PI (Hill et al., 2004; Hill et al., 2010) was chosen to measure participants' multidimensional perfectionism due to several advantages of the measure (as identified in Chapter 1). It is able to efficiently

capture the range of the strengths from both the MPS-HF and MPS-F and holds good psychometric properties, including in the present study; Cronbach's alpha, averaged across the four points, for the composite PI was $\alpha = .93$. The PI also enables investigation at both the higher order level of PS and PC, as well as a more refined assessment at an individual component level of the eight subscales. This provides researchers and mental health practitioners greater fidelity in accurately identifying the relevant, specific factors to be targeted for effective case-formulation in therapeutic interventions (Nezu et al., 2004; Haynes et al., 2011).

Many researchers consider perfectionism a trait; a stable, enduring individual difference with high cross-situational consistency, and "clinical lore" would presume individual's personalities as unchangeable, and therefore untreatable (Fleeson, 2012, p. 44). However, evidence for personality change is accumulating, even in a relatively short amount of time, for instance 4-8 weeks (Roberts et al., 2017). There are two competing perspectives for why personality traits may change following therapy. First, the state-artifact position (Roberts et al., 2017) suggests changes in personality trait measures can be attributed to state-level variance in personality trait measures, suggesting the trait measure is imperfect. Second, the cause-correction hypothesis (Roberts et al., 2017) suggests any changes in psychological outcomes (such as anxiety) are a result of changes in the trait component caused by the therapeutic intervention, identified by differentiating lasting changes in state and trait components through mediation analyses. A meta-analysis by Roberts et al. (2017) using experimental clinical intervention studies that performed follow-ups consistently supported the cause-correction hypothesis, inferring therapeutic intervention can lead to lasting personality trait change.

In addition, a meta-analysis of perfectionism interventions by Suh et al. (2019) identified that not only are therapeutic interventions for perfectionists effective in

reducing depression and anxiety, but also perfectionism itself, with many studies assessing perfectionism with trait-measures such as the MPS-HF, MPS-F and APS-R. Suh et al. (2019, p. 480) conclude that “contrary to conceptualizations that configures perfectionism as a stable personality characteristic, perfectionism levels changed via appropriate interventions”. Therefore, not only could change in anxiety and psychosocial well-being occur as a result of change in the trait component (as per the cause-correction hypothesis; Soskin et al., 2012), but it is also considered appropriate to capture changes in perfectionism using a trait measure such as the PI.

It is important to note that measures that assess perfectionistic cognitions, such as the PCI (Flett et al., 1998) or the Clinical Perfectionism Questionnaire (Fairburn et al., 2003), were also used by studies in the meta-analysis (Suh et al., 2019) to reflect change in the cognitive variables that maintain perfectionism. However, incorporating additional scales into surveys at numerous time points could be too onerous for participants (as discussed in Chapter 2) and result in refusal to participate or a tendency to respond to items carelessly or in a random fashion due to boredom or fatigue (Burisch, 1984; Krosnick, 1999; Oppenheimer et al., 2009). Given the reluctance of perfectionists to seek support (Hewitt et al., 2017), securing perfectionist participants for the duration of the intervention may be challenging, hence every effort was made to ensure the intervention was accessible and not too onerous for participants, including choosing measures that were most economical. Therefore, instead of including an additional scale to measure perfectionistic cognitions, the PI was chosen due to its ability to comprehensively capture the strengths of both the MPS-HF and MPS-F, as well as its inclusion of the Rumination subscale. Whilst measuring a personality construct, this PI subscale can give insight into persistent cognitions. Its use enables a more comprehensive, yet economical collection of data (perhaps inhibiting reluctance to

participate in perfectionist students) whilst also enabling more nuanced assessment at both dimension and subscale levels.

Anxiety. As with Study 1, the GAD-7 (Spitzer et al., 2006) was chosen to measure participants' anxiety due to its ease for self-reporting symptoms (as reflected by the DSM-IV) with only 7-items, making it efficient for the intervention. The Cronbach's alpha, averaged across the four time points, was $\alpha = .81$, demonstrating good internal consistency.

Psychosocial Well-being. The Flourishing scale developed by Diener et al. (2010) was again used to measure subjective psychosocial well-being, as seen in Study 1 and 2 (Chapter 3). The scale is short, easily accessible and demonstrated good reliability within the present study with a Cronbach's alpha averaged across all four time points of $\alpha = .87$.

Qualitative Feedback

At Time 3 and 4 participants in the intervention group were also asked an open-ended question regarding their experiences of the intervention; *“If you have any feedback regarding the intervention you'd like to provide (what did you find helpful/enjoy? what did you not find helpful/enjoy?) - please provide this here: (This will be kept anonymous)”*. To help focus the directive of the analysis, the research question *“How do students experience a dual-factor intervention for perfectionism?”* was used.

Data Analysis

Raw quantitative data preparation, descriptive statistics (including participants demographic characteristics) and inferential analysis, were analysed using Microsoft Excel and SPSS (Version 24).

Braun and Clarke's (2006) six-phase framework for thematic analysis was utilised to evaluate participants open-text feedback responses, using an inductive,

semantic, and critical realist approach (as outlined in Chapter 2). Due to the small size of the data set, and the importance of openness, interpretative possibility, and quality of the analysis (Braun & Clarke, 2021), computer-assisted qualitative data analysis software (such as NVivo) was not used to analyse the data, as such software is predominantly beneficial for the time-efficient management of large datasets, as opposed to any support in regards data interpretation (Dollah et al., 2017). Instead, Microsoft Excel was used to code and thematically analyse the data, similar to the process outlined by Bree and Gallagher (2016). For the first phase responses from the survey were migrated into a Microsoft Excel spreadsheet generating a single column consisting of all participants responses, with any potentially personally identifiable information redacted, and a second column containing participants' gender, age, and the time point of feedback (i.e., post-intervention or follow-up; 3-months). The responses were read closely, several times to aid familiarity and immersion in the data. Following this, an additional column was created adjacent to participants responses, and codes were generated and applied to the data, making note of these in the adjacent column (phase two).

For the next phase, codes were then analysed, and several thematic areas were collated using an inductive approach, listing the thematic areas in the top row of the spreadsheet, subsequently creating multiple columns and using an "x" in each cell to indicate the thematic area(s) each code fell into. If a code fell under two or more thematic areas, it received more than one cell with an "x" marker in the row. In doing so, the "sort" function within Microsoft Excel was used to enable sorting by thematic area (see Appendix P for an example of the coding process using Excel). This sorting and collation approach brought together all the key points on each theme, enabling themes to be reviewed and re-organised to ensure these were relevant and aligned to both the codes and the data set as a whole (phase four). Each revision and reorganisation

process of themes was saved into a new work sheet, to enable validation of the data analysis by an independent party (a colleague of the researcher and the researcher's Director of Studies, both experienced in qualitative research methodology). The final two phases involved defining, analysing, and writing up the themes, along with relevant quotations from participants to help articulate and evidence the theme it pertained to.

Ethical Considerations

The study was approved by SHU Research Ethics Committee (Converis Number: ER16006453, see Appendix Q). Copies of the draft consent form, recruitment documents, information sheet and proposed protocol were submitted as part of the ethics review process. Whilst originally it was considered more ethical to include a wait-list control group to prevent new inequalities through completely forgoing treatment for the control group (Neuman, 2014), due to a lack of uptake, a control group with no intervention was utilised instead. Participants in the control group were reimbursed with credits for course requirements through the use of SHU's Psychological Research Participant Scheme, SONA. Due to the change in design, the study was resubmitted to the ethics committee for review and approval was once again granted.

Anonymity and Confidentiality. Participants were requested to create a unique anonymised code to connect their responses to the measures at four different time points, whilst maintaining participant anonymity.

Ethical Recruitment, Selection Process and Briefing. Apart from contacting participants that had already supplied their e-mail address to express an interest in the workshop as part of the survey in Studies 1 and 2 in Chapter 3, participant recruitment was almost entirely by self-selection through adverts across campus. Upon completing T1 measures, participants were to be rejected if they were deemed ineligible as per the inclusion and exclusion criteria. Participants were made aware of this process in the

information sheet, which contained a full briefing to participants as to the nature, format, and purpose of the intervention, however, mild deception was present in-so-far-as participants were not explicitly told of the nature of a treatment group and wait-list control group, as well as the reasons behind rejection. Participants were also not explicitly told the purpose behind the measures taken in an attempt to minimise response bias.

Consent and Withdrawal. Full consent was obtained in conjunction with the information sheet. Failure to provide full consent necessitated rejection from the study.

Data Management and Dissemination Plans. Participants were made aware of data storage, access to their data and potential plans for dissemination of the anonymised results. A full GDPR statement was provided on the information sheet.

Risk Assessments, Health, and Safety. The intervention took place on a university campus with security available at all hours. The intervention was carried out by the principal researcher who is an experienced and BACP accredited counsellor/psychotherapist, and therefore competent in assessing and managing risk in therapy.

Results

Participant Flow, Demographic Information, and Clinical Characteristics

Figure 12 outlines the participant flow in the study. At first, only five individuals expressed an interest in the study by completing the baseline measures for T1a by the recruitment close date. As this was too few, recruitment re-opened and a further 11 participants expressed an interest in the study. All 16 participants were screened for eligibility and all, but one met the inclusion criteria ($n = 1$ was excluded due to not fully completing the questionnaire and being a postgraduate). The 15 eligible students were contacted with further information about the intervention, including date, time, and location. At the first session, nine participants attended and therefore completed the pre-

intervention measures at T2, but seven others dropped out either due to no longer being available during the date/time given ($n = 4$) or no reason given at all ($n = 3$). Following the first session, one participant dropped out due to a change in circumstances, and therefore did not complete measures at T3 or T4, another participant was unable to attend the last session, and therefore did not complete the assessment at T3. Only $n = 5$ participants returned the follow-up questionnaire at T4. Participants for the control group ($n = 29$) were recruited through SHU's Psychological Research Participant Scheme (SONA) for undergraduate psychology students. All completing the "pre-intervention" measures at T2, and 25 completed the "post-intervention" measures at T3, with $n = 4$ dropping out for reasons unknown. Table 15 displays demographic data and clinical characteristics for the samples.

Figure 12

Flowchart of Participants

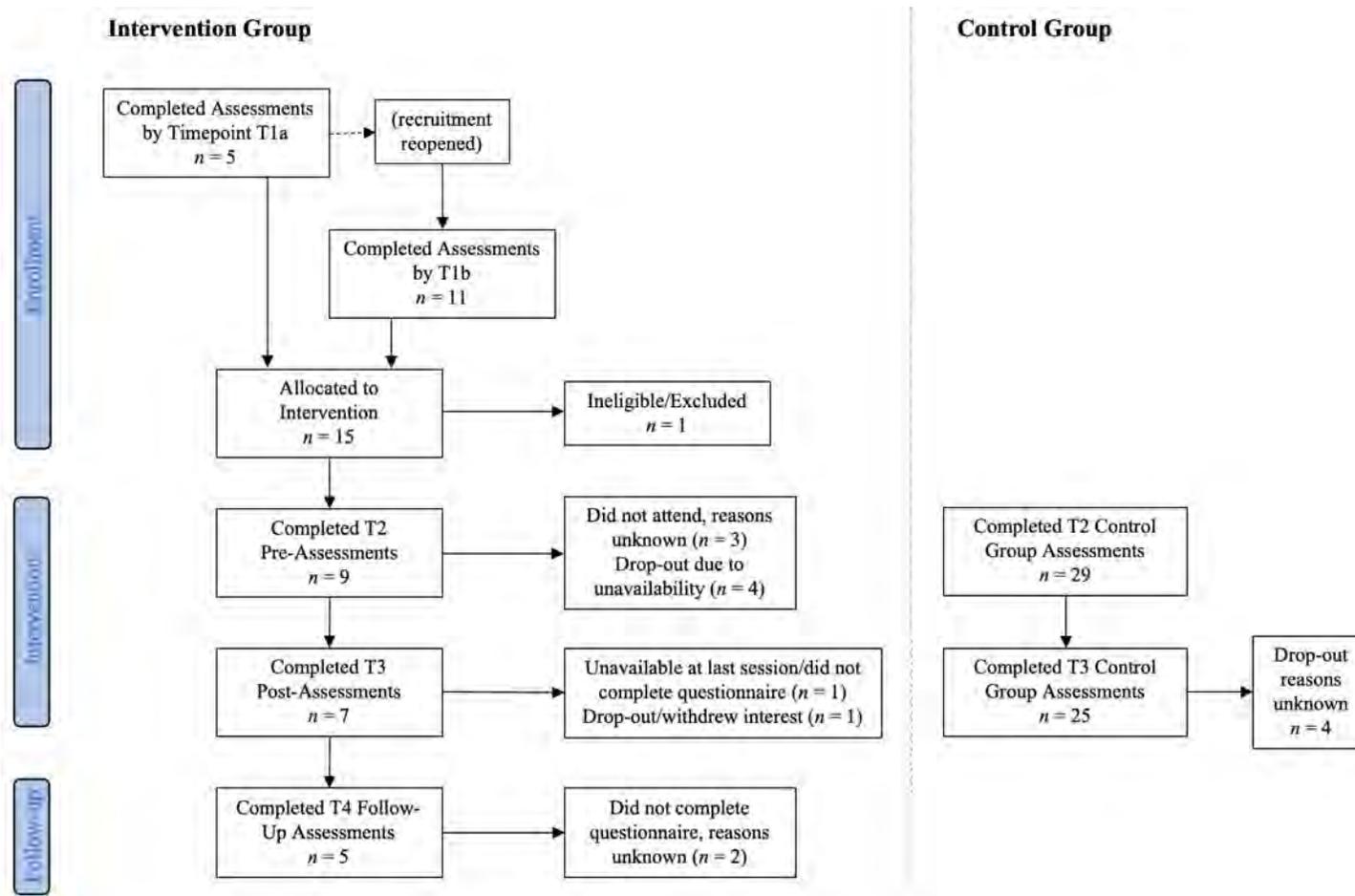


Table 15*Descriptive Statistics for Participant Demographic Characteristics*

	Intervention Group				Control Group	
	T1 (<i>n</i> = 16)	T2 (<i>n</i> = 9)	T3 (<i>n</i> = 7)	T4 (<i>n</i> = 5)	T2 (<i>n</i> = 29)	T3 (<i>n</i> = 25)
Gender, <i>n</i> (%)						
Male	2 (12.5%)	2 (22.22%)	1 (14.89%)	0 (0%)	2 (6.90%)	1 (4%)
Female	14 (87.5%)	7 (77.78%)	6 (85.71%)	5 (100%)	27 (93.10%)	24 (96%)
Age, <i>M</i> (<i>SD</i>)	24.50 (8.38)	22.89 (1.06)	22.43 (.90)	23.40 (1.50)	18.59 (.91)	18.48 (.65)
Home or Overseas Status, <i>n</i> (%)						
Home	13 (81%)	7 (%)	6 (%)	4 (%)	28 (%)	25 (100%)
International	3 (19%)	2 (%)	1 (%)	1 (%)	1 (%)	0 (%)
Ethnicity, <i>n</i> (%)						
White, British	12 (75%)	7 (78%)	6 (86%)	4 (80%)	26 (90%)	23 (92%)
White and Asian	1 (6%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Any other White background	1 (6%)	1 (11%)	0 (0%)	0 (0%)	2 (7%)	1 (4%)
Any other Asian background	1 (6%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Any other multiple ethnic background	1 (6%)	1 (11%)	1 (14%)	1 (20%)	0 (0%)	0 (0%)
Prefer not to say	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (3%)	1 (4%)
Mental Health Diagnosis, <i>n</i> (%)						
Yes	10 (63%)	7 (78%)	6 (86%)	4 (80%)	7 (24%)	7 (28%)
No	5 (31%)	2 (22%)	1 (14%)	1 (20%)	22 (76%)	18 (72%)
Prefer not to say	1 (6%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Anxiety Diagnosis, <i>n</i> (%)	8 (50%)	5 (56%)	4 (57%)	3 (60%)	4 (14%)	4 (16%)
University, <i>n</i> (%)						
University of Sheffield	10 (63%)	7 (78%)	7 (86%)	3 (60%)	0 (0%)	0 (0%)
Sheffield Hallam University	6 (37%)	2 (11%)	1 (14%)	2 (40%)	29 (100%)	25 (100%)

Quantitative Results - Raw Data Preparation and Descriptive Statistics

Several issues with the collected data, including the unexpected small sample size of the intervention group, prevented use of parametric inferential statistical analyses such as MANOVA for Time 2 and Time 3 data. A summary of these issues and subsequent rationale for analyses used follows. Firstly, given missing data occurred primarily from drop-outs, checks for the nature of missing data across the entire data set were made as non-random omissions could affect multivariate analysis (Tabachnick & Fidell, 2007). Little's MCAR test was non-significant ($X^2 = 3.11, df = 4, p = .539$), therefore it was inferred that missing data was completely at random.

Next, upon checking grouped data at Time 2 and Time 3 for outliers, there was an extreme outlier in the control group for Flourishing data at Time 2. Checking for skewness and kurtosis, visually in box-plots, as well as converting skewness and kurtosis scores to z -scores, the extreme outlier in the Flourishing, Control Group, Time 2 condition had a skewness value of 1.43, therefore a significantly positive skew with a z -score = 3.29, $p < .001$. In the same group (Flourishing, Control Group) but at Time 3, the skewness value was 1.11, therefore a significantly positive skew with a z -score = 2.38, $p < .05$. One participant appeared to obtain a large Flourishing score, identifying the outlier. Control group Flourishing scores had significant Shapiro-Wilk scores at both Time 2; $W(25) = .90, p = 0.02$, and at Time 3; $W(25) = .88, p = .006$. All other groups had non-significant Shapiro-Wilk scores ($p > .05$), suggesting the distributions of these samples are not significantly different from a normal distribution.

In an attempt to clean the data, both outliers were replaced with one-unit above the next highest score in the data set (Field, 2009), however, groups were still skewed and Flourishing-Control Group-Time 3 still held a significant Shapiro-Wilk score; $W(25) = .88, p = .008$. Transformations were applied (Tabachnick & Fidell, 2007), but neither Log, Square root or Reciprocal transformation remedied the skewness, or if it

did, other groups were negatively impacted. Therefore, the assumptions of normality for MANOVA were violated and this test could not be carried out.

Bootstrapping was considered, but this is currently not feasible using SPSS version 24. CHANGE score analyses (difference between posttest and pretest as outcome; van Breukelen, 2013) and Analysis of Covariance (ANCOVA) analyses were also considered, with bootstrapping for both. However, when carrying out a *t* test for the “pre-test scores” or, scores at Time 2, these significantly differed between Control and Intervention groups for GAD-7, with a mean difference of -.87, BCa 95% CI [-1.26, -.47], $t(25.62) = -4.20, p > .001, d = 1.35$. Scores at Time 2 also significantly differed between groups for PS, with a mean difference of -1.76, BCa 95% CI [-2.73, -.87], $t(36) = -2.87, p = .007, d = 1.18$. Results from CHANGE and ANCOVA analyses with bootstrapping differed (see Appendix R), with the former analysis (which assumes groups will show equal change if neither group is treated) suggesting significant differences between both groups for each measure, but the latter (which assumes absence of a true pretest group difference) suggesting a non-significant effect of Time on PC score after controlling for pre-test scores. Therefore, along with the significant differences at “pre-test”, it would suggest Lord’s Paradox has occurred, and therefore there is no guarantee either method for analysis would be unbiased for pre-existing groups (van Breukelen, 2013).

Therefore, several non-parametric Mann-Whitney tests were conducted with the original, raw data set (no transformations or replacements), to compare scores at Time 2 and Time 3 for Control Group and Intervention Group, with no further cleaning of data undertaken (see Table 16). The same Wilcoxon signed-rank non-parametric tests were carried out to compare any changes between Time 3 and Time 4 for the Intervention Group. The data at Time 4 was also of a small sample size and did not meet parametric assumptions.

Table 16*Descriptive Statistics for Study Variables across All Time Points*

Variable	Intervention Group, <i>M (SD)</i>				Control Group, <i>M (SD)</i>	
	T1 (<i>n</i> = 15)	T2 (<i>n</i> = 9)	T3 (<i>n</i> = 7)	T4 (<i>n</i> = 5)	T2 (<i>n</i> = 29)	T3 (<i>n</i> = 25)
Generalised Anxiety Disorder – 7 items	3.28 (0.45)	3.40 (0.43)	2.35 (0.63)	3.17 (0.73)	2.53 (0.80)	2.73 (0.70)
Flourishing	24.47 (7.38)	25.44 (8.20)	21.43 (7.76)	30.60 (11.39)	24.41 (7.74)	26.48 (8.23)
Perfectionistic Concerns	16.38 (2.21)	15.75 (1.88)	13.31 (3.61)	15.04 (3.30)	14.26 (2.74)	14.68 (2.89)
Perfectionistic Strivings	15.40 (1.86)	15.36 (1.27)	13.59 (2.19)	14.78 (2.40)	13.60 (1.70)	13.91 (1.54)
Perfectionism Inventory Composite	31.78 (3.60)	31.10 (2.74)	26.91 (5.50)	29.82 (5.66)	27.86 (3.48)	28.59 (3.26)
Concern Over Mistakes	4.20 (0.77)	4.22 (0.57)	3.25 (0.96)	3.75 (0.79)	3.26 (0.96)	3.49 (1.01)
High Standards for Others	3.08 (0.89)	2.56 (0.69)	2.14 (0.97)	3.11 (0.91)	2.52 (0.95)	2.81 (0.90)
Need for Approval	4.33 (0.89)	4.49 (0.62)	3.70 (1.07)	4.03 (0.66)	4.03 (0.83)	4.08 (0.75)
Organisation	3.49 (0.83)	3.65 (0.54)	3.41 (0.66)	3.78 (0.55)	3.56 (0.66)	3.64 (0.73)
Perceived Parental Pressure	3.19 (1.18)	2.61 (1.22)	2.57 (1.18)	2.95 (1.28)	3.16 (1.20)	3.27 (1.18)
Planfulness	4.36 (0.70)	4.56 (0.54)	4.32 (0.42)	4.03 (0.71)	3.90 (0.46)	3.80 (0.46)
Rumination	4.66 (0.34)	4.43 (0.40)	3.80 (0.78)	4.31 (0.68)	3.81 (0.80)	3.85 (0.90)
Striving for Excellence	4.47 (0.53)	4.59 (0.49)	3.71 (0.85)	3.90 (0.94)	3.61 (0.68)	3.66 (0.54)

Table 16. (Continued)

Variable	Intervention Group, <i>Mdn (IQR)</i>				Control Group, <i>Mdn (IQR)</i>	
	T1 (<i>n</i> = 15)	T2 (<i>n</i> = 9)	T3 (<i>n</i> = 7)	T4 (<i>n</i> = 5)	T2 (<i>n</i> = 29)	T3 (<i>n</i> = 25)
Generalised Anxiety Disorder – 7 items	3.29 (0.71)	3.29 (0.71)	2.29 (1.14)	3.29 (1.43)	2.43 (1.21)	2.86 (0.86)
Flourishing	25.00 (8.00)	27.00 (14.00)	22.00 (9.00)	30.00 (20.50)	22.00 (9.50)	24.00 (13.5)
Perfectionistic Concerns	16.61 (2.54)	16.64 (2.92)	15.00 (7.32)	15.21 (5.19)	14.30 (4.09)	14.98 (3.87)
Perfectionistic Strivings	15.77 (1.90)	15.35 (2.21)	13.29 (3.75)	14.51 (4.37)	13.20 (2.43)	13.83 (2.34)
Perfectionism Inventory Composite	33.11 (4.98)	32.14 (5.43)	29.88 (8.15)	29.67 (9.53)	27.43 (5.47)	28.64 (5.74)
Concern Over Mistakes	3.00 (1.86)	2.71 (1.00)	1.57 (1.71)	3.00 (1.58)	3.13 (1.63)	3.50 (1.94)
High Standards for Others	4.38 (0.75)	4.50 (0.63)	3.88 (2.00)	4.13 (1.25)	2.29 (1.43)	2.71 (1.57)
Need for Approval	3.63 (1.13)	3.50 (0.57)	3.13 (0.75)	3.63 (1.00)	4.13 (1.31)	4.13 (0.94)
Organisation	3.63 (1.50)	2.25 (2.38)	2.63 (2.25)	2.88 (2.06)	3.50 (0.81)	3.75 (1.13)
Perceived Parental Pressure	4.57 (0.71)	4.71 (1.07)	4.14 (0.71)	4.00 (1.36)	3.38 (1.94)	3.50 (1.50)
Planfulness	4.71 (0.43)	4.29 (0.71)	4.00 (1.29)	4.57 (1.07)	4.00 (0.71)	3.86 (0.71)
Rumination	4.67 (1.00)	4.83 (0.58)	4.00 (1.50)	4.17 (1.58)	3.71 (1.57)	3.86 (1.57)
Striving for Excellence	3.29 (0.71)	3.29 (0.71)	2.29 (1.14)	3.29 (1.43)	3.67 (1.08)	3.67 (0.83)

Note. *Mdn* = Median; *IQR* = Interquartile Range.

Quantitative Results – Inferential Statistics

Wilcoxon signed-rank test was used to test all hypotheses (except for Hypothesis 6a, which used Mann-Whitney tests, see below) by excluding missing cases listwise (for accurate median scores) and selecting Exact test method for more accurate significance given the small sample size (Field, 2009).

Pre-intervention and post-intervention comparisons for PS and PC for intervention group. Wilcoxon signed-rank test was used to test for significant changes in PC and PS at pre-intervention and post-intervention. Hypothesis 1a is supported as PC significantly decreased ($z = -2.20, p = .031, r = .83$) from Time 2 ($Mdn = 16.38$) to Time 3 ($Mdn = 15.00$). However, Hypothesis 1b is not supported, with PS significantly decreasing ($z = -2.37, p = .016, r = .90$) from Time 2 ($Mdn = 14.96$) to Time 3 ($Mdn = 13.39$).

Wilcoxon signed-rank tests was also used to test for changes in scores for each of the eight PI subscales for the intervention group between time 2 (pre-test) and time 3 (post-test). Four out of eight subscales found significant differences with large effect sizes (Concern Over Mistakes, Need for Approval, Rumination and Striving for Excellence; see Table 17), for all of which, scores decreased over the course of the intervention. Despite non-significant differences, medium-large effect sizes were found for three subscales: High Standards for Others ($z = -1.63, p = .188, r = .61$), Organisation ($z = -1.58, p = .156, r = .59$) and Planfulness ($z = -.96, p = .500, r = .36$). Whilst this may be indicative of a type II error due to small sample size (see Appendix S for post-hoc power analyses), it is also not possible to rule out that there is no difference between time 2 and 3, because the 95% confidence intervals span zero (Levine & Ensom, 2001; Heckman et al., 2022).

Table 17*Results from Wilcoxon Signed-Rank Tests: Comparing Intervention Group Perfectionism Inventory Subscale Scores between Time 2 and Time 3*

Variable	Median (IQR)		<i>z</i>	<i>p</i>	<i>r</i>	Based on Positive or Negative Ranks	95% CI ^a
	Time 2	Time 3					
Concern Over Mistakes	4.38 (0.25)	3.50 (1.25)	-2.37	.016	.89	+	[-0.12, 1.87]
High Standards for Others	2.71 (1.14)	1.57 (1.71)	-1.63	.188	.61	+	[-0.86, 1.71]
Need for Approval	4.50 (0.63)	3.88 (2.00)	-2.37	.016	.90	+	[-0.38, 2.25]
Organisation	3.63 (0.88)	3.13 (0.75)	-1.58	.156	.59	+	[-0.38, 1.25]
Perceived Parental Pressure	1.75 (2.63)	2.63 (2.25)	-0.65	.656	.24	-	[-2.13, 2.12]
Planfulness	4.71 (1.14)	4.14 (0.71)	-0.96	.500	.36	+	[-0.71, 0.86]
Rumination	4.29 (0.57)	4.00 (1.29)	-2.21	.031	.83	+	[-0.29, 1.43]
Striving for Excellence	4.67 (0.67)	4.00 (1.50)	-2.38	.016	.90	+	[0.00, 1.83]

Note. *N* = 7.^a95% confidence intervals (CI) for median differences using Hodges-Lehmann estimation.

Pre-intervention and post-intervention comparisons for GAD-7 and

Flourishing in intervention group. Wilcoxon signed-rank tests found no support for either Hypothesis 2 or Hypothesis 3. There was no significant difference in GAD-7 scores for the intervention group ($z = -2.03, p = .063, r = .77$) between Time 2 ($Mdn = 3.29$) and Time 3 ($Mdn = 2.29$). There was also no significant difference in Flourishing for the intervention group ($z = -1.44, p = .172, r = .54$) between Time 2 ($Mdn = 27.00$) and Time 3 ($Mdn = 22.00$).

Post-intervention and follow-up comparisons for intervention group.

Wilcoxon signed-rank tests found support for all four hypotheses (Hypothesis 4a, 4b, 4c, and 4d) with non-significant differences between scores at Time 3 (post-intervention) and Time 4 (follow-up) for all four dependent variables: GAD-7 ($z = -1.07, p = .500, r = .53$), Flourishing ($z = .73, p = .625, r = .37$), PS ($z = -.73, p = .625, r = .37$) and PC ($z = -.73, p = .625, r = .37$).

Pre-intervention comparisons between control group and intervention

group. Despite initially conducting bootstrapped t tests for ANCOVA and CHANGE score analyses; non-parametric Mann-Whitney tests (with Exact test method selected) were also conducted to compare scores for GAD-7, Flourishing, PS, and PC at “pre-test” or Time 2. Similar results were found from the bootstrapped t tests, where there was no significant difference for Flourishing ($U = 116.50, z = -.48, p = .642, r = .08$) or PC ($U = 86.00, z = -1.53, p = .133, r = .25$) between both groups at Time 2. However, the Intervention Group scored significantly higher levels of GAD-7 ($Mdn = 3.29$) than the Control Group ($Mdn = 2.43$); $U = 46.50, z = -2.89, p = .003, r = .47$. The Intervention Group also had significantly higher levels of PS ($Mdn = 15.35$) than the Control Group ($Mdn = 13.20$); $U = 53.00, z = -2.66, p = .007, r = .43$. Therefore, Hypothesis 5a is partially supported, with no significant differences between groups at Time 2 for Flourishing and PC, but it is not supported for GAD-7 and PS.

Pre-intervention and post-intervention comparisons for control group.

Wilcoxon signed-rank tests found support for Hypothesis 5b as there was no significant differences for GAD-7 scores ($z = -.85, p = .407, r = .17$) between Time 2 ($Mdn = 2.57$) and Time 3 ($Mdn = 2.86$), for Flourishing scores ($z = -1.67, p = .096, r = .33$) between Time 2 ($Mdn = 22.00$) and Time 3 ($Mdn = 24.00$), for PC scores ($z = -.84, p = .410, r = .17$) between Time 2 ($Mdn = 14.84$) and Time 3 ($Mdn = 14.98$) and for PS scores ($z = -.36, p = .731, r = .07$) between Time 2 ($Mdn = 13.42$) and Time 3 ($Mdn = 13.83$).

Qualitative Results – Thematic Analysis

To answer the research question “How do students experience a dual-factor intervention for perfectionism?”, the TA resulted in two distinct themes with five sub-themes. These broader themes are described as “Usefulness” and “Connection” (see Appendix P for examples of the TA process).

Usefulness Theme. Most participants (as requested) gave explicit feedback towards aspects of the intervention or the intervention as a whole where an overarching aim to evidence, or comment upon, the usefulness of the intervention, was apparent as a theme. Three further sub-themes were identified to better characterise certain groups within this overarching theme; Pragmatic Benefit (The practical or tangible usefulness of the intervention or aspects within it), Wanting it to Succeed (Displaying a desire or need for the intervention to be of use), and Personal Growth (Improvements in self/behaviour, reflecting deeper self-knowledge/effectiveness).

Pragmatic Benefit. Participants were able to identify the general usefulness of the intervention, or particular aspects, highlighting a direct, positive benefit the intervention would have for a student, including its ability to illicit change for the participant. Examples from participants include:

“I have been able to overcome some of the procrastination issues I have using the techniques from the intervention – my biggest barrier is getting started and

so I tell myself that I will just do something for 5 minutes and see how it goes and usually this is enough to get me working.” [Female, 24 years old, Follow-Up]

“It’s been really helpful in my final year assignments.” [Female, 21 years old, Follow-Up]

The practical applications the intervention has for students are apparent, benefiting their productivity and they therefore apply positive value to the intervention. Participants identified useful changes such as managing procrastination or making more progress on work than previously. A few participants identified the clarity of content and its benefit in aiding self-awareness, whilst others highlighted specific sections that were not clear in delivery. Some participants also identified the weekly “homework” tasks and handouts as purposefully helpful, as opposed to generic, and finding the PPIs particularly useful.

Wanting it to Succeed. Participants provided constructive suggestions for improving the intervention, as opposed to simply commenting on aspects that were not useful. These included suggestions of how to build upon existing aspects or what to include where aspects were missing, such as:

“I think that this intervention would be hugely effective if used in combination with a short-term course of talking therapy would help participants to understand their behaviour more and help lead to behaviour change.” [Female, 24 years old, Post-Intervention]

“While I hate talking in groups (and understand and appreciated not having to contribute verbally) I feel it would have been really helpful if I had contributed. Maybe having the option of anonymous comments submitted online could be useful?” [Female, 24 years old, Post-Intervention]

Despite only being asked for their feedback on the intervention, some participants appeared inclined to further develop the intervention, as though they had a keen desire for the intervention to be successful, effective, and helpful. This was also found in some of the feedback during the three-month follow-up, during which the world was in the midst of the Covid-19 pandemic, participants expressed concern that their responses may be unrealistic or inaccurate due to the mitigating factors of the pandemic:

“Stress about the COVID-19 situation and proximity to final year deadlines may be reflected in my responses to items regarding stress or worry, I hope this doesn't impede on the effectiveness of the intervention.” [Female, 21 years old, Follow-up]

By contextualising their responses, participants appear almost protective of the intervention and its success, possibly seeking to benefit the researcher. However, there is also a sense of externalising responsibility to change onto the intervention, as opposed to within the self, in stark contrast to the next sub-theme; “personal growth”.

Personal Growth. Some participants identified ways in which they had been impacted by the intervention that did not necessarily have a directly practical or pragmatic use, but still echoed a benefit or usefulness to them that was derived from the intervention. Whilst the impact may not necessarily be valued productively (i.e., it does not indicate an immediate, explicit benefit in efficiency), the growth was of a personal or emotional value (i.e., improvement in self/behaviour, reflecting deeper self-knowledge/personal effectiveness), as illustrated here:

“I have also started becoming more compassionate with myself - focusing on what I did right/learnt from an experience rather than all the ways I 'failed'. I have also pushed myself to be honest/true to myself, rather than being

quiet/passive to fit in with the perceptions of what other people want/expect me to be like.” [Female, 22 years old, Post-Intervention]

Although this would still fall under the umbrella of usefulness, a change in mindset or personal growth may not necessarily lead to a directly useful change in productivity, be-it academic or otherwise. However, several participants identify meaningful, personal changes brought about through the intervention, such as being more compassionate with oneself.

Connection Theme. The second theme has two sub-themes within it, with an overarching theme of connection or connections being made. These sub-themes are Introspective Meaning (Connecting with the self through self-awareness), Supported Sharing (Support from the connection with others).

Introspective Meaning. Some participants spoke about a greater understanding of themselves in a very personal and reflective manner, as opposed to directly referencing the use or value of the intervention. Responses indicated a weighted meaning behind their insights, it was as though participants used the intervention and request for feedback as an opportunity to reflect on themselves and their understanding, as illustrated here:

“I enjoyed the workshop and found it beneficial, although I know that it's up to me to continue the work” [Female, 22 years old, Follow-Up]

“Learning more about the 'mechanics' of perfectionist thinking has allowed me to reflect upon the reasons I want to maintain 'perfect' standards, and has helped me to gain some more self-awareness. I have OCD (tendency towards pure-O) and this workshop has helped me to make sense of some of my obsessions.” [Female, 22 years old, Post-Intervention]

This demonstrates a clearer understanding of, and connection with, the self, following the intervention. It also suggests in writing the “feedback”, simultaneously

an opportunity for personal reflection arose, enabling participants to not just provide the researcher with helpful evaluations, but take time to connect with a deeper, more balanced understanding of themselves.

Supported Sharing. Participants appeared to glean, or directly express, a gratitude for others as part of the intervention. Sometimes this may have been explicit in thanking the researcher for the opportunity to take part, otherwise it was expressed in an appreciation for the supportive manner in which the intervention place, such as:

“I felt very supported through the process, which has helped me to strengthen the reassurances I am attempted to give to myself.” [Male, 27 years old, Post-Intervention]

The value of having others present at the intervention, and making connections was captured in much of the feedback, sometimes participants suggested a desire for more interaction despite their anxieties surrounding it. However, even though interaction between participants was limited, merely the presence of other participants and the recognition that perfectionism was a shared experience, was beneficial in some way. This is illustrated here:

“As a group workshop, it made me realise that it's a common problem-- I'm not alone, and the problem can be solved with hard work.” [Female, 22 years old, Follow-up]

“I appreciated the recognition of shame as a result of procrastinating - is something I have felt often but it is reassuring to know I am not alone it is normal.” [Female, 21 years old, Follow-up]

Despite the personal journey all participants went on during the intervention, there is an intrinsic value of walking through it with others.

Discussion

This study intended to deliver a dual-factor intervention that would address PC and anxiety in students through utilising CBT, whilst also enhancing PS and flourishing through use of PPIs. To ensure confidence in the effect of the intervention, the study also intended to utilise an experimental design by using a wait-list control group to compare scores of the different measures against the intervention group. Finally, the study aimed to evaluate participants' subjective experiences of the intervention, to gain a richer understanding that may offer researchers and therapists more insight into the treatment of perfectionism in students. Unfortunately, due to difficulties in recruitment and time-constraints dictated by the academic calendar, it was not possible to recruit enough participants for both an intervention and wait-list control group, so instead a control group was used for comparison in the statistical analyses. Even then, the data samples for comparison were small and non-parametric, resulting in limited quantitative analyses to draw conclusions from. However, with the data available, it was possible to accept or reject hypotheses, as follows.

Quantitative Findings

Hypothesis 1a was supported, as results found participants' scores for PC significantly decreased from pre-intervention to post-intervention, however Hypothesis 1b was not supported as scores for PS also significantly decreased. It could be the intervention was too similar to the CBT-based Overcoming Perfectionism framework (Shafran et al., 2010; Egan, Wade, Shafran & Antony, 2014) and decreased a "clinical perfectionism" conceptualisation as a whole. However, further inspection of the scores for the perfectionism subscales (Hill et al., 2004; Hill et al., 2010) at pre- and post-intervention suggest the effect of the intervention is a little more complex. Three of the four subscales for PC had significantly decreased (Concern Over Mistakes, Need for Approval and Rumination) but there was no significant difference for Perceived

Parental Pressure. However, the mean and median scores for Perceived Parental Pressure for Time 2 and Time 3 were both very low, with large measures of spread, in comparison to the other sub-scales. This could suggest an anomaly in how current students respond to this particular subscale (see Chapter 3) or is possibly indicative that students in this particular sample have varied relationships with their parents or caregivers.

For the PS subscales, only one (Striving for Excellence) of the four had significantly decreased, the other three (High Standards for Others, Organisation and Planfulness) had no significant difference from pre-post intervention. Whilst it had been hoped these facets of perfectionism would increase following the intervention, it is somewhat positive that no significant decline was detected in three of the four PS subscales. These results appear consistent with previous intervention studies (Egan, van Noort, Chee, Kane et al., 2014; James & Rimes, 2018) that have included measures from subscales of the MPS-F (Frost et al., 1990) for both Concern over Mistakes and Personal Standards, scales reflecting PC and PS respectively. Egan, van Noort, Chee, Kane et al.'s (2014) face-to-face versus pure online self-help CBT intervention for perfectionism found significant declines in both subscales, and James and Rimes (2018) mindfulness-based CBT intervention also found significant decreases in both subscales, a useful comparison as it appears to be one of the first dual-factor interventions for perfectionism available.

Hypothesis 2 was rejected as the intervention did not appear to have any significant effect on participants' anxiety. It could be that anxiety would have increased across the course of the intervention due to the nearing of academic assessment deadlines in December at time of delivery, therefore any potential decrease in anxiety due to the intervention could be cancelled out by an increase due to the timing of the intervention delivery. However, the same logic would follow an increase in anxiety for

the control group during this time period, but there was no significant difference in anxiety scores for the control group. The non-significant change in anxiety is consistent with previous interventions for perfectionism, where those treated did not show significant changes in levels of anxiety, (Riley et al., 2007; Hewitt et al., 2015) even when there were reductions in perfectionism (Arpin-Cribbie et al., 2012), highlighting the pernicious nature of perfectionism (Hewitt et al., 2017).

However, perfectionism may arguably be a more meaningful variable to address (as opposed to anxiety) as it is widely considered to be an underlying vulnerability or maintenance factor that contributes towards psychopathologies or mental ill health such as anxiety (Hewitt et al., 2017). Theoretical models have demonstrated how and why perfectionism could confer risk to mental ill health, such as the PCT, SDM and diathesis-stress model. Egan et al. (2011) identified that perfectionism elevates anxiety and is a transdiagnostic risk, thus targeting perfectionism (where it is evident) will lead to better outcomes for treatments across disorders as the underlying maintenance cycle would be addressed. Nevertheless, it was still hoped anxiety would be consequentially impacted following the perfectionism intervention, as this would clearly provide evidence of the effectiveness of this intervention as a solution for universities who are facing increasing demands for their mental health services (Mair, 2016; Randall & Bewick, 2016; BACP, 2017; Broglia et al., 2017). Instead, as Hewitt et al. (2015) state, further work is still needed to better understand the persistence of anxiety among perfectionists.

Hypothesis 3 is also rejected, with no significant difference in scores of flourishing. When considering the significant decrease in Striving for Excellence (that is significantly related to flourishing, as per Chapter 3), the intervention was therefore unsuccessful in enhancing this adaptive construct and subsequently, did not enhance flourishing. Therefore, this has not supported the rationale for the dual-factor

intervention (Keyes, 2002) in decreasing negative factors whilst simultaneously increasing resources. It was anticipated that PPIs, such as self-compassion, would help promote emotional regulation (Gilbert & Procter, 2006; Diedrich et al., 2014) and serve as a viable resource for flourishing (Ferguson et al., 2014). This would be particularly helpful in the risk from perfectionism on well-being, due to the manner in which self-criticism (the antithesis to self-compassion) experienced by perfectionists can lead to psychological distress due to use of self-critical thoughts to distract against failure (PCT; Flett et al., 2016), the anticipation of stress through the preoccupation of the likelihood of criticism (diathesis-stress model; Hewitt & Flett, 2002) and the social disconnection either subjectively or objectively experienced due to perfectionists preoccupation in evaluating themselves against others (SDM; Sherry et al., 2016).

It could be a more equal balance in the factors of the intervention is necessary to see a greater increase in resources, versus a decrease in negative factors such as anxiety, whereas this intervention focused heavily on the CBT framework with PPIs given less attention by comparison. It could also be that, given “some perfectionists make slow work of therapy” (Greenspon, 2008, p. 276), it may take even longer to detect any significant change in flourishing that has been impacted by a change in perfectionism.

Hypotheses 4a, 4b, 4c, and 4d were supported, in that there was no significant change across all measures (PS, PC, anxiety and flourishing) between post-intervention scores and the three-month follow-up. Considering that the intervention had a lack of impact on participants’ anxiety and psychosocial well-being, this finding is not as beneficial. However, it does support the efficacy of the intervention in addressing participants’ levels of PC, as it suggests the decrease in PC following intervention was maintained.

Finally, Hypothesis 5a and Hypothesis 5b were proposed to establish efficacy of the intervention, however identifying suitable inferential statistical analyses to test these

became challenging due to issues with the data set. CHANGE score analyses and ANCOVA was initially considered, but there was no guarantee either analysis would be unbiased for pre-existing groups. As such, non-parametric tests were used, and found support for Hypothesis 5b, in that there was no significant change in measures for the control group between pre-intervention and post-intervention. When compared with the significant changes for PS and PC in the intervention group, this finding supports the internal validity of the intervention as efficacious in addressing perfectionism in students. However, it is also necessary to compare initial scores for the measures at pre-intervention between groups, and whilst there was no significant difference in scores for flourishing or PC, the intervention group scored significantly higher in both anxiety and PS. As such, Hypothesis 5a was not supported. This imbalance could be due to chance but could also be due to the non-randomised allocation of groups. For example, the difference could be indicative of the participants' PS tendencies within the intervention group; their ability to seek support from others, in comparison to perfectionists who score high in PC (Dunkley et al., 2000), to address their perfectionism and associated anxiety.

Qualitative Findings

The TA identified not just how the intervention could be useful for participants, but also highlights a theme of connectivity between the self and others. This analysis has helped evaluate the intervention, as well as provide insight into participants' experiences of the intervention and that of perfectionism. In evaluating the intervention, participants' feedback was primarily positive; in their gratitude for having taken part, in identifying ways in which it was useful, by evidencing these or by providing suggestions to further improve the intervention. Negative comments were few or supplemented with constructive suggestions, again to aid improvement. Such a broad, positive evaluation, where participants have readily given personal accounts of changes

in perfectionistic thoughts, behaviours and/or feelings for the better, corroborates the quantitative findings of significant decreases in perfectionism scores for participants in the intervention group. However, despite positive feedback, the non-significant changes for flourishing and anxiety scores would suggest changes in the consequences or associations of perfectionism were not achieved.

The theme of usefulness could be expected, given the question posed to participants was about what they found helpful or enjoyable (or not) regarding the intervention. However, when reflexively interpreting the theme and participants' focus on "pragmatic benefit" and "wanting [the intervention] to succeed", the researcher noted these also mirror the value system of the perfectionist, focusing on productivity and success as contingent for worth or value (Sturman et al., 2009). Whilst the findings by Sturman et al. (2009) focused on *self*-worth as contingent on the value that perfectionists or others attribute to productivity or success, this theme could indicate a broader schema that emphasises this value more generally, such as in this case, the intervention.

In many responses, there was a sense of needing the intervention to be useful in bringing about effective change, implying the importance for perfectionists to "solve" what can be so problematic for them to experience, and therefore how a successful intervention could be so valuable for themselves and others. Some researchers regard perfectionism as notoriously slow, tricky work in therapy (Greenspon, 2008; Hewitt et al., 2017), because it is deeply entrenched and therefore difficult to overcome. Through reflexive analysis of the theme, the researcher has reflected upon her own therapeutic experience with perfectionist students together with views of other researchers and/or practitioners. The theme indicates that perfectionists identify "the negative role of perfectionism in their life" (Farmer et al., 2017, p. 11), its propensity to cause destruction (Blatt, 1995; Flett et al., 2014), a desire for relief, and the feeling of

desperation to get help with their own perfectionism (Hewitt et al., 2017). The SDM (Hewitt et al., 2018) suggests perfectionists, particularly those high in PC, are reluctant to seek and accept support for their perfectionism from others, and when integrating the diathesis-stress model, this would moderate the exacerbation of stress, leading to further distress. However, Hewitt et al. (2017) note some perfectionists will seek help when compelled to by concerned others, when previous treatments have been unsuccessful, or when overwhelming distress is compounded by the acknowledgement of their need for support from others. This could potentially explain the higher levels of anxiety and PS in the intervention group, compared with the control group. Students high in PS were able to seek support from others (in this instance, the intervention) when their high levels of anxiety compounded their acknowledgement of needing help, suggesting a possible limitation in applying PS within the expanded SDM.

Another tentative interpretation of the participants' desire for the intervention to succeed is externalising responsibility onto the *intervention* to cause or bring about change, as opposed to one's own responsibility to make changes in behaviours and thoughts (as otherwise reflected in the "personal growth" sub-theme). It should first be noted, here "responsibility" is not taken to mean "accepting responsibility" for *problems*, such as use of self-blame as a coping strategy, which Gnilka et al. (2012) found leads to anxiety in PC perfectionists. Instead, responsibility is considered within the context of SDT (Ryan & Deci, 2000) as having the competence and autonomy necessary for regulating one's own behaviour and growth. Where someone has diminished autonomy or feels incompetent to self-regulate effectively, it results in a more external perceived locus of causality and externalises responsibility for growth. Hewitt et al. (2017) discuss difficulties with self-regulation within the dynamic of therapy, where a patient uses "intellectualising" as a psychodynamic defence mechanism to ward off the painful affect from immediate awareness. In this sense,

participants in the present study may be expressing a desire for the intervention (as responsible) to succeed, because it is too painful or risky for them to engage with their own “emotion-laden experiential process” (Hewitt et al., 2017, p. 231) that is necessary for growth. Instead, participants may be employing defence mechanisms of intellectualisation together with external displacement (and/or avoidance) of responsibility to change, due to feelings of personal incompetence or diminished autonomy that hinder their intrinsic motivation for self-regulation and growth. The diathesis-stress model suggests perfectionists may use avoidant defence mechanisms when responding to stressful circumstances that involve ego threat (Hewitt & Flett, 2002; Flett et al., 2005), in this case, the unpleasant feeling of incompetence or fear of failure, which indicate imperfection (unacceptable for perfectionists). Engaging in experiential avoidant coping can mediate the link between PC and worry (Santanello & Gardner, 2006), and according to both the PCT and diathesis-stress model, this avoidance can lead to distress.

In summary, participants wanting the *intervention* to succeed could reflect not only their need for successful change to occur, but also tentatively suggests how they may counterproductively externalise “responsibility for change” onto the intervention, as opposed to themselves. As such, they avoid the opportunity to experientially engage with the emotions necessary for successful change, and in doing so, may further exacerbate distress. This highlights the need to develop perfectionists’ competence and autonomy so they may engage with their own emotions better, leading to personal growth and improved well-being. This also tentatively suggests the character-strengths intervention was not as effective in promoting self-efficacy and psychological needs of SDT (Linley et al., 2010; Meyers & van Woerkom, 2017), as originally intended. However, the “personal growth” sub-theme would suggest otherwise, where participants expressed a sense of improvement in the self, or their behaviours, reflecting deeper self-

knowledge or effectiveness in a manner that is of personal value to this. This is similar to Ryff and Keyes's (1995) definition of "personal growth", a distinct dimension of psychological well-being. Ryan and Deci (2000) also identify, as per the SDT, that fulfilment of competence, autonomy and relatedness needs are essential for personal growth and well-being. Therefore, where participants have identified a sense of "personal growth" as a result of the intervention, this would suggest the intervention was beneficial in improving well-being.

The theme of connectedness was expressed in different ways. It was apparent that having a group-based intervention was of benefit to the participants, helping them to not feel "alone" in their perfectionism and to begin dismantling the shame associated with perfectionism. This implies the self-compassion intervention was beneficial in helping participants recognise their shared, common humanity (Neff & Vonk, 2009) and to feel less isolated in their perfectionism. In doing so, it may help perfectionists to be less reluctant to access social support, which the SDM highlights is particularly relevant for perfectionists' mental health and well-being (Sherry et al., 2016). Participants were also able to make connections between their improved understanding of perfectionism and their own intra-personal awareness that arose from the psychoeducational elements of the dual-factor intervention. Some participants also indicated a deeper connection with the self, such as a motivation to be more self-compassionate (as intended with the self-compassion PPI). Some participants expressed or implied gratitude for the supportive nature in which the intervention was facilitated, appreciating a lack of pressure imposed upon them by the facilitator. This is in keeping with Hewitt et al. (2017) who view that perfectionists need to experience empathy and a lack of judgement from the therapist, particularly given the propensity to fear negative evaluations from others. Participants also suggested improving the intervention with more opportunities for interpersonal connection with the facilitator, such as separate

one-to-one talking therapy, again indicating less reluctance to access support from others. However, one participant suggested the possibility of an online tool to enable anonymous feedback of progress during the intervention. The benefit of anonymity through administering the intervention online was also identified by participants in Rozental et al.'s (2020) study, who utilised an internet-based, CBT perfectionism intervention with a similar structure to the intervention in Study 3 (albeit, without the addition of PPIs). In summary, perfectionist students do not appear reluctant to access social support (as per the SDM), rather they explicitly expressed the benefit of connecting with others in group and with the therapist, both as a supportive facilitator or through the addition of one-to-one, interpersonal therapy.

There are further similarities between the qualitative results of Study 3, and the study by Rozental et al. (2020), where participants identified how treatment brought about a change in perspective by increasing understanding of perfectionism, what it is, and how it is maintained. Participants also identified specific techniques or activities they found useful, however participants in this study identified the PPIs as particularly useful. Finally, participants in both studies were able to identify the positive consequences of reviewing their conceptualisation of perfectionism, amending their concerns about others' perceptions, and developing greater self-compassion. As such, both CBT and PPIs appear beneficial for perfectionist students in better understanding perfectionism and themselves, leading to self-awareness, modification of maladaptive thinking styles and instead, use of adaptive coping such as compassion. This awareness may benefit perfectionists by helping them to better understand and address their maladaptive use of cognitive perseverance for coping. As per the PCT (Flett et al., 2016), perfectionists may erroneously believe their use of worry or rumination is helpful in protecting against affect, when in fact, it is a maladaptive coping mechanism that exacerbates distress. Researchers have therefore stressed the importance of modifying

and reframing perfectionistic cognitions, including cognitive perseveration, to protect against risks to mental health and well-being (Pirbaglou et al., 2013; Egan, Wade, Shafran & Anthony, 2014; Burgess & DiBartolo, 2016; Flett et al., 2016). Whilst Study 3 did not assess changes in cognitive biases or negative automatic thoughts, a principle of CBT is the use of psychoeducation and consciousness-raising to enable clients to understand, identify and then challenge these biases. It is therefore promising that within the qualitative feedback, participants identified how the dual-factor intervention enhanced self-awareness of their own perfectionism and helped them to challenge problematic perfectionistic thoughts and behaviours, that could otherwise perpetuate stress and lead to psychological distress (Hewitt & Flett, 2002; Burgess & DiBartolo, 2016).

Findings Summary

Overall, the intervention appears successful in benefitting participants' reduction in perfectionism that was measured quantitatively, as well as qualitative reporting of usefulness, connectedness, and heightened self-awareness. Whilst the intervention was intended to increase PS, a lack of significant change in three of the four PS subscales would suggest the dual-factor intervention was beneficial in not impairing such adaptive perfectionist components in students, in particular Organisation and Planfulness. However, a reduction in the Striving for Excellence subscale was not anticipated, and the intervention was also unable to demonstrate a significant decrease in levels of anxiety or an increase in levels of flourishing, which would have otherwise indicated greater effectiveness of the dual-factor intervention for students' mental health and well-being. Nevertheless, several insights into the participants' experience of the intervention and their perfectionism were ascertained, which are useful in informing the content and delivery of future interventions.

Strengths and Limitations

A strength of this study is its use of a mixed-method design, combining both quantitative and qualitative analyses for evaluation, giving greater insight into students' perfectionism and its treatment for researchers and practitioners. The intervention was brief (only four weeks long) and delivered to a group, therefore was not resource intensive and could be of benefit for universities, where a low-cost, effective intervention can be easily implemented without further stretching staff and services that are currently experiencing high demand. The format could also be preferred by students who, as identified in the participants' feedback, found the group-based intervention beneficial for connection. The brief nature of the intervention may also be preferred, where students struggle with demanding academic schedules. Whilst interpretations of findings are limited due to the small sample size, overall, the intervention was received positively and significantly decreased levels of perfectionism, which were also sustained at follow-up.

Perfectionism can be entrenched in feelings of shame or fear of rejection, and the reluctance by perfectionists to access or seek out support (Hewitt et al., 2017; Hewitt et al., 2018) can make perfectionism interventions challenging; "perfectionists experience interventions as personal critiques" (Greenspon, 2008). However, criticism did not come across in participants experience of this intervention in the TA, indeed participants identified the intervention was supportive, useful, and relatable. It could be the broader positive psychology ethos of the intervention meant participants were less likely to experience and subsequently anticipate criticism, as well as drawing on the strengths or inner resources that enabled them to better access and engage with the intervention. A final strength of this particular intervention is its validity; the very population the intervention is intended for was also used in its trial, including students

from two different universities, across a range of academic studies, therefore it would be suitable to be repeated again in other UK HEIs.

The small sample size of participants was a limitation of the present study; despite a large number of participants initially indicating interest in taking part in the intervention (as per the survey in Chapter 3), ultimately, only seven participants began and completed the intervention to the end. Difficulty in recruiting and retaining participants for the intervention group may be due to the negative impact that perfectionism has on seeking treatment due to negative judgements about seeking help (Hewitt et al., 2008; Hewitt et al., 2017; Hewitt et al., 2018; Dang et al., 2020), and upon engaging in treatment due to resistance to change (Hewitt et al., 2017; Hewitt et al., 2020). Furthermore, in order to recruit a wait-list control group ethically and accurately, timing was key and also reliant on the undergraduate academic calendar of the institution. This meant there was a short amount of time to advertise the study to students, staff, and other possible gatekeepers to enable a nine-weeks intervention, back-to-back, to ensure groups were treated equally.

Given the tight timeframe for recruitment, the study design changed in order to increase the intervention group size, and a control group was used instead of a wait-list control. However, by utilising a control group (resulting in differing levels of perfectionism and anxiety at the pre-intervention time point) and having such a small intervention group (resulting in non-parametric data), this limited the number of appropriate statistical tests that could be used. In failing to meet the required a-priori sample size calculation, it is likely the study was under-powered. Although changes between pre- and post-intervention of three PI subscales were non-significant, the medium-large effect sizes could indicate a type II error due to such a small sample size, and post-hoc power analyses would support this. As a result, conclusions drawn from the inferential analyses may be limited due to unfortunate difficulties in recruitment.

An additional limitation is that perfectionism levels were not considered in the sampling strategy, in an attempt to enable as many participants as possible who self-identified as perfectionist to access the intervention. Participants may not necessarily have demonstrated the higher or excessive levels of perfectionism that confer risk to mental health and well-being, and were potentially of a non-clinical level, as opposed to clinical or subclinical (i.e., elevated levels of perfectionism, and bears risk to developing or experiencing psychological distress). As Flett and Hewitt (2008) note in their critique of the CBT-based perfectionism intervention study by Pleva and Wade (2006), despite significant improvements in perfectionism levels reported by the intervention authors, overall mean levels of perfectionism at post-test remained relatively high, suggesting additional intervention was needed to further reduce perfectionism levels among people still suffering (Flett & Hewitt, 2008). The present study was not able to identify whether, despite changes in perfectionism scores, the changes were meaningful in regard to the level of perfectionism that can reflect psychological distress. It follows, therefore, that whilst perfectionism levels were reduced following the dual-factor intervention, perhaps they were not reduced sufficiently to make meaningful change in the psychological distress experienced by participants, as identified in a failure to significantly reduce anxiety levels.

Materials to aid recruitment for participants for the intervention were explicit in targeting perfectionism in order to attract those that will meet the inclusion criteria, as well as to ethically ensure participants were fully informed of the intervention. However, as a result the participants who took part were those who readily volunteered and were likely to be more motivated to change their levels of perfectionism. As previously discussed, participants who took part in the intervention had significantly higher levels of PS than the control group, but there was no significant difference in levels of PC. This may indicate a greater willingness of the intervention group

participants to access support, however students high in PC may have been more reluctant to access support, as indicated by the SDM. Therefore, this should be considered when interpreting the results.

A final, pertinent limitation of the study is the use of a trait measure (i.e., the PI) to assess change in perfectionism. It was initially posited that the PI was appropriate for assessing change in perfectionism, following evidence and precedent that trait perfectionism could change following psychotherapeutic intervention (Roberts et al., 2017; Suh et al., 2019). However, social-cognitive theories of personality emphasise the importance of context (Merrill & Strauman, 2004) and recognise the development of personality through social-cognitive factors. As Hewitt et al. (2017) note, perfectionism is more complex than just its trait level conceptualisation, and the use of measures that reflect the social-cognitive components of perfectionism would better identify and explicate potential changes in the maintaining mechanisms for perfectionism, as informed by theory (i.e., the PCT, diathesis-stress model, and the SDM). Indeed, Hewitt et al. (2017), as scientist-practitioners, have developed the comprehensive model of perfectionistic behaviour (CMPB) and argue of the importance in distinguishing between *levels* of traits and the *expressions* of those traits. The CMPB therefore conceptualises perfectionism as involving trait components, as well as behavioural and cognitive process components that reflect the interpersonal and intrapersonal expression of perfectionism respectively.

By failing to include measures for interpersonal, intrapersonal, cognitive, or behavioural processes in the current study, it has not been possible to ascertain whether or which maintaining mechanisms have been changed as a result of the intervention, limiting the ability to make concrete conclusions in relation to theoretical perspectives. In addition, despite finding significant changes in the PI trait measure at post-intervention (and maintained at follow-up), it is not possible to accurately infer whether

the intervention led to lasting personality trait change (as per the cause-correction hypothesis), or whether change can be attributed to state-level variance within the PI (as per the state-artifact position). For example, part of the justification for choosing the PI was due to the insight it could provide for relevant persistent ruminative cognitions, despite being a measure of personality. However, the significant decrease in the Rumination subscale found in the current study may in fact reflect changes attributed to state-level variance (particularly likely given the short four-week time frame of the intervention), as opposed to personality trait change. Wider concerns for the content validity of other PI subscales have also been previously discussed (see Chapter 3).

In addition, whilst psychological outcomes (i.e., anxiety and psychosocial well-being) associated with perfectionism were measured, there was no significant difference in scores between pre- and post-intervention, likely due to the pernicious nature of perfectionism described by Hewitt et al. (2017). Therefore, it may be the intervention was only able to change the state-level component of perfectionism but was not sufficient enough to induce change at the deeper-ingrained perfectionism trait-level necessary to ameliorate psychological symptoms (Hewitt et al., 2017). By failing to include (and compare changes in) state-level measures, it is not possible to accurately identify whether the significant changes in PS and PC actually reflects a change in trait-level of perfectionism.

Therefore, it would have been more appropriate to assess changes in perfectionism through measures that capture trait-levels as well as state-like expressions or processes of perfectionism, such as through the PCI (Flett et al., 1998) and the Perfectionistic Self-Presentation Scale (Hewitt et al., 2003). This would better reflect a more comprehensive model of perfectionism (such as the CMPB) and enable both levels and expressions of the perfectionism trait to be assessed, including the specific maintaining mechanisms emphasised by theoretical frameworks as relevant for mental

health and well-being. This would help to identify not just whether the intervention is effective in changing trait perfectionism (as per the cause-correction hypothesis) and psychological symptoms, but why.

Future Recommendations

Whilst the dual-factor perfectionism intervention for students has shown promise, it would be beneficial to repeat the study but with some amendments in response to the limitations, to ensure the greater efficacy and reliability. For example, ensuring a larger sample size to sufficiently power the study and identify whether this affords better results such as significant changes to anxiety and flourishing. In addition, using the intended wait-list control design, with attention to perfectionism levels in the sampling strategy to establish greater validity and reliability of the results. It would also be useful to compare the dual-factor intervention against an exclusive CBT intervention to identify the unique contribution of positive psychology. As per feedback, the intervention could potentially benefit from additional one-to-one interpersonal therapy, to provide further support and personalised insights to participants. Finally, given the difficulties in interpreting results due to the PI trait measure (Hill et al., 2004, 2010), it would be useful to repeat the study but with different measures of perfectionism that capture both the trait and social-cognitive processes of perfectionism, as well as measures for stress, resilience, and perceived social support.

Conclusion

This study piloted a unique design for an intervention that acknowledged the multidimensional conceptualisation of perfectionism, as well as the benefits of a dual-factor intervention by integrating PPIs with an existing, effective CBT framework. Unfortunately, difficulties in recruitment made it problematic to ascertain statistical inferences about the effectiveness of the intervention. However, results do show a significant decrease in levels in perfectionism for the group who took part in the

intervention, in comparison to a control group. Furthermore, taking advantage of a mixed-methodology to evaluate the intervention enabled a richer data set to be collected to in understanding the experiences of participants, which were primarily positive and helpful. The intervention shows promise, and replications with more powerful designs are recommended for future study.

Chapter 5 - Overall Discussion

The overall aims of this research project are aligned to the researcher's existing practice and experience; an aspiration to better understand UK undergraduates' mental health and well-being and identify therapeutic interventions to effectively support this population. The rationale for the research was guided by literature discussed in Chapter 1, with evidence suggesting rates of students' mental ill health and poor well-being are increasing (Thorley, 2017). Students' levels of multidimensional perfectionism (MPS-HF) have also increased (Curran & Hill, 2019), with theoretical and empirical evidence outlining how and why perfectionism confers risk to mental health and well-being (Hewitt & Flett, 2002; Flett et al., 2016; Sherry et al., 2016), including in students (Rice et al., 2016), and it is therefore a pertinent factor to investigate.

However, specific perfectionism dimensions (i.e., PS) may be considered "adaptive" for students, given the emphasis on achieving high standards at university (Rice et al., 2016), and research identifying associations between PS and positive psychological outcomes (Stoeber & Otto, 2006), including academic achievement (Madigan, 2019). The potential divergent relationships between perfectionism dimensions and psychological outcomes were considered apt within the positive psychology approach (Seligman & Csikszentmihalyi, 2000), therefore a dual-factor perfectionism intervention was proposed to reduce detrimental outcomes and build upon desirable ones.

To achieve these aims, a discussion of methodological considerations was provided in Chapter 2, including use of correlational designs for Studies 1 and 2 (Chapter 3) and examining the perfectionism nomological network in relation to UK undergraduates' mental health and well-being. A mixed methods design was also discussed for evaluating the dual-factor intervention (Chapter 4). This incorporated an experimental design (assessing changes in perfectionism, anxiety, and flourishing for an

intervention group, compared against a control group) with a qualitative, TA (Braun & Clarke, 2006) of participants' experiences of the dual-factor intervention.

Overall Summary of the Research Findings from the Three Studies

Chapter 3 comprised Study 1; an examination of the nomological network of perfectionism within the context of UK undergraduates, to further explore whether mental health and well-being outcomes are associated with multidimensional perfectionism. Results supported existing theory and empirical evidence that PC was positively related to mental ill health, anxiety, worry and negative affect, as well as negatively correlated with resilience, flourishing and positive affect. Results also found PS had weak, positive relationships with mental ill health, anxiety, and negative affect and a small, positive relationship with worry. PS held a non-significant relationship with positive affect, but unlike PC, PS held a positive, significant (weak) relationship to resilience and flourishing. As such, findings from this study would suggest the relative “adaptiveness” of PS in students could perhaps be considered more “neutral” (Bieling et al., 2004). Unfortunately, it was not possible to obtain relationships between academic attainment and student perfectionism, which otherwise could have indicated a specific potential benefit of PS for students (Rice et al., 2016), as identified in previous studies (Madigan, 2019).

The results of presented mixed evidence of the adaptiveness of PS for students' mental health and well-being, however previous studies (Stoeber & Otto, 2006; Hill et al., 2010) have indicated potential suppression effects within perfectionism, where the adaptive qualities of PS may be uncovered when the overlap with PC is statistically controlled for. Therefore, Study 2 used regression analyses to investigate the unique (partialled) relationships of PS and PC with psychosocial (flourishing) and affective well-being. Results found the positive association between PS and flourishing became stronger, and a positive, significant relationship between PS and positive affect was

found, despite Study 1 finding a non-significant zero-order correlation. Furthermore, Study 2 found PS and negative affect held a negative, significant relationship, despite the positive, significant zero-order correlation in Study 1.

The results from these studies, and existing theoretical and empirical evidence, informed the development and delivery of a perfectionism intervention aimed to support students' mental health and well-being (see Chapter 4). The dual-factor intervention incorporated a CBT treatment model (Shafran et al., 2010; Egan, Wade, Shafran, Antony, 2014) to reduce detrimental outcomes (PC and anxiety), and PPIs (Peterson & Seligman, 2004; Seligman et al., 2005; Shapira & Mongrain, 2010) and build upon desirable outcomes (PS and psychosocial well-being). It was delivered by the researcher (an experienced BACP accredited integrative therapist) to UK undergraduates with measures taken at several time points for both an intervention and control group. Quantitative results found a significant reduction in PS and PC following the intervention (compared with no significant changes in control group), and no significant change in self-reported anxiety or flourishing. Qualitative results suggested the intervention was beneficial for participants in its usefulness, fostering connectedness, and heightening of self-awareness.

The Implications of Perfectionism for Mental Health and Well-Being among UK Undergraduates

Consistent with Chapters 1, 3 and 4, the overall findings from the research programme regarding students' cognitive perseveration, resilience, and psychosocial well-being will be discussed drawing ties to the theoretical frameworks of the PCT (Flett et al., 2016); diathesis-stress model (Hewitt & Flett, 1993; 2002) and the SDM (Sherry et al., 2016) considered for this research. The aim is to understand the implications of perfectionism for student mental health and well-being.

Cognitive Perseveration and Perfectionism among UK Undergraduates

Study 1 found PC was strongly, positively related to both worry and anxiety in UK undergraduates, worry being the central feature of GAD (Newman et al., 2013). These findings are consistent with existing empirical evidence (Santanello & Gardner, 2007; Stöber & Joorman, 2001; Burgess & DiBartolo, 2016; Xie et al., 2019) and the PCT (Flett et al., 2016) which posits that perfectionists are more likely to worry, using it as a maladaptive coping strategy to avoid negative affect and threats (such as a negative evaluation of self). However, whilst worry may temporarily dampen negative affect, anxiety will be maintained in the long term due to misinterpretation of information and retained threat associations (Borkovec et al., 2004; Fisher & Wells, 2011). According to the PCT, this cognitive perseveration increases risk to mental health and well-being, and the broader network of correlations found in Study 1 would imply this is also the case for UK undergraduates. As well as PC, worry, and anxiety; students' negative affect, mental ill health, and perfectionistic rumination were all found to be positive correlated with one another. Although perfectionistic rumination was explored as a subscale of the PI, if taken as an indicator for unique perfectionistic cognitive perseveration, this network of relationships is in keeping with the PCT. In summary, as students are likely to experience a range of worrisome transitional, social, and academic stressors (Devon & Macaskill, 2013; Pereira et al., 2019), results from Study 1 imply PC may be particularly maladaptive for students' mental health and well-being.

The PCT also posits PS is a risk to mental health and well-being through its relationship to worry, however previous evidence would suggest a weaker relationship (Xie et al., 2019) or a non-significant relationship (Stöber & Joorman, 2001; Santanello & Gardner, 2007). Results from Study 1 support the PCT, in that worry was positively related to PS (albeit a small relationship, similar to Xie et al., 2019), and held a weak, positive relationship with negative affect, mental ill health, and anxiety. However, when

joint variance between PC and PS was accounted for in Study 2, the significant relationship between PS and negative affect became negatively correlated, albeit also weak. Whilst further analyses are needed to identify the potential mediating role of worry on the PS-affect relationship, and its potential adaptiveness for student well-being, these findings suggest a potential limitation in applying the PCT to students high in PS, when taking suppression effects into account.

Overall, the findings aid empirical and theoretical justification for using CBT interventions to address maladaptive cognitive biases and perseveration (Egan, Wade, Shafran & Antony, 2014), and gratitude interventions for broadening cognitions (Fredrickson, 2001) as piloted in Study 3. Given perfectionists' tendency to narrowly attending to evaluative cues (Flett et al., 2016), these interventions could reduce anxiety for perfectionist students through modification of cognitions (Dunkley et al., 2003; Pirbaglou et al., 2013). Indeed, PC and rumination (as measured by the PI subscale) did significantly decrease post-intervention, however there was no significant change in anxiety. Similar results have been found in previous studies (Arpin-Cribbie et al., 2012) indicating how challenging it is to reduce anxiety if perfectionism is so deeply ingrained (Hewitt et al., 2017), and suggests change in PC and/or rumination could in fact reflect change in state-level variance that may be present in the PI. A lack of anxiety reduction could also be due to the time frame of the intervention (i.e., four-weeks long), perhaps not long enough to meaningfully impact trait-level perfectionism through the modification of cognitions (Flett et al., 2016; Burgess & DiBartolo, 2016). As Arpin-Cribbie et al. (2012) suggested, additional treatment components that focus more directly on reducing anxiety-related cognitions (such as worry) may be more beneficial for student perfectionists, particularly given perfectionists (as per the PCT; Macedo et al., 2014; Flett et al., 2016) and students (Macaskill, 2018) may mistakenly believe worry is a helpful coping strategy.

Resilience and Perfectionism among UK Undergraduates

Study 1 found a significant, medium, negative relationship between PC and resilience in UK students, similar to previous findings Klibert et al. (2014). However, it also found a significantly positive (albeit small) relationship between PS and resilience, whereas Klibert et al. (2014) found a non-significant relationship. This suggests a potential limitation in applying the diathesis-stress model to perfectionist students. Hewitt and Flett (2002) propose both PC *and* PS would confer risk of psychological distress (such as greater anxiety; Burgess & DiBartolo, 2016) and poorer emotional well-being due to the lowered likelihood perfectionists will proactively engage in resilience-oriented activities, for example, seeking social support. Whilst the negative relationship between students' PC and resilience (together with the positive PC-anxiety relationship) is in keeping with the diathesis-mode, the positive PS-resilience relationship is not. The findings are consistent with Dunkley et al. (2016) who suggest PS is associated with active, problem-focused coping, a more resilient strategy for coping with stress, as well as Rice et al. (2016) who suggest PS could reflect better stress-reactivity abilities. However, Study 1 also found PS was related to higher levels of anxiety, therefore whilst PS may reflect better resilience, it does not appear sufficiently beneficial for students' mental health. It would be useful for future research to identify if resilience mediates this relationship.

Whilst there appears to be a limitation in applying the diathesis-stress model to PS students' mental health, the separate relationships of the PI subscales may suggest otherwise. Only the Organisation, Planfulness, and High Standards for Others subscales held small, positive relationships with resilience, and Striving for Excellence held a non-significant relationship. As identified in Chapter 3, the former three subscales may be excluded when computing PS scores, as suggested by Stoeber and Otto (2006). Therefore, only the Striving for Excellence subscale is left as a measurement for PS. As

such, the non-significant relationship between Striving for Excellence (the remaining measure of PS) and resilience is now consistent with the findings by Klibert et al. (2014). Given the likelihood students will frequently experience academic, financial, and social stressors (Macaskill, 2012), the non-significant relationship between striving for excellence and resilience could reflect the high levels of daily stress that overwhelm PS students' ability to engage in adaptive coping (Dunkley et al., 2000). According to the diathesis-stress model, this would lead to PS students experiencing greater psychological distress. As such, the diathesis-model also appears applicable for PS students, when considering the significant, positive correlations between PS with anxiety, mental ill health, and negative affect found in Study 1.

Researchers (Dunkley et al., 2000; Dunkley et al., 2016; Burgess & DiBartolo, 2016) have encouraged perfectionism interventions that foster resilience, as the use of adaptive coping strategies can buffer against stress, as well as increase flourishing (Rashid, 2017; Denovan & Macaskill, 2017), and for students in particular (Brewer et al., 2019). It was therefore expected that including the character strengths exercise in Study 3, would foster perfectionist students' resilience to stress, as evidenced by Seligman et al. (2005), and therefore improve psychosocial well-being (flourishing) and reduce anxiety (as per the diathesis-stress model). However, neither variable was found to have significantly changed post-intervention, reflecting a potential limitation of the PPI to develop resilience (and therefore flourishing). It is important to note that this conclusion is tentative, as Study 3 did not include a measure for resilience or stress, therefore direct relationships between the PPI, resilience, stress, and flourishing cannot be drawn.

A tentative interpretation of the sub-theme "wanting it to succeed" (discussed in Chapter 4) suggested intervention group participants may have used avoidant defensive mechanisms, and according to the diathesis-stress model, perfectionists may use these

when responding to stressful circumstances that involve ego threat (Hewitt & Flett, 2002; Flett et al., 2005). Such avoidance contrasts with the conceptualisation of resilience (positive coping; Wagnild & Young, 1993), suggesting the character strengths intervention was not as effective as hoped in promoting resilience or self-efficacy (Linley et al., 2010; Meyers & van Woerkom, 2017), nor were the CBT behavioural activation techniques in overcoming avoidant coping common for perfectionists (Kuyken et al., 2009, cited by Dunkley et al., 2016).

In summary, the findings from the programme of research would generally suggest support for the diathesis-stress model for perfectionist students, and that perfectionism is unlikely to be considered “adaptive” where a lack of resilience infers use of maladaptive coping strategies when experiencing stress, and as such, may result in distress, or mental ill health and poor well-being. Results also suggest the dual-factor intervention was not effective in promoting resilience in perfectionist students, as indicated by the lack of significant change in flourishing, but without including measures of resilience or stress, this conclusion is only tentative.

Psychosocial Well-being and Perfectionism among UK Undergraduates

Similar to resilience, Study 1 found a negative relationship between PC and flourishing, but a positive relationship for PS, and when controlling for the statistical overlap of PC and PS in Study 2, the magnitudes of the respective correlations became even greater. Regression analyses found PC held a strong, negative correlation with flourishing, and PS a moderate, positive correlation, demonstrating evidence of suppression effects similar to Stoeber and Corr (2016). This suggests PS is advantageous for students’ flourishing, when controlling for the overlap with PC statistically.

The SDM (Sherry et al., 2016) posits perfectionism confers risk to well-being due to poor social connection, where positive social support would otherwise promote

well-being (Baumeister & Leary, 1995). Therefore, if perfectionism impedes the ability of individuals to participate in or benefit from social relationships, it follows perfectionists will experience poor psychosocial flourishing, where flourishing is defined as having social-psychological prosperity and functioning (Diener et al., 2010). Indeed, this was the argument put forward by Flett and Hewitt (2015a), however evidence by Stoeber and Corr (2016) and the results of Studies 1 and 2 found this was not necessarily the case for PS. Furthermore, Study 2 found PS held a positive correlation with positive affect (as opposed to a non-significant, zero-order correlation in Study 1) and a negative correlation with negative affect (as opposed to a positive, zero-order correlation in study 1), when accounting for PC variance. As such, whilst the results for PC would support the SDM, the results for PS do not necessarily fit, suggesting a possible limitation in the application of the SDM regarding how perfectionism impacts the well-being of students.

This is further implicated in the results for the Striving for Excellence subscale. Sherry et al. (2016) argue that the compulsive need for striving found in PS may result in people high in PS leading a solitary existence, struggling to come into contact with opportunities to socialise and viewing others competitively, as opposed to collaboratively, thus impeding social interest and adjustment. However, whilst Striving for Excellence held a non-significant zero-order correlation with flourishing in Study 1, when entered into a multiple regression analysis, it was found to hold a significant, positive relationship in Study 2. Rnic et al. (2021) found similar evidence where SOP predicted greater Reassurance of Worth, a social provision measured by the Social Provisions Scale (SPS; Curtona & Russell, 1983), as well as SOP predicting lower levels of loneliness, which were both associated with lower depressive symptoms. As such, striving for excellence in perfectionist students may not lead to poorer social support, and therefore poorer well-being.

However, the psychosocial well-being experienced by students high in PS may not be sufficient enough in buffering against stress and protecting mental health, as identified with the positive relationships between anxiety, mental ill health with PS in Study 1. Dunkley et al. (2000) found no significant relationship between PS and perceived social support, but when examining a three-way interaction, they found PS (in the context of high stress) interacted with a decrease in distress as perceived social support levels increased. Dunkley et al. (2000) also used the SPS (Curtona & Russell, 1983) but assessed perceived social support through Guidance, Reliable Alliance, and Attachment social provisions. The flourishing scale (Diener et al., 2010) captures social well-being in regards three items; “having supportive and rewarding relationships”, inferring the support of others; “contributing to the happiness of others”, capturing the value that helping and giving to others is as important for well-being; and “being respected by others”, perhaps similar to the Reassurance of Worth subscale in the SPS (Curtona & Russell, 1983). As such, a person high in PS may experience social well-being through a sense of reassurance of their worth and having positive social relationships, but the flourishing measure does not necessarily capture a fuller measure of social support, in particular, whether a person high PS will *utilise* their “supportive and rewarding relationships” to cope during times of high stress; a necessary buffer as identified in the diathesis-stress model. Perhaps, as Flett and Hewitt (2002, 2005, 2006; see also Benson, 2003) have stated, the costs of PS (poor mental health) may outweigh the benefits (higher flourishing).

As Dunkley et al. (2010) suggest, treatment could focus on changing levels of perceived social support to encourage a student high in PS to place greater focus on better utilising their existing positive social relationships to cope when experiencing high levels of stress. Future research should also explore the mediating and moderating relationships of psychosocial well-being, highly stressful experiences, and use of social

support networks to further illuminate the factors, contexts and situations in which PS may or may not confer risk for students' mental health.

The qualitative findings from Study 3 would also fit with the SDM, in that the theme of connectedness highlighted participants no longer felt "alone" in their perfectionism, inferring their perfectionism otherwise created feelings of isolation and social disconnection. However, the intervention helped to ameliorate this, possibly through recognising their shared, common humanity (Neff & Vonk, 2009), as was intended in the self-compassion intervention. However, despite significant decreases in PC, there was no significant change in levels of flourishing, post intervention. Whilst the intervention may have supported perfectionist students to feel less socially disconnected, this may not be sufficient in promoting social well-being and using supporting networks, a pertinent factor for coping with stress.

The findings relating to social media use from Study 1 could also give insight to student social well-being, in that participants who used certain platforms at least once a week were more likely to experience higher levels of flourishing, than those who did not. This is arguably expected given these platforms are intended for socialising, and a popular media for socialising for young adults, therefore students may experience greater social well-being if engaging more socially via these platforms. However, flourishing was not significantly correlated with frequency of social media use.

Interestingly, the need for approval subscale of the PI was significantly, positively correlated with frequency of social media use. The SDM would posit that perfectionists are highly interpersonally sensitive due to their need for others' approval, which can lead to the interpretation of social feedback as negative, and thus they experience distress. In this manner, use of social media could be a perfectionist's way of further seeking approval, particularly if the perfectionist is using social media to curate a perfect public image (Mendelson & Papacharissi, 2011), but as per the SDM, if

approval is not achieved, through negative interpretation of feedback, it may confer risk to mental ill health. The positive correlations between need for approval with anxiety, mental ill health, and negative affect in Study 1 would support this. Therefore, whilst students use of certain social media platforms may enable additional social well-being, if the student holds high levels of perfectionistic need for others approval, social media may be used as means to gain this approval. It may be beneficial for future research to explore further whether social media use enhances social support for perfectionist students, and as such buffers against risk of mental ill health and poor well-being (as per the SDM), and/or if social media use exacerbates perfectionist tendencies in their social evaluations, and therefore risks mental ill health and poor well-being.

Summary

The findings of the current programme of research are largely consistent with existing theoretical models and empirical evidence, in indicating that the likely consequence of perfectionism in UK undergraduate students is predominantly a detrimental impact on their mental health and well-being. Specifically, both PC and PS are related to higher levels of worry, anxiety, and negative affect (identified in Study 1), which is in keeping with the PCT. Study 1 also found resilience was negatively related to both PC and the Striving for Excellence subscale, arguably a more conceptually accurate measure of PS in comparison to other subscales of the PI, and this finding corresponds with the diathesis-stress model. Finally, the negative relationships between PC and flourishing found in Study 1 and 2 would be consistent within the SDM. However, it is challenging to make clear conclusions in light of the unique, positive small relationship between PS and flourishing in Study 2, as this is not necessarily in keeping with the SDM (Sherry et al., 2016). Whilst providing further evidence of suppression effects and suggesting potential adaptive qualities of PS, conclusions are limited due to the small magnitude of this relationship, and the use of the flourishing

measure and the PI (see Limitations, below). Further exploration of the implications of perfectionist students' perception and use of social support for mental health and well-being is encouraged.

Finally, Study 3 demonstrated the intervention was successful in decreasing PC, but unsuccessful in also decreasing Striving for Excellence, which is considered adaptive for perfectionist students in light of its positive relationship with flourishing, found in Chapter 3. It is somewhat promising, however, that there was no significant change in perfectionist students' levels of organisation or planfulness, arguably adaptive qualities that could otherwise have been decreased if using a single-factor design. Unfortunately, the intervention was unsuccessful in failing to significantly change levels of anxiety and flourishing post intervention, which could indicate potential limitations in the application of existing theoretical frameworks for perfectionist students. However, these findings may also indicate methodological issues that limit decisive conclusions from being drawn. TA of participants feedback would imply not only the benefit of the intervention to participants, but the themes were also fitting within the context of existing theoretical models.

Applications of Findings from the Research Programme

Findings from Study 1 and 2 are consistent with the existing nomological network for perfectionism, therefore it is recommended that university support services focus efforts on addressing perfectionism in students, particularly those who score highly in PC, when seeking to find ways in which to support students' mental health and well-being. Results also suggest the worry, anxiety and lack of resilience experienced by perfectionist students highlights the importance of reducing perfectionism in undergraduates through addressing maladaptive cognitions and avoidance and promoting resilience and use of social support networks (Rice et al., 2016). Moving forward, universities might also consider avoiding interventions that

lower perfectionism in its entirety, that includes PS, (Rice et al., 1998; Rice & Mirzadeh, 2000; Rice & Dellwo, 2002), as the relationships with PS and flourishing, resilience and positive affect would suggest adaptive qualities in this dimension that could potentially be fostered to protect the well-being and mental health of perfectionist students.

The dual-factor intervention developed in Study 3 is a promising resource for universities to utilise due to the success in reducing PC dimensions in students. To ensure the reliability of these findings, it would be beneficial for future researchers to repeat the study, however, some amendments are also recommended. This might include additional measures (e.g., levels of worry, resilience, stress, and perceived social support) that could enable greater understanding of how or why the intervention is beneficial for students. Given Study 3 did not find significant changes in flourishing or anxiety, a greater emphasis on behavioural activation, making use of social support networks during stressful experiences (Dunkley et al., 2000; Dunkley et al., 2016), and lengthening the intervention (Greenspon, 2008; Flett et al., 2016) may better improve these outcomes. If these changes result in evidence that the intervention is effective in not just reducing perfectionism, but also reducing anxiety and increasing flourishing, it may be of further benefit for universities to use this intervention when seeking to support the well-being and mental health of perfectionist students, and potentially mitigate against the growing demand experienced by support services (Thorley, 2017).

Contribution to Knowledge

The programme of research has contributed to existing knowledge by examining the nomological network of perfectionism in a large sample of UK undergraduates in relation to key factors that reflect mental health and well-being. In doing so, it has extended knowledge by further evidencing the deleterious relationship between perfectionism and students' mental health and well-being, but also the potential

beneficial (partialled) relationship between PS and well-being. As such, the findings have provided support for the PCT and the diathesis-stress model perspectives regarding the risk of perfectionism to mental health and well-being, but have only partially supported the SDM, when considering the relationship between PS and psychosocial well-being. This suggests a potential limitation to the application of the SDM in understanding how perfectionism impacts the mental health of students and warrants further investigation. The programme of research has also provided further evidence of suppression effects within perfectionism (Hill et al., 2010), supporting suggestions that these effects should be attended to carefully within the field of perfectionism research (Molnar & Sirois, 2016). The survey also provides insight into the potential relationships between social-media use, flourishing and perfectionistic need for approval, highlighting a gap in knowledge that encourages further investigation.

The dual-factor intervention is the first UK study to be conducted, no other study exists in the literature which has examined the integration of CBT and PPIs for the treatment of perfectionism in students. It has been beneficial in decreasing levels of PC in students, without decreasing adaptive components of organisation and planfulness. As noted in Chapter 2, Ponterotto (2005) argues that researchers' inclusion of qualitative approaches will help to progress counselling psychology as a scientific field. In evaluating the intervention using a mixed methods approach, it has provided greater insights into intervention effectiveness, as well as the subjective experience of perfectionism in students. This allows for a more comprehensive evaluation (than that of an exclusively positivist, quantitative approach) and expands counsellors' understanding and ideas for how to work with perfectionistic clients.

A particular strength of the contribution of this research is it was implemented by a BACP accredited and experienced psychotherapist. By drawing on this expertise, the researcher was able to adopt high ethical standards (BACP, 2018) throughout the

research project. The APA (2006) considers clinical expertise to be essential for the highest probability of achieving goals in therapy, and it allowed the current researcher to understand and integrate scientific literature together within the frame of therapeutic interventions. An academic-practitioner has a substantial impact on the efficacy of interventions (APA, 2006), such as the flexibility to be clinically effective with participants (or clients) in recognising and responding to meaningful patterns, disregarding irrelevant information, and effective use of the interpersonal relationship between practitioner and client. This was identified in the sub-theme of “supported sharing” found in Study 3, where participants valued the supportive manner in which the intervention was delivered by the researcher. When evaluating the clinical utility of a treatment, the results may be more meaningful and generalisable to real-world clinical settings if the intervention under study was already delivered by a therapist. Had the dual-factor intervention been delivered by a non-clinically trained researcher, the results may have varied considerably or be ungeneralisable to clinical settings. In summary, as well as the academic rigour applied to the present research, further rigour has been given through its delivery by an experienced and ethically competent therapist, enabling greater confidence in the results should it be adopted by therapists in future.

Limitations of the Research Programme

The PI was chosen as a viable measure for perfectionism throughout the research programme for reasons previously discussed. For instance, it comprehensively encapsulated the strengths of the two most frequently used measures for multidimensional perfectionism (the MPS-F and MPS-HF). However, evidence suggests associations between PS and PC with outcome measures may vary depending on the perfectionism measure used (Sirois et al., 2017), particularly if subscales incorporate aspects of other constructs, thus inflating association magnitudes (Nicholls

et al., 1982; Flett, Mara et al., 2016). Therefore, in using the PI, conclusions from the research programme are limited to this specific conceptualisation of perfectionism.

It was also indicated in Study 2 that the Striving for Excellence subscale may be a suppressor variable (Pandey & Elliot, 2010). Researchers have considered whether the variant left over after holding PC constant is perfectionism or *conscientiousness* (Hill, 2014; Molnar & Sirois, 2016), and others have highlighted the need to disentangle conscientiousness, perfectionism and “excellencism” (Gaudreau, 2019), which the Striving for Excellence subscale could perhaps be capturing. Whilst it is beyond the scope of this programme of research to explicate the aforementioned findings in Study 2, it could still indicate a lack of concrete understanding of what the PI is measuring conceptually, which therefore limits comprehensive conclusions to be drawn from using this measure.

It is also pertinent to note that despite evidence suggesting trait perfectionism could change through psychotherapeutic intervention (Roberts et al., 2017; Suh et al., 2019), as Hewitt et al. (2017) notes, the conceptualisation of perfectionism is not restricted to trait level but is also expressed through interpersonal (relational) and intrapersonal processes (state-like cognitions). As such, all studies could have benefited from different, or additional, measures of perfectionism that would enable assessment of perfectionistic traits/dispositions and states, and better inform how theoretical frameworks could be applied to extend understanding of how perfectionism impacts mental health in students. In addition, conclusions relating to theory were limited in omitting a measure of ruminative cognitions (as opposed to the PI Rumination subscale), a measure of coping strategies to stress (in addition to resilience more broadly), and a measure of social support (in addition to flourishing). Furthermore, whilst correlational analyses are a necessary first step in understanding relationships between factors, failure to include mediator and moderator analyses meant it was not

possible to examine the mechanisms that explicate the relationship between perfectionism with mental health and well-being, limiting theoretical implications.

Without a standardised measure for academic achievement, it was not possible to examine the potential adaptiveness of PS in its relationship to students' academic achievement (Rice et al., 2016; Madigan, 2019), as well as mental health and well-being outcomes. Similarly, whilst the findings relating to social media use have potentially valuable implications for students' perfectionism and well-being, the lack of a standardised measure for this particular variable makes it difficult to accurately identify its impact.

Finally, as discussed in Chapter 4, a lack of uptake for the intervention has impacted confidence in the quantitative evaluation of the effectiveness of the intervention, such as the study possibly being under-powered. Without considering levels of perfectionism in participants in the sampling strategy, it was not possible to determine *meaningful* changes in perfectionism post-intervention. Furthermore, it was difficult to ascertain the true impact of the dual-factor intervention, over and above the use of an individual intervention, without including different conditions (i.e., single vs dual-factor interventions).

Suggestions for Future Research

Important future objectives to address the limitations of the present research would be to examine the nomological network of perfectionism with different or additional measures of perfectionism, as well as measures for other key factors (including academic achievement) to better understand the complex network of how perfectionism dimensions reflect mental health and well-being in students. Further investigation into the impact of social media use is also recommended, together with a more standardised, reliable, and valid measure, as this can illuminate further whether it

is beneficial or harmful to students, and thus guide interventions when working with students.

Future research could extend the results within Chapter 3, by moving beyond simple bivariate correlations (Molnar & Sirois, 2016) and employing more complex multivariate techniques (e.g., structural equation modelling). This may provide further support for current results, as well as offering greater insight for interventions and theoretical applications by examining the underlying maintenance mechanisms that clarify the relationships between perfectionism, mental health, and well-being outcomes in students.

Finally, given the limited but promising results of the intervention, future research could build upon the protocol developed and explore whether results can be replicated and improved. For example, replicating the dual-factor intervention with a greater sample size, considering perfectionism levels in the sampling strategy to enable identification of more meaningful effects, and by increasing the intervention length (e.g., eight or 12 weeks). Greater understanding of how to manage anxiety is needed (if not through behavioural activation techniques) and how to increase psychosocial well-being (if not through utilisation of social networks for support), for instance, incorporating one-to-one therapy alongside the intervention (as suggested by participants). Including different conditions (i.e., dual-factor vs single factors) may identify the unique contributions of CBT and various PPIs. Additionally, a standardised measure for academic attainment would be helpful to not only provide a more comprehensive understanding of its relationship to student perfectionism dimensions, mental health, and well-being, but also the impact the intervention can have on perfectionist students' academic achievement.

Conclusion

The research project has helped to further understanding of the nomological network of perfectionism in UK undergraduates, by evidencing maladaptive relationships of PC with mental ill health and well-being, as well as the neutral relationships of PS. However, in examining suppression effects, this project was also able to identify stronger, positive relationships between PS and well-being. It is suggested that when supporting students, UK universities consider the varying relationships between perfectionism, mental health, and well-being outcomes in undergraduates, so as to not to undermine the potential adaptiveness of PS in this specific context.

The results from the current research contribute to otherwise limited knowledge on how a dual-factor intervention can be beneficial for working with multidimensional perfectionism in students in reducing PC, without negating potentially adaptive PS dimensions, such as organisation and planfulness. Qualitative themes of “usefulness” and “connectedness” following participants’ feedback of the intervention also highlight the benefit of integrating PPIs into interventions for perfectionist students. Therefore, it is suggested universities consider avoiding single-factor interventions that are deficit-based and risk decreasing potentially adaptive components in perfectionist students. Instead, it is recommended universities consider a dual-factor approach for perfectionist students, that enables management of maladaptive aspects of perfectionism through use of a CBT intervention, whilst incorporating PPIs to help enhance and not diminish the adaptive qualities of perfectionism.

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Appendices

Appendix A: Template recruitment email for participants sent to Universities, Students'

Unions etc., including template email for students

To Whom It May Concern,

I'm enquiring about the possibility of sharing a survey with undergraduates at your [University](#) investigating "Perfectionism, Worry and Mental Health".

This survey is being distributed nationally across various Universities to create new data about the prevalence of perfectionism in UK Undergraduates as well as associated factors such as anxiety, wellbeing, resilience and academic attainment.

As a counsellor myself, my research is also informed by over 10 years' experience supporting students at Universities; I am well aware of the increasing demand on support services and the impact this has on students' ability to thrive at University, as well as staff well-being.

The aim of my research is to develop effective interventions (informed by the survey data) that will not only target mental health issues such as anxiety and worry, but also build resilience and confidence in students, helping them to better achieve their potential. It is my hope that this intervention will also be easily accessible and deliverable by staff in various roles, therefore not increasing workload to student services, but rather decrease it.

I imagine you have also experienced the high demand for mental health and well-being support at your own institution and are seeking to identify effective responses. I would be most grateful if you could support me in distributing this survey, as I believe the results have the potential to be mutually beneficial.

If you are happy to distribute this survey, please see below/attached the standard e-mail that you are welcome to forward to students, or upload to Social Media platforms.

Please do not hesitate to contact myself, or my supervisors, if you have any further questions.

Many thanks for your time.

Lucy Cooper

Supervisor Contact Details

Professor Ann Macaskill (a.macaskill@shu.ac.uk)

Dr David Reynolds (d.reynolds@shu.ac.uk)

Email Subject: Short Mental Health Survey for UG Students

Hello!

I'm contacting all Undergraduate students across the UK to take part in our **National Student Mental Health Survey**.

Rates of students' mental ill health are rising, with drop-out rates reaching record levels. Research shows that students are increasingly struggling with high rates of stress, worry, anxiety and procrastination - not just impacting their academic potential, but their experience at University as a whole.

As a counsellor myself, my research is informed by over 10 years' experience supporting students at Universities. This research will develop effective interventions that will help students feel more confident in their abilities, worry and procrastinate less, and flourish more at University.

To do this, **I need your help in completing a survey** that will establish rates of mental ill health across undergraduates, and the different factors impacting it.

The survey will take approximately 15 minutes of your time. For more information, and to take part in the survey, please click here (or copy and paste the link into your internet browser):

https://shusls.eu.qualtrics.com/jfe/form/SV_6tYT1s0VNzJAU2V

Thank you for your time and best of luck with your studies,

Lucy Cooper

Primary Doctoral Researcher

Supervisors:

Professor Ann Macaskill (a.macaskill@shu.ac.uk) and Dr David Reynolds

(d.reynolds@shu.ac.uk)

Social Media Blurb

UK Students - take part in the National UG Student Mental Health Survey! Takes just 15mins – follow this link:

https://shusls.eu.qualtrics.com/jfe/form/SV_6tYT1s0VNzJAU2V

or

Any/All UK #undergraduate #students - please take part in the National #UG student #mentalhealth survey! https://shusls.eu.qualtrics.com/jfe/form/SV_6tYT1s0VNzJAU2V

Appendix B: Template recruitment email sent to Sheffield Hallam University Students

Email Subject: Short Mental Health Survey for UG Students

Hello!

I'm contacting all Undergraduate students across the UK to take part in our **National Student Mental Health Survey**.

Rates of students' mental ill health are rising, with drop-out rates reaching record levels. Research shows that students are increasingly struggling with high rates of stress, worry, anxiety and procrastination - not just impacting their academic potential, but their experience at University as a whole.

As a counsellor myself, my research is informed by over 10 years' experience supporting students at Universities. This research will develop effective interventions that will help students feel more confident in their abilities, worry and procrastinate less, and flourish more at University.

To do this, **I need your help in completing a survey** that will establish rates of mental ill health across undergraduates, and the different factors impacting it.

The survey will take approximately 15 minutes of your time, and you will not be required to give any personal information - responses are completely anonymous. For more information, and to take part in the survey, please click here (or copy and paste the link into your internet browser):

https://shusls.eu.qualtrics.com/jfe/form/SV_6tYT1s0VNzJAU2V

Thank you for your time and best of luck with your studies,

Lucy Cooper

Primary Doctoral Researcher (L.N.Cooper@shu.ac.uk)

Supervisors:

Professor Ann Macaskill (a.macaskill@shu.ac.uk) and Dr David Reynolds

(d.reynolds@shu.ac.uk)

Social Media Blurb

UK Students - take part in the National UG Student Mental Health Survey! Takes just 15mins – follow this link:

https://shusls.eu.qualtrics.com/jfe/form/SV_6tYT1s0VNzJAU2V

or

[Any/All UK #undergraduate #students - please take part in the National #UG student #mentalhealth survey! https://shusls.eu.qualtrics.com/jfe/form/SV_6tYT1s0VNzJAU2V](https://shusls.eu.qualtrics.com/jfe/form/SV_6tYT1s0VNzJAU2V)

Appendix C: Export of Qualtrics survey sent to UK Undergraduates, including Information Sheet, Consent Form, Demographic Questions, Measures and Debrief

UNIVERSITY OF SHEFFIELD HALLAM

INFO
University Undergraduate Mental Health Survey

Thank you for considering to take part in my survey. Please read through the following carefully before continuing to the next page.

What is this survey about?
We're investigating the mental health and well-being of Undergraduate students across Universities in the UK and hoping to identify different coping mechanisms and the effect these may have on students' experience at University, as well as their grades.

What will I be doing?
You'll be asked to fill out some demographic information about yourself (i.e., age and gender), as well as rate yourself, or how you feel, on a series of scales measuring well-being.

The full survey should take approximately 15-20 minutes to complete.

What are the risks or benefits of taking part?
By participating, your data will be contributing to our understanding of students' mental health and will be used to develop an intervention aimed at targeting anxiety amongst students.

Although we anticipate no risks to yourself, the personal nature of some questions could make you feel uncomfortable (see below for information about withdrawal). At the end of the study, contact details of support services are provided, should you feel the need to contact them.

Have you got ethical approval?
Yes. This survey was approved by the Sheffield Hallam University's ethics committee, ethics code ER6315121 in April 2018.

Will my answers be anonymous?
Yes, you will not be required to give any personal identifying information. However, Sheffield Hallam students can provide their e-mail address if they wish to opt-in to a follow-up survey and/or intervention study. Any e-mail addresses provided will be deleted from the survey and saved securely in a separate location.

The survey will ask some demographic information, but any coincidentally identifiable information will only be accessible via the raw data (see below for data management). No identifiable information will be published.

What if I want to withdraw?
You can withdraw at any point during the survey by closing the website, without giving a reason

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and without negative consequence. However, as the data as been collected anonymously, once the survey has been completed, data cannot be withdrawn.

What will happen to the data/How will the data be managed?
Your data will be amongst hundreds, possibly thousands of other responses, and will only be accessible to the research project team and Research Management leads at Sheffield Hallam University. Other approved researchers may be granted access to the anonymised raw data after permission by the research project team. Data will be saved/stored on Sheffield Hallam University's secure research drive. It will be analysed using Excel and SPSS. The raw data will be retained until the research project is completed (approximately September 2020), and 7 years after the publication of any academic papers relating to the data or as required by the academic journal.

What are your contact details/I have a question?
If you have any questions, please do not hesitate to contact myself:

Ms Lucy Cooper (Primary Researcher), email: L.N.Cooper@shu.ac.uk

Or alternatively, contact the following:

Professor Ann Macaskill (Director of Studies), email: a.macaskill@shu.ac.uk
Dr David Reynolds (Secondary Supervisor), email: d.reynolds@shu.ac.uk
Mrs Helen Williamson (Data Protection Officer), email: dpr@shu.ac.uk

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C1

How do I start?

Before you begin the survey, please ensure you've read through the above, and if you're happy to continue, click the following boxes to show you consent to take part.

	Yes (1)
I have read and understood the above information. (1)	<input type="radio"/>
I understand that no information about me will be published in a form which could potentially make me identifiable. (2)	<input type="radio"/>
I understand I am able to withdraw from the study without any penalty. (3)	<input type="radio"/>
I consent to take part in this study. (4)	<input type="radio"/>

End of Ethical Information (Consent) and Consent

Start of Basic Demographic Information

S1

Please read through and answer the following carefully

Q1 What is your gender?

- Male (1)
- Female (2)
- Transgender (3)
- Prefer Not To Say (4)
- Other (please specify) (5) _____

Q2 What is your age?

Q3 What is your year of study?

(Please note, this study is currently **only** available to Undergraduate Students)

- 1st Year / Level 4 (1)
- 2nd Year / Level 5 (2)
- 3rd Year / Level 6 (3)
- Other (please specify) (4) _____

Q4 What course are you studying?

Q5 Which University are you studying at?

▼ Aberdeen (1) ... Other (please specify): (162)

Q5B If your University is not listed, please specify here:

Q6 Are you a Home or International Student?

- [Home](#) (1)
- [International](#) (2)
- [Unsure](#) (3)

Q7 What is your Ethnicity?

- [Arab](#) (1)
- Asian/Asian British - [Bangladeshi](#) (2)
- Asian/Asian British - [Chinese](#) (3)
- Asian/Asian British - [Indian](#) (4)
- Asian/Asian British - [Pakistani](#) (5)
- Any other Asian background (please [specify](#)) (6)

- Black/Black British - [African](#) (7)
- Black/Black British - [Caribbean](#) (8)
- Any other black British, African or Caribbean background (please [specify](#)) (9)

- White - British, English, Northern Irish, Scottish or [Welsh](#) (10)
- White - Gypsy or Irish [Traveller](#) (11)
- White - [Irish](#) (12)
- White and [Asian](#) (13)
- White and Black [African](#) (14)
- White and Black [Caribbean](#) (15)
- Any other white background (please [specify](#)) (16)

- Any other mixed or multiple ethnic background (please [specify](#)) (17)

- Any other ethnic group (please [specify](#)) (18)

- Prefer not to [say](#) (19)

Q8 What A-Level grades or UCAS points or equivalent qualifications did you achieve for entry to your University?

(Please state what grades/points you achieved and type of qualification)

E.G.

"A-Level Grades: **BCC**";

or,

"**112 UCAS Points**";

or,

"BTECs: **DDM**"

Q9 Do you currently have a diagnosis of any of the following (please tick all that apply):

- [Phobia](#) (1)
- [Panic attacks](#) (2)
- [Post-traumatic Stress Disorder](#) (3)
- [Generalised Anxiety Disorder](#) (4)
- [Depression](#) (5)
- [Post-natal depression](#) (6)
- [Obsessive Compulsive Disorder](#) (7)
- [Bipolar Disorder](#) (8)
- [Eating disorder](#) (9)
- [Nervous breakdown](#) (10)
- [Personality Disorder](#) (11)
- [Psychosis](#) (12)
- [Schizophrenia](#) (13)
- [ADHD](#) (14)
- [ADD](#) (15)
- [SAD](#) (16)

- Any other mental, emotional or neurological problem or [condition](#) (17)
- Prefer not to [say](#) (18)
- [None](#) (19)

Q10 Are you currently receiving any treatment for mental ill health and/or a mental health condition:

- [Yes](#) (1)
- [No](#) (2)
- [Unsure](#) (3)
- [Not Applicable](#) (4)

Q10B * If YES, what treatment(s) are you receiving:

End of Questionnaire

Save as PDF

Q11 Please use the following options to rate how much you generally agree with each statement

	strongly disagree (1)	disagree somewhat (2)	neither agree nor disagree (3)	agree somewhat (4)	strongly agree (5)
My work needs to be perfect, in order for me to be satisfied. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am over-sensitive to the comments of others. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I usually let people know when their work isn't up to my standards. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am well-organized. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think through my options carefully before making a decision. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I make mistakes, people might think less of me. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've always felt pressure from my parent(s) to be the best. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I do something	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

less than perfectly, I have a hard time getting over it. (8)

All my energy is put into achieving a flawless result. (9)

I compare my work to others and often feel inadequate. (10)

I get upset when other people don't maintain the same standards I do. (11)

I think things should be put away in their place. (12)

I find myself planning many of my decisions. (13)

I am particularly embarrassed by failure. (14)

My parents hold me to high standards. (15)

I spend a lot of time worrying

<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				

about things I've done, or things I need to do. (16)

I can't stand to do something halfway. (17)

I am sensitive to how others respond to my work. (18)

I'm not very patient with people's excuses for poor work. (19)

I would characterize myself as an orderly person. (20)

<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				

End of Block: Perfectionism - 1

Start of Block: Perfectionism - 2

Q12 Please use the following options to rate how much you generally agree with each statement

	strongly disagree (1)	disagree somewhat (2)	neither agree nor disagree (3)	agree somewhat (4)	strongly agree (5)
Most of my decisions are made after I have had time to think about them. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I over-react to making mistakes. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My parent(s) are difficult to please. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I make a mistake, my whole day is ruined. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have to be the best in every assignment I do. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm concerned with whether or not other people approve of my actions. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm often critical of others. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to always be organized and disciplined. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I usually need to think things through before I know what I want. (9)

If someone points out a mistake I've made, I feel like I've lost that person's respect in some way. (10)

My parent(s) have high expectations for achievement. (11)

If I say or do something dumb I tend to think about it for the rest of the day. (12)

I drive myself rigorously to achieve high standards. (13)

I often don't say anything, because I'm scared I might say the wrong thing. (14)

I am frequently aggravated by the lazy or sloppy work of others.

<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				

(15)
I clean my home often. (16)

I need time to think up a plan before I take action. (17)

If I mess up on one thing, people might start questioning everything I do. (18)

Growing up, I felt a lot of pressure to do everything right. (19)

When I make an error, I generally can't stop thinking about it. (20)

Page 15 of 31

Q13 Please use the following options to rate how much you generally agree with each statement

	strongly disagree (1)	disagree somewhat (2)	neither agree nor disagree (3)	agree somewhat (4)	strongly agree (5)
I must achieve excellence in everything I do. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am self-conscious about what others think of me. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have little tolerance for other people's careless mistakes. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I make sure to put things away as soon as I'm done using them. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tend to deliberate before making up my mind. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To me, a mistake equals failure. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My parent(s) put a lot of pressure on me to succeed. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often obsess over some of the things I have	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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done. (8)

I am often concerned that people will take what I say the wrong way. (9)

I often get frustrated over other people's mistakes. (10)

My closet is neat and organized. (11)

I usually don't make decisions on the spot. (12)

Making mistakes is a sign of stupidity. (13)

I always felt that my parent(s) wanted me to be perfect. (14)

After I turn a project in, I can't stop thinking of how it could have been better. (15)

My workspace is generally organized. (16)

<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				

If I make a serious mistake, I feel like I'm less of a person. (17)

My parent(s) have expected nothing but my best. (18)

I spend a great deal of time worrying about other people's opinion of me. (19)

<input type="radio"/>				
<input type="radio"/>				
<input type="radio"/>				

End of Block: Perfectionism - 3

Start of Block: GAD7 and MHI-5

Q14 Over the last 2 weeks, how often have you been bothered by the following problems?

	Not at all (1)	Several days (2)	Over half the days (3)	Nearly every day (4)
Feeling nervous, anxious, or on edge (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not being able to stop or control worrying (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worrying too much about different things (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trouble relaxing (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being so restless that it's hard to sit still (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Becoming easily annoyed or irritable (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feeling afraid as if something awful might happen (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q14B If you checked off any problems, how difficult have these made it for you to do your work, take care of things at home, or get along with other people?

- Not difficult at all (1)
- Somewhat difficult (2)
- Very difficult (3)
- Extremely difficult (4)

Q15 Please read each question and select the box by the ONE statement that best describes how things have been FOR YOU during the past month.

There are no right or wrong answers.

	All of the time (1)	Most of the time (2)	A good bit of the time (3)	Some of the time (4)	A little of the time (5)	None of the time (6)
During the past month, how much of the time were you a happy person? (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How much of the time, during the past month, have you felt calm and peaceful? (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How much of the time, during the past month, have you been a very nervous person? (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How much of the time, during the past month, have you felt downhearted and blue? (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How much of the time, during the past month, have you felt so down in the dumps	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

that nothing could cheer you up? (5)

Current Block: GDP and health

Serial of Block: P1WQ

Q16A Rate each of the following statements on a scale of 1 ("not at all typical of me") to 5 ("very typical of me").

Please do not leave any items blank.

	1 - Not at all typical of me (1)	2 (2)	3 (3)	4 (4)	5 - Very typical of me (5)
If I do not have enough time to do everything, I do not worry about it. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My worries overwhelm me. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not tend worry about things. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Many situations make me worry. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know I should not worry about things, but I just cannot help it. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q16B

	1 - Not at all typical of me (1)	2 (2)	3 (3)	4 (4)	5 - Very typical of me (5)
When I am under <u>pressure</u> I worry a lot. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am always worrying about something. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find it easy to dismiss worrisome thoughts. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
As soon as I finish one task, I start to worry about everything else I <u>have to</u> do. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I never worry about anything. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q16C

	1 - Not at all typical of me (1)	2 (2)	3 (3)	4 (4)	5 - Very typical of me (5)
When there is nothing more I can do about a concern, I do not worry about it <u>any more</u> . (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have been a worrier all my life. (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I notice that I have been worrying about things. (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Once I start worrying, I cannot stop. (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I worry all the time. (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I worry about projects until they are all done. (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block TDWQ.1

Start of Block Resilience

Q17 Please read each statement and select the numbered circle to the right of each statement that best indicates your feelings about the statement. Respond to all statements.

	1 - Strongly Disagree (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 - Strongly Agree (7)
1. I usually manage one way or another. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I feel proud that I have accomplished things in my life. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I usually take things in stride. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I am friends with myself. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. I feel that I can handle many things at a time. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I am determined. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I can get through difficult times because I've experienced difficulty before. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I have self-discipline. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. I keep interested in things. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. I can usually find something to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

laugh about.
(10)

11. My belief
in myself gets
me through
hard times.
(11)

12. In an
emergency,
I'm someone
people can
generally rely
on. (12)

13. My life
has meaning.
(13)

14. When I'm
in a difficult
situation, I
can usually
find my way
out of it. (14)

<input type="radio"/>						
<input type="radio"/>						
<input type="radio"/>						
<input type="radio"/>						

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East of Global Resilience

South of Global Flourishing, SPANW, [Book 1 Manual](#)

Q18 Below are 8 statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by indicating that response for each statement

	7 - Strongly agree (1)	6 - Agree (2)	5 - Slightly agree (3)	4 - Neither agree nor disagree (4)	3 - Slightly disagree (5)	2 - Disagree (6)	1 - Strongly disagree (7)
I lead a purposeful and meaningful life (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My social relationships are supportive and rewarding (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am engaged and interested in my daily activities (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I actively contribute to the happiness and well-being of others (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am competent and capable in the activities that are important to me (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am a good person and live a good life (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I am optimistic about my future (7)

People respect me (8)

Q19 Please think about what you have been doing and experiencing during the **past four weeks**.

Then report how much you experienced each of the following feelings, using the scale below.

	1. Very Rarely or Never (1)	2. Rarely (2)	3. Sometimes (3)	4. Often (4)	5. Very Often or <u>Always</u> (5)
Positive (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Negative (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Good (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bad (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pleasant (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unpleasant (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Happy (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sad (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Afraid (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Joyful (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Angry (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<u>Contented</u> (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q20 Which Social Media platforms do you use **at least once a week**?

- [Facebook](#) (1)
 - [Instagram](#) (2)
 - [Snapchat](#) (3)
 - [YouTube](#) (4)
 - [Twitter](#) (5)
 - [LinkedIn](#) (6)
 - [Pinterest](#) (7)
 - [Tumblr](#) (8)
 - Other (please [specify](#)) (9)
-

Q21 How long, on average, do you spend **per day** on [Social Media](#)?

- Less than 5 [minutes](#) (1)
- From 5–30 [minutes](#) (2)
- From 30 minutes-1 [hour](#) (3)
- Between 1–2 [hours](#) (4)
- Between 2–3 [hours](#) (5)
- Between 3–4 [hours](#) (6)
- 4+ hours. (7)
- I do not use social media daily* (8)

Q21B * If you do not use social media daily, how often, on average, do you use it?

End of Block: Flourishing WPAVE, [Report this page](#)

Survey of Gender, SHU & mail

E1 **Sheffield Hallam Students**

If you are a student at **Sheffield Hallam University**, and would like to express an interest in taking part in a follow-up survey and/or intervention study [at a later date](#), please provide your e-mail address below:

End of Block: SHU Email

Survey of Gender: End of Survey

Q43 End of Study

Thank you for taking part in this study! [Contact Details](#)

If you have any questions, please do not hesitate to contact myself:

Ms. Lucy Cooper (Primary Researcher), email: L.N.Cooper@shu.ac.uk

Or alternatively, contact the following:

Professor Ann Macaskill (Director of Studies), email: a.macaskill@shu.ac.uk

Dr David Reynolds (Secondary Supervisor), email: d.reynolds@shu.ac.uk

Mrs. Helen Williamson (Data Protection Officer), email: dpr@shu.ac.uk Anonymity

The survey has now been completed and all answers recorded. As all data is anonymised, it is no longer possible to withdraw from the survey.

Support Services

Although no risks or negative consequences are anticipated to occur by having taken part in this study, if you have become distressed or any of the questions have negatively affected you, please consider contacting some of the following services:

NHS Choices / NHS 111

Call NHS 111 if you urgently need medical help or advice, but it's not a life-threatening situation.

Phone: 111

Website: <https://www.nhs.uk/pages/home.aspx>

Mind

Mental health charity, providing advice and support to anyone experiencing a mental health problem. Website: <https://www.mind.org.uk/>

Phone: 0300 123 3393

Email: info@mind.org.uk

Student Minds

UK student mental health charity Website: <http://www.studentminds.org.uk/>

Samaritans

Provides confidential emotional support to anyone in emotional distress.

Website: <https://www.samaritans.org/>

Phone: 116 123

Email: jo@samaritans.org

The next pages will take you back to SONA to record your credit

End of Block End of Survey

Appendix D: Ethical review and approval for survey

Perfectionism, worry and well-being in UK undergraduates: Establishing incidence and effective interventions

Ethics Review ID: ER6315121

Workflow Status: Approved with Advisory Comments

Type of Ethics Review Template: All other research with human participants

Primary Researcher / Principal Investigator

Lucy Cooper
(Faculty of Social Sciences and Humanities)

Converis Project Application:

Q1. Is this project ii) Doctoral research

Director of Studies

Ann Macaskill
(Faculty of Social Sciences and Humanities)

Q4. Proposed Start Date of Data Collection: 06/04/2018

Q5. Proposed End Date of Data Collection : 30/09/2018

Q6. Will the research involve any of the following

i) Participants under 5 years old: No

ii) Pregnant women: No

iii) 5000 or more participants: No

iv) Research being conducted in an overseas country: No

Q7. If overseas, specify the location:

Q8. Is the research externally funded?: No

Q9. Will the research be conducted with partners and subcontractors?: No

Q10. Does the research involve one or more of the following?

i. Patients recruited because of their past or present use of the NHS or Social Care: No

ii. Relatives/carers of patients recruited because of their past or present use of the NHS or Social Care: No

iii. Access to data, organs, or other bodily material of past or present NHS patients: No

iv. Foetal material and IVF involving NHS patients: No

v. The recently dead in NHS premises: No

vi. Participants who are unable to provide informed consent due to their incapacity even if the project is not health related: No

vii. Prisoners or others within the criminal justice system recruited for health-related research: No

viii. Prisoners or others within the criminal justice system recruited for non-health-related research: No

ix. Police, court officials or others within the criminal justice system: No

Is this a research project as opposed to service evaluation or audit?: No

Q11. Category of academic discipline: Social Sciences

Q12. Methodology: Quantitative

P2 - Project Outline

Q1. General overview of study: Aim of this study is to ascertain the incidence of "Perfectionism", and associated factors identified by previous literature, within undergraduates at UK Universities using an online survey. Data will also be used to develop an intervention at a later date. Undergraduates at Sheffield Hallam University (SHU) will be recruited for the survey, ideally, as well as other UK Higher Education institutions. The survey will ask demographic information, as well as several measures to establish levels of perfectionism and other associated factors such as anxiety, well-being, worry, social media use, flourishing and A-level grades or equivalent. A subsequent survey will be sent out to SHU students only, on an opt-in basis, to capture additional factors, such as procrastination. Associations between perfectionism, and different associated factors will be examined using structural equations modelling. This would produce new data surrounding the multi-dimensions of perfectionism, as it pertains to personal standards, individual difference and academic attainment/performance for students in Higher Education.

Q2. Background to the study and scientific rationale (if you have already written a research proposal, e.g. for a funder, you can upload that instead of completing this section): Perfectionism, Worry and Anxiety

Perfectionism has been conceptualized as multi-dimensional with personal and interpersonal components (Hewitt & Flett, 1991). Although previously thought of as solely negative, research has shown perfectionism can be both adaptive and maladaptive (Rice, Ashby and Slaney, 1998). Adaptive perfectionism has been associated with positive affect, lower levels of psychopathology and higher levels of achievement, whilst maladaptive perfectionism includes the need for approval and anxiety about failure, and is associated with lower self-esteem and higher levels of anxiety and depression (Stoeber and Otto, 2006; Hill, Huelsman and Araujo, 2010). Furthermore, perfectionistic concerns include overly worrying as a result of the perceived failure to meet standards, about making mistakes or being judged by others and is accompanied by increased negative rumination (Hill, Huelsman, & Araujo, 2010).

Worry is noted as the central (Newman et al., 2013) or cardinal (Fisher and Wells, 2011) feature of Generalised Anxiety Disorder (GAD); one of the least successfully treated of anxiety disorders (Newman et al., 2013), however recent evidence suggests that worry is present in several other disorders, including depression (Kertz et al., 2012). Worry is defined as relatively uncontrollable series of primarily verbal-linguistic thoughts about uncertain events with the potential for future negative outcome (Borkovec et al., 1983; Pruzinsky and Borkovec, 1990). There are various proposed models for GAD and worry, such as; Cognitive Avoidance Theory of Worry (Borkovec et al., 2004), Intolerance of Uncertainty Model (Dugas, Buhr and Ladouceur, 2004), Metacognitive Model of GAD (Wells, 1999), Emotional Dysregulation Model (Mennin et al., 2002) and Contrast Avoidance Model (Newman et al, 2013). Although the models have a number of overlapping features, there is some disagreement amongst about whether the individual worrier holds a positive belief about the usefulness of worry, and how worry becomes excessive, generalised and uncontrollable.

Hill, Huelsman and Araujo (2010) have demonstrated that perfectionism dimensions involve experiencing anxiety about doing things incorrectly and worrying about performance, with strong negative associations with psychological well-being. They also suggest individuals with maladaptive perfectionistic traits could benefit from interventions that help reduce worry, thus help the individual's psychological wellbeing.

Macedo, Marques & Pereira (2014) reviewed the adverse effects of worry in perfectionistic individuals and hypothesised that worry, as a style of thinking, becomes a maladaptive coping strategy adopted by perfectionists to avoid other aversive self-evaluative cognitions. Therefore, whilst adaptive perfectionism can be helpful for those in academia, such as Organisation and Personal Standards factors, unachievable levels of perfectionism could result in maladaptive factors such as increased worry and GAD. There are implications for students' academic performance, attainment, ability to cope with academic stressors and mental wellbeing.

Interventions for Worry, Anxiety and/or Perfectionism

In addressing negative affect, such as excessive worry, most existing interventions aim to remove or replace the negative factors. NICE (2011) guidelines recommend cognitive-behavioural therapy (CBT) for treating anxiety, and Macedo, Marques and Pereira (2014) also suggest it to address levels of psychological distress across perfectionism-related disorders. If using worry as an example of a symptom, if one was able to reduce an aspect of maladaptive perfectionism, such as overdependence on achieving a goal, then assuming the individuals personal resources remain stable, worry could in turn be reduced (Reynolds, Hool and Simpson, 2016). To conceptualised this as a formula, it could be that:

Worry = Goals/Resources

Taking into account the two-factor approach for a health intervention (Keyes, 2002), whilst the removal or reduction of negative factors (such as maladaptive perfectionism) could be helpful in reducing worry, also increasing the positive aspects (such as individual resources) could have an ever greater effect on reducing worry (and other GAD symptoms). One possibility is to use positive psychology interventions (PPIs) for increasing resources. Rice et al., (1998) argue that clients could benefit from an intervention that does not presume the one-dimensionality of perfectionism, but considers possible adaptive elements that could be strengthened. Given PPIs add to/strengthen resources, as well its demonstrated effectiveness (Seligman et al., 2005; Sin and Lyubomirsky, 2009; Bolier et al., 2013, Macaskill and Denovan, 2013, 2014; Ouweneel, Le Blanc and Schaufeli, 2014), including reducing worry (Geraghty et al., 2010a) PPIs would be a suitable second-factor alongside CBT techniques in addressing perfectionism. Employing the concept of perfectionism as multi-dimensional, this projects would combine these interventions using a two-factor approach to health intervention (Keyes, 2002), that addresses both the maladaptive metacognitions of perfectionism and fosters personal strengths.

Student Wellbeing and Mental Health Services

Whilst university precipitates the traditional stressors of assessments, academic study and independent living away from home; research has demonstrated a high prevalence of mental illness, including anxiety, in students (Royal College of Psychiatrists, 2011), with rates similar amongst students to that within the total population of young adults (Macaskill, 2012). Partially due to changing contexts of UK education and increased financial strain on students (Denovan & Macaskill, 2016), levels of mental illness among students in higher education in the UK are reportedly increasing (Thorley, 2017) and reaching global concern (Storrie, Ahern and Tuckett, 2010; Rückert, 2015).

Although there is some debate regarding the true prevalence of mental illness in higher education institutions (Brown, 2016), there is more certainty regarding the rise of demand in higher education mental health services (Mair, 2016; Randall and Bewick, 2016; British Association for Counselling and Psychotherapy, 2017; Brogna, Millings and Barkham, 2017) with calls for more funding to these services and interventions to increase students' resilience (Pointon, 2014; Ecclestone, 2016).

Taking into the account the high levels of mental ill health reported in the student population, as well as the potential negative impact perfectionistic concerns could have on student performance and psychological wellbeing, the first study (this survey) will measure associations between worry, anxiety, perfectionism and attainment within UK Undergraduates. From this data, the second aim is to develop, deliver and evaluate an intervention based on CBT and PPIs with students who have high levels of perfectionism and use excessive worry as a maladaptive coping style.

Q3. Is your topic of a sensitive/contentious nature or could your funder be considered controversial?: No

Q4. Are you likely to be generating potentially security-sensitive data that might need particularly secure storage?: No

Q5. Has the scientific/scholarly basis of this research been approved, for example by Research Degrees Sub-committee or an external funding body?: Yes

Q6. Main research questions: To investigate the incidence of perfectionism in students, including the relationship between perfectionistic striving and/or concerns, and worry and attainment.

Q7. Summary of methods including proposed data analyses: An online survey, created and distributed through Qualtrics, will be sent to students at Sheffield Hallam University, and other universities, containing the following questions/measures:

Gender, Age, Course, Year of Study, University, Ethnicity, Home/International student status, A-Level Grades/UCAS Points/Equivalent, Social Media use. Sheffield Hallam students will also be given the option to provide their e-mail address if they wish to take part in a follow-up survey and intervention.

Participants will be asked to disclose (if they wish) whether or not they have a mental health condition, and what condition(s), and whether or not they are receiving treatment for their mental health (and if so, what).

Other measures include:

Perfectionism Inventory (Hill et al., 2004) - 59 items - to measure perfectionism.

GAD-7 (Spitzer et al., 2006) - 7 items - to measure anxiety.

Penn-State Worry Questionnaire (Meyer et al., 1990) - 16 items - to measure worry.

GHQ-12 - General Health Questionnaire - 12 items - to measure wellbeing.

Resilience Scale (Wagnild and Young, 1993) - 15 items - to measure resilience.

Flourishing Scale (Diener et al., 2010) - 8 items - to measure flourishing/wellbeing.

SPANE (Diener et al., 2009) - 12 items - to measure positive and negative experiences.

Data will then be analysed through SPSS and Structural Equations Modelling.

P3 - Research with Human Participants

Q1. Does the research involve human participants?: Yes

Q2. Will any of the participants be vulnerable?: No

Q3. Is this a clinical trial?: No

If yes, will the placebo group receive a treatment plan after the study? If N/A tick no.: No

Q4. Are drugs, placebos or other substances (e.g. food substances, vitamins) to be administered to the study participants or will the study involve invasive, intrusive or potentially harmful procedures of any kind?: No

Q5. Will tissue samples (including blood) be obtained from participants?: No

Q6. Is pain or more than mild discomfort likely to result from the study?: No

Q7. Will the study involve prolonged testing (activities likely to increase the risk of repetitive strain injury)?: No

Q8. Is there any reasonable and foreseeable risk of physical or emotional harm to any of the participants?: Yes

Q9. Will anyone be taking part without giving their informed consent?: No

Q10. Is it covert research?: No

Q11. Will the research output allow identification of any individual who has not given their express consent to be identified?: No

Q12. Where data is collected from human participants, outline the nature of the data, details of anonymisation, storage and disposal procedures if these are required (300 - 750): Information "sheet" containing all relevant information ensuring informed consent is gained, will be on the first page of the survey. There will be a mandatory tick box for consent that participants will need to tick to continue with the survey.

Although anonymous, the survey will ask for specific demographic and medical information that, depending on the response, has the potential to be identifiable:

Gender, Age, Course, Year of Study, University, Ethnicity, Home/International student status, A-Level Grades/UCAS Points/Equivalent. Also, participants will be asked to disclose (if they wish) whether or not they have a mental health condition, and what condition(s), and whether or not they are receiving treatment for their mental health (and if so, what). Sheffield Hallam University students will also be given the option to provide their email address if they wish to opt-in to a follow-survey and/or intervention. Email addresses will be deleted from the survey and saved securely in a separate location. A corresponding survey number with the email address will be saved separately. No identifiable information will be published.

Data from Qualtrics will be saved/stored on University Q:Research Drive. Separate folders will contain the master copy (named as such) and sub folders for raw data and analysed. Naming will be content_date created_date ammended_version no., i.e. 'demographicdata_20180501_20180530_3'

Data will only be accessible to members of the project team and the Research Management leads at the department. All data (raw and analysed) will be preserved. The data will be retained until the research project is completed (approximately September 2020), and 7 years after the publication of any academic papers relating to the data or as required by the academic journal. Other approved researchers may be granted access to the anonymised raw data after permission by the research project team.

P4 - Research in Organisations

Q1. Will the research involve working with an external organisation or using data/material from an external organisation?: No

Q2. Do you have granted access to conduct the research?: No

P5 - Research with Products and Artefacts

Q1. Will the research involve working with copyrighted documents, films, broadcasts, photographs, artworks, designs, products, programmes, databases, networks, processes, existing datasets or secure data?: No

Q2. Are the materials you intend to use in the public domain?: No

P6 - Human Participants - Extended

Q1. Describe the arrangements for recruiting, selecting/sampling and briefing potential participants.:

Inclusion criteria is that the participant must be an undergraduate student, currently registered/studying in a Higher Educational institution in the United Kingdom. Staff and/or Student Union's Officers will be contacted via telephone or e-mail to request with support in disseminating the survey link to students at Sheffield Hallam University. They will be given a template email (see attachment for "Survey Link Email to Student") which contains information about the survey and the link, to be emailed to students and/or the link to the survey to be sent out via Social Media. Staff responsible for administration of adverts on Blackboard will also be contacted, and if accepted, the advert will contain the same/similar text to that of the "Survey Link Email to Student" attachment. The survey may also be shared via social media (Facebook/Twitter) with the following: "UK Undergrads - have 15 minutes spare? Please share/complete this national survey about Student Mental Health: [Link]"

Emails will also be sent to Student Union Officers and Staff at Universities to request their assistance in disseminating the survey to students at their own institution. See attachment "Email to Universities-Unions re Survey". Although staff will be requested to forward the email containing the survey directly to students, it may be that the survey is shared via other platforms (i.e., word of mouth, social media etc.).

According to UUK, there were 1.76 million undergraduate students in the UK during 2016-17. Therefore, an appropriate sample size would be between 1100 - 2400.

Q2. Indicate the activities participants will be involved in.: Participants will be asked to complete the online Qualtrics survey in their own time. It will take approximately 15-20 minutes.

Q3. What is the potential for participants to benefit from participation in the research?: Participants will be contributing to research that can help inform Universities about the prevalence of well being and mental ill health amongst students in Higher Education. The data from this survey will be used to help develop an intervention aimed at targeting worry and anxiety amongst students, specifically those that are classed as "Perfectionists". It is hoped this intervention will help alleviate symptoms from anxiety, and build resilience and support academic attainment.

Q4. Describe any possible negative consequences of participation in the research along with the ways in which these consequences will be limited: Although no risks or negative consequences are anticipated to occur by taking part in this study, it could be that the personal nature of the questions could make the participant uncomfortable. It is advised that should a participant feel distressed in any way, and wish to withdraw, they should do so. Furthermore, contact details of support services are listed on the final page, should participants feel the need to seek support following answering any of the questions.

Q5. Describe the arrangements for obtaining participants' consent.: The first page of the questionnaire will contain an information sheet describing the survey, as well as tick boxes for the participant to select to confirm they consent to the study. In order for the participant to access the rest of the survey, the tick boxes will be mandatory (i.e. informed consent is mandatory).

Q6. Describe how participants will be made aware of their right to withdraw from the research.: The first page of the questionnaire (i.e., the "Information Sheet"), will explain the participants right to withdraw at any point during the survey by closing the website, without needing to give a reason and without negative consequence. However, as the data being collected is anonymised, once the survey has been completed, data cannot be withdrawn.

Q7. If your project requires that you work with vulnerable participants describe how you will implement safeguarding procedures during data collection: No vulnerable participants are expected to take part in this study; recruitment is of UK undergraduate students exclusively, therefore almost all participants should be over the age of 18. However, should student participants be under the age of 18, it can be assumed they are Gillick competent, as they are accessing Higher Education. Further safeguarding measures include a warning when participants enter their age explaining that participants must be over the age of 16 to take part in the survey.

Q8. If Disclosure and Barring Service (DBS) checks are required, please supply details: N/A

Q9. Describe the arrangements for debriefing the participants.: Little debriefing will be needed, as most of the information about the study will be in the information sheet. However, at the end of the survey participants will be reminded of the research team's contact details (in case they have any questions), given signposting information about support services and thanked for their time.

Q10. Describe the arrangements for ensuring participant confidentiality. This should include details of: Participants will not be required to give any personal identifying information. However, Sheffield Hallam students can provide their e-mail address if they wish to opt-in to a follow-up study. As these are potentially identifiable, any e-mail addresses provided will be deleted from the survey and saved securely in a separate

location. The survey will ask some demographic information, but any coincidentally identifiable information will only be accessible via the raw data that only select few people will have access too. No identifiable information will be published.

No images/videos will be used.

Data will be analysed using structural equations modelling, so results will be presented using inferential statistics and flow-chart diagrams.

Q11. Are there any conflicts of interest in you undertaking this research?: N/A - Data may be collected from institutions that I currently/previously work/ed at, however, as all responses are anonymous, there is no anticipated conflicts of interest.

Q12. What are the expected outcomes, impacts and benefits of the research?: It is anticipated that the survey will provide new data on the prevalence of perfectionism amongst undergraduates in the UK, as well as associations with other factors, such as mental ill health, worry and academic attainment. The data will be analysed using structural equations modelling, hopefully to identify different factors that effect or mediate one another. From this data, an intervention will be developed (and later delivered and evaluated) utilising CBT and Positive Psychology, with the intention to help students manage perfectionistic concerns that are associated with anxiety, and increase resources and resilience. The intervention could benefit not just students who are struggling with aspects of perfectionism, but also alleviate the rise in demand on support services within Higher Education.

Q13. Please give details of any plans for dissemination of the results of the research.: Long term preservation of data will be until thesis is completed (approx. September 2020) and 7 years after the publication of any academic papers relating to the data or as required by the academic journal. It is possible that the raw data may be shared with other researchers in Universities interested in carrying out their own analysis, particularly those institutions that have offered to help in disseminating the study, as part of a mutual agreement. The results may be publishable in journal articles, and will constitute one of the main studies in my PhD.

P7 - Health and Safety Risk Assessment

Q1. Will the proposed data collection take place only on campus?

: No

Q2. Are there any potential risks to your health and wellbeing associated with either (a) the venue where the research will take place and/or (b) the research topic itself?: None that I am aware of

Q3. Will there be any potential health and safety risks for participants (e.g. lab studies)? If so a Health and Safety Risk Assessment should be uploaded to P8.: No

Q4. Where else will the data collection take place? (Tick as many venues as apply)Researcher's Residence: false

Participant's Residence: true

Education Establishment: true

Other e.g. business/voluntary organisation, public venue: true

Outside UK: false

Q5. How will you travel to and from the data collection venue?: Other (please specify)

If other travel - please specify: N/A - The survey will be undertaken in the participants own time, in a place of their choosing, via the internet.

Q6. Please outline how you will ensure your personal safety when travelling to and from the data collection venue.: N/A - The survey will be undertaken in the participants own time, in a place of their choosing, via the internet.

Q7. If you are carrying out research off-campus, you must ensure that each time you go out to collect data you ensure that someone you trust knows where you are going (without breaching the confidentiality of your participants), how you are getting there (preferably including your travel route), when you expect to get back, and what to do should you not return at the specified time. (See Lone Working Guidelines). Please outline here the procedure you propose using to do this.: N/A - as above

Q8. How will you ensure your own personal safety whilst at the research venue, (including on campus where there may be hazards relating to your study)?: N/A - as above

P8 - Attachments

Are you uploading any recruitment materials (e.g. posters, letters, etc.)?: Yes

Are you uploading a participant information sheet?: Yes
Are you uploading a participant consent form?: Yes
Are you uploading details of measures to be used (e.g. questionnaires, etc.)?: Yes
Are you uploading an outline interview schedule/focus group schedule?: Non Applicable
Are you uploading debriefing materials?: Yes
Are you uploading a Risk Assessment Form?: Non Applicable
Are you uploading a Serious Adverse Events Assessment (required for Clinical Trials and Interventions)?: Non Applicable
Are you uploading a Data Management Plan?: Yes

Upload:

Data Management Plan - Final 260318.pdf
Email to Universities-Unions re Survey.docx
Survey Link Email to Student.docx
Perfectionism_in_UK_Undergraduates - Final
Qualtrics Survey 270318.docx

P9 - Adherence to SHU Policy and Procedures

Primary Researcher / PI Sign-off:

I can confirm that I have read the Sheffield Hallam University Research Ethics Policy and Procedures: true
I can confirm that I agree to abide by its principles and that I have no personal or commercial conflicts of interest relating to this project.: true
Date of PI Sign-off: 27/03/2018

Director of Studies Sign-off:

I confirm that this research will conform to the principles outlined in the Sheffield Hallam University Research Ethics policy: true
I can confirm that this application is accurate to the best of my knowledge: true

Upload:

Date of submission and supervisor sign-off: 29/03/2018

Director of Studies Sign-off

Ann Macaskill

P10 - Review

Comments collated by Lead Reviewer (Or FREC if escalated): On the PIS - please provide some additional information for students about the additional survey and make it clear that it is one additional survey (as per P1 Q1) as the PIS says - If you are a student at Sheffield Hallam University, and would be interested in taking part in follow-up surveys.

I am assuming the follow-up survey will be covered by a separate ethics submission.

The debrief information detailed in P6 Q4 and P6 Q8 is not on the word copy of the survey and will be required on the online version.

Final Decision to be completed by Lead Reviewer (or FREC if escalated): Approved with advisory comments

Date of Final Decision: 25/04/2018

P11 - Response to Advisory Comments

Please provide any relevant information here: Many thanks for the feedback. I have amended the survey to reflect more accurately that students can opt in to a follow up survey and/or the intervention at a later date. Both will go through their own separate ethical reviews.

Apologies for missing off the debrief information. Please see attached here.

Upload:

End of Study - Debrief.docx

P12 - Post Approval Amendments

Amendment 1

In my judgement amendment 1 should be: Select Amendment Outcome

Amendment 2

In my judgement amendment 2 should be: Select Amendment Outcome

Amendment 3

In my judgement amendment 3 should be: Select Amendment Outcome

Appendix E: Data management plan for survey

Perfectionism in UK Undergraduates

A Data Management Plan created using DMPOnline

Creators: Lucy Cooper, sslam2@exchange.shu.ac.uk, d.reynolds@shu.ac.uk

Affiliation: Sheffield Hallam University

Template: N/A - PSP Demonstratorship

Project abstract:

Previous research has indicated that the personality trait of perfectionism is strongly associated with heightened levels of worry (Stöber and Joormann, 2001; Hill, Huelsman, & Araujo, 2010), which in an educational context also involves adopting exceedingly high standards for attainment accompanied by a tendency for overly critical self-evaluation of one's performance and attainment (Stoeber & Janssen, 2011). However to date, there is little explicit research to establish the incidence of perfectionism amongst students in Higher Education, and the associations with academic attainment, performance, worry and mental wellbeing. Given the multi-dimensional concept of perfectionism, it could potentially benefit students' academic attainment or hinder their academic progress and/or mental wellbeing; it would be helpful to establish the incidence of perfection and worry in UK undergraduates. From this information, an intervention could be developed to enhance the adaptive aspects of perfectionism (such as high levels of achievement), whilst reducing negative factors of perfectionism. This two-factor approach (Keyes, 2002) could utilise existing treatments that minimise negative factors like anxiety and worry; cognitive-behavioural theory, and also incorporate positive psychology interventions that could improve student wellbeing, increase psychological resources and resilience to the stressors in academic life (Seligman et al., 2005; Sin and Lyubomirsky, 2009; Bolier et al., 2013, Macaskill and Denovan, 2013, 2014; Ouweneel, Le Blanc and Schaufeli, 2014), including reducing worry (Geraghty et al., 2010a).

With the increase in MH issues amongst students, there are growing demands on HE mental health services (Mair, 2016, Thorley, 2017; Broglia et al., 2017). There are calls for more funding to mental health services in HE, appeals for interventions to increase students' resilience, and requests for more joined up thinking with other departments (Pointon, 2014; Ecclestone, 2016). Increasing therapeutic support for students is costly, so developing a simple and effective intervention using PPI could not only address the excessive worry many students experience, it could also increase students' own resources and resilience and potentially reduce, as opposed to increase, demands on HE mental health services.

Last modified: 26-03-2018

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1 of 4

relationship to, your project or proposal

Perfectionism in UK Undergraduates

Data collection

What data will be produced?

Responses to the following questions/measures on an online survey using Qualtrics:

- Creation of Unique Identifier: "Last three letters of your first name/First three letters of your surname/Date of your birthday/First three letters of the town/city you were born in"
- Gender
- Age
- Year of Study
- Course
- University
- Home or International Student
- Ethnicity
- A-Level/UCAS points/Equivalent
- Mental Health Diagnosis (Yes/No/Prefer not to Say/Condition)
- Mental Health Treatment (Yes/No/Options/Prefer Not to Say)
- Perfectionism Inventory (Hill et al. 2004)
- GAD-7 Scale (General Anxiety Disorder)
- Penn-State Worry Questionnaire
- GHQ-12 (General Health Questionnaire)
- Resilience Scale (Wagnild and Young, 1993)
- Flourishing Scale (Diener et al., 2010)
- SPANE (Diener et al., 2009)
- Questions re: Social Media Usage

Data will be stored/analysed on Qualtrics, Excel and SPSS

Data documentation

How will your data be documented and described?

Data will be quantitative responses to measures and questions, majority from Likert scales.

Ethical and copyright issues

How will you deal with any ethical and copyright issues?

All data will be anonymous, however, Sheffield Hallam students are given the option to provide their e-mail address if they wish to opt-in to a follow-up study. Any e-mail addresses provided will be deleted from the survey and saved securely in a separate location.

Information "sheet" containing all relevant information ensuring informed consent is gained, will be on the first

page of the survey. There will be a mandatory tick box for consent that participants will need to tick to continue with the survey.

The research project team may grant access to the anonymised raw data after permission by the research project team.

Where appropriate, permission to use all scales/measures will be obtained, or licences bought, with the support from the Development and Society Technical Support team.

Data storage

How will your data be structured, stored and backed up?

Data from Qualtrics will be saved/stored on University Q:\Research Drive.

Separate folders will contain the master copy (named as such) and sub folders for raw data and analysed. Naming will be content_date created_date ammended_version no., i.e. 'demographicdata_20180501_20180530_3'

Data will only be accessible to members of the project team and the Research Management leads at the department. All data (raw and analysed) will be preserved. The data will be retained until the research project is completed (approximately September 2020), and 7 years after the publication of any academic papers relating to the data or as required by the academic journal.

As per the SHU University guidance for Q:\Research Drive: The primary copy of the data is stored on a storage array located in one of the university's data centres. As data is written it is replicated over a secure private network to a storage array located in the other data centre. This provides an up to date second copy of the data giving us excellent disaster recovery capabilities. Either data centre is capable of delivering the Research Store service should the operation of one of the data centres be impacted for any reason.

Backup copies of all files are stored on a separate system. This is primarily to protect against the accidental deletion of files. It also enables the Research Management leads to recover files if data stored on the Research Store is corrupted for any reason. Backup copies are taken every evening and retained for 90 days. Two copies of the backup data are created and one is retained in each university data centre. The transfer of backup data between data centres happens electronically so data on backup media is never removed from the secure environment of the data centres. All backup media is securely disposed of when it is decommissioned and certificates of secure data destruction are obtained.

Data preservation

What are the plans for the long-term preservation of data supporting your research?

Long term preservation of raw data will be until thesis is completed (approx. September 2020) and 7 years after the publication of any academic papers relating to the data or as required by the academic journal.

Data sharing

What are your plans for data sharing after submission of your thesis?

Other approved researchers may be granted access to the anonymised raw data after permission by the research project team.

Appendix F: Examples of SPSS outputs illustrating repeated Pearson's Correlation analyses with values $n= 13$ (from Resilience) and $n = 33$ (from Resilience, Flourishing and SPANE) removed

```

CORRELATIONS
/VARIABLES=PIComp SelfEvalPerf ConscPerf TotalWorry TotalResil TotalFlour SpaneP SpaneN SpaneB
TotalMH1 TotalGAD COM HSF0 NFA Org PPP Plan Rum SFE
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```

Correlations

♦ [DataSet1] C:\Users\lnc0559\Dropbox\Thesis\Chapter 4 – Study 2 – Survey\SPSSData190429ResilRemove.sav

Correlations

		PIComp	SelfEvalPerf	ConscPerf	Total Worry Score – with reverse scores	Total Resilience Score	Total Flourishing Score	Total Positive SPANE Score	Total Negative SPANE Score	SpaneP – Spane N	Total MH1 Score – with reverse scores	Total GAD Score	COM
PIComp	Pearson Correlation	1	.857**	.765**	.593**	-.202**	-.228**	-.302**	.414**	-.397**	.423**	.502**	.760**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	1132	1132	1132	1132	1132	1112	1112	1112	1112	1132	1132	1132
SelfEvalPerf	Pearson Correlation	.857**	1	.324**	.657**	-.458**	-.444**	-.461**	.545**	-.558**	.561**	.603**	.895**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	1132	1132	1132	1132	1132	1112	1112	1112	1112	1132	1132	1132
ConscPerf	Pearson Correlation	.765**	.324**	1	.267**	.202**	.137**	.022	.080**	-.032	.075	.169**	.276**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.472	.008	.281	.011	.000	.000
	N	1132	1132	1132	1132	1132	1112	1112	1112	1112	1132	1132	1132
Total Worry Score – with reverse scores	Pearson Correlation	.593**	.657**	.267**	1	-.380**	-.340**	-.445**	.607**	-.583**	.602**	.682**	.608**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000
	N	1132	1132	1132	1132	1132	1112	1112	1112	1112	1132	1132	1132
Total Resilience Score	Pearson Correlation	-.202**	-.458**	.202**	-.380**	1	.767**	.652**	-.497**	.637**	-.526**	-.425**	-.453**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000
	N	1132	1132	1132	1132	1132	1112	1112	1112	1112	1132	1132	1132
Total Flourishing Score	Pearson Correlation	-.228**	-.444**	.137**	-.340**	.767**	1	.706**	-.522**	.681**	-.594**	-.446**	-.451**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000
	N	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112
Total Positive SPANE Score	Pearson Correlation	-.302**	-.461**	.022	-.445**	.652**	.706**	1	-.626**	.902**	-.741**	-.571**	-.441**
	Sig. (2-tailed)	.000	.000	.472	.000	.000	.000		.000	.000	.000	.000	.000
	N	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112
Total Negative SPANE Score	Pearson Correlation	.414**	.545**	.080**	.607**	-.497**	-.522**	-.626**	1	-.902**	.767**	.713**	.533**
	Sig. (2-tailed)	.000	.000	.008	.000	.000	.000	.000		.000	.000	.000	.000
	N	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112

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CORRELATIONS
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TotalMHI TotalGAD COM HSfO NfA Org PPP Plan Rum SfE
/PRINT=TWOTAIL NOSIG
/MISSING=PAIRWISE.

```

➔ **Correlations**

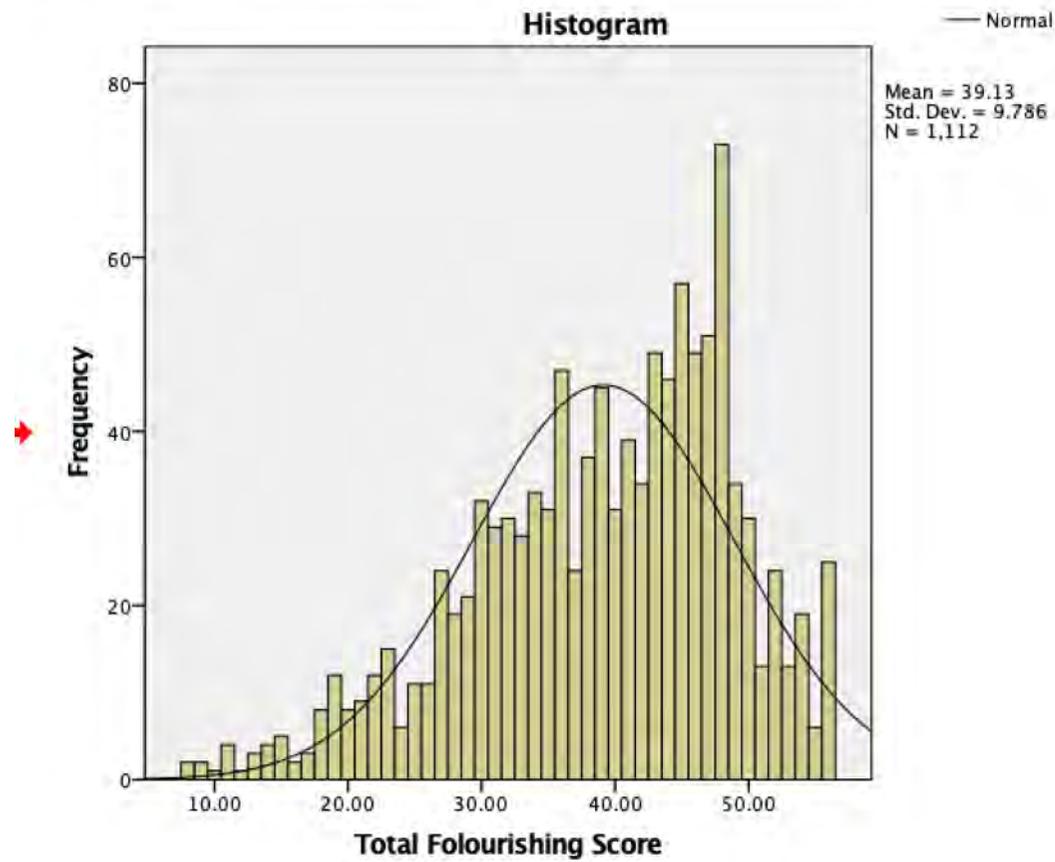
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Correlations

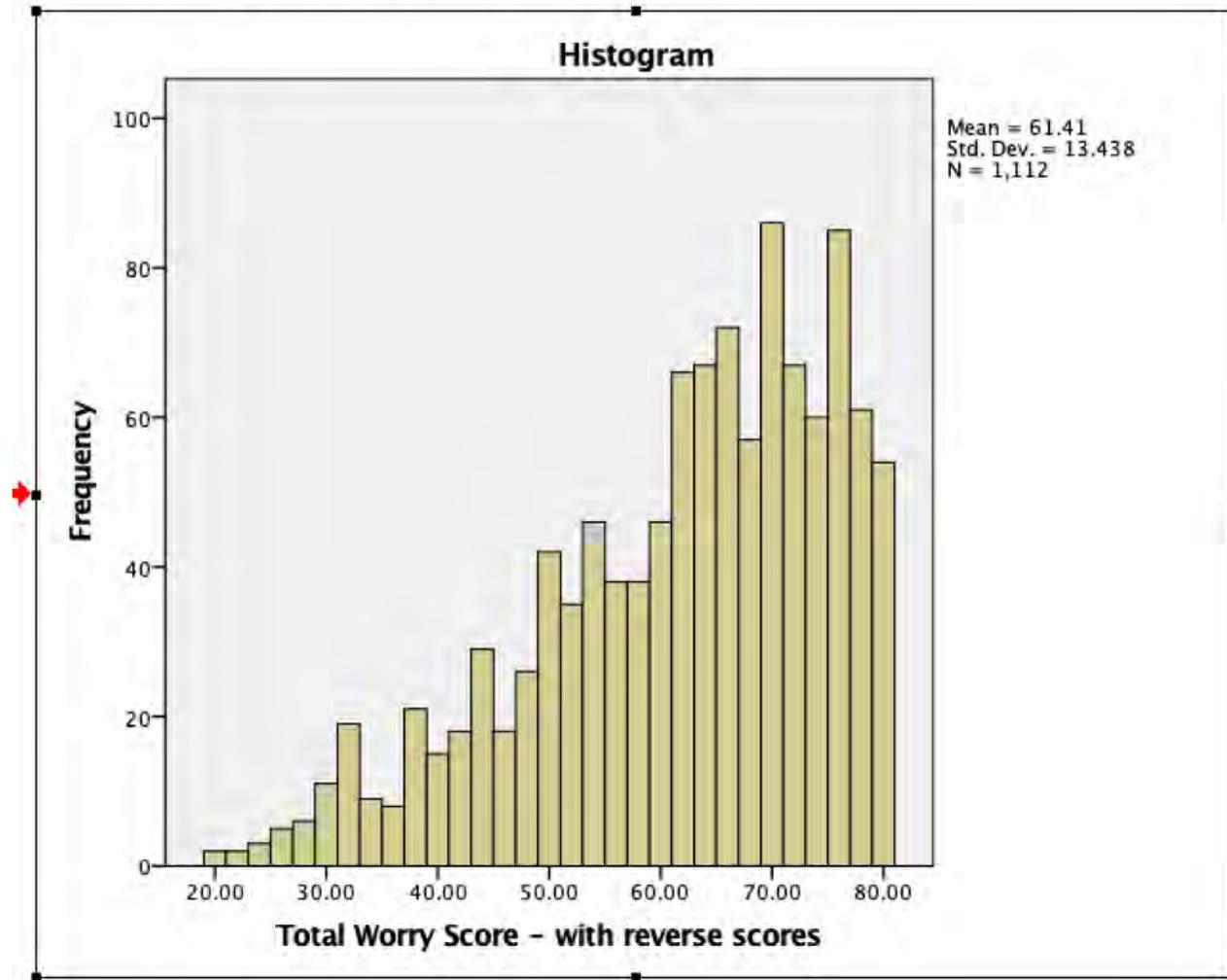
		PIComp	SelfEvalPerf	ConscPerf	Total Worry Score - with reverse scores	Total Resilience Score	Total Flourishing Score	Total Positive SPANE Score	Total Negative SPANE Score	SpaneP - Spane N	Total MHI Score - with reverse scores	Total GAD Score	CO
PIComp	Pearson Correlation	1	.857**	.765**	.602**	-.203**	-.228**	-.302**	.414**	-.397**	.431**	.509**	.75
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.0
	N	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112
SelfEvalPerf	Pearson Correlation	.857**	1	.323**	.664**	-.462**	-.444**	-.461**	.545**	-.558**	.569**	.609**	.89
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.0
	N	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112
ConscPerf	Pearson Correlation	.765**	.323**	1	.275**	.206**	.137**	.022	.080**	-.032	.079**	.174**	.27
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.472	.008	.281	.008	.000	.0
	N	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112
Total Worry Score - with reverse scores	Pearson Correlation	.602**	.664**	.275**	1	-.384**	-.340**	-.445**	.607**	-.583**	.608**	.686**	.61
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.0
	N	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112
Total Resilience Score	Pearson Correlation	-.203**	-.462**	.206**	-.384**	1	.767**	.652**	-.497**	.637**	-.535**	-.432**	-.45
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.0
	N	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112
Total Flourishing Score	Pearson Correlation	-.228**	-.444**	.137**	-.340**	.767**	1	.706**	-.522**	.681**	-.594**	-.446**	-.45
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.0
	N	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112
Total Positive SPANE Score	Pearson Correlation	-.302**	-.461**	.022	-.445**	.652**	.706**	1	-.626**	.902**	-.741**		
	Sig. (2-tailed)	.000	.000	.472	.000	.000	.000		.000	.000	.000		
	N	1112	1112	1112	1112	1112	1112	1112	1112	1112	1112		

Appendix G: SPSS output of histograms for Flourishing, Worry, Need for Approval, Planfulness and Rumination

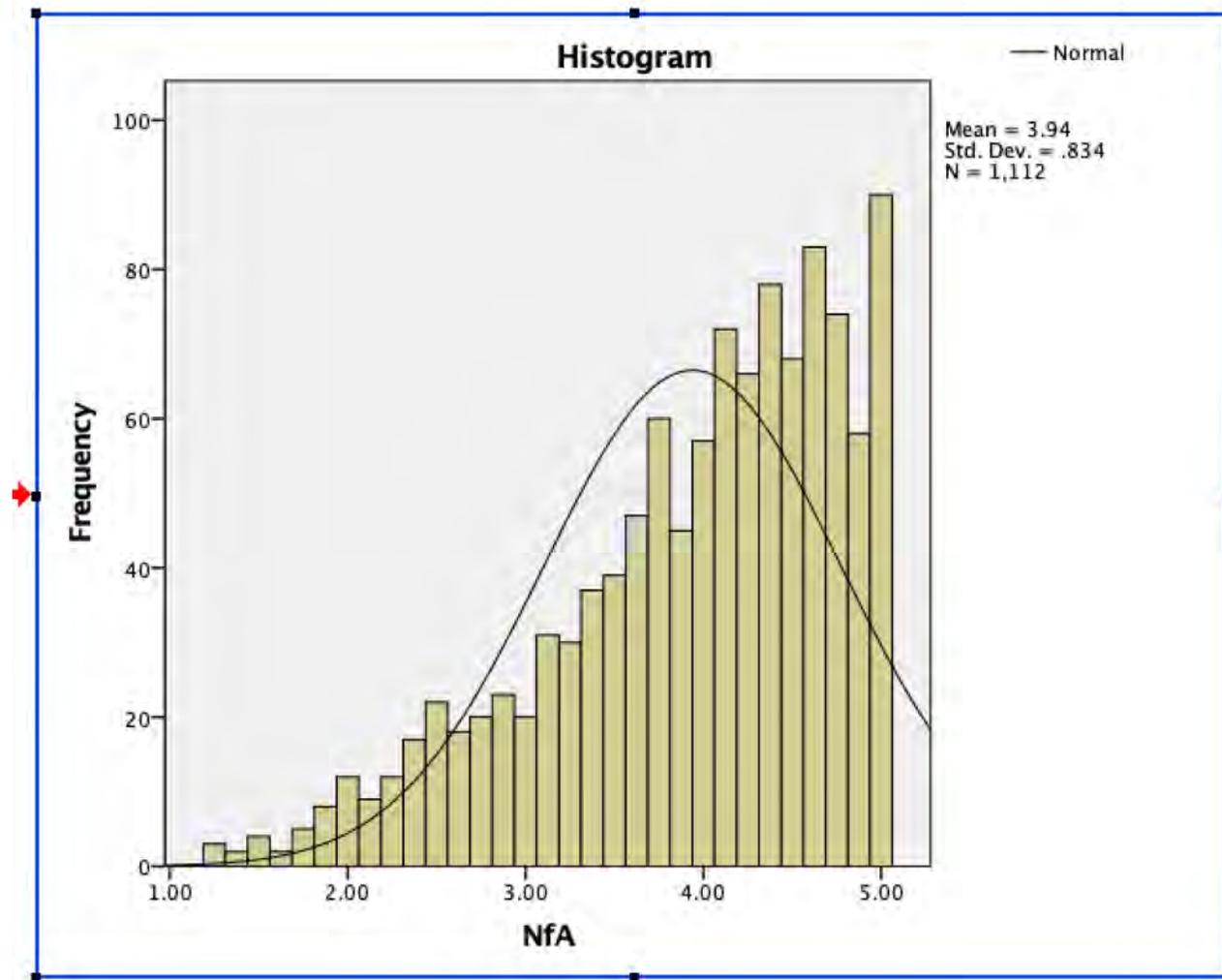
Total Flourishing Score



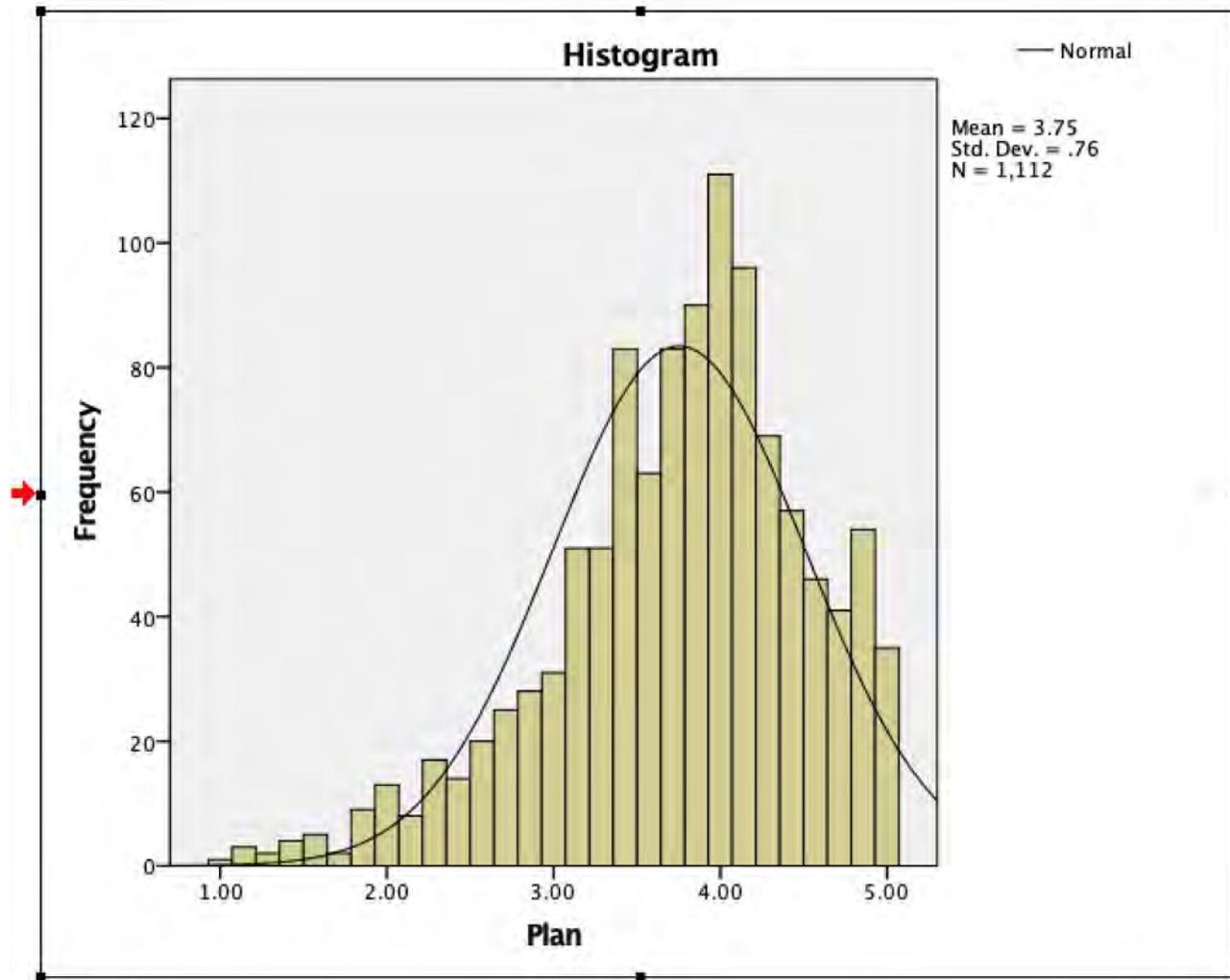
Total Worry Score - with reverse scores



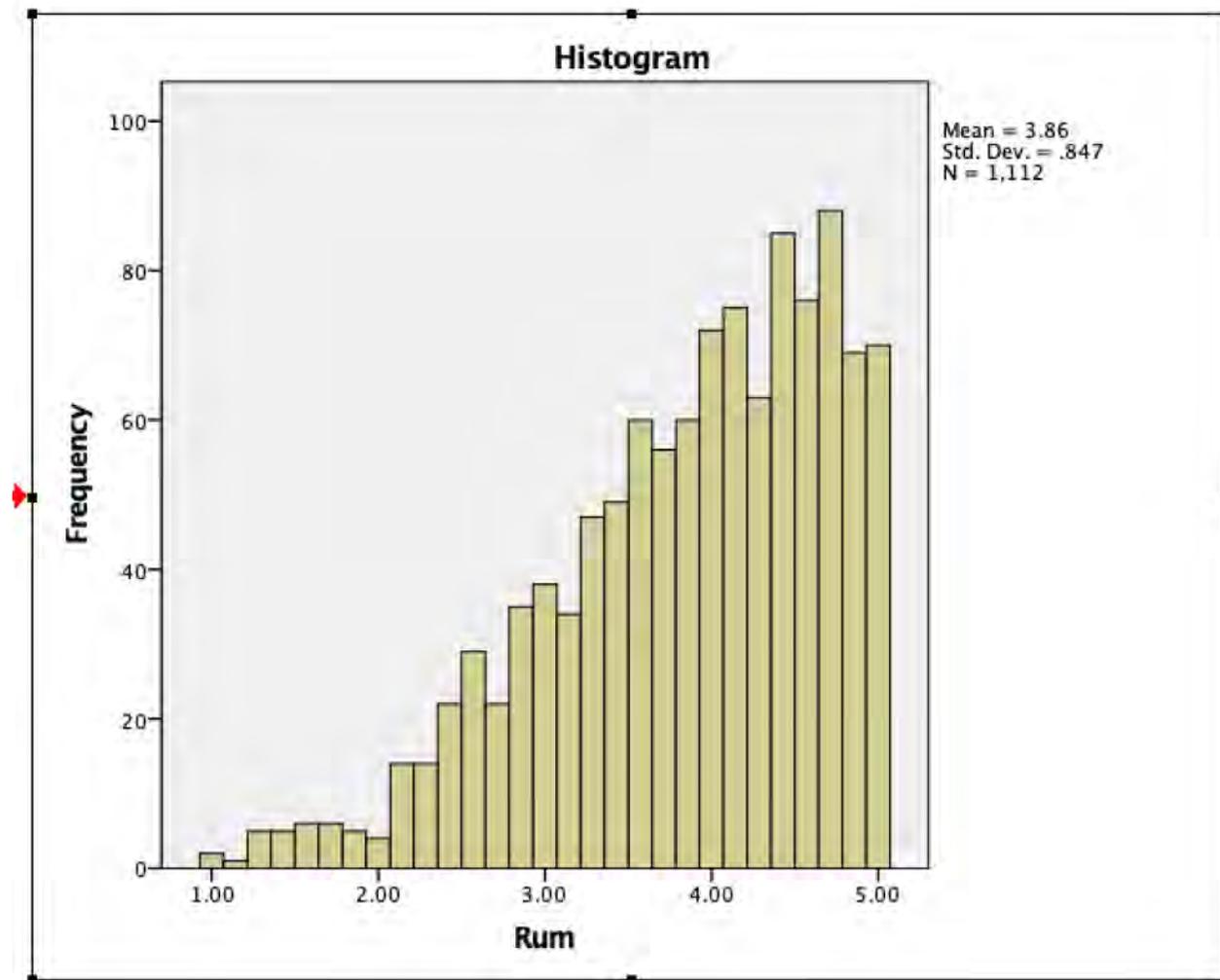
NfA



Plan



Rum



Appendix H: SPSS outputs of *t* Tests for Social Media Platforms; Instagram, Facebook, Snapchat, Twitter, and LinkedIn

		Independent Samples Test				t-test for Equality of Means				
		Levene's Test for Equality of Variances						95% Confidence Interval of the Difference		
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
SEP_Log	Equal variances assumed	1.252	.263	.010	1100	.992	.00100	.09682	-.18897	.19097
	Equal variances not assumed			.010	341.799	.992	.00100	.10022	-.19614	.19813
CP_Log	Equal variances assumed	.004	.948	1.366	1100	.172	.09775	.07156	-.04266	.23816
	Equal variances not assumed			1.387	364.194	.166	.09775	.07047	-.04084	.23634
COM_Log	Equal variances assumed	3.017	.083	-.964	1100	.335	-.02859	.02965	-.08678	.02960
	Equal variances not assumed			-.920	336.748	.358	-.02859	.03109	-.08974	.03256
HSFO_Log	Equal variances assumed	.058	.810	-.350	1100	.726	-.00751	.02147	-.04963	.03461
	Equal variances not assumed			-.349	355.109	.728	-.00751	.02155	-.04989	.03487
NfA_Log	Equal variances assumed	2.424	.120	1.470	1100	.142	.04278	.02910	-.01432	.09988
	Equal variances not assumed			1.406	337.743	.161	.04278	.03043	-.01707	.10264
Org_Log	Equal variances assumed	.824	.364	2.457	1100	.014	.06473	.02634	.01305	.11642
	Equal variances not assumed			2.422	350.278	.016	.06473	.02673	.01216	.11731
PPP_Log	Equal variances assumed	.001	.977	.196	1100	.845	.00603	.03079	-.05438	.06643
	Equal variances not assumed			.198	362.880	.843	.00603	.03040	-.05376	.06581
Plan_Log	Equal variances assumed	.059	.808	1.561	1100	.119	.03950	.02531	-.01016	.08915
	Equal variances not assumed			1.549	353.523	.122	.03950	.02549	-.01064	.08964
Rum_Log	Equal variances assumed	.113	.737	-.662	1100	.508	-.01922	.02905	-.07622	.03777
	Equal variances not assumed			-.651	349.308	.516	-.01922	.02954	-.07732	.03888
SfE_Log	Equal variances assumed	.126	.722	.038	1100	.970	.00103	.02726	-.05247	.05452
	Equal variances not			.037	352.699	.970	.00103	.02752	-.05309	.05514

Flour_SQRT	Equal variances assumed	.470	.493	3.312	1100	.00096	.29347	.08861	.11961	.46734
	Equal variances not assumed			3.289	353.728	.001	.29347	.08922	.11800	.46894
Worry_SQRT	Equal variances assumed	1.736	.188	2.283	1100	.023	.26488	.11602	.03724	.49252
	Equal variances not assumed			2.211	342.854	.028	.26488	.11979	.02926	.50050
Total GAD Score – corrected	Equal variances assumed	3.116	.078	-1.754	1100	.080	-.81529	.46477	-1.72722	.09664
	Equal variances not assumed			-1.681	338.434	.094	-.81529	.48514	-1.76956	.13898
TotalMHIPos	Equal variances assumed	.896	.344	.490	1100	.624	.03958	.08074	-.11885	.19801
	Equal variances not assumed			.469	338.146	.639	.03958	.08434	-.12632	.20548
Total Positive SPANE Score	Equal variances assumed	.098	.754	-2.121	1100	.034	-.71910	.33909	-1.38444	-.05375
	Equal variances not assumed			-2.134	359.845	.034	-.71910	.33696	-1.38176	-.05644
Total Negative SPANE Score	Equal variances assumed	1.021	.313	-1.753	1100	.080	-.59462	.33915	-1.26007	.07082
	Equal variances not assumed			-1.684	339.376	.093	-.59462	.35318	-1.28932	.10007
Total Resilience Score	Equal variances assumed	3.202	.074	-.484	1100	.628	-.59219	1.22348	-2.99281	1.80844
	Equal variances not assumed			-.460	334.906	.646	-.59219	1.28866	-3.12708	1.94271

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
SEP_Log	Equal variances assumed	.340	.560	.329	1100	.742	.03809	.11587	-.18926	.26543
	Equal variances not assumed			.333	193.581	.740	.03809	.11453	-.18780	.26397
CP_Log	Equal variances assumed	3.782	.052	.004	1100	.997	.00034	.08572	-.16785	.16853
	Equal variances not assumed			.004	182.860	.997	.00034	.09245	-.18207	.18274
COM_Log	Equal variances assumed	.003	.959	.437	1100	.662	.01552	.03550	-.05414	.08518
	Equal variances not assumed			.429	189.654	.668	.01552	.03614	-.05577	.08681
HSfO_Log	Equal variances assumed	4.234	.040	-1.285	1100	.199	-.03298	.02567	-.08336	.01740
	Equal variances not assumed			-1.158	179.941	.248	-.03298	.02848	-.08918	.02322
NfA_Log	Equal variances assumed	1.122	.290	1.644	1100	.101	.05723	.03482	-.01109	.12555
	Equal variances not assumed			1.593	187.982	.113	.05723	.03592	-.01363	.12809
Org_Log	Equal variances assumed	2.920	.088	-.135	1100	.893	-.00425	.03161	-.06628	.05778
	Equal variances not assumed			-.127	184.553	.899	-.00425	.03358	-.07050	.06199
PPP_Log	Equal variances assumed	.001	.979	-.388	1100	.698	-.01428	.03684	-.08657	.05801
	Equal variances not assumed			-.396	194.807	.693	-.01428	.03610	-.08548	.05692
Plan_Log	Equal variances assumed	6.853	.009	1.183	1100	.237	.03585	.03030	-.02360	.09530
	Equal variances not assumed			1.071	180.404	.285	.03585	.03346	-.03017	.10187
Rum_Log	Equal variances assumed	.055	.814	-.586	1100	.558	-.02038	.03477	-.08860	.04783
	Equal variances not assumed			-.585	191.812	.559	-.02038	.03481	-.08905	.04828
SfE_Log	Equal variances assumed	.949	.330	.053	1100	.958	.00172	.03263	-.06230	.06575
	Equal variances not assumed			.055	196.993	.956	.00172	.03150	-.06040	.06384

Flour_SQRT	Equal variances assumed	.102	.749	3.658	1100	.00027	.38750	.10593	.17965	.59536
	Equal variances not assumed			3.587	189.446	.000	.38750	.10801	.17444	.60057
Worry_SQRT	Equal variances assumed	.028	.866	.844	1100	.399	.11749	.13913	-.15551	.39048
	Equal variances not assumed			.833	190.121	.406	.11749	.14112	-.16088	.39585
Total GAD Score – corrected	Equal variances assumed	2.725	.099	.076	1100	.940	.04227	.55701	-1.05064	1.13519
	Equal variances not assumed			.073	186.246	.942	.04227	.58299	-1.10785	1.19239
TotalMHIPos	Equal variances assumed	2.117	.146	-1.262	1100	.207	-.12184	.09657	-.31133	.06765
	Equal variances not assumed			-1.200	185.712	.232	-.12184	.10154	-.32216	.07848
Total Positive SPANE Score	Equal variances assumed	.430	.512	-2.722	1100	.007	-1.10318	.40529	-1.89842	-.30795
	Equal variances not assumed			-2.607	186.546	.010	-1.10318	.42313	-1.93792	-.26845
Total Negative SPANE Score	Equal variances assumed	2.041	.153	-.497	1100	.619	-.20208	.40641	-.99951	.59534
	Equal variances not assumed			-.471	185.323	.638	-.20208	.42876	-1.04796	.64379
Total Resilience Score	Equal variances assumed	8.617	.003	-2.359	1100	.018	-3.44622	1.46072	-6.31234	-.58011
	Equal variances not assumed			-2.113	179.303	.036	-3.44622	1.63079	-6.66422	-.22822

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
SEP_Log	Equal variances assumed	.068	.794	-1.086	1100	.278	-.09575	.08821	-.26883	.07732
	Equal variances not assumed			-1.086	537.323	.278	-.09575	.08814	-.26889	.07738
CP_Log	Equal variances assumed	1.404	.236	-1.385	1100	.166	-.09036	.06523	-.21835	.03763
	Equal variances not assumed			-1.359	516.863	.175	-.09036	.06651	-.22104	.04031
COM_Log	Equal variances assumed	1.873	.171	-2.000	1100	.046	-.05400	.02699	-.10696	-.00103
	Equal variances not assumed			-1.954	513.284	.051	-.05400	.02763	-.10827	.00028
Double-click to activate	Equal variances assumed	6.586	.01041	-3.446	1100	.00059	-.06708	.01946	-.10527	-.02889
	Equal variances not assumed			-3.253	482.587	.00122	-.06708	.02062	-.10759	-.02657
NFA_Log	Equal variances assumed	1.783	.182	.167	1100	.868	.00442	.02655	-.04768	.05652
	Equal variances not assumed			.163	517.698	.870	.00442	.02705	-.04872	.05757
Org_Log	Equal variances assumed	3.589	.058	1.051	1100	.294	.02529	.02407	-.02193	.07251
	Equal variances not assumed			1.026	512.820	.305	.02529	.02464	-.02312	.07370
PPP_Log	Equal variances assumed	.698	.403	.634	1100	.526	.01780	.02806	-.03726	.07285
	Equal variances not assumed			.653	568.100	.514	.01780	.02727	-.03576	.07136
Plan_Log	Equal variances assumed	.054	.816	.032	1100	.975	.00074	.02309	-.04458	.04605
	Equal variances not assumed			.031	522.634	.975	.00074	.02341	-.04525	.04672
Rum_Log	Equal variances assumed	.006	.940	-2.422	1100	.016	-.06398	.02641	-.11580	-.01215
	Equal variances not assumed			-2.422	536.494	.016	-.06398	.02641	-.11587	-.01209
SFE_Log	Equal variances assumed	.576	.448	-1.988	1100	.047	-.04931	.02481	-.09798	-.00063
	Equal variances not			-1.964	524.507	.050	-.04931	.02510	-.09862	.00000

Flour_SQRT	Equal variances assumed	.561	.454	3.829	1100	.00014	.30878	.08064	.15056	.46701
	Equal variances not assumed			3.767	519.860	.000	.30878	.08197	.14775	.46982
Worry_SQRT	Equal variances assumed	2.474	.116	.753	1100	.451	.07984	.10598	-.12810	.28779
	Equal variances not assumed			.736	513.481	.462	.07984	.10845	-.13321	.29289
Total GAD Score – corrected	Equal variances assumed	7.817	.005	.529	1100	.597	.22425	.42419	-.60807	1.05657
	Equal variances not assumed			.507	496.453	.612	.22425	.44216	-.64448	1.09298
TotalIMHIPos	Equal variances assumed	4.871	.028	-1.692	1100	.091	-.12441	.07351	-.26865	.01984
	Equal variances not assumed			-1.631	500.462	.104	-.12441	.07628	-.27428	.02547
Total Positive SPANE Score	Equal variances assumed	.055	.815	-3.388	1100	.00073	-1.04403	.30813	-1.64861	-.43945
	Equal variances not assumed			-3.316	514.975	.001	-1.04403	.31481	-1.66249	-.42557
Total Negative SPANE Score	Equal variances assumed	4.132	.042	.216	1100	.829	.06699	.30957	-.54043	.67441
	Equal variances not assumed			.208	496.083	.836	.06699	.32282	-.56726	.70125
Total Resilience Score	Equal variances assumed	5.997	.014	-1.138	1100	.255	-1.26842	1.11472	-3.45564	.91880
	Equal variances not assumed			-1.078	485.838	.281	-1.26842	1.17624	-3.57956	1.04272

Independent Samples Test											
		Levene's Test for Equality of Variances				t-test for Equality of Means				95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper	
SEP_Log	Equal variances assumed	.002	.966	-.231	1100	.818	-.01814	.07859	-.17233	.13606	
	Equal variances not assumed			-.231	1096.322	.818	-.01814	.07861	-.17237	.13610	
CP_Log	Equal variances assumed	.135	.714	1.144	1100	.253	.06645	.05810	-.04755	.18045	
	Equal variances not assumed			1.144	1099.264	.253	.06645	.05807	-.04749	.18040	
COM_Log	Equal variances assumed	1.017	.313	-.026	1100	.979	-.00063	.02408	-.04788	.04662	
	Equal variances not assumed			-.026	1090.865	.979	-.00063	.02411	-.04793	.04667	
HSfO_Log	Equal variances assumed	.109	.742	.276	1100	.783	.00480	.01743	-.02939	.03899	
	Equal variances not assumed			.275	1093.447	.783	.00480	.01744	-.02941	.03902	
NfA_Log	Equal variances assumed	.088	.766	.560	1100	.576	.01324	.02364	-.03315	.05963	
	Equal variances not assumed			.560	1098.757	.575	.01324	.02363	-.03313	.05961	
Org_Log	Equal variances assumed	.010	.919	.582	1100	.561	.01248	.02144	-.02959	.05454	
	Equal variances not assumed			.582	1098.969	.561	.01248	.02143	-.02957	.05452	
PPP_Log	Equal variances assumed	.036	.849	-.950	1100	.342	-.02374	.02498	-.07275	.02528	
	Equal variances not assumed			-.950	1096.577	.342	-.02374	.02498	-.07276	.02529	
Plan_Log	Equal variances assumed	.118	.731	2.635	1100	.009	.05401	.02050	.01379	.09423	
	Equal variances not assumed			2.634	1096.850	.009	.05401	.02050	.01378	.09424	
Rum_Log	Equal variances assumed	.073	.787	-.297	1100	.766	-.00701	.02358	-.05328	.03926	
	Equal variances not assumed			-.297	1098.135	.766	-.00701	.02358	-.05327	.03926	
SfE_Log	Equal variances assumed	.409	.523	-.219	1100	.827	-.00484	.02213	-.04826	.03858	
	Equal variances not assumed			-.219	1099.644	.827	-.00484	.02211	-.04823	.03855	

Flour_SQRT	Equal variances assumed	1.631	.202	2.660	1100	.008	.19162	.07205	.05025	.33300
	Equal variances not assumed			2.662	1099.971	.008	.19162	.07198	.05039	.33286
Worry_SQRT	Equal variances assumed	.051	.822	1.090	1100	.276	.10288	.09434	-.08223	.28800
	Equal variances not assumed			1.090	1096.399	.276	.10288	.09437	-.08228	.28804
Total GAD Score - corrected	Equal variances assumed	1.729	.189	-.978	1100	.328	-.36941	.37761	-1.11033	.37152
	Equal variances not assumed			-.979	1099.999	.328	-.36941	.37720	-1.10952	.37070
TotalMHIPos	Equal variances assumed	.956	.328	-.564	1100	.573	-.03698	.06554	-.16558	.09161
	Equal variances not assumed			-.565	1099.415	.572	-.03698	.06550	-.16550	.09153
Total Positive SPANE Score	Equal variances assumed	.533	.465	-1.215	1100	.225	-.33476	.27562	-.87556	.20604
	Equal variances not assumed			-1.216	1099.968	.224	-.33476	.27535	-.87502	.20551
Total Negative SPANE Score	Equal variances assumed	.377	.539	-.150	1100	.880	-.04149	.27567	-.58238	.49940
	Equal variances not assumed			-.151	1099.639	.880	-.04149	.27548	-.58200	.49903
Total Resilience Score	Equal variances assumed	2.241	.135	-.503	1100	.615	-.49958	.99309	-2.44814	1.44898
	Equal variances not assumed			-.504	1099.643	.614	-.49958	.99156	-2.44515	1.44599

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
SEP_Log	Equal variances assumed	.913	.340	-2.097	1100	.036	-.28617	.13648	-.55397	-.01837
	Equal variances not assumed			-2.192	122.105	.030	-.28617	.13054	-.54459	-.02775
CP_Log	Equal variances assumed	3.837	.05037	3.889	1100	.00011	.39076	.10048	.19361	.58792
	Equal variances not assumed			4.512	129.219	.00001	.39076	.08661	.21942	.56211
COM_Log	Equal variances assumed	4.396	.036	-1.954	1100	.051	-.08174	.04183	-.16382	.00034
	Equal variances not assumed			-2.085	123.329	.039	-.08174	.03921	-.15936	-.00412
HSfO_Log	Equal variances assumed	1.589	.208	4.012	1100	.00006	.12080	.03011	.06173	.17987
	Equal variances not assumed			3.771	116.627	.000	.12080	.03203	.05736	.18423
NfA_Log	Equal variances assumed	.022	.882	-2.549	1100	.011	-.10458	.04102	-.18508	-.02409
	Equal variances not assumed			-2.525	119.140	.013	-.10458	.04141	-.18659	-.02258
Org_Log	Equal variances assumed	.067	.796	2.305	1100	.021	.08580	.03722	.01277	.15883
	Equal variances not assumed			2.324	120.056	.022	.08580	.03692	.01269	.15890
PPP_Log	Equal variances assumed	3.167	.075	-.758	1100	.449	-.03295	.04348	-.11825	.05236
	Equal variances not assumed			-.871	128.507	.385	-.03295	.03782	-.10777	.04188
Plan_Log	Equal variances assumed	2.889	.089	2.254	1100	.024	.08046	.03570	.01041	.15051
	Equal variances not assumed			2.459	124.784	.015	.08046	.03272	.01571	.14521
Rum_Log	Equal variances assumed	.001	.972	-1.632	1100	.103	-.06690	.04099	-.14732	.01353
	Equal variances not assumed			-1.621	119.265	.108	-.06690	.04128	-.14863	.01483
SfE_Log	Equal variances assumed	.002	.965	2.702	1100	.007	.10371	.03838	.02840	.17903
	Equal variances not			2.741	120.402	.007	.10371	.03783	.02881	.17861

	assumed									
Flour_SQRT	Equal variances assumed	2.451	.118	3.910	1100	.00010	.48842	.12492	.24331	.73353
	Equal variances not assumed			4.081	122.003	.000	.48842	.11969	.25148	.72535
Worry_SQRT	Equal variances assumed	.738	.391	-1.546	1100	.122	-.25371	.16409	-.57567	.06825
	Equal variances not assumed			-1.611	121.916	.110	-.25371	.15745	-.56540	.05799
Total GAD Score – corrected	Equal variances assumed	3.714	.054	2.489	1100	.013	1.63152	.65556	.34523	2.91781
	Equal variances not assumed			2.673	123.760	.009	1.63152	.61031	.42352	2.83951
TotalMHIPos	Equal variances assumed	.519	.472	-2.950	1100	.003	-.33521	.11361	-.55814	-.11229
	Equal variances not assumed			-3.081	122.040	.003	-.33521	.10879	-.55057	-.11986
Total Positive SPANE Score	Equal variances assumed	.015	.903	-3.022	1100	.003	-1.44461	.47797	-2.38245	-.50677
	Equal variances not assumed			-3.161	122.122	.002	-1.44461	.45703	-2.34935	-.53987
Total Negative SPANE Score	Equal variances assumed	.125	.724	3.896	1100	.00010	1.85637	.47644	.92153	2.79120
	Equal variances not assumed			3.836	118.832	.000	1.85637	.48389	.89821	2.81453
Total Resilience Score	Equal variances assumed	1.947	.163	-5.715	1100	.00000	-9.73347	1.70327	-13.07549	-6.39146
	Equal variances not assumed			-6.076	123.123	.000	-9.73347	1.60190	-12.90430	-6.56264

Appendix I: Results from exploratory multiple regression analyses to confirm the striving for excellent subscale is a suppressor variable

For exploratory purposes only, multiple regressions were systematically performed with flourishing regressed onto striving for excellence and one other subscale variable in turn (except for high standards for others) to examine comparisons between regression coefficients and semi-partial correlation coefficients with the zero-order correlation coefficients of flourishing and the two predictor variables. The zero-order correlations between flourishing and the two predictors (striving for excellence and another subscale) for each regression were less than their respective semipartial correlation coefficients (see table below), providing further evidence of the suppressor effects of the striving for excellence subscale (Pandey & Elliott, 2010).

Furthermore, considering the non-significant zero-order correlation with striving for excellence and flourishing, but the positive zero-order correlations with striving for excellence and the predictor variables from PS subscales (see Table 5), when striving for excellence is entered into the multiple regressions, it has a negative beta (β) weight, another typical example of classical suppression (Pandey & Elliott, 2010).

Summary of separate subscale variables and Striving for Excellence multiple regressions predicting flourishing

DV = Flourishing	ΔR^2	β	Zero-order Correlation	Semi-partial Correlation
Regression 1	.259***			
SfE		.241***	-.011	.216
CoM		-.569***	-.462	-.510
Regression 2	.190***			
SfE		.150***	-.011	.141
NfA		-.466***	-.414	-.437
Regression 3	.078***			
SfE		-.148***	-.011	-.133
Organisation		.313***	.248	.281
Regression 4	.066***			
SfE		.063*	-.011	.061
PPP		-.270***	-.253	-.260
Regression 5	.014***			
SfE		-.073*	-.011	-.066
Planfulness		.141***	.108	.126
Regression 6	.236***			
SfE		.309***	-.011	.258
Rumination		-.583***	-.413	-.487

Note. $N = 1103$. DV = dependent variable. β = standardized regression coefficient, SfE = Striving for Excellence, CoM = Concern over Mistakes, NfA = Need for Approval. * $p < .05$. *** $p < .001$.

Appendix J: Template email sent to students who took part in previous survey and expressed interested in taking part in the intervention



**Sheffield
Hallam
University**

Invitation to attend "Perfectionism to Progress" Workshop

Dear Student,

Last year, you took part in a survey measuring perfectionism and mental health as part of my PhD. Firstly, thank you very much for taking the time to answer that survey - it is very much appreciated!

I'm contacting you because within the survey you also gave your e-mail address, suggesting you'd like to take part in a follow-up intervention.

Please find attached a leaflet with brief information about the workshop for undergraduate students with Perfectionism.

I am also holding an informal "Information Session" on Wednesday 9th October to explain the workshop in more detail, and all are welcome to attend. If you can't make it - that's fine, I can send you all the relevant information by e-mail instead.

Please let me know by Wednesday 9th October if you're interested, as registration will close by Friday 11th October.

Any other questions, please do not hesitate to message me.

Kind regards,

Lucy Cooper
PhD Student
L.N.Cooper@shu.ac.uk

P.S. If you are no longer interested, that is not a problem - I apologise for bothering you and wish you the best during your time at University.

Appendix K: Recruitment poster for intervention

Is Perfectionism negatively impacting your work?

Feel your work is **“Never Good Enough”**?

Have trouble with **Procrastination**?

Volunteers Needed For Research
TAKE PART IN OUR FREE GROUP SESSIONS:
“ From Perfectionism to ”
PROGRESS

For more information
**Come to our Informal
Information Session**

Wednesday 9th October
16:00
Heart of the Campus HC 0.33
(or e-mail Lucy with any questions)

How long?	4 weekly sessions, 1-2 hours each
When?	Beginning October or November
Who for?	Perfectionist Undergraduates
Sign Up/More Info?	Email Lucy by 9/10/19: L.N.Cooper@shu.ac.uk

Appendix L: Email for students expressing interest in intervention with registration survey link (including measures), information sheet and consent form, as well as copy of Survey at Time 1

Dear Student,

Thank you so much for expressing an interest in the "Perfectionism to Progress" workshops. This is a general information e-mail for all interested participants, whether or not you were able to attend the Information Session.

Below is a link to the information sheet, consent form and questionnaire that must be completed by 11/10/19 in order to take part in the sessions.

To register to take part in the sessions, please visit:

https://shusls.eu.qualtrics.com/jfe/form/SV_6eOvvyPoQh00EHT

There are a few important points to note:

- The sessions are run by myself (a Psychology PhD student and BACP Accredited counsellor) and Professor Ann Macaskill (also a trained psychotherapist). I have over 10 years' experience providing support to students at University.
- These sessions are specifically designed to help students with their perfectionism.
- There are four sessions in total (one per week, for four weeks), each session will last no longer than two hours. If you wish to take part, it is important you try your best to attend every session to get the most out of it.
- We expect all group members to be respectful and courteous of one another. Whilst we encourage everyone to be able to discuss ideas with each other, it is not mandatory - at no point will you be forced to do anything you do not want to do.
- Anything discussed in the group sessions must be kept confidential, in order to enable a safe and comfortable environment for everyone attending.
- There are two groups: one running from 16/10/19 to 06/11/19, and the other from 20/11/19 to 11/12/19. Both groups will receive the same content, but to maintain a smaller more comfortable group size, we need to run the sessions separately. If you have a preference for dates, please indicate this on your questionnaire - we will try our best to accommodate this preference, but cannot guarantee this.
- There is an inclusion criteria, please read the information sheet carefully.

I have attached the Information Sheet separately to provide more detailed information, but of course, please do not hesitate to contact me if you have any further questions.

Deadline for completing and submitting the questionnaire is Friday 11th October, 17:00. If you do not complete the consent form and questionnaire, I will have to assume you have withdrawn.

You will hear back from me on Friday 11th October if you are to be included in these sessions, and if so, with the date, time and locations of your sessions.

Thank you again for expressing an interest.

Best wishes,

Lucy



PARTICIPANT CONSENT FORM

TITLE OF RESEARCH STUDY: Perfectionism to Progress Group Workshop/Intervention

All Participants must complete and submit this consent form and the first questionnaire to researcher Lucy Cooper (L.N.Cooper@shu.ac.uk) by **Friday 15th November** to be able to take part in the workshop.

Please answer the following questions by ticking the response that applies	YES
1. I have read the Information Sheet for this study and have had details of the study explained to me.	<input type="checkbox"/>
2. Any questions about the study have been answered to my satisfaction and I understand that I may ask further questions at any point.	<input type="checkbox"/>
3. I understand that I am free to withdraw from the study within the time limits outlined in the Information Sheet, without giving a reason for my withdrawal or to decline to answer any particular questions in the study without any consequences to my future treatment by the researcher.	<input type="checkbox"/>
4. I agree to provide information to the researchers under the conditions of confidentiality set out in the Information Sheet.	<input type="checkbox"/>
5. I consent to the information collected for the purposes of this research study, once anonymised (so that I cannot be identified), to be used for any other research purposes.	<input type="checkbox"/>
6. I declare I meet the Inclusion Criteria set out in the Information Sheet.	<input type="checkbox"/>
7. I agree to statements outlined in the Information Sheet about confidentiality and behaviour for participant in the intervention.	<input type="checkbox"/>
8. I understand that by submitting this consent form I am expressing my interest in taking part in the intervention group as set out in the information sheet, and I will be contacted in due course about further arrangements.	<input type="checkbox"/>

Participant – Please Complete:

Participant Signature:		Date:	
Participant Name [PRINT]:			
Participant E-Mail:			

Unique Anonymiser Code

LAST three letters of Mother's Name (i.e. "A-R-Y" for Mary)	<u> </u> <u> </u> <u> </u>
Date in the month you were born (i.e. "28" for 28 th July)	<u> </u> <u> </u>
FIRST three letters of the town/city you were born in (i.e. "D-O-N" for Doncaster)	<u> </u> <u> </u> <u> </u>

Participant Consent Form

Perfectionism Group Intervention

Researcher Only:

Researcher Name:		Date:	
Researcher Signature:			



PARTICIPANT INFORMATION SHEET

**Sheffield
Hallam
University**

TITLE OF RESEARCH STUDY: Perfectionism to Progress Group Workshop/Intervention

1. Please read through this sheet carefully.
2. If you have any questions, contact the researcher team (see below).
3. Once finished, please complete and submit both the Consent Form and First Questionnaire by **Friday 15th November**, in order to take part.

1. WHAT IS THIS INTERVENTION ABOUT?

As part of my (Lucy Cooper) PhD, I am looking at perfectionism in UK students. I have worked with students as counsellor for almost 10 years. My thesis involves creating and trialling this intervention, intending to help students manage their perfectionism and flourish at University. It will be using cognitive-behavioural therapy and positive psychology.

2. CAN I TAKE PART?

To take part, you must meet the following inclusion criteria:

- a) Be a current undergraduate student,
- b) Be over 18 years old,
- c) Be able to commit to four weekly sessions starting 20/11/19.
- d) Must not currently be diagnosed with a mental health condition that requires intensive care, e.g., psychosis, eating disorder, substance dependence, or be experiencing significant suicidal thoughts,
- e) Not currently be engaged in ongoing psychological treatment or counselling.

PLEASE NOTE: This intervention is not suitable for everyone. If, upon completing the first questionnaire, the team feel this particular intervention is not helpful for you, we will contact you with details of other support available.

3. DO I HAVE TO TAKE PART?

It is up to you to decide if you want to take part. You can withdraw at any time, until the end of the study (approx. 30th March 2020), without giving a reason, or you can decide not to answer a particular question.

4. WHAT WILL I BE REQUIRED TO DO? / WHAT ARE THE SESSIONS LIKE?

- You will be required to respond to **three questionnaires** asking demographic and psychometric questions at different dates.
- You will be required to attend **a weekly group workshop/session**, each lasting up to **two hours**, with approx. 10-12 other students **for four weeks**.
- The sessions are **very informal, relaxed and friendly spaces**. Both Lucy and Ann (group facilitators/researchers) are experienced psychotherapists with many years working with students. We are very approachable, and hope you feel able to speak to us with any questions or concerns.
- Sessions are typically "*psychoeducational*", with examples and exercises (such as thought diaries) to help participants challenge their thoughts or behaviours. It is very reflective. Each week, you will also be given an exercise to try in your own time.

- Although participating in discussions is strongly encouraged to get the most out of the sessions, you are not required to do so.
- The sessions will always have a comfort break half-way through.
- All group participants are required to behave appropriately – see Point 5.

5. WHAT BEHAVIOUR IS EXPECTED OF THE PARTICIPANTS?

This will be discussed in more detail in the first session. Briefly:

- a) Confidentiality: Anything personal shared must be kept confidential in the group.
- b) Privacy: No-one is required to disclose anything they do not feel comfortable with. Engagement with group discussion is encouraged, but not mandatory.
- c) Dignity: No group member is ever humiliated or abused in any way.
- e) Respect: All group members to treat each other with respect.
- f) Responsibility: All group members take responsibility for their own well-being.

Group facilitators will also abide by these expectations, and in doing so, may ask participants who breach the above, to withdraw from the intervention.

PLEASE NOTE: If a participant discloses to researchers an immediate and significant risk of harm to themselves or others, the researchers will break confidentiality and disclose concerns to the University Student Support Services, for the student's safety.

6. WHERE WILL THE GROUP WORKSHOP TAKE PLACE?

Sheffield Hallam University, Collegiate Campus, Collegiate Crescent. Room details will be confirmed after submitting the signed consent form and questionnaire.

7. ARE THERE ANY POSSIBLE RISKS OR DISADVANTAGED IN TAKING PART?

- We do not anticipate any risks or disadvantages in taking part. The intervention requires active self-reflection, so if you are unfamiliar with this, it can feel uncomfortable at times. However, we would advise you push through with this process, as the benefits far outweigh the feelings of temporary discomfort.
- However, if you happen feel distressed at any point, we strongly encourage you to discuss this with one of the group facilitators, or to contact any of the support services we outline in the worksheets provided.
- Please remember that you are free to withdraw at any point, without any negative consequences.

8. WHAT ARE THE POSSIBLE BENEFITS OF TAKING PART?

Perfectionism can contribute to anxiety and difficulties at University. It is hoped that in taking part in this intervention, you will gain a better understanding of yourself and learn skills and coping strategies to help manage your perfectionism going forward. It is also hoped you may feel less anxious, be able to flourish more in your time at University.

9. WILL ANYONE CONNECT ME WITH WHAT IS RECORDED/REPORTED?

All your responses to questionnaires will be anonymised by a code you give in the consent form. Only you, the research team and management leads at Sheffield Hallam University will have access to the codes and corresponding e-mail addresses.

10. WHAT WILL HAPPEN TO THE DATA/HOW WILL THE DATA BE MANAGED?

All data will be anonymised. All participants data will only be accessible to the research team and Research Management leads at Sheffield Hallam University. Other approved researchers may be granted access to the *anonymised raw data* after permission by the research team. Data will be saved/stored on Sheffield Hallam University's secure research drive. It will be analysed using Excel and SPSS. The raw data will be retained until the

research project is completed (approximately September 2020), and 7 years after the publication of any academic papers relating to the data or as required by the academic journal.

11. HOW WILL YOU USE WHAT YOU FIND OUT?

The results to questionnaires will be used to inform my PhD thesis, and may also be used for academic papers or conference presentations.

12. HOW LONG IS THE WHOLE STUDY LIKELY TO LAST?

The main study is the group intervention lasting up to four weeks. This is due to start 20/11/19. After approx. 3-months, you will be sent a final questionnaire to follow up your experience.

RESEARCH TEAM CONTACT DETAILS

Ms Lucy Cooper (Primary Researcher & Group Facilitator) - L.N.Cooper@shu.ac.uk
Prof. Ann Macaskill (PhD Supervisor & Group Facilitator) - A.Macaskill@shu.ac.uk
Dr David Reynolds (PhD Supervisor) - D.Reynolds@shu.ac.uk

Legal basis for research for studies – GDPR Privacy Notice

From 25 May 2018 the General Data Protection Regulation (GDPR) will replace the Data Protection Act and govern the way that organisations use personal data. Personal data is information relating to an identifiable living individual. Transparency is a key element of the GDPR and this Privacy Notice is designed to inform you:

- how and why the University uses your personal data for research,
- what your rights are under GDPR, and,
- how to contact us if you have questions or concerns about the use of your personal data.

The University undertakes research as part of its function for the community under its legal status. Data protection allows us to use personal data for research with appropriate safeguards in place under the legal basis of **public tasks that are in the public interest**. A full statement of your rights can be found at <https://www.shu.ac.uk/about-this-website/privacy-policy/privacy-notices/privacy-notice-for-research>. However, all University research is reviewed to ensure that participants are treated appropriately and their rights respected. This study was approved by UREC on 20/08/2019 with Converis number ER16006453. Further information at <https://www.shu.ac.uk/research/ethics-integrity-and-practice>

Details of who to contact if you have any concerns or if adverse effects occur after the study are given below.

<p>You should contact the Data Protection Officer if:</p> <ul style="list-style-type: none">• you have a query about how your data is used by the University• you would like to report a data security breach (e.g. if you think your personal data has been lost or disclosed inappropriately)• you would like to complain about how the University has used your personal data <p>DPO@shu.ac.uk</p>	<p>You should contact the Head of Research Ethics (Professor Ann Macaskill) if:</p> <ul style="list-style-type: none">• you have concerns with how the research was undertaken or how you were treated <p>a.macaskill@shu.ac.uk</p>
---	---

Post address: Sheffield Hallam University, Howard St, Sheffield, S1 1WB Telephone: 0114 225 5555



PERFECTIONISM TO PROGRESS WORKSHOP

QUESTIONNAIRE 1

Please answer ALL questions



Unique Anonymised Code

1) Please provide your unique anonymised code:

(and please remember your answers – these will be used to help track subsequent questionnaires whilst keeping your answers anonymous and confidential)

a) LAST three letters of Mother's Name (i.e. "ARY" for Mary):

b) Date in the month you were born (i.e. "28" for 28th July):

c) FIRST three letters of town/city you were born in (i.e. "DON" for Doncaster):

2) What is your age?

[Please tick]

3) What is your year of study?

*(Please note, this study is currently **only** available to Undergraduate Students)*

- 1st Year / Level 4
 2nd Year / Level 5
 3rd Year / Level 6
 Other (please specify): _____

[Please tick]

4) What is your gender?

- Male
 Female
 Transgender
 Prefer not to say
 Other (please specify): _____

5) What course are you studying?

6) Which University are you studying at? [Please tick]

- Sheffield Hallam University
- University of Sheffield
- Other (please specify): _____

7) Are you a Home or International Student? [Please tick]

- Home
- International
- Unsure

8) What is your ethnicity? [Please tick]

- Arab
- Asian/Asian British - Bangladeshi
- Asian/Asian British - Chinese
- Asian/Asian British - Indian
- Asian/Asian British - Pakistani
- Any other Asian background (please specify): _____
- Black/Black British - African
- Black/Black British - Caribbean
- Any other black British, African or Caribbean background (please specify): _____
- White - British, English, Northern Irish, Scottish or Welsh
- White - Gypsy or Irish Traveller
- White - Irish
- White and Asian
- White and Black African
- White and Black Caribbean
- Any other white background (please specify): _____
- Any other mixed or multiple ethnic background (please specify): _____
- Any other ethnic group (please specify): _____
- Prefer not to say

9) Do you currently have a diagnosis of any of the following?

[please tick all that apply]

- | | | | |
|--------------------------|--|--------------------------|----------------------|
| <input type="checkbox"/> | Phobia | <input type="checkbox"/> | Eating disorder |
| <input type="checkbox"/> | Panic attacks | <input type="checkbox"/> | Nervous breakdown |
| <input type="checkbox"/> | Post-traumatic Stress Disorder | <input type="checkbox"/> | Personality Disorder |
| <input type="checkbox"/> | Generalised Anxiety Disorder | <input type="checkbox"/> | Psychosis |
| <input type="checkbox"/> | Depression | <input type="checkbox"/> | Schizophrenia |
| <input type="checkbox"/> | Post-natal depression | <input type="checkbox"/> | ADHD |
| <input type="checkbox"/> | Obsessive Compulsive Disorder | <input type="checkbox"/> | ADD |
| <input type="checkbox"/> | Bipolar Disorder | <input type="checkbox"/> | SAD |
| <input type="checkbox"/> | None | <input type="checkbox"/> | Eating Disorder |
| <input type="checkbox"/> | Prefer Not to Say | | |
| <input type="checkbox"/> | Any other mental, emotional or neurological problem or condition | | |

10) a) Are you currently receiving any treatment for mental ill health and/or a mental health condition?

- Yes *
- No
- Unsure
- Not Applicable

10) b) If YES, what treatment(s) are you receiving:

11) Please use the following options to rate how much you generally agree with each statement:

[Please tick]

	Strongly Disagree	Disagree Somewhat	Neither Agree or Disagree	Agree Somewhat	Strongly Agree
My work needs to be perfect, in order for me to be satisfied.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am over-sensitive to the comments of others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I usually let people know when their work isn't up to my standards.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am well-organized.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think through my options carefully before making a decision.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I make mistakes, people might think less of me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I've always felt pressure from my parent(s) to be the best.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I do something less than perfectly, I have a hard time getting over it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
All my energy is put into achieving a flawless result.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I compare my work to others and often feel inadequate.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I get upset when other people don't maintain the same standards I do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think things should be put away in their place.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find myself planning many of my decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am particularly embarrassed by failure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My parents hold me to high standards.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I spend a lot of time worrying about things I've done, or things I need to do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can't stand to do something halfway.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am sensitive to how others respond to my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm not very patient with people's excuses for poor work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would characterize myself as an orderly person.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree Somewhat	Neither Agree or Disagree	Agree Somewhat	Strongly Agree
Most of my decisions are made after I have had time to think about them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I over-react to making mistakes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My parent(s) are difficult to please.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I make a mistake, my whole day is ruined.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have to be the best in every assignment I do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm concerned with whether or not other people approve of my actions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm often critical of others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to always be organized and disciplined.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I usually need to think things through before I know what I want.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If someone points out a mistake I've made, I feel like I've lost that person's respect in some way. (<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My parent(s) have high expectations for achievement.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I say or do something dumb I tend to think about it for the rest of the day.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I drive myself rigorously to achieve high standards.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often don't say anything, because I'm <u>scared</u> I might say the wrong thing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am frequently aggravated by the lazy or sloppy work of others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I clean my home often.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I need time to think up a plan before I take action.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I mess up on one thing, people might start questioning everything I do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Growing up, I felt a lot of pressure to do everything right.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I make an error, I generally can't stop thinking about it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I must achieve excellence in everything I do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am self-conscious about what others think of me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly Disagree	Disagree Somewhat	Neither Agree or Disagree	Agree Somewhat	Strongly Agree
I have little tolerance for other people's careless mistakes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I make sure to put things away as soon as I'm done using them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tend to deliberate before making up my mind.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To me, a mistake equals failure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My parent(s) put a lot of pressure on me to succeed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often obsess over some of the things I have done.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am often concerned that people will take what I say the wrong way.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often get frustrated over other people's mistakes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My closet is neat and organized.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I usually don't make decisions on the spot.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Making mistakes is a sign of stupidity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I always felt that my parent(s) wanted me to be perfect.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
After I turn a project in, I can't stop thinking of how it could have been better.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My workspace is generally organized.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I make a serious mistake, I feel like I'm less of a person.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My parent(s) have expected nothing but my best.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I spend a great deal of time worrying about other people's opinion of me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12) a) Over the last 2 weeks, how often have you been bothered by the following problems?

[Please tick]

	Not at all	Several Days	Over half the days	Nearly Every Day
Feeling nervous, anxious, or on edge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not being able to stop or control worrying	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worrying too much about different things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trouble relaxing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being so restless that it's hard to sit still	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Becoming easily annoyed or irritable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feeling afraid as if something awful might happen	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

b) If you checked off any problems, how difficult have these made it for you to do your work, take care of things at home, or get along with other people?

- Not difficult at all
- Somewhat difficult
- Very difficult
- Extremely difficult

Please continue on the next page

7

13) Below are 8 statements with which you may agree or disagree.
Using the 1-7 scale below, indicate your agreement with each item by
indicating that response for each statement

[Please tick]

	7 - Strongly Agree	6 - Agree	5 - Slightly Agree	4 - Neither Agree nor Disagree	3 - Slight Disagree	2 - Disagree	1 - Strongly Disagree
I lead a purposeful and meaningful life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My social relationships are supportive and rewarding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am engaged and interested in my daily activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I actively contribute to the happiness and well-being of others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am competent and capable in the activities that are important to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am a good person and live a good life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am optimistic about my future	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People respect me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix M: Template letter to student services to assist with recruitment for intervention



**Sheffield
Hallam
University**

From Perfectionism to Progress Workshops

Dear Student Services,

I'm a Psychology PhD student at SHU, supervised by Prof. Ann Macaskill. I am also a qualified BACP accredited counsellor with over 10 years' experience working with students.

I wanted to contact you about my research, investigating Perfectionism and Wellbeing in undergraduate students, with the hope you can distribute my recruitment leaflets/posters for participants.

Part of my research is developing and delivering a group workshop for undergraduates with perfectionism to help them manage the unhelpful bits (like procrastination), as well as excel in the helpful (organisation/motivation).

It is based on two existing effective interventions (CBT and Positive Psychology) that I'm merging together to see if it produces even better results in students' levels of anxiety, worry and flourishing. I received ethical approval from the SHU research ethics committee last month (ER16006453).

The workshop is one session per week for four weeks, each session approx. 1-2 hours long. I'll be delivering it twice; beginning 16th October and 20th November. As it is part of my research, I'll also be asking students to take part in a few questionnaires measuring factors like anxiety - but all responses are anonymous.

Firstly, I just wanted to make you and your team aware of the intervention, as I'll be advertising it across both universities and wouldn't want to cause any confusion for staff or students.

Secondly, I was also hoping, if you do not mind, to leave these leaflets and posters with you to distribute near receptions or waiting areas. If this is not feasible/appropriate, please let me know and I will collect them.

If you'd like to discuss this further, please don't hesitate to contact me. Thank you very much for your time.

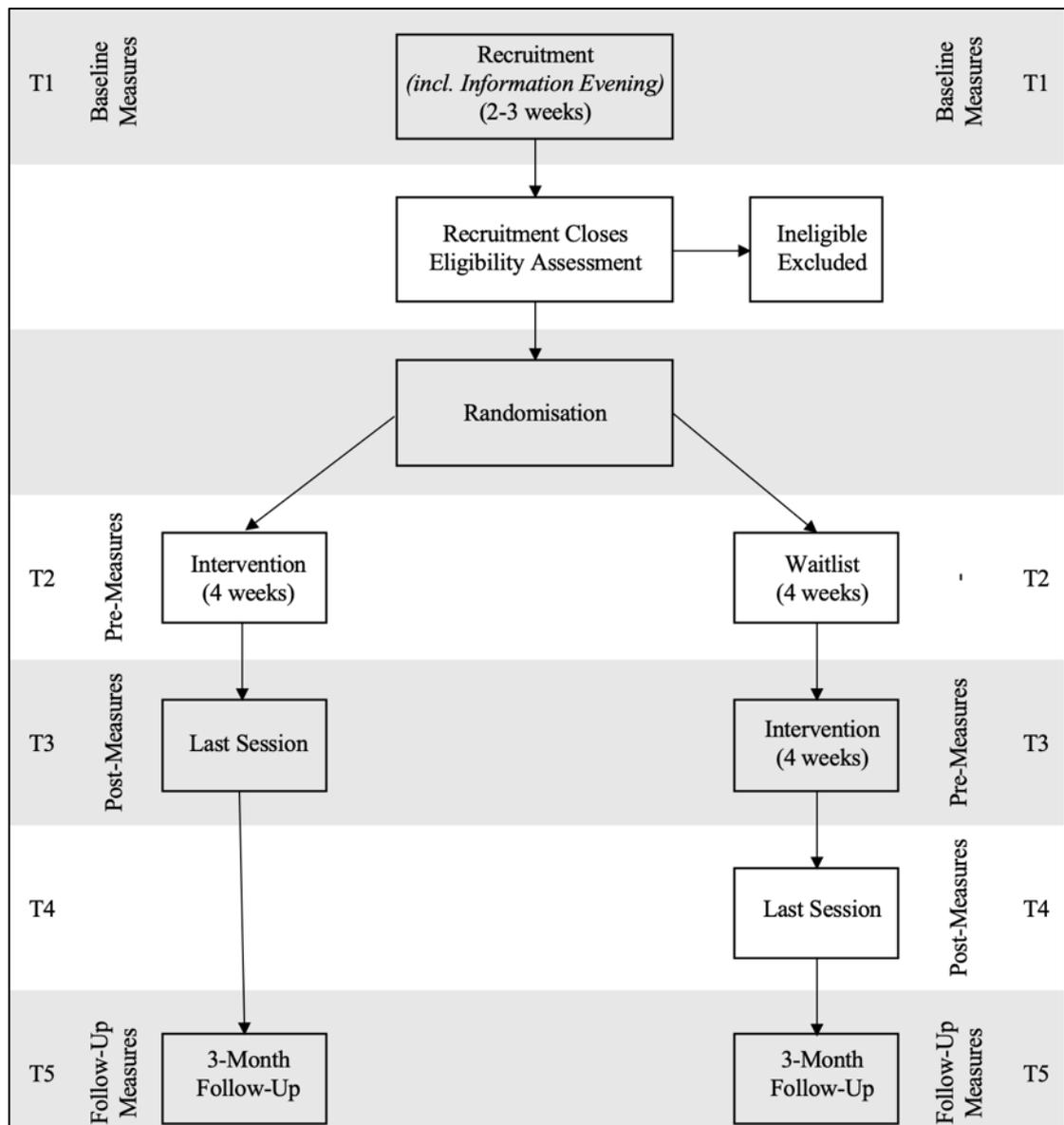
Kind regards,

Lucy Cooper

L.N.Cooper@shu.ac.uk

P.S. Best of luck for the 2019 intake!

Appendix N: Initial dates and timetables intended for participant recruitment and delivery of measurements and interventions



Appendix O.1: Perfectionism Maintenance Cycle Handout

Adapted from Shafran, R., Egan, S. J., & Wade, T. D. (2010). *Overcoming perfectionism: A self-help guide using cognitive-behavioural techniques*.

Constable & Robinson

[Removed for copyright reasons]

Adapted from Shafran, R., Egan, S. J., & Wade, T. D. (2010). *Overcoming perfectionism: A self-help guide using cognitive-behavioural techniques*.

Constable & Robinson

[Removed for copyright reasons]

Appendix O.2: Personal Perfectionism Maintenance Cycle Handout

Adapted from Shafran, R., Egan, S. J., & Wade, T. D. (2010). *Overcoming perfectionism: A self-help guide using cognitive-behavioural techniques*.

Constable & Robinson

[Removed for copyright reasons]

Adapted from Shafran, R., Egan, S. J., & Wade, T. D. (2010). *Overcoming perfectionism: A self-help guide using cognitive-behavioural techniques*.

Constable & Robinson

[Removed for copyright reasons]

Appendix O.3: Preparing for Chance – Cost-Benefit Analysis Handout

Adapted from Shafran, R., Egan, S. J., & Wade, T. D. (2010). *Overcoming perfectionism: A self-help guide using cognitive-behavioural techniques*. Constable & Robinson

[Removed for copyright reasons]

Adapted from Shafran, R., Egan, S. J., & Wade, T. D. (2010). *Overcoming perfectionism: A self-help guide using cognitive-behavioural techniques*. Constable & Robinson

[Removed for copyright reasons]

Appendix O.4: Character Strengths Handout

_Adapted from Seligman, M. E. P., Steen, T. A., Park, N., & Peterson, C. (2005).

Positive Psychology Progress: Empirical Validation of Interventions. *American Psychologist*, 60(5), 410–421. <https://doi.org/10.1037/0003-066X.60.5.410>

[Removed for copyright reasons]

Appendix O.5: All or Nothing Thinking Handout

Adapted from Shafran, R., Egan, S. J., & Wade, T. D. (2010). *Overcoming perfectionism: A self-help guide using cognitive-behavioural techniques*.

Constable & Robinson

[Removed for copyright reasons]

Adapted from Shafran, R., Egan, S. J., & Wade, T. D. (2010). *Overcoming perfectionism: A self-help guide using cognitive-behavioural techniques*.

Constable & Robinson

[Removed for copyright reasons]

Appendix O.6: Broadening Attention Handout

Adapted from Shafran, R., Egan, S. J., & Wade, T. D. (2010). *Overcoming perfectionism: A self-help guide using cognitive-behavioural techniques*. Constable & Robinson

[Removed for copyright reasons]

Appendix O.7: Three Good Things Handout

Adapted from Seligman, M. E. P., Steen, T. A., Park, N., & Peterson, C. (2005).

Positive Psychology Progress: Empirical Validation of Interventions. *American Psychologist*, 60(5), 410–421. <https://doi.org/10.1037/0003-066X.60.5.410>

[Removed for copyright reasons]

Adapted from Seligman, M. E. P., Steen, T. A., Park, N., & Peterson, C. (2005).
Positive Psychology Progress: Empirical Validation of Interventions. *American
Psychologist*, 60(5), 410–421. <https://doi.org/10.1037/0003-066X.60.5.410>

[Removed for copyright reasons]

Appendix O.8: Flexible Guidelines Handout

Adapted from Shafran, R., Egan, S. J., & Wade, T. D. (2010). *Overcoming perfectionism: A self-help guide using cognitive-behavioural techniques*. Constable & Robinson

[Removed for copyright reasons]

Adapted from Shafran, R., Egan, S. J., & Wade, T. D. (2010). *Overcoming perfectionism: A self-help guide using cognitive-behavioural techniques*. Constable & Robinson

[Removed for copyright reasons]

Appendix O.9: Imperfection Experiment Handout

Adapted from Shafran, R., Egan, S. J., & Wade, T. D. (2010). *Overcoming perfectionism: A self-help guide using cognitive-behavioural techniques*. Constable & Robinson

[Removed for copyright reasons]

Adapted from Shafran, R., Egan, S. J., & Wade, T. D. (2010). *Overcoming perfectionism: A self-help guide using cognitive-behavioural techniques*. Constable & Robinson

[Removed for copyright reasons]

Appendix O.10: Avoidance Hierarchy Handout

Adapted from Shafran, R., Egan, S. J., & Wade, T. D. (2010). *Overcoming perfectionism: A self-help guide using cognitive-behavioural techniques*. Constable & Robinson

[Removed for copyright reasons]

Adapted from Shafran, R., Egan, S. J., & Wade, T. D. (2010). *Overcoming perfectionism: A self-help guide using cognitive-behavioural techniques*. Constable & Robinson

[Removed for copyright reasons]

Appendix O.11: Procrastination Handout – 1

Adapted from Shafran, R., Egan, S. J., & Wade, T. D. (2010). *Overcoming perfectionism: A self-help guide using cognitive-behavioural techniques*. Constable & Robinson

[Removed for copyright reasons]

Adapted from Shafran, R., Egan, S. J., & Wade, T. D. (2010). *Overcoming perfectionism: A self-help guide using cognitive-behavioural techniques*. Constable & Robinson

[Removed for copyright reasons]

Appendix O.12: Procrastination Handout – 2

Adapted from Shafran, R., Egan, S. J., & Wade, T. D. (2010). *Overcoming perfectionism: A self-help guide using cognitive-behavioural techniques*. Constable & Robinson

[Removed for copyright reasons]

Adapted from Shafran, R., Egan, S. J., & Wade, T. D. (2010). *Overcoming perfectionism: A self-help guide using cognitive-behavioural techniques*. Constable & Robinson

[Removed for copyright reasons]

Appendix O.13: Self-Compassion Handout

Adapted from Shapira, L. B., & Mongrain, M. (2010). The benefits of self-compassion and optimism exercises for individuals vulnerable to depression. *The Journal of Positive Psychology*, 5(5), 377–389. <https://doi.org/10.1080/17439760.2010.516763>

[Removed for copyright reasons]

Adapted from Shapira, L. B., & Mongrain, M. (2010). The benefits of self-compassion and optimism exercises for individuals vulnerable to depression. *The Journal of Positive Psychology*, 5(5), 377–389. <https://doi.org/10.1080/17439760.2010.516763>

[Removed for copyright reasons]

Appendix O.14: Self-criticism Handout

Adapted from Shafran, R., Egan, S. J., & Wade, T. D. (2010). *Overcoming perfectionism: A self-help guide using cognitive-behavioural techniques*. Constable & Robinson

[Removed for copyright reasons]

Appendix P: Examples of thematic analysis process

[Removed]

Appendix Q: Ethical review and approval for intervention

Perfectionism, worry and wellbeing in UK undergraduates: Establishing incidence and effective interventions

Ethics Review ID: ER16006453

Workflow Status: Approved with Advisory Comments

Type of Ethics Review Template: All other research with human participants

Primary Researcher / Principal Investigator

Lucy Cooper
(Faculty of Social Sciences and Humanities)

Converis Project Application:

Q1. Is this project ii) Doctoral research

Director of Studies

Ann Macaskill
(Faculty of Social Sciences and Humanities)

Supervisory Team

David Reynolds
(Centre for Behavioural Science and Applied Psychology)

Q4. Proposed Start Date of Data Collection: 16/09/2019

Q5. Proposed End Date of Data Collection : 13/03/2020

Q6. Will the research involve any of the following

- i) Participants under 5 years old: No
- ii) Pregnant women: No
- iii) 5000 or more participants: No
- iv) Research being conducted in an overseas country: No

Q7. If overseas, specify the location:

Q8. Is the research externally funded?: No

Q9. Will the research be conducted with partners and subcontractors?: No

Q10. Does the research involve one or more of the following?

- i. Patients recruited because of their past or present use of the NHS or Social Care: No
 - ii. Relatives/carers of patients recruited because of their past or present use of the NHS or Social Care: No
 - iii. Access to data, organs, or other bodily material of past or present NHS patients: No
 - iv. Foetal material and IVF involving NHS patients: No
 - v. The recently dead in NHS premises: No
 - vi. Participants who are unable to provide informed consent due to their incapacity even if the project is not health related: No
 - vii. Prisoners or others within the criminal justice system recruited for health-related research: No
-

viii. Prisoners or others within the criminal justice system recruited for non-health-related research:

No

ix. Police, court officials or others within the criminal justice system: No

Q11. Category of academic discipline: Social Sciences

Q12. Methodology: Quantitative

P2 - Project Outline

Q1. General overview of study: Current Sheffield Hallam University Undergraduate Students will be invited to participate in an intervention aimed at addressing their own perfectionism, through adverts across campus (approx w/c 16/09/19). Initially, an "open evening" (approx w/c 30/09/19) to discuss the intervention will be open to participants to provide more details of the interventions and what is expected. They will be provided with an information sheet and consent form. To register an interest in taking part, participants will be asked to complete a set of standardised measures. Participants who are interested but cannot attend the open evening will be sent these documents electronically. The participants will be divided into two groups; the initial intervention group and a waitlist control group, the latter to begin directly after the former. The same standardised measures will be taken on the first and last session of the intervention for both groups. A potential follow-up set of measures will be taken after 3 months (approx 03/02/19 or 02/03/19).

The intervention is primarily psycho-educational, adapted from an existing protocol that has been widely used by CBT therapists and researchers in "treating clinical perfectionism" (Shafran et al., 2010, Egan et al., 2014). However, this study will use a condensed version (implemented over five sessions as opposed to eight), and will incorporate existing Positive Psychology Interventions, with the aim to further reduce "Perfectionistic Concerns" and enhance "Perfectionistic Strivings" and associated factors (i.e., decrease anxiety and worry, increase flourishing and positive affect).

Q2. Background to the study and scientific rationale (if you have already written a research proposal, e.g. for a funder, you can upload that instead of completing this section): Rates of multi-dimensional perfectionism are reportedly rising in students in Higher Education (HE) across Great Britain (as well as Canada and the USA; Curran & Hill, 2017), potentially due to an increasing emphasis on competitive individualism across society in these countries, as well as HE (Rice & Slaney, 2002), underlining the belief that young people feel the need to perfect themselves and their lifestyles. Concurrent with this research, is the rise of reported mental health difficulties in students in HE (Thorley, 2017). Curran and Hill (2017) suggest that the increase in perfectionism levels in students has the potential to partly explain the reported increase in prevalence of mental ill health among students, not just due to the vulnerability of perfectionists and psychopathologies, such as anxiety, or negative affect (Hewitt & Flett, 1991; Enns et al., 2001), but also the alienation and need for approval that perfectionists experience that leaves them susceptible to mental ill health.

Despite the association with mental ill health, there are few studies demonstrating effective treatment of perfectionism (Shafran & Mansell, 2001), and it was typically only targeted symptomatically by addressing associated factors such as depression or anxiety as opposed to addressing the underlying perfectionism. A cognitive-behavioural treatment was one of the first interventions to be empirically tested (Ferguson & Rodway, 1994) and cognitive-behavioural therapy (CBT) still appears to be the most prominent intervention for perfectionism to be tested by researchers. The use of CBT for treating perfectionism is dominated by a group of researchers who are, themselves, CBT practitioners, and have developed the "Clinical Perfectionism" conceptualisation, and subsequently a CBT intervention to treat perfectionism as a maladaptive trait, producing a self-help book for "Overcoming Perfectionism" (Shafran et al., 2010), as well as a CBT practitioners guide based on the same evidence based protocol (Egan et al., 2014).

Studies have found CBT, or CBT principles in the treatment of perfectionism, are effective in decreasing rates of perfectionism and associated factors or symptomology, such as anxiety and depression (Lloyd, Schmidt, Khondoker & Tchanturia, 2015); many of which have used student samples. However, the conceptualisation of perfectionism as "clinical" and to be treated as opposed to "multi-dimensional" (Frost et al., 1993; Hewitt & Flett, 1993) was controversial as it is argued the clinical perfectionism model is focused primarily on the negative aspects of perfectionism and does not account for the variable dimensions of perfectionism, some of which have been found to be associated with more "positive" or "adaptive" characteristics (Stoeber & Otto, 2006), such as positive affect, academic achievement, adaptive coping styles and high levels of organisation. Simply put; having high standards is arguably a necessary quality for success and achievement and should not be discouraged, however, the overdependence of achieving high standards on self-worth is what is regarded as a risk factor for psychological distress

Following studies by Rice and Mirzadeh (2000), Rice and Dellwo (2002), and Klibert et al., (2014), who all identified different factors associated with different dimensions of perfectionism in students, the authors recommended that counsellors supporting students should not solely focus on maladaptive aspects of perfectionism, but instead consider integrative interventions that challenge rigid cognitions, as well as strength-based strategies to build resilience, or build on high standards and organisation skills. Whilst it can be argued that the CBT protocol developed by Shafran et al., (2010) "is NOT about lowering standards but is about addressing the over-dependence of your self-worth on striving and achievement" (pp. 65), it does not, however, set out to enhance the potential adaptive aspects of perfectionism.

Research suggests that going beyond a traditional single factor approach to health interventions, such as CBT (which only focuses on the removal or reduction of negative factors) and instead integrating an additional intervention such as Positive Psychology, it could increase resources and potentially produce a greater decrease in negative factors than if a single factor approach had been used (Keyes, 2002). A two-factor approach could benefit perfectionists in not just decrease symptomology such as anxiety or depression, but increase adaptive elements such as organisation and high standards. There is already promising research by James and Rimes (2018) that found mindfulness-based CBT for student participants with perfectionism resulted in changes in unhelpful beliefs about emotions, rumination and the daily impairment caused by perfectionism. They argue mindfulness-based CBT is a promising intervention for perfectionist students, potentially resulting in larger improvements than CBT alone.

Positive psychology is considered a beneficial second factor in the dual-factor approach to the intervention, as it intends to promote positive feelings, thoughts and behaviours to support health and wellbeing. It proposes that we all have personal assets that can be developed further or used more effectively to improve one's wellbeing and capacity to cope in adversity (Macaskill & Denovan, 2013). There is a growing body of research investigating the effectiveness of positive psychology interventions (PPIs) in promoting wellbeing and to add to or increase strengths and resources, as opposed to only remove or replace negative factors (Seligman, Steen, Park, & Peterson, 2005; Sin & Lyubomirsky, 2009; Bolier et al., 2013, Macaskill & Denovan, 2013, 2014; Ouweneel, Le Blanc, & Schaufeli, 2014). Some research also suggests that PPIs are as effective as cognitive techniques for managing symptoms such as worry (Geraghty, Wood and Hyland, 2010).

Therefore, taking into account the empirical evidence of the efficacy of CBT and potentially PPIs, it is predicted that a student with high levels of perfectionism could not only benefit from a decrease in symptomology through the use of CBT, but could experience an increase in their personal perfectionistic assets such as high standards and organisation, which could positively impact their academic experience and achievements.

Q3. Is your topic of a sensitive/contentious nature or could your funder be considered controversial?: No

Q4. Are you likely to be generating potentially security-sensitive data that might need particularly secure storage?: No

Q5. Has the scientific/scholarly basis of this research been approved, for example by Research Degrees Sub-committee or an external funding body?: Yes

Q6. Main research questions: Will a dual-factor perfectionism intervention utilising CBT and Positive Psychology interventions for UK undergraduates with high perfectionism scores:

- 1) Reduce perfectionistic concerns, whilst maintain or enhance perfectionistic strivings, at post-test in comparison to baseline and pre-test scores?
- 2) Decrease anxiety, worry and negative affect, at post-test in comparison to baseline and pre-test scores?
- 3) Increase flourishing and positive affect, at post-test in comparison to baseline and pre-test scores?
- 4) Be superior in (1-3) to a wait-list control group?

Q7. Summary of methods including proposed data analyses: Quantitative analysis of the scores from the standardised measures and potential differences across time, as well as any potential differences between both conditions, will be analysed using SPSS (e.g. using MANOVA or ANOVA, with t-tests).

P3 - Research with Human Participants

Q1. Does the research involve human participants?: Yes

Q2. Will any of the participants be vulnerable?: No

Q3. Is this a clinical trial?: No

If yes, will the placebo group receive a treatment plan after the study? If N/A tick no.: Yes

Q4. Are drugs, placebos or other substances (e.g. food substances, vitamins) to be administered to the study participants or will the study involve invasive, intrusive or potentially harmful procedures of any kind?: No

Q5. Will tissue samples (including blood) be obtained from participants?: No

Q6. Is pain or more than mild discomfort likely to result from the study?: No

Q7. Will the study involve prolonged testing (activities likely to increase the risk of repetitive strain injury)?: No

Q8. Is there any reasonable and foreseeable risk of physical or emotional harm to any of the participants?: No

Q9. Will anyone be taking part without giving their informed consent?: No

Q10. Is it covert research?: No

Q11. Will the research output allow identification of any individual who has not given their express consent to be identified?: No

Q12. Where data is collected from human participants, outline the nature of the data, details of anonymisation, storage and disposal procedures if these are required (300 - 750): As an overview, data obtained will be contact information (i.e. e-mail addresses), responses to psychometric tests (at four time points), an anonymised code to keep track of responses, and responses to demographic information. Different data will be collected at different stages:

1) Students will be asked to respond to an advert via email to confirm their interest in attending the opening evening. Email addresses will be put into a distribution list in order to contact students with date/time/location of session.

2) During the opening evening, after explaining various details about the study (including data collection, storage and disposal procedures), participants will be given paper copies of a consent form, and the psychometric measures listed previously, and told if they are interested in participating, they must complete both consent form and the first batch of measures by a cut off date, to be included in the study. An electronic version will also be sent out to all students in the previous distribution list. The data collected at this point will be:

[Consent Form] The participant name and (electronic) signature, and e-mail address for us to contact them in future with intervention date/times/locations, as well as an anonymised code (e.g. first three letters of town they were born in, date of the month they were born, last three letters of the first name).

[Measures] Anonymised Code, and responses to all measures

[Demographic Information] Anonymised code, as well as, date of birth, year of study, university, course, ethnicity, any mental health difficulties/diagnoses, treatment etc.

All electronic data will initially be stored on SHU Qualtrics, to be uploaded into separate password protected excel documents on the Q-Drive (email addresses with anonymised codes, demographic information and anonymised code, psychometric scale responses and anonymised code).

If a participant has responded to a paper version, these will be immediately typed up onto the password protected excel documents on Sheffield Hallam University desktop computer on the Q Drive, following the open evening, and then consent forms stored in a separate locked drawer at Sheffield Hallam University premises, other documents (anonymised) stored in a separate locked drawer at SHU. All other data will be anonymous, with only the anonymised code to help track data over time.

3) E-mail addresses from consenting participating participants will be used to confirm details of date/time/location and any other additional information pertaining to the intervention sessions. They will also be used to request students complete further repetitions of the psychometric scales.

4) Participants will also be given paper copies of the psychometric scales during the first and last session of their intervention, which will be anonymous and only trackable with their anonymised code.

5) Participants will be emailed again after three months with psychometric scales. Participants may also be invited to a focus group and/or semi-structured interview for qualitative feedback (but this will require a separate ethics review application).

P4 - Research in Organisations

Q1. Will the research involve working with an external organisation or using data/material from an external organisation?: No

P5 - Research with Products and Artefacts

Q1. Will the research involve working with copyrighted documents, films, broadcasts, photographs, artworks, designs, products, programmes, databases, networks, processes, existing datasets or secure data?: No

Q2. Are the materials you intend to use in the public domain?: Yes

P6 - Human Participants - Extended

Q1. Describe the arrangements for recruiting, selecting/sampling and briefing potential participants.:

Recruitment will be carried out for approx. two weeks during 16/09/19 – 30/09/19, where advertisements will be displayed on the SHU Electronic Noticeboards, leaflets and posters around campus. The adverts will ask if students who would like support for their perfectionism, would like to volunteer to take part in a trial five-week intervention intending to help students manage their perfectionism and improve their wellbeing. It will also contain details about the open evening date/time/location for students to attend to gain further information and contact details of the PI if they have any questions.

The SHU Student Support/Wellbeing team will also be contacted with information about the intervention in advance to help with recruitment, as well as pre-warn in case students misunderstand and incorrectly contact the team for information on the intervention.

Inclusion criteria is that a participant must be over 18 years old, be a current undergraduate at university (not exclusive to SHU), and score above the threshold for perfectionism on the Perfectionism inventory (Hill et al., 2004, 2010). Exclusion criteria will be that students must not currently be engaged in ongoing psychological treatment or counselling, not be presenting with significant suicidal ideation, and must not have been diagnosed with a mental health condition that warrants more intensive care, e.g., psychosis, eating disorder, substance dependence. This will be screened by participant disclosure a baseline assessment, and should the participant declare they meet the exclusion criteria they will be urged to contact their GP for further support. The study is not set up to manage risks associated with these difficulties.

Q2. Indicate the activities participants will be involved in.: Participants will be required to complete various psychometric scales, approximately four times each. They will also be required to complete a consent form and demographic questionnaire. With regards to the intervention, briefly, the protocol is adapted from Shafran et al., (2010) and Egan et al., (2014); an existing CBT protocol for perfectionism which has demonstrated effective reduction in perfectionism and negative affect (Lloyd et al., 2015). However, the protocol has been shortened, but several positive psychology interventions will be included too. There will be five sessions, each lasting up to two hours with a break half way through. Any sessions that are missed, participants will be emailed the materials from the session. The sessions participants will be involved in are group sessions of approximately 8-16, where participants will be encouraged to discuss their thoughts and feelings, but it will be made clear that it is up to them to take responsibility for deciding what they do and do not wish to share with the group.

Intervention is primarily psycho-educational, typically delivered in a seminar style fashion, with the researchers delivering information on Powerpoint and participants given handouts with further information. At various intervals, participants will be required to take part in tasks, such as writing down details about their thought/feelings/behaviours in relation to their perfectionism. They will also be given weekly homework tasks that they are strongly encouraged to complete to help consolidate understanding. At the beginning of each new session, the researchers will discuss individually how participants found the homework to record for adherence, whilst also helping aid understanding and motivation (but is in no way punitive). All work that participants complete, either homework or tasks in session, may be fully confidential as the researchers will request copies or demand disclosure at any point (however, disclosure may be encouraged to aid group interaction, discussion, learning and support). The only recorded information (i.e. data) given by participants to researchers and retained will be the responses to questionnaires as explained prior (psychometric tests, demographic information, consent etc.).

Q3. What is the potential for participants to benefit from participation in the research?: It is intended that participants who currently struggle with their high levels of perfectionism could develop helpful coping strategies that will enable them to engage better with their academic work and more likely to achieve their potential based on their capabilities, as opposed to hindered due to unhelpful elements of perfectionism. They could maintain their high standards of themselves and their work, whilst experiencing greater levels of satisfaction, positive affect and flourishing, as well as lower levels of worry and anxiety.

Q4. Describe any possible negative consequences of participation in the research along with the ways in which these consequences will be limited: It is not anticipated participants will experience any worsening of symptoms, as this has not been found in research so far (to the best of the researcher's knowledge). At worst, participants symptoms may remain the same pre-intervention, as it did post, and have given up approximately 3-4 hours a week for 6 weeks to take part in the intervention. Participants will be

encouraged to be self-reflective and disclose their personal thoughts and feelings to potential strangers, which may be distressing. To minimise any distress, participants' autonomy will be strongly encouraged in taking responsibility for whatever they wish to share, mindful of the potential consequences. Participants will also be reminded regularly of other support services that they can contact should they feel distressed (such as their GP or a counselling service). Should researchers identify participants are significantly distressed, they will speak with the participant to identify ways they can access support and discuss potential of withdrawal. As trained psychotherapists, the researchers are both well placed to support participants in the interim and signpost appropriately – however, it will be made clear that they do not have clinical responsibility for the participants.

Participants are warned in the information sheet that if they disclose significant and immediate harm towards themselves or others, researchers will be required to break confidentiality and alert the student support services at their University. However - this is only in very extreme and unlikely circumstances.

Finally, participants may disclose personal and private information about themselves in session, following which, another participant breaches confidentiality. Whilst every effort will be made to encourage confidentiality between attendees within the sessions, there is no guarantee researchers can safe guard this; therefore, again, leaving full responsibility and autonomy up to the participants as to what they wish to disclose.

Q5. Describe the arrangements for obtaining participants' consent.: Following the first session, participants will be given a consent form that requires participants to have read the information sheet (please see copies of both attached). It is explained to participants, both in the consent form and the information sheet, that by consenting to the study, they are agreeing to take part in the study (which involves taking part in the 5-week intervention, and four questionnaires). The consent form also requests participants create an anonymiser code, so their results from the questionnaires can be anonymised, but trackable by researchers to analyse results. Hard copies of consent forms will be stored in a lockable drawer on SHU premises, separate from other data only.

Q6. Describe how participants will be made aware of their right to withdraw from the research.:

During the open evening, participants will be made aware of their right to withdraw without consequence. This will be reiterated in the information sheet, where participants will be told "It is up to you to decide if you want to take part...You can still decide to withdraw at any time, until the end of the study (i.e., two weeks after the final follow-up measure in February/March), without giving a reason, or you can decide not to answer a particular question."

This will be further reiterated during the intervention sessions.

Q7. If your project requires that you work with vulnerable participants describe how you will implement safeguarding procedures during data collection:

No vulnerable participants are expected to take part in this study; recruitment is of UK undergraduate students exclusively, therefore almost all participants should be over the age of 18. Participants are told that they must be over 18 years old to take part in the study. Participants are also told they are excluded from the study if they are presenting with significant suicidal ideation, or diagnosed with a mental health condition that warrants more intensive care, e.g., psychosis, eating disorder, substance dependence. This will be screened by participant disclosure a baseline assessment, and should the participant declare they meet the exclusion criteria they will be urged to contact their GP for further support. The study is not set up to manage risks associated with these difficulties, therefore would be unethical and unsafe for all involved.

Q8. If Disclosure and Barring Service (DBS) checks are required, please supply details: N/A

Q9. Describe the arrangements for debriefing the participants.: There is no deception involved in the study, where possible, all relevant information is given upfront (except specific details about the intervention to prevent response bias). Upon completing the study, participants will be emailed to thank them for their time and given the opportunity to contact the researchers if they have any further questions.

Q10. Describe the arrangements for ensuring participant confidentiality. This should include details of:

Participants results will be kept confidential as no identifiable information will be taken (except their e-mail address and certain demographic information). However, upon obtaining this information, it will be separated out into two different password protected documents, stored in different folders on the SHU Q: Research Drive. The only identifier will be the anonymised code participants have created and their name on the separate consent form. The only publishable information will be overall collective descriptive and inferential statistics of scores from the psychometric tests, and descriptive statistics from demographic information. Participants will sign consent forms to agree to maintain confidentiality of other participants.

Participants are also aware that if they disclose to the researchers an immediate and significant risk of harm to themselves or others, they will disclose this to the student support team of their university.

Q11. Are there any conflicts of interest in you undertaking this research?: N/A

Q12. What are the expected outcomes, impacts and benefits of the research?: It is anticipated that not only will this help all students who participate in the interventions with their perfectionism, anxieties/ low mood or maladaptive coping strategies; it will also inform future interventions of beneficial ways to help students who are struggling at university due to perfectionism, or perfectionistic behaviours/thoughts. This could have a significant impact on the mental health of students, as well as their academic achievement and engagement at University.

Q13. Please give details of any plans for dissemination of the results of the research.: Long term preservation of data will be until thesis is completed (approx. September 2020) and 7 years after the publication of any academic papers relating to the data or as required by the academic journal. It is possible that the raw data may be shared with other researchers in Universities interested in carrying out their own interventions. The results may be publishable in journal articles, and will constitute one of the main studies in my PhD.

P7 - Health and Safety Risk Assessment

Q1. Will the proposed data collection take place only on campus?

: Yes

Q2. Are there any potential risks to your health and wellbeing associated with either (a) the venue where the research will take place and/or (b) the research topic itself?: Yes (please outline below)

Outline details of risks to your health and wellbeing: Participants may be distressed or disclose distressing feelings, thoughts or behaviours to myself as group facilitator. However, as a BACP Accredited Counsellor/Psychotherapist, I have over 6 years experience supporting clients with mental ill health and am trained to manage these appropriately, as well as thorough self-care interventions for myself. I regularly engage in private therapy myself, and could access this if necessary. However, this type of work is normal for myself, as I am also a Specialist Mental Health Mentor at University of Sheffield (DDSS); therefore do not anticipate any significant risks to my own health and wellbeing. I will maintain regular communication with my DoS, also a group facilitator and psychotherapist.

Q3. Will there be any potential health and safety risks for participants (e.g. lab studies)? If so a Health and Safety Risk Assessment should be uploaded to P8.: No

Q4. Where else will the data collection take place? (Tick as many venues as apply) Researcher's

Residence: false

Participant's Residence: false

Education Establishment: false

Other e.g. business/voluntary organisation, public venue: false

Outside UK: false

Q5. How will you travel to and from the data collection venue?: On foot

Q8. How will you ensure your own personal safety whilst at the research venue, (including on campus where there may be hazards relating to your study)?: Hazards are minimal, as the intervention is similar to that of a seminar that regularly takes places on campus. However, given the nature of the topics discussed, I will also be mindful to alert security if there are any concerns, and ensure participants are aware of basic health and safety procedures (for example, to evacuate if the fire alarm sounds).

P8 - Attachments

Are you uploading any recruitment materials (e.g. posters, letters, etc.): Yes

Are you uploading a participant information sheet?: Yes

Are you uploading a participant consent form?: Yes

Are you uploading details of measures to be used (e.g. questionnaires, etc.): Yes

Are you uploading an outline interview schedule/focus group schedule?: Non Applicable

Are you uploading debriefing materials?: Non Applicable

Are you uploading a Risk Assessment Form?: Non Applicable

Are you uploading a Serious Adverse Events Assessment (required for Clinical Trials and Interventions)?: Non Applicable

Are you uploading a Data Management Plan?: Yes

Upload:

Draft Recruitment Information.pdf

Data Management Plan - Intervention.pdf

P9 - Adherence to SHU Policy and Procedures

Primary Researcher / PI Sign-off:

I can confirm that I have read the Sheffield Hallam University Research Ethics Policy and Procedures: true

I can confirm that I agree to abide by its principles and that I have no personal or commercial conflicts of interest relating to this project.: true

Date of PI Sign-off: 03/07/2019

Director of Studies Sign-off:

I confirm that this research will conform to the principles outlined in the Sheffield Hallam University Research Ethics policy: true

I can confirm that this application is accurate to the best of my knowledge: true

Upload:

Date of submission and supervisor sign-off: 04/07/2019

Director of Studies Sign-off

Ann Macaskill

This section to be completed by Lead Reviewer (or FREC if escalated)

Ann Macaskill

P10 - Review

Comments collated by Lead Reviewer (Or FREC if escalated): This research is interesting but does make a number of assumptions which many lay people (non Psychologists) might find simply to be psychological self justification for doing certain interventions.

It raises a number of minor concerns, mostly about the sampling. For the sample to be self identified surely presents some concerns if 'perfectionism' is seen as a 'maladaptive trait'. By joining the study additional stress may be caused - extra homework, time away from study... may cause more anxiety about the standards of the individual. Also simply identifying may create further anxiety and be seen as 'failure'. Although this submission implies that this is monitored it still raises concerns that should be carefully considered.

It is not entirely clear how you are going to identify who will take part in the intervention and this needs to be made more clear. Have all students previously undertaken the Perfectionism Test, or is it only a limited sample? Surely there needs to be a proper random control group with lower scores, or a group who have not done the test, with whom to compare results. This may also perhaps reduce their risks of joining the 'maladaptive trait of Perfectionism' for this group, although 'perfectionism' has traits that are positive too. All students should be encouraged to maximise their performance and "do their best".

The idea that the study will be a mixed approach is good, but somewhere the expression "accentuate the positive, eliminate (reduce) the negative" is vital to the broader role of perfectionists

We recommend the following changes:

- The advert needs to make it clear that this is a research study conducted by a doctoral students and not just free support sessions, and that not all students will be eligible to take part,

- The PIS should make it clear on what grounds suitability for the study will be determined - so that people who are not deemed suitable are not overly anxious about the reasons. It is not clear what additional support will be offered to those who are ineligible.

- It would be good to provide participants with some contact details for further support at the end of the study
Final Decision to be completed by Lead Reviewer (or FREC if escalated): Approved with advisory comments

Date of Final Decision: 20/08/2019

P12 - Post Approval Amendments

Amendment 1

Title of Amendment 1: Change of dates and Change to wait list control group to a control group using SONA participants via Qualtrics survey

Details of Amendment 1: Due to poor initial uptake, the intervention protocol for the study has had to be amended. Therefore:

- There will be no more wait list control
- Only one "treatment" group, beginning Wednesday 20th November (when the wait-list control group would have been seen). Existing participants who have signed up have already been contacted to make them aware there is an unfortunate delay, but they are still eligible to take part in November if they wish.
- Recruitment (via posters, leaflets and campus-wide screen savers) will continue up until Friday 15th November with similar recruitment materials, but dates amended. Information Sheet and Consent forms have been amended to reflect new dates.
- Instead of a wait list control group, a control will consist of psychology undergraduate students completing a short survey, twice, through the SONA system. The survey will consist of:
 - Information Sheet, Consent Form, Three Anonymiser Code questions, Demographic Information (first survey only), Perfectionism Inventory (Hill et al., 2004), Generalised Anxiety Disorder-7 (GAD-7; Spitzer et al., 2006), Flourishing Scale (Diener et al., 2010). Last page will have information for well-being services if student became distressed, and link to SONA for credits to be registered.
 - It will take approximately 10-15 minutes to complete.
 - The three anonymiser questions ("LAST three letters of Mother's Name, Date in the month you were born, FIRST three letters of the town/city you were born in") will help preserve anonymity, whilst enabling the first and second survey to be matched for statistical comparison.
 - The first survey will initially be live from 15th November 2019 and closed on 22nd November 2019. The second survey will be live from 9th December until 17th December.
 - It will be explained to participants that they have the opportunity to take part in the first survey for credits on the SONA system, which also serves as a pre-requisite for the second survey. However, participants will automatically receive credits for the first survey (15 credits), irrespective of if they take part in the second survey or not. Participants will not be able to take part in the second survey, if they have not already taken part in the first. It will be encouraged for participants to take part in both surveys, for the benefit of the research, as well as the opportunity to receive maximum SONA credits available (15 + 25 credits).
- Information sheet will outline;
 - Purpose of the study (data to form part of a wider study on student well-being and perfectionism)
 - What they will be doing (responding to questions on two surveys, including demographic information)
 - Risks/Benefits (no anticipated risks, however, if questions are distressing they are encouraged to end. or. access support from services listed at the end)
 - Ethical Approval
 - Anonymity (every effort is made to preserve anonymity, hence the anonymiser questions)
 - Withdrawal (participants can withdraw at any time from beginning the questionnaire, until 17th December).
 - Data management information
 - GDPR information
 - Researcher contact details

Date of Amendment 1: 16/10/2019

Upload:

Information Sheet, Consent Form and
Questionnaires.docx

In my judgement amendment 1 should be: Amendment Approved
Date of Amendment Outcome 1: 15/11/2019

Amendment 2

In my judgement amendment 2 should be: Select Amendment Outcome

Amendment 3

In my judgement amendment 3 should be: Select Amendment Outcome

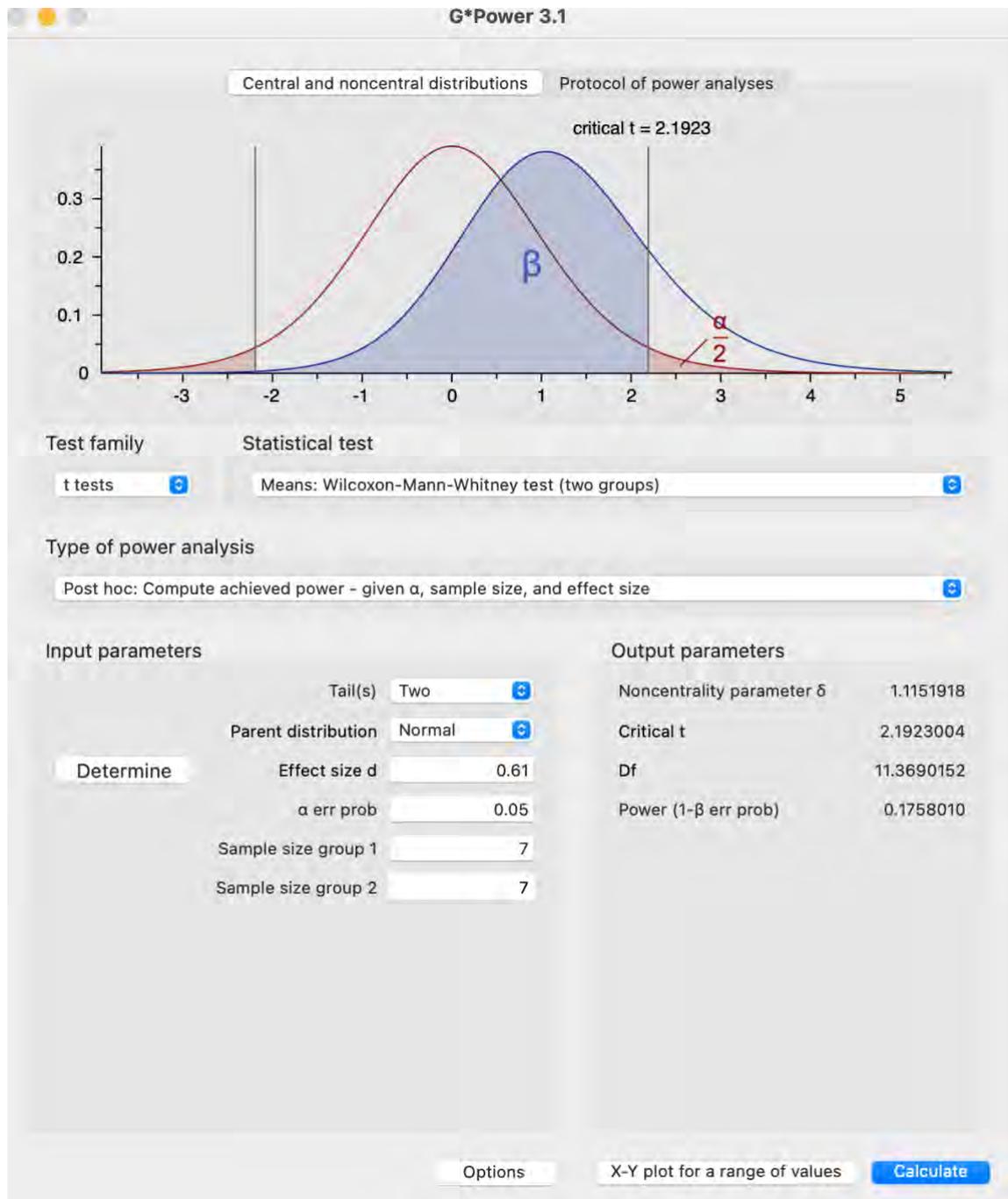
Appendix R: Results from CHANGE score and ANCOVA analyses

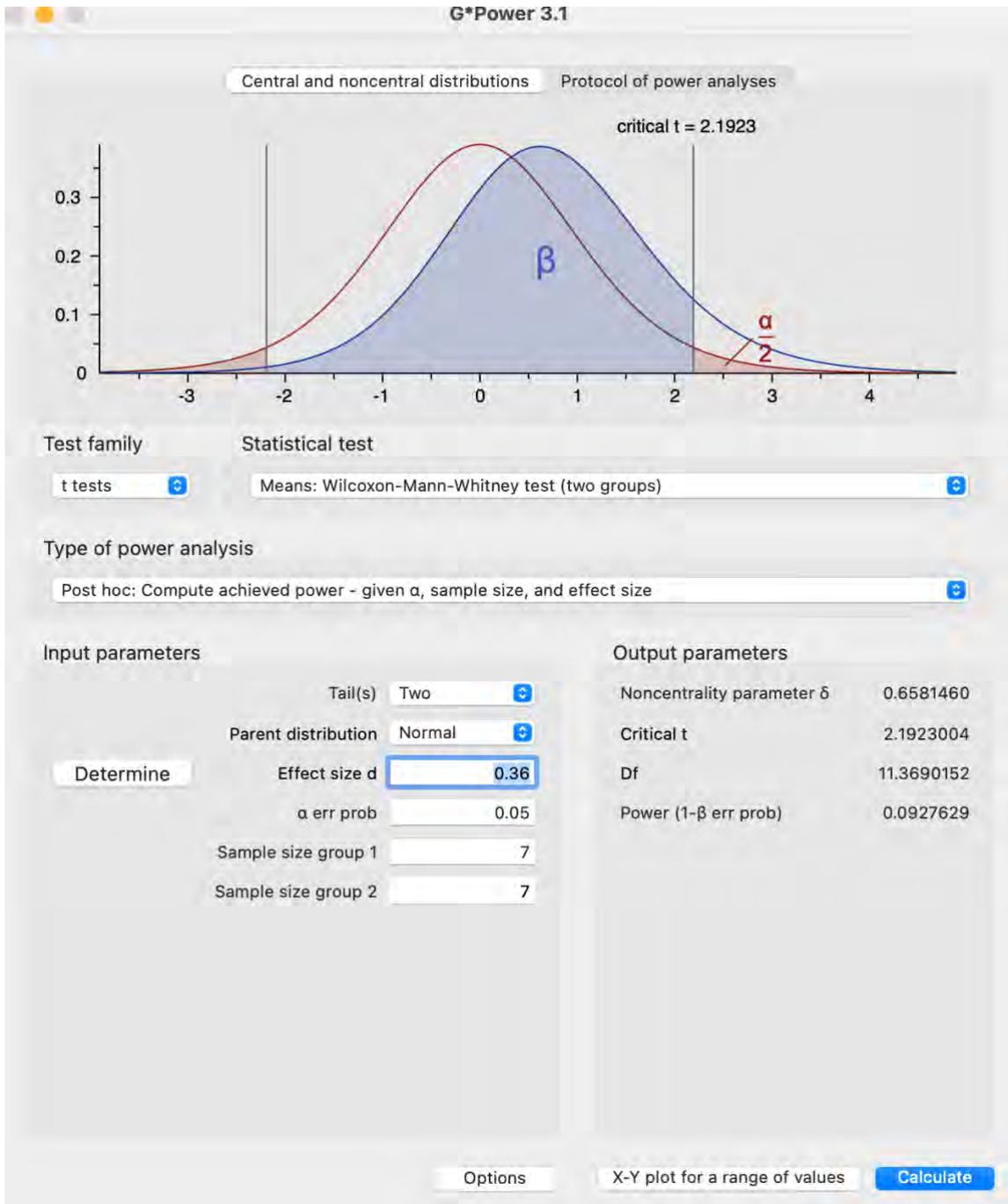
Comparisons between Intervention and Control Groups at Time 2 and Time 3 using CHANGE score and ANCOVA analyses (van Breukelen, 2013).

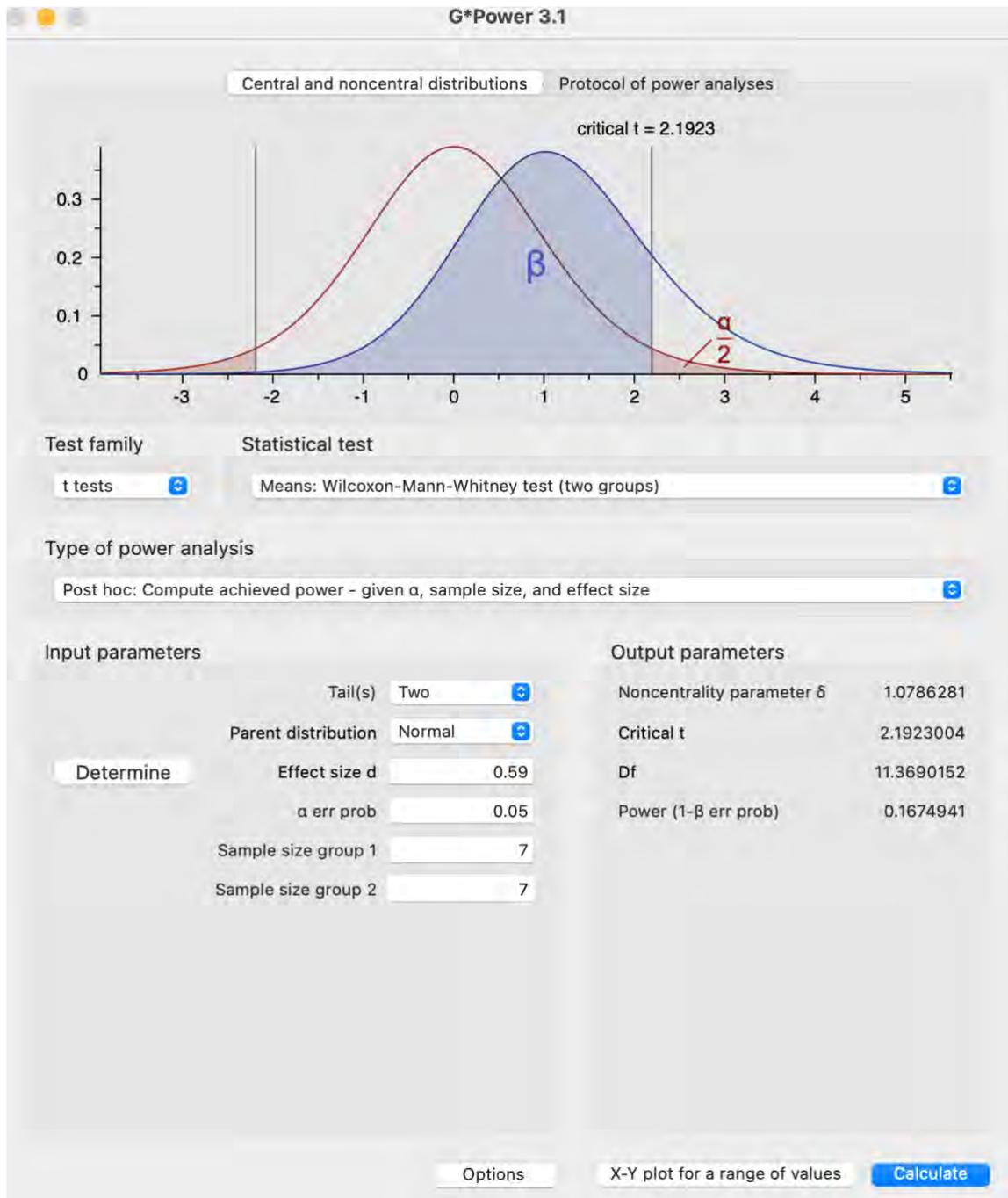
CHANGE score analyses with bootstrapping found significant differences between both groups for each measure; Anxiety; $F(1, 32) = 20.713, p < .001$, Flourishing; $F(1, 32) = 7.366, p = .001$, Perfectionistic Concerns; $F(1, 32) = 21.554, p < .001$ and Perfectionistic Strivings; $F(1, 32) = 9.853, p = .004$.

ANCOVA analyses with bootstrapping found slightly different results between groups for some measures. There was a significant effect of Time on Anxiety score after controlling for pre-test scores, $F(1, 32) = 12.544, p = .001, \eta^2 = .302$. There was a significant effect of Time on Flourishing score after controlling for pre-test scores, $F(1, 32) = 7.452, p = .011, \eta^2 = .204$. There was a non-significant effect of Time on Perfectionistic Concerns score after controlling for pre-test scores, $F(1, 32) = .903, p = .350, \eta^2 = .030$. Finally, there was a significant effect of Time on Perfectionistic Strivings score after controlling for pre-test scores, $F(1, 32) = 6.134, p = .019, \eta^2 = .175$.

Appendix S: Post -hoc power analyses using G*Power (Faul et al., 2007) for the effect sizes found in non-significant changes in scores for subscales; high standards for others, organisation and planfulness, respectively







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