The association between work-related potential stressors, self-compassion and perceived stress in IAPT therapists.

E. Kostaki

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School of Health and Social Care

University of Essex

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1. Abstract

Improving Access to Psychological Therapies (IAPT) therapists form a relatively new workforce delivering psychological interventions to people with mild to moderate mental health difficulties in often high-volume environments (Department of Health [DOH], 2008c). Emerging research has suggested that working as an IAPT therapist can be a demanding and stressful role (Walket & Percy, 2014; Westwood, Morison, Allt, & Holmes, 2017). Work-related stressors have been linked to physical and mental health difficulties (e.g. Bosma, et al., 1997; Stansfeld, Fuhrer, Shipley, & Marmot, 1999) and the financial cost of stress related illness is considerable (Blaug, Kenyon, & Lekhi, 2007). Across the literature stress has been conceptualised in a variety of ways (Cooper, Dewe, & O'Driscoll, 2001). The transactional approach understands stress through the relational processes between the person and the environment (Lazarus, 2006). Self-compassion (Gilbert, 2010a; Neff, 2003b), a way of self-relating in times of hardship and suffering, has predominately been inversely associated with perceived stress and has been linked to psychological wellbeing (Neff & Costigan, 2014). This quantitative cross-sectional online project explored IAPT therapists' levels of perceived stress and examined whether self-compassion moderated the relationship between work-related stressors and perceived stress in IAPT therapists. IAPT therapists reported experiencing levels of perceived stress that were higher than the norm. Self-compassion did not moderate the relationship between work-related stressors and perceived stress. Multiple regressions, employed as model cleansing strategies, revealed that work-related stressors and self-compassion are independent predictors of perceived stress in IAPT therapists and that self-compassion is more strongly related to perceived stress than work-related stressors. The study demonstrates the applicability of Lazarus' (2006)

approach in workplace research. The findings are discussed in relation to self-compassion theory (Neff, 2003b) and affective regulation systems (Gilbert, 2006), and are considered in relation to future research and practical implications around workplace wellbeing.

2. Introduction

This chapter serves as an introduction to the topic of stress, self-compassion, and the Improving Access to Psychological Wellbeing (IAPT) programme in relation to the research project conducted. As such, the literature is reviewed not in an exhaustive manner but in a way that scaffolds an understanding of the specific study.

2.1 Stress

The term "stress" is used in everyday life, the media and science (Cooper et al., 2001; Lyon, 2012). It is used to describe a subjective experience and has been linked to mental and physical health (Lyon, 2012). Although stress commonly holds negative connotations, and interventions have been designed to aid its reduction (e.g. Kabat-Zinn, 2013), it is also acknowledged that experiencing a low level of stress is normal and could be beneficial when one is faced with a novel or daunting task (Public Health England, 2017).

2.1.1 Psychological theories of stress

Over the years, stress has been conceptualised in a variety of ways (Cooper et. al., 2001; Devonport, 2011). Three categories represent the most salient theoretical orientations with respect to stress (Lyon, 2012), namely the stress response approach, the stimulus-based approach and the transactional approach.

2.1.1.1 Stress response approach

Hans Selye (Selye, 1936, 1978) is the main thinker associated with the stress response approach. Drawing from the field of medicine, he is primarily interested in

organisms' physiological response patterns (Cooper et al., 2001) and defines stress as "the nonspecific response of the body to any demand" made on it (Selye, 1978, p.1)

The term 'General Adaptation Syndrome' (Selye, 1978) describes organisms' physiological response pattern, which is non-specific to the evoking stimulus and involving of three phases, namely alarm reaction, resistance and exhaustion. These phases are sequential (Selye, 1936, 1978); the alarm phase represents the shock reaction to the stimulus. Providing the organism survives the first phase, the alarm reaction subsides and is followed by the stage of resistance, an attempt to adapt to the stimulus. Exhaustion, the third phase of the syndrome, characterised by a depletion of the organism's resistance resources and eventually death, occurs when the stimulus is persisting, and the organism is unable to return to its original state of being.

The significant body of research examining the physiological response to stress in humans since the late 1970s (Lyon, 2012) could be thought of as being in line with response based approach. While it has been argued that physiological indices alone cannot fully account for the stress response and the magnitude of the stress response (Lindsey, 1993 in Lyon, 2012), this line of research has made important contributions to the field of stress enabling a better appreciation of how various physiological markers such as "heart rate, blood pressure, plasma and urinary cortisols, and antibody production" (Lyon, 2012, p.4) change depending on stress levels.

Cooper et al. (2001) have critiqued the stress response approach as being unsophisticated and inconsiderate of the variability in stress reactions, which are homogenously grouped under the umbrella term 'stress response'. Evidence has been found against the non-specificity of the stress response; Cox (1993) and Lyon (2012) discuss the evidence pointing towards a variability in the stress response pattern. It

has also been pointed out (Devonport, 2011) that the response-based conceptualisation suggests that individuals passively respond to stimuli, which are additionally largely ignored by this approach (Cooper et al., 2001). Cox (1993) noted that the response-based approach predominantly ignores the psychological and cognitive processing variability between individuals, as well as the interplay between the individual and the existing environmental context.

Post-Selye thinking in the response-based approach (e.g. McEwen, 1998; McEwen & Wingfield, 2003 as cited in Rice, 2012), acknowledges the importance of one's perception of the situation and the role of environmental stressors, life events, and individual differences in the physiological response.

2.1.1.2 Stimulus-based approach

The stimulus-oriented approach conceptualises stress as an external stimulus exerted over individuals resulting in the evocation of a reaction. This approach has a conceptualisation deriving from physics and engineering (Cooper et al., 2001), and is influenced by industrialisation (Cohen & Rambur, 2012). Damage occurs when the stress exerted exceeds the individuals' endurance capacity (Cooper et al., 2001). This conceptualisation of stress has been critiqued as being inadequately descriptive of the characteristics of the stress stimuli and reactions, and ignoring of individuals' personal qualities and differences, and of the processes by which the reaction occurs (Cooper et al., 2001).

Holmes and Rahe's (1967) conceptualisation of stress in relation to life events and changes is an example of a stimulus-based approach. More specifically, Holmes and Rahe's (1967) Social Readjustment Rating Scale identifies 43 life events that require adaptation or adjustment. The assumptions of this model have been

characterised as “inherently problematic” (Lyon, 2012, p. 6) as they do not take into account individual differences in adaptation to life changes and in readjustment thresholds and are inconsiderate of individual appraisal processes.

Kanner, Coyne, Schaefer and Lazarus (1981) turn their attention to a different set of stimuli, namely every day hassles and uplifts. The minor events conceptualisation moves away from a simplistic view of stress as being purely external and independent of the organism as it acknowledges individual differences in responding to stimuli and takes into account the cognitive appraisal and emotional processes involved in the transaction with the environment (Kanner et al., 1981; Lazarus, 2006).

Considering that the significant body of research aimed at systematically identifying, categorising, and examining a host of different types of stressors could be seen as aligning itself with the stimulus-based approach, this way of conceptualising stress could be thought of as contributing to the knowledge base by drawing attention to a different set of factors implicated in the stress phenomenon, namely the smaller or bigger life experiences and stimuli that are linked to stress.

2.1.1.3 Transactional approach

Transactional definitions of stress focus on the relational processes between the environment and the person that make up the stressful experience (Lazarus, 2006). As such, appraising, “the act of making the evaluation” (Lazarus, 2006, p. 75) and appraisal, “the evaluative product” (Lazarus, 2006, p.75) are key features in the transactional process (Lazarus, 2006, 2012) and harm, threat and challenge are regarded as “fundamental types of stress” (Lazarus, 2006, p. 85).

Primary appraising of the situation involves an evaluation of whether one's goals, commitments, values and beliefs are at risk. Should the outcome of the assessment be that harm has occurred, threat is perceived, or challenge is identified, a secondary cognitive process of appraising one's coping options takes place. This account takes into consideration the individual and contextual characteristics which come into play in the appraising process and affect the appraisal outcome (Lazarus, 2006). The role of coping as potentially being capable of decreasing stress by altering the relationship between the person and the environment or by shifting the connotations of the relationship (Lazarus, 2006) is also highlighted.

A key strength of the transactional approach to stress could be seen as drawing the focus on the relational process that happens between the person and the environment. The transactional approach acknowledges the existence of individual and contextual characteristics and places an emphasis on how the transaction between the two contributes to the experience of stress through appraising and assigning of personal meaning.

The use of the transactional approach in workplace settings has been criticized. Brief and George (1995) discuss how the transactional approach may place more emphasis on stress as it is experienced at an individual and intraindividual level and may be less interested in factors operating at a contextual level. They therefore suggest that the transactional approach may not be useful in identifying the work conditions "likely to affect adversely the psychological wellbeing of most persons exposed to them" (Brief & George, 1995, p.16). Harris (1995) also suggests that applying the transactional approach to work settings may require attending to the effects of the environment and points towards the methodological difficulties of focusing on the interaction between environment and people. Nonetheless, it is

acknowledged that despite its limitations, the application of the transactional theory on stress as it is experienced in the workplace has produced promising research and it is "without doubt that the occupational stress field will benefit from carful and thoughtful application of the transaction process model" (Harris, 1995, p. 27).

2.1.1.4 Theoretical orientation of the present study

In the present study, stress is the dependent variable under investigation and is understood as the response of the individual to circumstances in their lives. It is however noteworthy that this study centres around stress as it is perceived by individuals; stress is, in other words, understood at a psychological rather than a physiological level. Moreover, the study extends beyond simply thinking of stress as a response and recognises the different factors associated with stress and the mechanisms moderating the experience of stress. Thus, a more sophisticated conceptualisation of the stress experience is reached which takes into account the transaction of the individual with the environment. As such, the research is in keeping with the transactional approach to stress.

2.1.2 Stress and work

Work, or in other words what one does as part of their job (Rundell & Fox, 2007), has undergone a variety of transformations over the last 60 years (Cooper, 2000; Cooper et al., 2001; de Jogne & Kompier, 1997; Schabracq & Cooper, 2000). Organisations keep up with the pace of changes imposed by new technological developments and growing globalisation by alterations to priorities, structure and processes involved in work. More specifically, organisations place emphasis on technologies and production processes, flexible working and employee training, and

have a tendency to becoming multinational merged corporate structures, which are "lean and mean" (Schabracq & Cooper, 2000, p. 232) with a system of contracted workers and departments (Schabracq & Cooper, 2000). The effects of these changes cascade onto individual employees who experience a variety of stressors in their work lives (Schabracq & Cooper, 2000).

2.1.2.1 Work-related stressors

In the early 1990's and in an attempt to understand and manage the important and extensive occupational health problem of stress at work, the Health and Safety Commission contracted Cox (1993) to undertake a review of the literature with regards to workplace stress (Cousins et al., 2004).

Cox's (1993) review produced a taxonomy of physical and psychosocial stressors. Physical stressors are identified in aspects of the physical work environment such as levels of noise whereas psychosocial stressors arise in the context and content of the work (Cox, 1993). Contextual psychosocial stressors include the organisational culture, one's job role and career development, the level of control one has over their work, their relationships with others at work, and the tensions existing between home- and work- life. Psychosocial stressors relating to the content of work can stem from the job design, the demands in terms of workload and work pace, and the patterns of work. Cox's (1993) findings are reflected in Cartwright and Cooper's (1997) dynamics of work stress model which includes intrinsic job characteristics, roles in the organisation, relationships with colleagues, career development, structure and climate of the organisation, and non-work factors as sources of work related stress (Cartwright & Cooper, 1997).

Not only has Cox's (1993) review contributed to the systematic identification of work-related potential stressors impacting on the wellbeing and performance of employees irrespective of the size of the organisation (Cousins et al., 2004; MacKay, Cousins, Kelly, Lee, & McCaig, 2004), but its findings are also reflected in models of stress and inform subsequent Health and Safety Executive (HSE) standards for managing stress at work (Cousins et al., 2004). More specifically, in the early 2000s, the HSE Management Standards approach was rigorously developed with the aim of tackling work-related stress in the UK (Cousins et al., 2004). The approach includes three elements; firstly, a set of 'states to be achieved' in relation to good management practice in six key areas of work related potential stressors, secondly, a risk assessment process for evaluating employees' stress and the organisation's performance against the standards, and, thirdly, a risk indicator tool to enable the process of screening for stressors and risk assessing (Cousins et al., 2004).

The six work-related potential stressors included in the HSE Management Standards approach and operationalised in the indicator tool are: workload demands, including factors specifically related to the demands of the role; perceived control over work, which entails the level of control an individual has over their job; support (managerial and peer), which includes the amount of help the individual perceives that they can have from their colleagues and management; relationships at work, including the nature of relationships with colleagues and supervisors and the existence of conflict and strain; clarity of role, which entails a good understanding of one's role within the organisation; organisational change, which relates to how any change is communicated and managed in the organisation (Cousins et al., 2004).

2.1.2.2 Theoretical conceptualisation of work stress

There have been several conceptualisations of work-related stress (Cooper et al., 2001). The job demand-control-support model (Karasek, Triantis & Chaudhry, 1982) incorporates the knowledge regarding sources of work-related stress in the domains of demand, control and support. It offers eight scenarios depending on the values (high or low) which the three components of the model (demand, control, support) take (Johnson & Hall, 1988). The most unfavourable scenario involves a situation of continuous strain where work demands are high, perceived control is low and social support is low (de Jogne & Kompier, 1997). A buffering hypothesis proposes that social support can buffer the effects of a strenuous work environment on wellbeing (Karasek et al., 1982). The model has been used in studies exploring the relationship between work and wellbeing (Johnson & Hall, 1988; Johnson, Hall, & Theorell, 1989) and in research on work-related stress in healthcare workers (Landsbergis, 1988).

There is a clear overlap between the job demand-control-support model (Karasek et al., 1982) and the stressors included in the HSE Management Standards approach and indicator tool (Cousins et al., 2004). The HSE approach and indicator tool (Cousins et al., 2004) outline potential stressors in terms of workload demands, levels of control over one's work and support from management and other colleagues. Nonetheless, the HSE approach and tool (Cousins et al., 2004), developed significantly after the Karasek et al. (1982) model, extend beyond these three domains of potential concern and incorporate a number of other areas which have the potential to become stressors in the workplace (i.e. relationships at work, clarity of role, organisational communication and management of change).

In their critical evaluation of the demand-control-support model, de Jogne and Kompier (1997) report that the model is supported by epidemiological studies examining the impact of demand and control workplace stressors on people's health. They, however, review evidence that suggests that more often stressors seem to individually impact on people rather than have an interactional effect, which is not clearly defined by the model (de Jogne & Kompier, 1997). They also outline evidence supporting the idea that curvilinear relationships exist between demand and control and workers' wellbeing (de Jogne & Kompier, 1997). More specifically, they discuss how a U-shaped relationship can occur when low and high decision latitude can result in strain and note evidence from studies pointing towards a curvilinear relationship between i) decision latitude and job satisfaction and ii) job demands, and job satisfaction, job-related anxiety and job-related depression (de Jogne & Kompier, 1997).

Another criticism to the model relates to the conceptualisation and operationalisation of demand and control. More specifically, it has been thought that demands and control are multidimensional job characteristics running across different levels in the organisation (e.g. individual, departmental) and can often overlap conceptually and operationally in the workplace (de Jogne & Kompier, 1997). It has also been suggested that the model has attracted more attention for its ability to offer a way of thinking about job strain compared to its potential to support the understanding of workplace environments as learning and development domains (de Jogne & Kompier, 1997).

The simplicity of the model, its inability to account for individual characteristics, its constraints in predicting effects of stressors in single occupation groups and the fact that the congruence between objective and subjective appraisal of

the work environment has not been attended to adequately are listed as further limitations of the model (de Jogne & Kompier, 1997).

Another popular approach to thinking about workplace stress is the person-environment fit (Edwards & Cooper, 1990). This approach, taken up in a variety theoretical and research domains posits that stress occurs due to a perceived mismatch between the person's characteristics and the workplace environment (Edwards & Cooper, 1990). Rounds and Tracey (1990) note the assumptions that underpin the person-environment fit; (i) individuals look for or create environments that support them in showing their traits, (ii) increased fit between a person and their environment links to better outcomes for the individual and the organisation, and (iii) a bi-directional influence exists between environment and individuals.

It is clear that the person-environment fit approach acknowledges the role of workers' individual differences, and the importance of subjective appraisal of the environmental and personal characteristic in the person-environment transaction. As such it is congruent with the idea of measuring stress as it is perceived by individuals as opposed through the use of more objective measures.

There have been several critiques of the person-environment fit model including difficulties in conceptualising and measuring the fit, and problems in analysing the effects of the fit (Edwards & Cooper, 1990).

2.1.2.3 Stress and workers' demographics

A variety of variables have been associated with stress. Studies have indicated that gender, age, education level, years of experience and working hours are related to stress in workers (Balakrishnamurthy & Shankar, 2009; Blaug et al., 2007; Lunau, Siegrist, Dragano, & Wahrendorf, 2015).

In a sample of counselling psychologists in training, younger participants reported significantly higher levels of stress compared to older participants; in the same sample, females reported higher levels of stress compared to males (Kumary & Baker, 2008).

Moreover, junior Clinical Psychologists were found to be more stressed and more likely to report levels of psychological distress that meet caseness than their more experienced counterparts (Cushway, Tyler & Nolan, 1996). This result could be regarded as somewhat inconsistent with Robinson's (2015) finding that years of clinical experience were positively correlated with stress in a sample of Clinical Psychologists (Robinson, 2015)

In a review of the studies on Clinical Psychologist in Britain, Cushway and Tyler (1996) concluded that more trainee clinical psychologist reported experiencing distress than qualified professional groups. Additionally, Robinson (2015) found that trainees reported significantly more distress that qualified Clinical Psychologists.

A study examining stress and psychological distress in workers would therefore benefit from collecting information on participants' gender, age, education level, years of experience, employment status (trainee/ qualified) and working hours not only in order to describe their sample but also in order to examine whether these variables are related to stress and psychological distress.

2.1.2.4 Impact of stress in workers

Stress has been found to have a negative impact on professionals' physical and psychological wellbeing and their effectiveness at an individual and organisational level. More specifically, stress has been shown to affect cognitive, communication and decision-making skills (Lehner, Seyed-Solorforough, O'Connor,

Sak, & Mullin, 1997; Miller, Stiff, & Ellis, 1988) and the provision of compassionate care (Firth-Cozens & Cornwell, 2009). Moreover, stress has been linked to burnout (Morse, Salyers, Rollins, Monroe-DeVita, & Pfahler, 2012), absenteeism and presenteeism (Cooper & Dewe, 2008), and to depression and anxiety (Odgen & Mtandabari, 1997).

In a recent meta-analysis, Nixon, Mazzola, Bauer, Krueger, and Spector (2011) explored the links between different work stressors and physical illnesses cross-sectionally and longitudinally. The stressors they examined included conflict with others at work, lack of control, organisational barriers to completing duties and performing at work, role clarity, role conflict, workload demands and work hours (Nixon et al., 2011). The physical health problems investigated included "backache, headache, eye strain, sleep disturbance, dizziness, fatigue, appetite loss, and gastrointestinal problems" (Nixon et al., 2011, p.3) as well as an aggregate score. Nixon et al. (2011) found that, when examined cross-sectionally, all stressors were associated positively to the composite physical health score, with organisational constraints, role conflict, interpersonal conflict, and workload correlating the strongest with overall physical symptoms compared to other stressors. A comparison of the longitudinal and cross-sectional findings suggested a degree of temporal consistency in the relationship between stressors and physical health (Nixon et al., 2011). Lastly, in examining the links between individual stressors and physical health difficulties, interpersonal conflict, organizational constraints, and workload were significantly associated with every individual health problem.

In term of links between specific stressors and more severe physical illness, the Whitehall Studies examined social determinants of health in British civil servants and found that low job control is linked to coronary heart disease (Bosma et al.,

1997). Additionally, low work demands, work control and support were linked to absences from work (North, Syme, Feeney, Shirpley & Marmot, 1996).

With respect to psychological wellbeing and work stressors, Clark et al. (2012) found that work and non-work stressors had an independent effect on common mental illnesses. Moreover, low support, low control and high demands have been found to be linked to increased risk of psychiatric disorders (Stansfeld et al., 1999). Stansfeld and Candy (2006) further explored the relationship between the work-related stressors and mental health though a meta-analysis and found that "job strain, low decision latitude, low social support, high psychological demands, effort-reward imbalance, and high job insecurity predicted common mental health disorders" (Stansfeld & Candy, 2006, p.443).

The cost of stress and work-related illness has been estimated as ranging between £5 and 12 billion pounds, and stress and stress-related illnesses account for 12.8 million lost working days per year in the UK (Blaug et al., 2007). In 2015- 2016, work-related stress accounted for over a third of work related ill health and for almost half work days lost (HSE, 2016).

2.1.2.5 Stress in healthcare professionals

Since the 1970s, the National Healthcare Service (NHS) has been undergoing a series of transformations and changes (Litwinenko & Cooper, 1995; McAuley, 2010; The Kings Fund, 2017). Schabracq and Cooper's (2000) views on organisational changes impacting on workers may thus explain the finding of a consistently higher than average prevalence of stress in public health and social care services (Blaug et al., 2007; HSE, 2016). Additionally, professional occupations have been reported to be the category with the highest prevalence of work-related stress

out of all occupations (HSE, 2016). Consequently, research has investigated the source and effects of stress in a variety of healthcare professionals including medical doctors (e.g. Cooper, Rout, & Faragher, 2013) and general nurses (e.g. Rout, 2000).

2.1.2.5.1 Stress in mental health professionals

Mental health professionals are exposed to similar work-related stressors as other employees but face additional emotional demands specifically related to their role (Frajo-Apor, Padeller, Kemmler, & Hofer, 2016; Moore & Cooper, 1996).

More specifically, it has been suggested that extensive and intensive patient work (Pines & Maslach, 1978) leads to experiences of stress in mental health professionals. Moreover, factors such as holding clinical responsibility and working with distressed patients who relapse, have been identified as additional stressors in community mental health professionals (Reid et al., 1999).

Considering the emotional strain involved in their work, there is a considerable body of literature regarding stress in professionals offering talking therapy (e.g. Varma, 1997). Results from a recent survey show that 70% of a sample of psychological therapies professionals found their work stressful (British Psychological Society & New Savoy Partnership, 2016).

More detailed information regarding the levels of stress experienced by professionals delivering psychological therapies comes from samples of trainee and qualified clinical psychologist who have been found to experience high levels of stress (Cushway, 1992; Cushway & Tyler, 1994; Darongkamas, Burton & Cushway, 1994). More specifically, Cushway (1992) found that 75% of trainees reported being moderately or very stressed due to their training. Stressors reported by the trainees related to “course structure and organisation”, “workload”, “poor supervision”,

"disruption of social support"," self-doubt", "client difficulties and distress" (Cushway, 1992, p.174). Qualified psychologists also seem to experience high levels of stress; in Darongkamas et al. (1994), 78% clinical psychologists reported being moderately or very stressed by their job and in Cushway and Tyler's (1994) study the percentage was 75%.

Trainee and qualified clinical psychologists have reported distress meeting criteria for clinical disorders such as anxiety or depression (Cushway, 1992; Cushway & Tyler, 1994; Darongkamas et al. 1994; Robinson, 2015). Cushway (1992) found that the prevalence of psychological distress at a level of clinical disturbance in trainee clinical psychologist was 59%. In Darongkamas et al. (1994) study of clinical psychologist, 24% of the sample reported experiencing distress "suggestive of a nonpsychotic emotional illness" (Darongkamas et al., 1994, p.167). Cushway and Tyler (1994) found that 29.4% of qualified psychologist met the levels suggestive of clinical disturbance. Robinson (2015) found that in the United Kingdom a third of trainee and a fifth of qualified clinical psychologists reported psychological distress that met the clinical criteria for anxiety or depressive disorder.

These findings provide support to the idea that therapists are at risk of stress-related psychological difficulties (Shapiro, Brown, & Biegel, 2007).

2.1.3. Stress: Summary

Across the literature stress and workplace stress has been conceptualised in a variety of ways (Cooper et al., 2001) and research into workplace stress has led to the identification and operationalisation of a number of work-related potential stressors (e.g. Cox, 1993; Cousins et al., 2004). The present study aligns itself with the transactional approach to stress which takes into account the relational processes

between the person and the environment (Lazarus,2006). The negative impact of stress both on an individual and on a broader level is well documented; work-related stressors have been linked to physical and mental health difficulties (e.g. Bosma et al., 1997; Stansfeld et al., 1999) and the financial cost of stress related illness is considerable (Blaug et al., 2007).

Considering that workers in public health and social care services have been found to have consistently higher than average prevalence of stress (Blaug et al., 2007; HSE, 2016) and workers in mental health services are considered to face additional emotional demands related to their role, it is unsurprising that professionals delivering psychological therapies have been found to experience high levels of stress and distress (e.g. Cushway, 1992; Cushway & Tyler, 1994; Darongkamas et al., 1994; Robinson, 2015).

Recent years have seen "changes to the composition of the psychological therapies workforce" (Centre for Workforce Intelligence, 2013, p.10) through the advent of the Improving Access to Psychological Therapies (IAPT) programme. More specifically, the IAPT initiative involved the recruitment and training of a substantial number of therapists and the formation of a new therapists' workforce. Considering what is already known about the experiences of stress in professionals delivering psychological therapies, the new workforce of therapists created by the IAPT initiative may merit a closer examination in terms of their working context and their experiences of stress.

2.2 The Improving Access to Psychological Therapies (IAPT) programme

2.2.1 Conception of the IAPT programme

The IAPT programme is a government-funded initiative (Marzillier & Hall, 2009) looking to make evidence-based psychological therapy more accessible to people with common mental health problems (specifically mild to moderate anxiety and depression) living in Britain (London School of Economics [LSE], 2006).

The initiative was a response to a report published by the Mental Health Policy Group of the Centre for Economic Performance at the London School of Economics (LSE, 2006). The report, also known as the Layard Report or the Depression Report, highlights the high prevalence of common mental health difficulties such as anxiety and depression in the context of a lack of trained therapists, able to deliver evidence-based psychological interventions (LSE, 2006).

The argument that these interventions could cure at least half of the people affected from depression and anxiety at a cost of £750 per individual treatment and considering that the incapacity benefits cost £750 per month, led Professor Lord Richard Layard and his group to the conclusion that if the individual "works just a month more as a result of the treatment, the treatment pays for itself" (LSE, 2006, p.1).

It could be argued that the IAPT initiative has improved access to psychological treatment. Clark (2011) noted how "a large number of people who would not otherwise have had the opportunity to receive evidence based psychological treatment have accessed, and benefited from, the new IAPT services" (Clark, 2011, p. 375). More specifically, the IAPT programme is currently being accessed by around 900,000 people each year and over 550,000 progress to receive psychological therapy (The National Collaborating Centre for Mental Health

[NCCMH], 2018). It is noteworthy that the number of people accessing IAPT services is expected to further increase; it is estimated that by 2020/2021 one and a half million adults with depression or anxiety will access IAPT each year (NCCMH, 2018). While the access to IAPT has been arguably significant and while currently two out of three people having a course of IAPT treatment "show worthwhile improvements in their mental health" (NCCMH, 2018, p.5), it has been acknowledged that the targeted outcome of a 50% recovery rate was initially "an elusive target but it was finally achieved in January 2017" (NCCMH, 2018, p.5)

The IAPT programme is currently, amongst other priorities, looking towards improving "quality and people's experience of services" (NCCMH, 2018, p.6). There is also an emphasis on working towards "equity access and outcomes for all" (NCCMH, 2018, p.54) and towards the delivery of integrated care whilst involving users of services in the process of co-production.

Despite these notable aspirations and strengths, since its inception, the IAPT program has received critiques regarding its economic character. While it is acknowledged that the IAPT programme aims to promote wellbeing (LSE, 2006) through improving access to psychological therapies, the major programme driver has been seen as making financial savings by returning people to work and reducing reliance on incapacity benefits and absenteeism (Binnie, 2015; Marzillier & Hall, 2009). The emphasis on workability as a predetermined outcome for successful therapy (Watts, 2015) can be thought to be difficult to match at an ideological and ethical level with delivering psychological therapy within a health care setting, where the 'good' outcome cannot be named (House & Loewenthal, 2008 as cited in Watts, 2015). It could additionally be argued that these priorities together with tendering

pressures may cascade downwards contributing to practices that make Binnie (2015) think of a “therapy factory” (Binnie, 2015, p.80).

2.2.2 IAPT structure and service delivery

The ambition of the team led by Professor Layard (LSE, 2006) was to form a therapy service to which people with depression and anxiety can self-refer or be referred to by general practitioners, the Job Centre or Occupational Health Services.

The links with employment extend beyond the referral pathway to the team composition and working environment. More specifically, service plans included nationwide rolling out of 250 teams, which would largely operate in primary care settings, workplaces, third sector settings and job centres (LSE, 2006). Moreover, while the programme included training a new workforce of 10,000 therapists to deliver the evidence-based interventions, the plan for the service also included employment advisers, and benefit and housing advisers (LSE, 2006). The service plan additionally focussed on having a hierarchy of supervision within teams, implementing a rigorous monitoring of treatment outcomes and providing “on-the-job training” (LSE, 2006, p.9).

The IAPT programme implementation began in 2008 following two demonstration sites in Doncaster and Newham (DOH, 2008a). It was given a starting budget of £300m which made it the biggest ever government investment in psychological therapies within the NHS (Marziller & Hall, 2009). This budget was later increased with an allocation of a further £400m (DOH, 2012).

Following the rolling out of the programme with working age adults, the IAPT programme looked at expanding to older adults, children and young people,

long-term conditions, medically unexplained symptoms, and severe mental illness (DOH, 2011).

The main therapeutic modality in IAPT is Cognitive Behavioural Therapy (CBT) (Clark et al., 2009) which is recommended by the National Institute for Clinical Excellence (NICE, 2009, 2011) for both depression and anxiety. Interventions are delivered following a person-centred assessment (DOH, 2008d) and according to the stepped care model (Bower & Gilbody, 2005) which is a model of service delivery. Step two (low intensity) treatments are offered to most individuals with mild and moderate difficulties; individuals who do not benefit from low intensity treatments or who present more complex difficulties are offered step three (high intensity) interventions (DOH, 2008b, 2008d, 2011). Low intensity interventions are routinely brief and involve a watch-and-wait approach, guided self-help (which may be delivered over the phone), up to seven sessions of face-to-face psychological intervention or computerised CBT (DOH, 2008d). High intensity interventions involve a longer course (up to 20 sessions) of face-to-face psychological therapy (DOH, 2008d).

The IAPT program has received critiques regarding its model for conceptualising mental health and the evidence-base from which it draws upon. It has been thought that the LSE (2006) report includes a "naïve view of mental health problems" (Marzillier & Hall, 2009, p. 396). Language referring to curing (LSE, 2006), diagnosing and treating (Binnie, 2015) and the medical definition of 'recovery' targets (NHS Digital, 2017) could be regarded as ill-fitting in the context of the government's view of recovery as distinct from symptoms and illness (DOH, 2001) and its focus on promoting a holistic sense of wellbeing through policies (Cabinet Office, 2013).

Furthermore, according to the medical model of psychological distress, depression and anxiety are viewed as discrete psychiatric conditions (Marzillier & Hall, 2009) linked almost linearly and in a prescribed way to specific manualised treatments (Binnie, 2015) involving, in the step two domain, an emphasis on self-management (Risq, 2011). As such, the broader contextual determinants, the comorbidity and the complexity of mental health difficulties are thought to be largely ignored (Binnie, 2015; Marzillier & Hall, 2009; Timimi, 2015) and the responsibility for recovery is seen as being placed within the individual (Risq, 2011; Watts, 2015).

Marzillier and Hall (2009) have also drawn attention to the LSE report's "overly optimistic assessment of how effective psychological treatments may be" (Marzillier & Hall, 2009, p. 396). This claim could be thought of in relation to the evidence on which the IAPT interventions are based. The NICE evidence on which IAPT interventions are based has been questioned (McPherson, Evans, Richardson 2009). Marzillier and Hall (2009) have pointed out that "the transition from carefully controlled research trials to the messy reality of clinical practice- from efficacy to effectiveness- is not straightforward" (Marzillier & Hall, 2009, p. 399). The National Collaborating Centre for Mental Health has recently noted how "some attenuation of clinical outcomes when treatments are implemented outside the artificial environment of a clinical trial" is expected (NCCMH, 2018, p.5). Additionally, flaws have been found in the principles of the systematic reviews involved in the development of treatment guidelines (McPherson, 2017); NICE privileges randomised control trials and places less emphasis on follow up data and recovery indexes that move away from symptoms and illnesses, such as functioning and quality of life (McPherson, 2017; McPherson et al., 2009).

Marzillier and Hall (2009) have also suggested that CBT - the main treatment modality offered by IAPT- alone may not benefit the majority of individuals with serious or complex difficulties; this may be particularly relevant given the expansion of the IAPT programme for different groups of people (e.g. severe mental illness). It is also, noteworthy, that the IAPT programme is reported as having poorer recovery rates that pre-IAPT services or third sector counselling services and not positively impacting the number of people relying on incapacity benefits (Timimi, 2015), and only met the 50% recovery target for all individuals having treatment in January 2017 (NCCMH, 2018).

2.2.3 IAPT therapists

Therapists are trained through nationwide programmes to deliver either low or high intensity interventions. According to the Department of Health (2008d), high intensity workers are usually clinical psychologists, psychotherapists, nurses, counsellors and other professionals, whereas low intensity workers come from a variety of backgrounds including psychology graduates. Both high and low intensity courses are year-long and trainees spend one (low intensity) or two (high intensity) days in a training institution and the other days of the week in their workplace delivering the interventions under supervision (DOH, 2008d).

The IAPT working environment is intense with low intensity workers expected to work in high volume environments with a caseload of 45 active cases at any one time; delivering interventions for between 175-250 patients per year (DOH, 2008c). The emphasis on outcomes is echoed in the close monitoring of therapists (Risq, 2011; Whatts, 2015) and therapy outcomes (DOH, 2008d); evaluation of low intensity workers' performance occurs against "their clinical, social and employment

outcomes" (DOH, 2008c, p.3). Low intensity workers are asked to focus on "social inclusion – including return to work or other meaningful activity- as well as clinical improvement" for the people they work with. (DOH, 2008c, p.5).

Data-driven reflective practice is also being used to improve outcomes (NCCMH, 2018); this can take the form of (i) a service reviewing the data collected over a period of time to inform changes to the service provision, which are in turn monitored in terms of outcome evaluation, (ii) monitoring outcomes by team, modality and type of difficulty, (iii) outcome-focused and live supervision, (iv) planned continuous professional development, and (v) examining patterns of reliable improvement and deterioration.

The non-traditional routes of developing the IAPT workforce (Health Education England, 2017) and the employment of non-traditional modes of intervention delivery (Baguley et al., 2010) alongside the high workload intensely monitored and structured IAPT practices may contribute to an experience of work in an IAPT setting that is significantly different than in non- or pre-IAPT mental health services and may be linked to experiences of high stress in IAPT therapists.

Literature around IAPT staff's experiences is recently tentatively emerging with some studies identifying stressors including high volume and target driven job, change, resources, team stressors, training demands, management of client distress and risk, and home-work conflict (Walket & Percy, 2014). Evidence of high stress is also starting to be found; more recently 29.5% of a sample of IAPT staff were found to be experiencing psychological stress which reached levels for minor psychiatric disturbance (Walket & Percy, 2014). In a different study, the prevalence of burnout amongst step two practitioners was 68.6% and amongst step three therapists was 50% (Westwood, et al., 2017). The picture of a stressful working environment (Walket &

Percy, 2014) where there is high prevalence of burnout (Westwood et al., 2017) is completed by considerable difficulties in therapists' retention (Risq, 2011).

2.2.4 IAPT programme summary

The IAPT programme is a government-funded initiative aiming to make psychological therapy more accessible to people with common mental health difficulties. Its implementation has changed the landscape of mental health provision (Rizq, 2011; Watts, 2015) with a new workforce being employed and trained to deliver interventions according to a stepped care model. The initiative behind and the implementation of the IAPT programme has received several criticisms and concerns have been raised regarding the demands it places on therapists engaging emotionally and responding to the needs of people accessing the service.

2.3 IAPT and NHS values

There is a clear relationship between the IAPT programme and the wider NHS, launched after the second world war with a plan to offer good healthcare to all free at the point of delivery (NHS Choices, 2015), as it is acknowledged that "IAPT is run by the NHS in England" (NHS Digital, 2017, p.1).

While the NHS has undergone a variety of transformations over the years, the initial vision is still present in the seven key principles, outlined by the NHS Constitution (DOH, 2015), that guide its operation today. These principles relate to the provision of an available to all comprehensive service, that is based on clinical need and not one's ability to pay (DOH, 2015). There is also a commitment to the provision of a high standard and accountable service centred around the patient and in

collaboration with other stakeholders and organisations, with the understanding of the importance of providing the best value for money and using resources in a fair and sustainable way.

The guiding principles are underpinned by six values which were developed with the contributions of patient, staff and the public (DOH, 2015). The NHS values highlight the importance of collaborative work in the interest of patients, the promotion of respect and dignity, the commitment to providing high quality care, improving lives and an inclusive practice, and the centrality of compassion in the delivery of care (DOH, 2015).

2.4 Compassion in healthcare

Compassion, an ability to sensitively respond to another person's suffering and attempt to alleviate it, forms one of the fundamental values of the NHS (DOH, 2015). Evidence has shown that compassionate care can be hindered due to stress and burnout induced by organisational structures (Firth-Cozens & Cornwell, 2009) but may be enabled through adopting a compassionate stance towards oneself (Gustin & Wagner, 2013). Considering the stressor-laden environment in which IAPT therapists work, self-compassion might be of interest to explore in this professional group, especially in relation to their perceived stress levels and work-related stressors.

2.5 Self-compassion

Despite having a longstanding presence in eastern traditions, compassion towards oneself and others has only relatively recently attracted the attention of psychology in the West (Gilbert, 2006; Neff, 2003b). Western thinking has retained the conceptualisation of compassion in relation to suffering or adversity central to the

Buddha's teachings (Gilbert, 2010b) where loving-kindness and compassion were routes to "the release from suffering for all" (Gilbert, 2006, p.1).

Self-compassion is a way of self-relating in times of difficulty that is characterised by (i) self-kindness, involving holding a kind attitude towards oneself, as opposed to self-judgement, involving a critical approach towards oneself, (ii) common humanity, entailing perceiving one's experiences as also shared by other human beings versus perceiving one's experience in isolation, and (iii) mindfulness, allowing for an awareness of ones' experiences in a balanced way versus over-identification, involving awareness of one's experience through fixating on certain aspects of thoughts or emotions (Neff, 2003a, 2016a, 2016b).

2.5.1 Psychological theories for compassion and self-compassion

Two psychological theories have been developed with respect to compassion in western psychology, Professor Paul Gilbert's compassionate mind theory and Dr Kristin Neff's theory of self-compassion.

2.5.1.1 Compassionate mind theory

According to Gilbert (2010b) who draws on the Dalai Lama, compassion entails an awareness of the suffering in oneself and others together with a desire and attempt to alleviate it. Compassion is regarded as emerging from "a combination of motives, emotions, thoughts and behaviours" (Gilbert, 2006, p.1).

Gilbert's theory examines compassion towards self and others from an evolutionary perspective and explains the function of compassion in the context of the social world and in relation to neurological emotion regulation systems (Gilbert, 2006, 2010a, 2010b).

Gilbert (2006, 2010a) discusses the evolutionary function of three emotion regulation systems; one geared towards threat and defence and two oriented towards different positive emotions, namely the incentive-resource focussed system and the affiliation-focussed system. It is proposed that reciprocal interactions between these three types of emotion regulation systems create patterns of neural connections and that the maturation of these patterns is impacted upon by genetic and environmental influences (Gilbert, 2006).

The threat-focused system is thought to offer protection for oneself and of others through a process whereby threats originating in the external environment (social and non-social) or through one's self-awareness (e.g. one's thoughts and feelings) trigger a speedy brain response which translates into defensive and safety seeking behaviours (Gilbert, 2006, 2010a).

Cortisol, a stress hormone, is thought to be important in the threat-focussed system (Gilbert, 2010a). In conditions of threat, elevated cortisol has been posited to have a self-preservative function and has been linked to a state of arousal and anxiety but also to a reaction of defeat and depression (Gilbert, 2006). In order to make sense of the cortisol levels in relation to self-preservation, it is suggested that one needs to attend to contextual, physiological and psychological factors and that while greater loss of control and greater distress are linked to greater elevations of cortisol, in states of extreme lack of control, a response that involves the suppression of cortisol levels and disengagement or shutting off from the environment, can also have a self-preservative function (Gilbert, 2006).

The incentive-resource focussed system relates to feelings of drive and excitement and the seeking of rewards and pleasure (Gilbert, 2006, 2010a). The pursuit of goals and resources is key to survival. Dopamine, a neurotransmitter, is

linked to experiencing an "energized and hyped-up good feeling" (Gilbert, 2010b, p.47) and is thought to be important for human drives. The good feelings generated by the incentive-resource focussed system are thought to motivate and guide our pleasure and resource seeking behaviours (Gilbert, 2010b).

The affiliation-focussed system is characterised by the experience of soothing feelings such as contentment/non-striving, calm, connectedness, and safeness (Gilbert, 2006, 2010a). It is argued that the experience of feeling soothed when being cared for in a warm way since infancy creates a link between the experience of contentment and affection and kindness (Gilbert, 2010a). One's capacity to self-soothe is therefore thought to be linked to one's ability to be kind and compassionate towards oneself (Gilbert, 2010a). On a biological level, the release of endorphins and oxytocin are thought to help generate feelings of calmness, safeness and connectedness, contentment and compassion (Carter, 1998; Gilbert, 2010a; Lee & James, 2012). Compassion towards oneself is not seen as a distinct concept but is instead viewed jointly with compassion towards others in Gilbert's compassionate mind theory.

2.5.1.2 Self-compassion theory

Neff (2003a), on the other hand, takes a primary interest in self-compassion drawing from the Insight Buddhism (Neff, 2016b). According to Neff (2003a, 2016a, 2016b), self-compassion has three facets, or components, each of which has a positive and negative aspect representing compassionate and uncompassionate behaviours; (i) self-kindness, involving holding a kind attitude towards oneself, as opposed to self-judgement, involving a critical approach towards oneself, (ii) common humanity, entailing perceiving one's experiences as also shared by other human beings versus

perceiving one's experience in isolation, and (iii) mindfulness, allowing for an awareness of ones' experiences in a balanced way versus over-identification, involving awareness of one's experience through fixating on certain aspects of thoughts or emotions.

The three facets of self-compassion, while being "conceptually distinct" (Neff, 2003a, p. 224), are thought to "mutually enhance and engender one another" (Neff, 2003a, p. 225) and be dynamically inter-connected (Neff, 2016b). Self-compassion not only involves how one responds emotionally to one's failure or shortcomings, but also how one makes sense of one's experience and attends to their circumstances (Neff, 2016a, 2016b).

Neff (2003a, 2003b) discusses how self-compassion is conceptually different from self-esteem and tends to promote an interest in the other through its non-evaluative and interconnected nature. It is also thought that self-compassion is distinct from self-pity through its attitude of mindfully acknowledging the commonality of human suffering (Neff, 2003a, 2003b).

2.5.1.3 Points of connection between Gilbert and Neff's theories

Gilbert and Neff's conceptualisations of self-compassion overlap as they both understand this way of self-relating with regards to the more general construct of compassion; Gilbert appears to view self-compassion jointly with compassion towards others and Neff seeks to understand self-compassion with regards to "what it means to feel compassion more generally" (Neff & Dahm, 2014, p. 121). They also both acknowledge the importance of feeling connected with others and the relevance of the context and life experiences in the development of compassion towards oneself.

While Neff and Dahm (2014) suggest that an understanding of self-compassion may be facilitated by considering what compassion more generally means, Gilbert (2014) makes the link between self-compassion and the more general construct of compassion by explaining that directing compassion towards oneself is one direction that compassionate feelings may flow (other directions involve channelling compassion towards another and receiving compassion from another). Germer and Neff (2013) also seem to adopt this view as they suggest that self-compassion "is simply compassion directed inward" (Germer &Neff, 2003, p.856).

As such, it seems that Neff and Gilbert are in line with what is generally acknowledged, namely that self-compassion shares similarities with the "more general construct of compassion" (Zessin Dickhauser, & Garbade, 2015, p.343) in that they both involve a connection with suffering, a feeling of kindness and a desire to alleviate suffering.

Both Neff and Gilbert emphasise the importance of connectedness in the experience of compassion towards oneself and others (Gilbert, 2014). Neff (2003b) calls this experience common humanity and differentiates this from the experience of isolation whereas Gilbert (2014) discussed the sense of belonging from an evolutionary and attachment-based perspective.

In fact, while Gilbert bases his approach on evolutionary and attachment theories and Neff's model is influenced by Insight Buddhism (Neff, 2016b), Neff and Dahm (2014) also acknowledge the development of self-compassion within a social context and attachment-based framework and discuss how self-compassion is linked to care-giving and receiving and early childhood experiences of social interaction within the family. As such, Gilbert and Neff both acknowledge social and contextual influences on the development of self-compassion.

2.5.2 Compassion towards oneself and others as a trait or state.

The debate of whether compassion and self-compassion are state- or trait-like tendencies has attracted interest. Goetz, Keltner and Simon-Thomas (2010) define compassion as an "affective state" (Goetz et al., 2010 p. 251). They however also acknowledge that compassion is not only linked to specific situations fluctuating over time, but can also develop and assume a trait-like quality (Goetz et al., 2010).

Neff's (2003a) self-compassion measure prompts respondents to think about how they typically act towards themselves when faced with adversity, suggesting that a consistency of action and hence a trait-like quality. Neff Kirkpatrick and Rude (2007) have however argued that it is useful to view self-compassion as amenable to development. Moreover, Neff and Dahm (2014) discuss how self-compassion skills can be taught even though trait levels of self-compassion exist.

Strauss et al. (2006) also conceptualise compassion as state- and trait-like and explain that the existence of compassion focused interventions implies that compassion is considered a quality that can be developed with practice and over time. Interventions developed to enhance individuals' ability to relate to themselves in a compassionate way include the Compassionate Mind Training, used in Compassion-Focused Therapy (Gilbert, 2009), and the Mindful Self-Compassion programme (Neff & Dahm, 2014).

2.5.3 Self-compassion and wellbeing

Self-compassion has started to be considered a "potentially important protective factor, promoting emotional resilience" (Raes, 2010, p.757) and a

"potentially important protective factor for emotional problems such as depression" (Raes, 2011, p.33).

Moreover, self-compassion has been associated with a host of positive outcomes in relation to individual wellbeing (Barnard & Curry, 2011; Neff & Costigan, 2014). While it is acknowledged that the majority of the evidence is produced by correlational studies, different designs appear to be emerging (e.g. mood inductions) in the field of self-compassion and wellbeing (Neff & Costigan, 2014).

More specifically, in early papers, increased self-compassion was linked to reduced depression, anxiety and neurotic perfectionism, and increased life satisfaction (Neff, 2003a). Its protective role in buffering against anxiety has also been examined (Neff et al., 2007). The impact of self-compassion on physiology (e.g. tendency to reduce cortisol levels) and its links with happiness, optimism, gratitude, emotional intelligence, wisdom, personal initiative, curiosity, intellectual flexibility, social connectedness, feelings of autonomy, competence, relatedness, and self-determination, and resilience, and reduced rumination, perfectionism, and fear of failure, are amongst many beneficial effects (Neff & Costigan, 2014).

Two recent meta-analyses have examined the relationship between self-compassion and wellbeing, and self-compassion and psychopathology. In a meta-analysis of 79 samples (Zessin et al., 2015), a positive relationship (average Pearson correlation of r= .47) was found between self-compassion and positive aspects of wellbeing. Additionally, MacBeth and Gumley's (2012) meta-analysis of 20 samples found a large effect size for the negative association (r= -.54, combined correlation coefficient) between self-compassion and different psychopathology variables (stress, anxiety, depressive symptoms). These findings support the idea that self-compassion is beneficial.

Additionally, it has been posited that self-compassion could direct people towards "proactive behaviours" aimed at fostering their wellbeing or preventing suffering (Neff, 2003b, p.93). Self-compassion is also thought to potentially be linked with intrinsic behavioural motivation and a more accurate self-awareness, and potentially "be related to self-regulation in terms of coping with stress" (Neff, 2003b, p.94).

More recently, self-compassion has been examined in studies involving therapists (e.g. Rimes & Wingrove, 2011; Shapiro et al., 2007; Stafford-Brown & Pakenham, 2012) and it is beginning to be thought of as linked to compassionate care (Gustin & Wagner, 2013) and therapists' self-care (Patsiopoulos & Buchanan, 2011).

2.5.4 Self-compassion and perceived stress

Although the relationship between self-compassion and stress was examined in MacBeth and Gumley's (2012) meta-analysis, it is noteworthy that the stress scales (Depression, Anxiety and Stress Scale, Lovibond & Lovibond, 1995; SF-12v2 Mental Health Summary, Ware, Kosinski, & Keller, 1996; Symptoms of Stress Inventory, Leckie & Thompson, 1979) used did not measure perceived stress but had a different focus (e.g. stress symptoms) thus not directly and solely measuring the degree to which respondents appraised their lives as stressful.

Given the importance of the appraisal process in the stress experience as posited by the transactional theory of stress (Lazarus, 2006) and considering the idea that self-compassion involves not only how one responds emotionally to one's failure or shortcomings, but also how one makes sense of one's experience and attends to their circumstances (Neff, 2016a, 2016b), the literature was reviewed to examine the relationship between self-compassion and perceived stress in adults.

A literature search was conducted on the 14th of January 2018 in the following databases; CINAHL Complete, MEDLINE with Full Text, PsycARTICLES, and PsycINFO. The search included terms for self-compassion, perceived stress and correlation and was limited to peer reviewed papers written in the English language where participants were adult (Appendix A).

The selected search terms were specifically chosen as the author wished to capture the particular concepts of self-compassion and perceived stress and examine the correlation between them. While one could argue that these terms are limited, the author argues that the search terms strike an appropriate balance between sensitivity and accuracy and the inclusion of broader terms may have shifted the focus from this particular relationship of interest and yielded a significantly larger number of irrelevant results.

There were seven inclusion criteria: (i) studies published anytime measuring perceived stress and self-compassion as outcomes, (ii) studies examining the correlation between self-compassion and perceived stress, (iii) studies where participants were individuals (both males and females) over the age of 18 years, (iv) both clinical and non-clinical samples were included, (v) all types of methods and designs were included, (vi) studies which were published in peer review journals, and (vii) studies which were written in the English language were included. The exclusion criteria involved studies (i) not measuring self-compassion and perceived stress as outcome variables, (ii) not exploring the correlation between self-compassion and perceived stress, (iii) where participants were younger than 18 years old, (iv) written in any language other than English, (v) of theoretical nature or presenting study protocols, and (vi) that were duplicates. Criteria relating to age, language, and peer review status were included in the search as limiters.

Abstracts and result sections of the 39 papers produced by the search were screened; 14 papers were found to be relevant to the review's aim. Of the 25 papers excluded, 16 did not report on the association between self-compassion and perceived stress, one was a duplicate, one did not measure self-compassion as the outcome, one was written in a language other than English, one presented a study protocol, four used samples of adolescents, one involved two studies one with adolescents and with adults where there was no association. The article inclusion decision process can be seen in Figure 1.

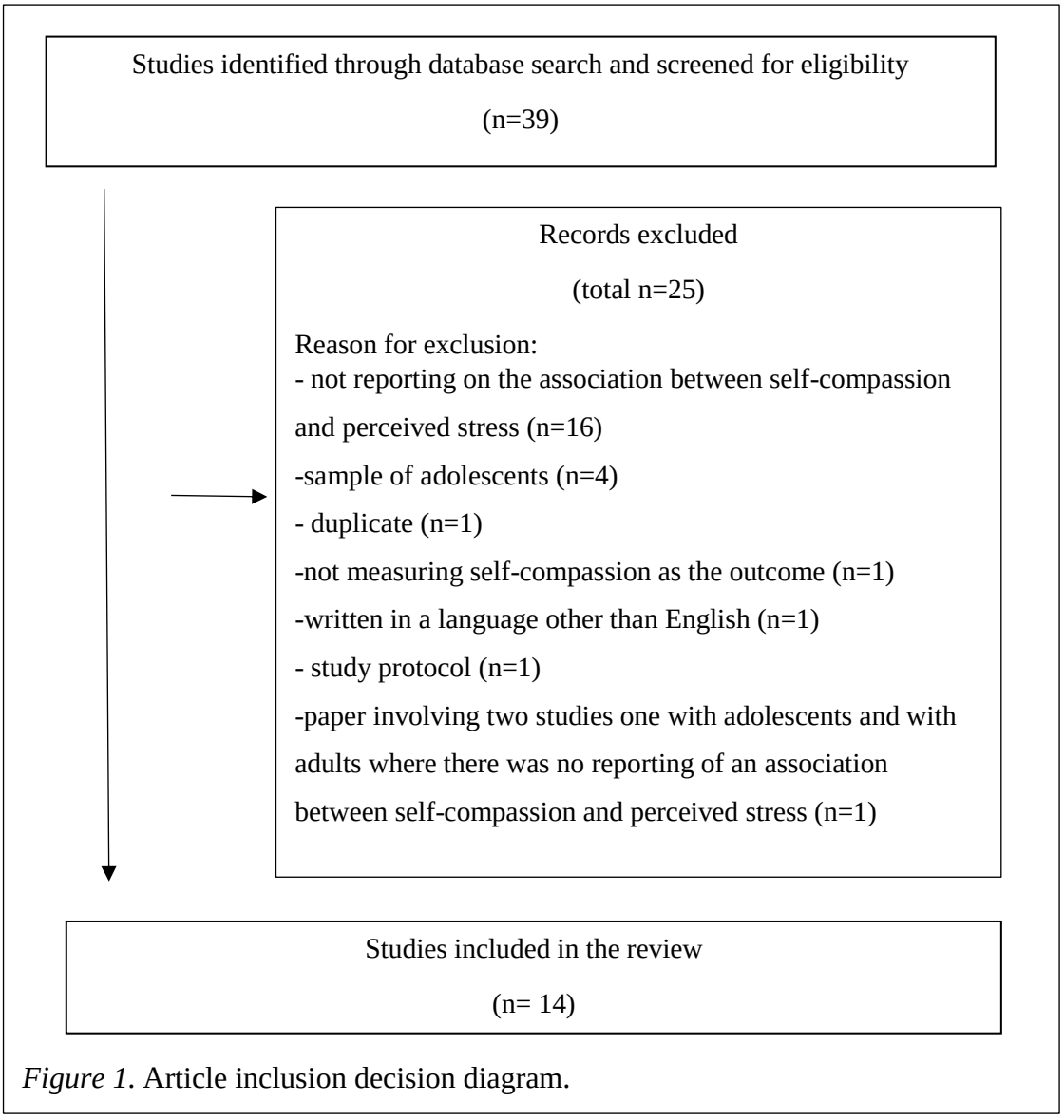

Figure 1. Article inclusion decision diagram.

The quality rating grading system described by Walfisch, Sermer, Cressman and Koren (2013), which suitable for all types of quantitative designs, was used to guide the evaluation of the 14 studies. The quality appraisal was based on the degree of adherence to standards relating to (i) description of population, comparison groups, setting, intervention, (ii) appropriate measurement, analysis and reporting, (iii) errors, (iv) dropout rate and description, and (v) consideration and adjustment for confounding variables. While a quality grade was not assigned to the included studies, these standards guided the discussions relating to the interpretations of the quality of the included studies. The most pertinent limitations of the studies are commented upon in the narrative below.

The samples of the included studies varied significantly and were thus reviewed by participant group; studies of healthcare professionals were reviewed first followed by studies of individuals with chronic physical health conditions, student samples and miscellaneous samples.

Examining the studies by participant group was thought to be the optimal way of scaffolding an understanding of the literature in relation to the review question while enabling a closer examination of the different participant groups and as such was preferred over adopting a specific framework of synthesis. Moreover, existing guidance on Narrative synthesis (Popay et al., 2006), a framework for synthesising literature review findings, is primarily focused on synthesising results of research examining the (i) effects of interventions and (ii) factors influencing the implementation of interventions and as such did not feel as relevant to the purposes of the present review.

In line with recommendations detailed in the Cochrane Handbook for Systematic Reviews of Interventions (The Cochrane Collaboration, 2011), for each

group of participants, a ‘characteristics of included studies’ table drew together the most relevant information regarding the participants, the study design, the intervention and the study outcomes. The information presented within each of these characteristics categories reflected what was deemed to be most relevant to the present review and did not encompass all the details recommended by the Handbook. Moreover, the tables in the present review did not include a ‘Notes’ section as it was deemed that there was no further relevant information that was not covered by the aforementioned categories. Lastly, despite not being recommended by the Handbook (The Cochrane Collaboration, 2011), the tables included the relevant findings as it was thought that this would be of use to the reader.

Cohen’s (1992) guidelines were followed in relation to the understanding of the magnitude of the observed effects when using Pearson’s correlation coefficient (.10 small; .30 medium; .50 large).

Considering that many of the studies reviewed did not set out to explore the relationship between self-compassion and perceived stress as their primary objective, the aim of each study was briefly noted and the focus then turned to the examination of the findings relating to the relationship between the variables of interest, namely self-compassion and perceived stress.

2.5.4.1 Studies involving healthcare professionals

Table 2.1 provides a summary of the main characteristics of the four studies involving healthcare professionals. Crary (2013) examined the “beliefs, behaviours, and health” (Crary, 2013, p.74) of a convenience sample of undergraduate student nurses. This online cross-sectional study found a negative relationship between self-compassion and perceived stress (r= -.59, p= .001; Crary, 2013).

Kemper, Mo and Khayat, (2015) set out to explore the relationship between self-compassion and mindfulness with variables theoretically related to burnout and quality of care via an online cross-sectional study. Their diverse sample of young clinicians and trainees working in an academic health centre reported an inverse relationship between perceived stress and self-compassion ($r = -.55$, $p < .001$; Kemper et al. 2015).

Another study reporting an inverse relationship between perceived stress and self-compassion was Olson and Kemper's (2014) cross-sectional pilot project exploring factors associated with wellbeing and confidence in delivering compassionate care. While the small sample of medical trainees reported a strong negative relationship between the aforementioned concepts ($r = -.79$), the significance level of the correlation coefficient in Olson and Kemper (2014) is unclear as it reported to be $p < .05$ in text and $p < .01$ in the correlational matrix.

A randomised controlled study exploring the effects of an abridged mindfulness intervention on wellness in first year medical students found an association of a similar direction at baseline for the entire sample ($r = -.47$, $p < .001$; Erogul, Singer, McIntyre, & Stefanov, 2014). Moreover, in exploring the association between outcomes from baseline to six months following the study, changes in perceived stress were found to be significantly correlated with changes in self-compassion in the intervention group ($r = -.58$, $p = .001$) but not in the control group ($r = -.35$, $p = .06$) in Erogul et al. (2014).

The studies varied in quality; poor quality was linked to methodological limitations and poor standard of reporting. Studies suffered from one or more of the following limitations; small and potentially biased sample (Olson & Kemper, 2014), self-selection of participants (Crary, 2013; Kemper et al., 2015), borderline

Table 2.1
Studies with healthcare professionals

Authors	Sample N	Participants	Design	Measures	Intervention	Result
Crary, 2013	154	Undergraduate nursing students	Cross-sectional	SCS (12 item); PSS-10; PSS-4		Negative association between self-compassion and overall perceived stress (r= -.59) and nursing school perceived stress (r= -.46).
Kemper, Mo, & Khayat, 2015	213	Young health professionals and trainees	Cross-sectional	SCS (12 item); PSS-10		Negative association between self-compassion and perceived stress (r=-.55).
Olson & Kemper, 2014	12	Medical trainees	Cross-sectional	SCS; PSS-10		Negative association between perceived stress and self-compassion (r=-.79).
Erogul, Singer, McIntyre, & Stefanov, 2014	58	First year medical students	Randomised controlled	SCS; PSS-10	Eight-week abridged MBSR (75min session weekly plus retreat and homework)	Negative association between self-compassion and perceived stress at baseline for the entire sample (r= -.47). Changes in perceived stress correlated with changes in self-compassion in the intervention group (r= -.58) but not in the control group.

Note. MBSR= Mindfulness Based Stress Reduction, PSS-4= Perceived Stress Scale- 4, PSS-10= Perceived Stress Scale-10, SCS= Self-Compassion Sca

acceptable drop-out rate (Crary, 2013; Olson & Kemper, 2015), or absence of information regarding drop-out rates (Kemper et al., 2015).

More specifically, in relation to the critique regarding the small and potentially biased sample in Olson and Kemper (2014), this project was an exploratory proof of concept study of a sample of medical trainees due to attend elective seminar on integrative medicine with a focus on meditation. Although the majority of participants reported not having had any 'mind-body training' over the past three months, it is likely that these participants may have had a special interest in self-care practices as they had chosen to attend an elective seminar focusing on meditation, and may have, as such, differed from the wider population of medical trainees. If this was the case, the representativeness and generalisability of the study findings to the population of medical trainees could have been compromised.

With respect to the critique regarding self-selection of participants, (Crary, 2013; Kemper et al., 2015), and considering that the study by Kemper et al. (2015) was part of a bigger project, participants opting to take part in the studies by Crary (2013) and Kemper et al.(2015) may have had higher level of interest in wellbeing, stress, self-care and integrative medicine than those who did not opt to take part. As such, participants in these studies may have differed significantly from the wider population and as a result the findings may not be generalisable to the wider population.

A biased sample can also come about through high drop-out rates, as participants completing the study may differ significantly from non-completers. The absence of information regarding drop-out rates in Kemper et al. (2015) made it impossible to ascertain whether bias may have introduced in their study through participants dropping-out. When comparing the number of recruited participants with

the number of participants having completed the entire survey, the drop-out rate met (Olson & Kemper, 2015) or was marginally above (Crary, 2013) the cut off of 20% (Walfisch et al., 2013).

Additionally, the studies suffered with errors or inconsistencies in the referencing of measures (Crary, 2013; Kemper et al., 2015) and inconsistencies in the reporting of results (Olson & Kemper, 2014), which led to confusion when attempting to make sense of the findings.

Whilst it is important to hold in mind the studies' limitations, it is also important to note that the findings towards a negative association between self-compassion and perceived stress with a moderate to large effect size.

2.5.4.2 Studies involving individuals with chronic physical health conditions

Two cross sectional studies reported on the relationship between self-compassion and perceived stress in samples of individuals with chronic physical health conditions (Table 2.2).

In their study with individuals infected with the Human Immunodeficiency Virus (HIV), Brion, Leary and Drabkin (2014) explored whether self-compassion was protective against the emotional impact of illness and related to adherence with medical guidance. Brion et al. (2014) used a modified version of the SCS (Neff, 2003a) which involved 12 items (four highest loading items for each subscale). They also conducted a factor analysis on the PSS-14 before regressing self-compassion, gender, and their interaction term onto the two retained perceived stress scale factors, namely successful coping with stressful events, and perceived stress and inability to cope (Brion et al., 2014).

With Brion et al.'s (2014) unconventional approach to measurement and analysis, a strong partial correlation (sr= -.52, t(161)= 7.72, p< .001) was found indicating a negative relationship between self-compassion and perceived stress and inability to cope and an equally strong positive partial correlation (sr= .52, t(161)= 7.69, p< .001) between self-compassion and successful coping with stressors. The study recruitment relied on self-selection; this may have introduced bias if participants opting in to the study had a special interest in self-compassion and differed significantly from those who opted out.

Table 2.2

Studies of individuals with chronic physical health conditions

Authors	Sample N	Participants	Design	Measures	Result
Brion, Leary, & Drabkin, 2014	187	Individuals with HIV	Cross-sectional	Modified SCS; PSS-14	Self-compassion predicted more successful coping with stressors (sr= .52), and lower perceived stress and inability to cope (sr= -.52)
Sirois, Molnar, & Hirsch, 2015	325 (170 with arthritis and 155 with IBD)	Individuals with chronic inflammatory conditions	Cross-sectional	SCS; PSS-10	Negative association between self-compassion and perceived (r= -.56)

Note. HIV= Human Immunodeficiency Virus; IBD= Irritable Bowel Disease; PSS-10= Perceived Stress Scale-10, PSS-14= Perceived Stress Scale-14, SCS=Self-Compassion Scale, sr= semi-partial correlation that controls for gender.

Sirois, Molnar and Hirsch (2015) set out to explore how self-compassion related to stress and coping in chronic illness. Sirois et al. (2015) found a negative relationship with a large effect (r= -.56, p< .05) between self-compassion and perceived stress in participants with inflammatory bowel disease and participants with arthritis. The data for this study were gathered at the six-month follow up point of a larger study not involving an intervention and examining perceptions and adjustment

to illness. Given that their sample was self-selected, predominantly white and female, and subject to significant drop-out rate (less than half of participants taking part at Time 1 completed the follow up survey), selection bias may have hindered the degree of representativeness of the target population (Delgado- Rodriguez & Llorca, 2004).

2.5.4.3 Studies involving students

Table 2.3 shows the details of five studies carried out with student samples. Sirois (2014) explored the relationship between self-compassion, procastination and stress across three samples of undergraduate students and a sample of community adults. The data were collected as part of a larger project focusing on stress, self-regulation and health. With respect to the relationship between self-compassion and perceived stress, Sirois (2014) found a strong negative relationship (ρ= -.61, p< .001) across the four samples.

Pinciotti, Seligowski, and Orcutt (2016) set out to explore the psychometric properties of a coping flexibility measure and found a strong inverse relationship between self-compassion and perceived stress in their sample of trauma exposed psychology students (r= -.66, p< .001).

Fong and Loi (2016) explored the mediating role of self-compassion in students' wellbeing and distress. Measures of stress, burnout, negative affect and depression captured students' distress. The findings from their online study pointed towards all measure of distress being negatively associated with self-compassion. In terms of the relationship of interest, a negative association between self-compassion and perceived stress (r= -.74) was found but the significance level of this finding was unclear. More specifically, while the correlation and descriptive statistics table note read "Correlations ≥ .19 are significant at p<.001) suggesting that the aforementioned

Table 2.3
Studies of student samples

Authors	Sample N	Participants	Design	Measures	Intervention	Result
Pinciotti, Seligowski, & Orcutt, 2016	322	Trauma exposed psychology students	Cross-sectional	SCS; PSS-10		Negative association between self-compassion and perceived stress (r= -.66)
Hall, Row, Wuensch, & Godley, 2013	182	Psychology college students	Cross-sectional	SCS; PSS-14		Self-judgement minus self-kindness (β= .22) and over-identification minus mindfulness (β= .33) predicted perceived stress. Isolation minus common humanity did not predict perceived stress.
Fong & Loi, 2016	306	International tertiary students	Cross-sectional	SCS; PSS-10		Negative association between self-compassion and perceived stress (r= -.74)[a].
Sirois (2014)	768 (total; sample1: n= 145; sample 2: n= 339; sample 3: n= 190; sample 4: n= 94)	Samples 1-3: Undergraduate students; Sample 4: Community adults	Samples1-3: Cross-sectional Sample 4: Prospective (however, reviewed measures taken at the follow up time point)	SCS; PSS-10		The average correlation between self-compassion and perceived stress across samples was ρ= -.61.
Greeson, Juberg, Maytan, James, & Rogers, 2014	Koru group (n=35) Wait-list control group (n=39)	College students	Randomised Controlled	SCS; PSS-10	Koru	Negative association between changes in self-compassion and changes in perceived stress in the intervention group (r= -.46) but not the waitlist control.

Note. PSS-10= Perceived Stress Scale-10, PSS-14= Perceived Stress Scale-14, SCS= Self-Compassion Scale.

[a] Significance level unclear.

finding is non-significant, the in-text narrative stated that “higher self-compassion was associated with higher well-being and lower distress” (Fong & Loi, 2016, p. 6). Should the negative association found in this study be significant, this result would be consistent with the results from Sirois (2014) and Pinciotti et al. (2016).

The studies by Sirois (2014), Pinciotti et al. (2016), and Fong and Loi (2016) were of suboptimal quality and the main shared limitation related to sample representativeness (all samples were predominantly female). Moreover, Pinciotti et al. (2016) did not appear to consider and adjust for confounding variables in their study and seem to retrospectively note the importance of assessing peritrauma reactions and demographic characteristics in their sample in relation to their key concepts.

In a higher quality randomised controlled trial, Greeson, Juberg, Maytan, James and Rogers (2014) explored the effects of the Koru mindfulness program on students. The Koru program is a manualised intervention delivered in a group format that consists of four 75-minute sessions plus daily private practice and homework. Participants on the Koru program were compared to a wait list control group. The study found that changes in self-compassion were linked to changes in perceived stress in the intervention ($r = -.46$, $p < .01$) but not the control group ($r = .20$, $p > .05$) which according to Greeson et al. (2014) confirmed the hypothesis that improvements in stress and self-compassion are interlinked during the intervention.

Hall, Row, Wuensch, and Godley (2013) set out to explore the role of self-compassion on wellbeing. Hall et al. (2013) explored the relationship between perceived stress and self-compassion composite scores. More specifically, they created three composite scores by subtracting each of the three positive self-compassion subscales from its corresponding negative subscale. Hall et al. (2013) did

not provide any statistical evidence on the validity of measuring self-compassion after delineating the subscales into composite scores.

Through this unusual way of measuring self-compassion, they too supported the idea that self-compassion is linked to perceived stress (Hall et al., 2013). More specifically, the regression model involving the three composite scores was significant; perceived stress was predicted by the composites involving self-judgement minus self-kindness ($\beta = .22$, $p = .04$) and over-identification minus mindfulness ($\beta = .33$, $p < .01$) but the composite involving isolation minus common humanity did not appear to have a significant unique effect ($\beta = .04$, $p = .69$).

It terms of limitation to this project, in addition to the questionable validity of the use of composite scores for measurement of self-compassion. Hall et al. (2013) did not describe their sample or the research setting adequately, nor did they appear to consider and adjust for confounding variables, such as demographic characteristics that are known to relate to stress. Furthermore, a reporting error in the discussion section of the paper was confusing. More specifically, the discussion section stated that the multiple regression analysis "indicated that all three composites… made significant unique contributions in predicting perceived stress" (Hall et al., 2013, p. 318) whereas the tabled results and the narrative in the results section indicated that the isolation minus common humanity composite did not have a significant effect on perceived stress.

2.5.4.4 Studies involving miscellaneous samples

Table 2.4 presents details of studies conducted with other participant groups, namely parents and educators of children with developmental challenges (Benn, Akiva, Arel, & Roeser, 2012), a sample deriving from the general population

(Krieger, Harmann, Zimmermann, & Holtforth, 2015), and a sample of "meditation-naïve" (Rowe, Shepstone, Carnelley, Cavanagh, & Millings, 2016, p.642) adults with no history of severe mental illness.

Benn et al. (2012) set out to explore the effects of mindfulness training on caregivers of children with developmental delays. Their robust study compared an intervention group with a waitlist control group. While the intervention consisted of nine 2.5h sessions SMART-in-Education (Stress Management and Relaxation Techniques) school-based mindfulness training sessions, homework, and two full day retreats over five weeks, the finding that is most relevant to the present review derives from data gathered from the entire sample at baseline. More specifically, an inverse relationship between self-compassion and perceived stress was found ($r = -.61$, $p < .01$; Benn et al., 2012).

The objective in Krieger et al. (2015) was to explore the relationship between self-compassion, perceived stress and self-esteem with mood and stress reactivity. Participants from the Swiss German-speaking general population reported a significant negative association between self-compassion and perceived stress ($B = -0.37$, $p < .05$; Krieger et al., 2015). The findings from Krieger et al. (2015) need to be interpreted with caution as they used a measure of perceived stress which was face valid. Despite reportedly showing convergent validity with the perceived stress scale in a dataset deriving from the research group, this evidence regarding the convergent validity of the employed stress measure was unpublished. In addition to the lack of published evidence regarding the validity of the stress measure, the sample in Krieger et al. (2015) was entirely Caucasian and consisted of predominately highly educated female students; this understandably may have hindered the generalisability of the findings.

Table 2.4

Studies of miscellaneous samples

Authors	Sample N	Participants	Design	Measures	Intervention	Result
Benn, Akiva, Arel, & Roeser, 2012	58	Parents and educators of children with developmental challenges	Randomised controlled	SCS; PSS-14	SMART-in-Education	Negative association between self-compassion and perceived stress (r= -.61) at baseline for the entire sample.
Krieger, Harmann, Zimmermann, & Holtforth, 2015	101	General population	Ecological momentary assessment	SCS-D; Eight-item perceived stress measure.		Negative association between self-compassion and perceived stress (B= -0.37).
Rowe, Shepstone, Carnelley, Cavanagh, & Millings, 2016	117	Meditation naïve individuals	Experimental	Self-compassion visual analogue scale; PSS-10	Prime (attachment, self-compassion or neutral) given prior to introductory mindfulness session	No significant relationship between self-compassion and perceived stress.

Note. PSS-10**=** Perceived Stress Scale-10, PSS-14= Perceived Stress Scale-14, SCS= Self-Compassion Scale, SCS-D= Self-Compassion Scale-Deutschen.

Rowe et al. (2016) examined whether attachment and self-compassion priming would make it more likely that meditation naïve individuals continue to engage in mindfulness practice. Rowe et al. (2016) failed to find a significant relationship between self-compassion and perceived stress ($r=.17$, $p> 0.5$); their choice to use a single item measure of self-compassion rated via a visual analogue scale instead of a validated measure of self-compassion may have impacted on this finding. Moreover, and similarly to Krieger et al. (2015) the sample consisted of predominately female students, which may have affected the generalisability of the findings.

2.5.4.5 Summary of studies on self-compassion and perceived stress

While studies in professionals, clinical samples, student samples and other populations predominately support the idea that there is an inverse relationship between self-compassion and perceived stress, methodological limitations compromise the confidence in this claim. As such, it is important that future research is methodologically robust and moves away from the caveats of non-representative samples.

Additionally, while the reviewed studies provide some evidence that changes in self-compassion reported after interventions are linked to changes in perceived stress in healthcare professionals and college students (Erogul et al., 2014; Greeson et al., 2014), future research needs to further explore the role self-compassion in the stress phenomenon when stress is conceptualised as the dependent variable or outcome of interest. The possibility of future research examining self-compassion's potential to, for example, "buffer the negative effects of stress", has been reflected upon (Kemper et al., 2015, p.501).

2.6 Could self-compassion be a protective factor in relation to stress for IAPT therapists? A summary of the rational leading up to the present thesis project.

The negative effects of stress have been well documented across the literature; the impact of work-related stressors (Cousins et al., 2004; Cox, 1993) on workers' wellbeing (e.g. Bosma et al., 1997; Stansfeld et al., 1999) and the financial cost of work related illness have been found to be considerable (Blaug, et al., 2007).

Workers in public health and social care services are reported as having a consistently higher than average prevalence of stress (Blaug et al., 2007; HSE, 2016) and professionals delivering psychological therapies are found to be experiencing high levels of stress and distress (e.g. Cushway, 1992; Cushway & Tyler, 1994; Darongkamas et al., 1994; Robinson, 2015).

Recent years have seen the advent of the IAPT program and a change in the landscape of the mental health workforce (Centre for Workforce Intelligence, 2013) through the development of a new workforce of IAPT therapists. While the IAPT program has looked at expanding and offering services to different clinical populations (DOH, 2011), difficulties retaining therapists have been documented (Rizq, 2011) and emerging research suggests that working as an IAPT therapist is a demanding and stressful role (Walket & Percy, 2014; Westwood et al., 2017).

Considering that the literature review examining the relationship between perceived stress and self-compassion suggests that these variables are predominately negatively associated across samples of healthcare professionals and other populations and given that the review provides some evidence that changes in perceived stress reported after interventions are linked to changes in self-compassion, one could wonder whether self-compassion can be a protective factor against stress

for health professionals, such as the IAPT therapists, working in potentially demanding and stressful environments.

Moderation analyses, which provide insights into the possible underlying processes involved in phenomena examined in cross-sectional research, could provide a way of exploring self-compassion's potential to protect against stress in stressful working environments. Moderation analyses were deemed to be the most suitable analyses to be conducted as the present study hoped to explore a moderation effect, i.e. whether the strength or direction of the relationship between each of the seven work-related potential stressors and perceived stress was affected by self-compassion.

2.7 Research aims and objectives

The present study aims to explore the levels of perceived stress in IAPT therapists and to examine whether self-compassion moderates the relationship between work related potential stressors and perceived stress in IAPT therapists. More specifically, it is hypothesised that self-compassion will moderate the relationship between (i) workload demands and perceived stress, (ii) perceived control over workload and perceived stress, (iii) managerial support and perceived stress, (iv) peer support and perceived stress, (v) relationships and perceived stress, (vi)role clarity and perceived stress, (vii) management and communication of organisational change and perceived stress.

3. Method

This chapter provides an overview of the study methods. Firstly, a discussion of the epistemological positioning provides the background to introducing an overview of the study's design. A detailed account of participant recruitment and sample size is followed by a presentation of the measures, and an outline of the data analysis. Finally, ethical considerations and plans for dissemination of the research findings are discussed.

3.1 Epistemological position

Hitchcock and Hughes (1995) have argued that one's ontological position, which relates to notions regarding reality and 'the study of being' (Crotty, 1998, p.10), influences one's epistemological stance, which relates to certain ideas regarding how knowledge of the reality is 'created, acquired and communicated' (Scotland, 2012, p. 9), which in turn impacts on the choice of methodology, or in other words how one goes about acquiring this knowledge. It is therefore important to reflect on where the present study lies in relation to these concepts, centring the discussion around epistemology.

3.1.1 Positivism

The historically dominant paradigm for social sciences has been positivism (McGrath & Johnson, 2007). Positivism, traditionally linked to Comte (Comte, 1948/1908) lies within the realist ontological position, which ascertains that reality exists independently of the knower (Cohen, Manion, & Morrison, 2007). Assuming such a position about the nature of reality has implications on how one gets to know the real world.

Objectivism, which dictates that ‘meaning exists in objects independently of any consciousness’ (Crotty, 1998, p.10) is the epistemological position associated with positivism. Knowing can be, therefore, characterised as having what Gergen (1985) calls an exogenic perspective whereby it is lies in the objective reality and is acquirable. The role of the researcher is, thus, to obtain a type of knowledge which is representative (Blaikie, 2007), “pure” (McGrath & Johnson, 2007), or in other words ‘mirrors the actualities of the real world’ (Gregen, 1985, p. 269).

The principles used to assist the social researcher in the study of the social reality are effectively the same as those used to study the natural world (Cohen et al., 2007). Impartiality (Scotland, 2012) and objectivity, characterise the methodology and guide the researcher in his endeavour to discover knowledge (McGrath, Johnson, 2007). The deductive and analytical spirit structures the researcher’s approach to seeking causal relations in the observable phenomena (McGrath & Johnson, 2007). Generalisability and predictability is sought (Scotland, 2012), and knowledge is seen as value-free (McGrath & Johnson, 2007) while the political, social and cultural context is disregarded. Empiricism drives experimental designs and survey research to discover the truth (Crotty, 1998; Gergen, 1985).

The 20th century marked a shift in the scientific paradigm with the move to post-positivism (Scotland, 2012) and a questioning of the positivistic approach. The principles of verification and falsification are now used in the process of scientific enquiry and knowledge is acquired through the testing of hypotheses (Scotland, 2012; Popper, 2002). The notion that knowledge deriving from the scientific process ‘must remain tentative for ever’ (Popper, 2002, p.280) defines a change in the way truth is conceptualised (move from absolute to tentative).

The positivist approach, although dominant, has been subjected to numerous critiques (McGrath & Johnson, 2007). Psychological research, in particular, has been critiqued as failing to recognise that 'psychological phenomena are constituted within historical, sociocultural traditions of human life' (Martin, 2015, p.36). Jovanovic (2010) introduced the idea that language has an active role in organising one's view of reality. The knower is therefore not seen as detached from the reality; he is instead viewed as holding an active role in creating meaning though engaging with the world (Crotty, 1998). The social, political and historical context is seen as shaping one's perception of the world (McGrath & Johnson, 2007). A key approach in science which argues these points is social constructionism.

3.1.2 Social constructionism

Social constructionism, as an approach, can be positioned either within the relativist or the realist ontological framework. Whether one accepts that the reality exists independently of one's consciousness or not will inform whether one holds a realist or relativist ontological position (Crotty, 1998) in relation to the constructionist approach. Given that realism has been previously discussed, it would be useful to briefly define the concept of relativism. Within a relativist framework, reality and other concepts are 'understood as relative to a specific conceptual scheme, theoretical framework, paradigm, form of life, society, or culture' (Bernstein, 1993, p. 8).

What differentiates social constructionism from positivism is epistemology; constructionist epistemology sees knowledge as dependent on human practices, being constructed through the interaction of individuals with the reality and embedded in a social context (Crotty, 1998; Gergen, 1985). Meanings are no longer considered to be independent of the knower and knowledge is no longer seen as a 'mental

representation' (Gergen, 1985, p. 270); meaning and knowledge are regarded as 'something that people do together' (Gergen, 1985, p.270).

Within social constructionism, the researcher is not seen as a detached observer but as a co-author (Burman, 1997). There is no absolute truth to be discovered (Blaikie, 2007); instead there are multiple truths. In this context, the role of the researcher is to encourage narratives which give insight into people's subjective experiences while being aware and reflexive of their own influences on the research procedure (Mareek, 2007). The notion of value-free research and knowledge is seen as untenable. Language is regarded as having a 'performative use' (Gergen, 1985, p. 270) and it is acknowledged that psychological phenomena exist in 'historical, sociocultural, moral and political practices and significances' (Martin, 2015, p. 37). In terms of methodology, social constructionism pays attention to how language used to construct reality (Gergen, 1985).

Social constructionism has received various criticisms (Alvesson & Skőldberg, 2009). One critique relevant to the present discussion is the idea that social constructionism has anti-theoretical tendencies (Alvesson & Skőldberg, 2009, p.37) as the scientific enquiry is descriptive of the process of social construction of the world. Critical realism is an approach that has criticised both positivism and social constructionism (Alvesson & Skőldberg, 2009).

3.1.3 Critical realism

Critical realism regards positivism and social constructionism as 'superficial, unrealistic and anthropocentric' (Alvesson & Skőldberg, 2009, p. 16). Originating in Bhaskar's work (Collier, 1994) and adopting a realist ontological position, critical realism acknowledges an independent reality and sees the role of scientific theories as

understanding the deeper structures, mechanisms and causal laws of the world (Archer, Bhaskar, Collier, Lawson, & Norrie, 1998). Knowledge and the world are regarded as 'constructed', 'differentiated and changing' but 'the latter exists independently of the former' (Archer et al., 1998, p. 19). This differentiates critical realism from the social constructionism which can be more relativistic in its ontology. Constructions, in critical realism, are also seen as 'objective phenomena' (Alvesson & Skőldberg, 2009, p. 41) and the role of science is to identify them.

Critical realism thus acknowledges contextual influences on knowledge and embraces a form of epistemic relativism (Archer et al., 2016). Methodological pluralism is necessitated by the acceptance of knowledge being context, concept and activity dependent which in turn implies that all knowledge is limited by the conceptual framework available and fallible (Archer et al., 2016).

3.1.4 Epistemological positioning in the present study

The present study aims to explore the levels of perceived stress in IAPT therapists and the factors associated with perceived stress in these workers. The relationship of work related potential stressors and self-compassion with perceived stress is explored.

As such the project aligns itself with the critical realism approach in a number of ways. The assumption that the key study concepts, stress, self-compassion and work-related stressors, can be quantified and measured through a self-report measure via a survey can be seen as deriving from the ontological position of realism.

While it is assumed that a reality exists independent of the researcher, it is also accepted that these concepts are constructed within a social, political and historical context. Given that concepts are part of the social world and thus include

past knowledge (Sayer, 2000), their representation in the present study is constrained by the researcher's own influences and the operationalisation of the concepts made by the creators of the self-report measures employed.

The assumption that a relationship between these measurable concepts can be explored through statistical analyses also relates to critical realism, which seeks to understand the deeper levels of structures in phenomena.

3.2 Design

A quantitative cross-sectional design was employed in the present study. The cross-sectional design is used to explore associations between variables at one point in time (Levin, 2006) and thus was regarded as the most suitable design to explore factors associated with perceived stress in IAPT therapists.

In the present study, perceived stress is the dependent or outcome variable, the work-related potential stressors are the independent variables and self-compassion is the moderator.

3.3 Participants

Participants were IAPT therapists. The term "therapist" was used broadly encompassing staff having clinical contact (i.e. working clinically with patients in an assessment and/or intervention focus). Both trainee and qualified therapists were eligible to take part.

The participant inclusion criterion, which involved IAPT staff having clinical contact (i.e. working clinically with patients in an assessment and/or intervention focus), was broad and encompassed staff working at a low and high intensity level and those who were trainees and qualified. The participant exclusion criteria involved

not working for IAPT and IAPT staff not having clinical contact. No other exclusion criteria existed as it was important for this study to be as inclusive as possible given that was the first one of its kind to explore perceived stress in IAPT therapists.

3.3.1 Recruitment information

Participants were recruited through their training institution, their professional body (British Psychological Society, BPS; British Association for Behavioural and Cognitive Psychotherapies, BABCP) or the social networking site Facebook™.

More specifically, with regards to Facebook™, the researcher posted the link to the study on their (the researcher's) page, with the invite to anyone who meets the eligibility criteria to participate in the online study comprising of four questionnaires. The researcher also included an invite to viewers of her post to 'share' the post on their pages or email/direct the link to individuals they believe would be interested in participating. The researcher also posted the link to the study on the BPS's Facebook page with an invite to eligible individuals to participate and an invite to individuals to 'share' the post on their pages or email/direct the link to individuals who they believe would be interested in the study.

The BABCP hosted the invitation for research participation message on their forum and a short piece regarding the study in the September 2017 issue of the CBT Today magazine (Kostaki, 2017). In the Facebook™ posts and the BABCP forum invitation for research participation message, the definition of the term "therapist" was explained as being used broadly and encompassing staff having clinical contact (i.e. working clinically with patients in an assessment and/or intervention focus). It was explained that possible job titles of potential participants could include (Trainee) Psychological Wellbeing Practitioner, (Trainee) High intensity worker, Counsellor,

Psychologist, or Assistant Psychologist. It was also stated that both trainee and qualified therapists are eligible to participate. This explanation was also present in the information sheet (Appendix B) and was on occasions shared in other aspects of the recruitment phase, such as when contacting institutions.

The snowballing method was used to allow participants to invite other individuals who meet the eligibility criteria to participate; participants were invited to forward the link to the study to other individuals who may be eligible in the information and debrief page (Appendices B and C).

With regards to training providers, institutions offering Psychological Wellbeing Practitioner and High- Intensity training were located through the BPS accredited training programmes list and the BABCP Level 2 accredited courses respectively. A list of institutions contacted can be found in Appendix D. Training institutions were primarily contacted via email. From the 15 institutions offering Psychological Wellbeing Practitioner courses, ten agreed to make their trainees aware of the project and five did not respond to the invite. From the 18 institutions offering the High Intensity Training, nine agreed to make their students aware of the project, two did not distribute the link to their trainees and seven did not respond. One course, where the link was not distributed, declined to make their trainees aware of the project and explained that they had recently been invited to participate in another study. The administrator from the other course, where the link was not distributed, had made the researcher aware that they were not permitted to send research requests to their students.

Recruiting for the study predominately via the internet was deemed preferable as it allowed the researcher to reach IAPT therapists quickly, easily, affordably, and efficiently at a nationwide level. It was assumed that all therapists would be able to

complete the study should they wish as internet access is widely available and internet-based studies are commonly used. The sampling can, in some respects, be characterised as convenience sampling as recruiting through social media and professional bodies resulted in individuals accessible to the researcher being at first instance invited to the study. An effort to make the sample more representative and counteract the sampling bias resulting from convenience sampling can be identified in contacting all known training providers. The snowball sampling method allowed for the study to become known to further eligible individuals who may have been interested in taking part.

3.4 Sample size

The sample size for the present study was calculated using the a-priori sample size calculator for multiple regression by Statistics Calculators version 4.0 Beta (Soper, 2016). For an anticipated medium effect size ($f^2 = .15$), a power level of .80 and a significance level of .05 in a multiple regression with 3 predictors (independent variable, predictor variable and interaction term), an estimated sample of 76 participants was indicated.

A medium effect size was justified by Robinson (2015) who used the same measures of stress, PSS-10 (Cohen & Williamson, 1988), and self-compassion, SCS (Neff, 2003a), in a sample of trainee and qualified Clinical Psychologists. Robinson (2015) mentioned that the effect sizes in previous research varied from non-existent to large with the majority of the effect sizes being medium. It is, moreover, noteworthy that in Robinson's study, which is not dissimilar to the present study in terms of geographical location, field and discipline, and professional statuses of

participants, the effect sizes found were large. The choice to calculate power for a medium effect size was therefore a conservative one.

The sample size for the present study was 207; main analyses were conducted on a sample of 200. Recruitment continued beyond the initially estimated number of 76 participants as it was deemed important to allow more time for qualified therapist, who were underrepresented in the sample, to take part and to allow for additional confounding variables to be included in the analyses if necessary.

3.5 Measures

Participants were asked to complete four questionnaires; one purpose-built demographic questionnaire and three standardised questionnaires. All measures were screened to ensure that they were not unclear or excessively taxing and time-consuming; this was particularly important given potential participants' high-volume work life and the possible time-constraints that they could be experiencing as qualified or trainee therapists. The appropriateness for use in an anonymous online study, where the researcher was absent and thus unable to clarify ambiguities and respond to risk concerns, was also considered.

3.5.1 Perceived Stress Scale-10 (PSS-10; Cohen & Williamson, 1988)

The Perceived Stress Scale-10 (PSS-10; Cohen & Williamson, 1988) is a 10 item self-report measure of perceived stress. The scale (Appendix H) explores how stressful respondents perceive their lives to have been in the last month tapping into the degree of perceived unpredictability, lack of control and sense of being overwhelmed. Participants are invited to answer on a 5-point Likert scale ranging from *"never"* to *"very often"*. The total score is calculated by summing the scores of

all items after reversing the score for items 4, 5, 7 and 8, which are positively stated; the total score range is 0-40. The use of this measure has been permitted for non-profit academic research.

Interest in participants' appraisals of their stress levels led to the selection of the PSS-10 (Cohen & Williamson, 1988) which has been widely used in studies relating to mental and physical wellbeing (e.g. Cohen, Tyrrell, & Smith, 1993; Padden, Connors, & Agazio, 2011). The PSS-10 (Cohen & Williamson, 1988) allows for a broad evaluation of participants' experiences, without enquiring about a particular event. Moreover, it measures solely perceived stress as opposed to moving into the terrain of psychiatric disorders, which is characteristic of the Depression, Anxiety and Stress Scales (DASS; Lovibond & Lovibond, 1995). Lastly, the PSS-10 (Cohen & Williamson, 1988) has a different temporal orientation compared to the Stress Appraisal Measure (SAM; Peacock & Wong, 1990), which measures perceptions of anticipatory stress.

Three versions of the PSS exist, namely the 14-item, the 10-item and the 4-item version (Cohen &Williamson, 1988). The PSS-10 derived from dropping four items with low factor loadings from the original longer 14-item version of the measure, whereas the 4-item version of the PSS consists of items 2, 4, 5 and 10 of the PSS-10. The PSS-10 showed good convergent validity, being moderately correlated with other stress measures (Cohen & Williamson, 1988). Cohen and Williamson (1988) recommend the use of the 10-item version of the PSS in research as it has better internal reliability (Cronbach alpha of .78) compared to the longer 14-item version (Cronbach alpha of .75) and the shorter 4-item version (Cronbach alpha of .60). In a sample of therapists in training, the PSS-10 demonstrated improved internal consistency, with a Cronbach alpha of .87 (Shapiro, Brown, & Biegel, 2007)

suggesting that it is a suitable measure to use in the present study. In the present study, the PSS-10 showed even better internal consistency with a Cronbach alpha of .88.

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

The Self-Compassion Scale (SCS; Neff, 2003a) is a 26 item self-report questionnaire. Participants rate how they typically act towards themselves using a 5-point Likert scale (Appendix I) ranging from *"almost never"* to *"almost always"*.

Self-compassion entails three facets and six subscales, namely (a) i) self-kindness as opposed to ii) self-judgement, (b) i) common humanity versus ii) isolation, and (c) i) mindful awareness as opposed to ii) over-identification (Neff, 2003a). The subscale scores are calculated by computing the mean of the subscale items; they range from 1 to 5. A total score can also be calculated as the grand mean of the subscales after reversing the score of the negative subscales (items 1, 2, 4, 6, 8, 11, 13, 16, 18, 20, 21, 24 and 25) and calculating their means.

This measure has good psychometric properties and is theoretically sound (Neff, 20016a, 2016b); Neff (2003a) reports that the scale has convergent and discriminant validity and good internal consistency (Cronbach alpha of .92). In an adult sample, Cronbach alphas of the subscales ranged between .71 and .86 (Williams, Dalgleish, Karl, & Kuyken, 2014). In the present study, internal consistency was good for the scale overall (overall Cronbach alpha of .95) and ranged between .73 and .88 for the subscales.

Test-retest reliability was also reported to be good for the total score (.93), and the self-kindness (.88), self-judgement (.88), common humanity (.80), isolation (.85), mindfulness (.85) and over-identification (.88) subscales (Neff, 2003a). It is however,

unclear which statistical analysis these reliability findings are based on. However, importantly, the scale was found not to be subjected to social desirability bias (Neff, 2003a) despite self-compassion possibly being seen as a desirable quality.

The instructions of the SCS (Neff, 2003a) were modified in the following way to correspond with the display of the questionnaire on the online platform; the phrase "To the left of each item" was changed to "Below each item". The rest of the instructions remained unchanged.

Using the 26-item SCS (Neff, 2003a), as opposed to the 12-item short form version (Self-Compassion Scale-Short Form; SCS-SF) of the questionnaire, when interested in the subscale scores as well as the total self-compassion score is recommended (Raes, Pollier, Neff, & Gucht, 2011).

Other measures tap into the construct of self-compassion but do so in addition to measuring compassion towards others (e.g. Narrative Compassion Scale; MacBeth, 2011) or relational aspects of compassion (e.g. Relational Compassion Scale; Hacker, 2008). The use of the SCS (Neff, 2003a), which is the only scale exclusively measuring self-compassion (López et al., 2015) as a total score and in terms of subscale scores, has been permitted for academic purposes.

3.5.3 HSE Management Standards Indicator Tool (Cousins et al., 2004)

The HSE Management Standards Indicator Tool (Cousins et al., 2004) is a 35-item self-report measure of perceived potential stressors at work which requires participants to respond on a 5-point scale (Appendix J). Some items range from *"never"* to *"always"* while others range from *"strongly disagree"* to *"strongly agree"*.

This measure has good psychometric properties with Cronbach's alphas ranging from .78 to .89 on the seven subscales (Cousins et al., 2004; Edwards, Webster, Van Laar, & Easton, 2008), and with an overall Cronbach's alphas of .92 (De Vellis, 2003). In the present study, the HSE Management Standards Indicator Tool (Cousins et al., 2004) showed good internal consistency with alphas ranging from .79 to .90 for the subscales and an overall Cronbach alpha of .95.

The HSE Management Standards Indicator Tool is based on the demand-control and support model for work-related stress (Edwards et al., 2008). The seven subscales include (i) demand, which entails workload and work environment topics, (ii) control, which relates to the perceived levels of control that individuals think they have over their work, (iii) peer support, covers the support offered by colleagues, (iv), managerial support, captures support offered by managers, (v) relationships, incudes experiences of difficult relationships in the workplace and experiences unacceptable behaviors, (vi) role, entails clarity and understanding of one's role at an organizational level, (vii) change, refers to how change is communicated in the organization.

The instructions of the Tool were modified to cater for the present study. The original instructions were as follows: '*Instructions: It is recognised that working conditions affect worker well-being. Your responses to the questions below will help us determine our working conditions now, and enable us to monitor future improvements. In order for us to compare the current situation with past or future situations, it is important that your responses reflect your work in the last six months*.' (Cousins et al., 2004). Modifying the instructions was an ethical imperative as the above statement would be misleading the participants given that their responses were not used to monitor future improvements or compare the current situation with

past or future situations. Moreover, it was hoped that by clarifying that the invite to complete the questionnaire was not coming from their organization or service, through removing the word ‘our’, respondents would be enabled to be open and honest. Given these considerations, the instructions were modified to: *‘Instructions: It is recognised that working conditions affect worker well-being. Your responses to the questions below will help us determine your working conditions. It is important that your responses reflect your work in the last six months.’*.

The HSE Management Standards Indicator Tool (Cousins et al., 2004) has been used as a measure of perceived “psychosocial work conditions” (Bevan, Houdmont, & Menear, 2010, p. 525) in studies in public and private organizations (e.g. Bevan et al., 2010; Gyllensten & Palmer, 2005; Kerr, McHugh, & McCrory, 2009).

A Danish tool, the Copenhagen Psychosocial Questionnaire (COPSOQ; Kristensen, Hannerz, Høgh, & Bor, 2005) is another measure of work environment, which, in its long form, also taps into other constructs such as wellbeing, stress, and personality factors. The shortest version of the COPSOQ has 44-items, includes items relating to demands, work organization and content, interpersonal relationships and leadership, satisfaction, and health (Kirstensen et al., 2005). The COPSOQ has weaker psychometric qualities than the HSE tool, with Cronbach alphas ranging from 0.61 to 0.81 for the 8 scales of the measure (Kirstensen et al., 2005). More recently, the COPSOQ II was developed; 57 % of the items from the initial COPSOQ were retained and new scales were added (Pejtersen, Kristensen, Borg, & Bjoner, 2010). A short form of the COPSOQ II incudes 40 items relating to concepts such as stress, burnout, trust, conflict, job satisfaction, relationship and leadership, work organization and demands at work (Pejtersen et al., 2010).

For the purposes of this study, the HSE Management Standards Indicator Tool (Cousins et al., 2004) was used to explore areas of risk concerning work-related stress. The HSE Management Standards Indicator Tool (Cousins et al., 2004) measures potential stressors without drifting into measuring related concepts such as burnout (Pejtersen et al., 2010). Moreover, considering that it is a UK-developed scale, the HSE Management Standards Indicator Tool (Cousins et al., 2004), was thought to potentially be better suited to the UK workforce especially given the potential for cultural variability in survey research (Johnson et al., 1996). Lastly, the HSE Management Standards Indicator Tool (Cousins et al., 2004) has better internal consistency and is shorter, and therefore less taxing, compared to the COPSOQ (Kirstensen, et al., 2005).

3.5.4 Demographics questionnaire

The purpose-built demographic questionnaire collected information on gender, age, ethnicity, religion, marital status, education level, years of work experience, hours of supervision, time working in IAPT, qualification status, job role and working hours (Appendix K). It was deemed important to capture these characteristics of the sample as the snowball sampling method could have resulted in a skewed sample where particular characteristics are more prominent than others.

Moreover, findings that gender, age, education level, years of experience and working hours are related to stress in different professional groups (Balakrishnamurthy & Shankar, 2009; Blaug, et al., 2007; Lunau et al., 2015) made it important to examine the sample in the present study in terms of these characteristics.

Robinson (2015) also showed that Trainee Clinical Psychologists reported significantly more distress than qualified Clinical Psychologists indicating that

qualification status and education level were important variables to explore. Hours of supervision were of interest in this study as Westwood et al. (2017) found that they predicted lower odds of burnout, which is a response to work stressors (Masclach, Schaufeli, & Leiter, 2001).

3.6 Scoring

Reverse item scoring had already been set up for the appropriate questionnaire items on designing the recording of the responses on Qualtrics; items 4, 5, 7 and 8 for the PSS-10 (Cohen & Williamson, 1988), items 3, 5, 6, 9, 12, 14, 16, 18, 20, 21, 22 and 34 for the HSE Management Standards Indicator Tool (Cousins et al., 2004), and items 1, 2, 4, 6, 8, 11, 13, 16, 18, 20, 21, 24 and 25 for the SCS (Neff, 2003a) were reverse scored.

A total score for the PSS-10 (Cohen & Williamson, 1988) was calculated by summing the scores across all items of the questionnaire. HSE Management Standards Indicator Tool (Cousins et al., 2004) subscale scores were calculated for all seven subscales of the measure; demands subscale (mean of items 3, 6, 9, 12, 16, 18, 20 and 22), control subscale (mean of items 2, 10, 15, 19, 25 and 30), managerial support subscale (mean of items 8, 23, 29, 33 and 35), colleagues support subscale (mean of items 7, 24, 27 and 31) role subscale (mean of items 1, 4, 11, 13 and 17), relationships subscale (mean of items 5, 14, 21 and 34) and change subscale (mean of items 26, 28 and 32).

Subscale scores and a total score were calculated for the SCS (Neff, 2003a) as follows; self-kindness subscale (mean of items 5, 12, 19, 23 and 26), self-judgement subscale (mean of items 1, 8, 11, 16 and 21), common humanity subscale (mean of items 3, 7, 10 and 15), isolation subscale (mean of items 4, 13, 18 and 25),

mindfulness subscale (mean of items 9, 14, 17 and 22), over-identification subscale (mean or items 2, 6, 20 and 24), total score for SCS (grand mean of six subscale means). Calculating the total self-compassion score using the grand mean of the subscales has been proposed by Neff (Appendix I) and is an alternative method of computation than what is used in Neff (2003a), where the sum of the subscales was used. The choice to use the grand mean was driven by the ease in interpretation the total score when this method is used (Appendix I).

3.7 Analysis

Data, collected using Qualtrics ™, were downloaded onto SPSS (IBM Corp., 2015) in preparation for data analysis. Analyses were carried out using SPSS (IBM Corp., 2015) for Windows. Descriptive statistics allowed exploration of the data in terms of the main study variables and the demographic characteristics of the sample. Data were checked for normality.

Preliminary analyses explored whether perceived stress was significantly associated with the characteristics measured in the demographic questionnaire. Confounding effects of ratio demographic variables were explored through correlations. With respect to nominal variables, the potential confounding effect of the dichotomous demographic variables was explored through point or rank biserial correlations. For categorical variables with more than two levels, regression analyses were carried out.

The PROCESS add-on dialog box (Hayes, n.d., 2013, 2016) was used to conduct moderation analyses. Moderation analyses (Baron & Kenny, 1986; Field, 2013; Hayes, 2013; MacKinnon, Krull, & Lockwood, 2000) explored the effect of self-compassion, as measured by the SCS (Neff, 2003a), on the relationship between

work-related potential stressors, as measured by the seven subscales of the HSE Management Standards Indicator Tool (Cousins et al., 2004), and perceived stress, as measured by the PSS-10 (Cohen & Williamson, 1988).

Seven moderation analyses were conducted, each with 5 predictor variables (independent variable, moderator and the independent- moderator interaction term, plus two variables that were found to be confounding in the present study). Each of the seven subscales of the work-related stressor measure, namely workload demands, perceived control over workload, managerial support, peer support, relationships at work, clarity of role and organisational change, was treated as the independent variable in seven separate moderation analyses. The effect of self-compassion (moderator) on the relationship between each work-related stressor (independent variable) and perceived stress (outcome variable) was examined.

3.8 Ethical considerations

The researcher sought and gained ethical approval from The University of Essex Ethics Committee (Appendix L). This was sufficient approval for the purposes of the present study as the research was aimed at staff.

An amendment request was submitted to and approved by The University of Essex Ethics Committee (Appendix M) at a subsequent date. The amendment requested was approved, namely adding the question referring to the hours of supervisions received in the demographics questionnaire (Appendix K) and amending the information sheet (Appendix B) to include a list of support organisations and their contact details. The reason for the first amendment was Westwood et al.'s (2017) finding that amongst Psychological Wellbeing Practitioners hours of supervision predicted lower odds of burnout; this study came to the researcher's attention after the

original ethical approval had been obtained. Adding the list of support organisations and their contact details to the information sheet ensured that all potential participants had access to them regardless of whether they completed the study.

Given that the study involved human participants and was carried out online, the British Psychological Society ethical guidelines on research with human participants, online psychological research and internet mediated research were adhered to (BPS, 2007, 2010, 2013).

The study was conducted online, thus the principal researchers' contact details were included on the information page (Appendix B) and potential participants were encouraged to use them if they need to discuss the study further before they were presented with the consent form. Participation in the study was voluntary and participants were free to leave the study at any point without consequences. Participants were also informed that it would not be possible to remove their data from the database once they completed the study due to anonymization.

Informed consent was sought as the consent (Appendix F) form followed the information sheet. The online study was set up in a way that a "yes" or "no" response was required from potential participants on the consent form. Participants could not proceed to the next screen unless they provided a response. Only participants indicating their consent by responding "yes" were presented with the questionnaires.

Data collected was treated according to the Data Protection Act (DPA, 1998). No personal data was collected; the setting "Anonymize Response" was enabled in the survey options menu resulting in the removal of the respondents' IP address and location data from the results. Data was anonymous and was accessed by the principal investigator and the named supervisors. Making the participation anonymous was a way to facilitate participants to respond frankly to the questionnaires.

The University of Essex research data management policy (University of Essex, 2012) was consulted regarding the optimal mechanisms and services for secure data storage and backup. Data was stored on a password protected personal laptop owned by the principal investigator and was backed up on their personal drive at the University of Essex network and a password protected memory stick. Following the completion of the principal investigator's doctorate degree, the data will be stored for at least 5 years on an University of Essex central drive in a folder accessible only by the named supervisors.

Despite the fact that it was not expected that participants become distressed when taking part in the study, due to anonymity, it was impossible to take action in the event of detecting particularly high stress levels in any individual. A list of support organisations was however, included on the information sheet (Appendix B) and at the end of the study, on the debrief page of the study (Appendix C), and the end of study message (Appendix G) for participants who did not consent. Contact details of the principal researcher and the researcher's supervisors were also included for participants to use if they wished to discuss the study further, or request a summary of the results. The contact details at the debrief page and the end of study message for participants who did not consent could also be used to feedback any distress they might have experienced (BPS, 2007). The researcher received six email requests for a summary of the results.

3.9 Procedure

Participants were invited to take part in the study online using the Qualtrics™ software. Upon clicking on the link directing them to the study, participants viewed the study information sheet (Appendix B). Following the information sheet,

participants clicked to the next page and were presented with the consent form (Appendix F). Individuals who did not consent were directed to an end of the study message (Appendix G) explaining why they reached the end of the study, thanking them for considering the project, inviting them to share the link to the study with individuals who might be interested to take part and providing information on organisations which they could access for support if they wished.

Participants who consented to take part, were asked to complete the demographics questionnaire which asked them to confirm their area of work within IAPT allowing the researcher to ensure that the study was completed by the targeted sample. The remaining three questionnaires were then presented in the following order; Perceived Stress Scale-10 (PSS-10; Cohen & Williamson, 1988), HSE Management Standards Work-Related Stress Indicator Tool (Cousins et al., 2004), and Self-Compassion Scale (SCS; Neff, 2003a). Participants' responses were saved anonymously by Qualtrics ™.

At the end of the study, participants were presented with a debrief page (Appendix C) which included information on organisations which they could access for support if they wished and an invite to forward the link of the study to any individual they knew who met the eligibility criteria and who they thought would have been interested in participating in the study. The debrief page was followed by an end of study message stating "This is the end of the study".

Data collection lasted approximately six months; commencing in April 2017 and finishing in October 2017.

3.10 Dissemination

The study results will be disseminated to individuals who contact the principal researcher. The researcher will also disseminate the study and its findings in the Clinical Psychology Doctorate Programme and in the School of Health and Social Care at the University of Essex. The researcher will endeavour to disseminate the study at workshops, conferences, or through publication in journals (such as the International Journal of Stress Management, Work and Stress), periodicals and media.

4. Results

This chapter will examine the results of the cross-sectional online study. A presentation of the demographic details of the sample will be followed by an exploration of the findings regarding the main study objectives. The chapter will end with a summary of the findings.

4.1 Data input

In preparation for analyses, data were downloaded from Qualtrics™, the software used to host the questionnaires online during data collection phase, onto SPSS version 23.

4.2 Participation rate

The study was accessed 253 times through the study link. Eighteen respondents did not answer the consent form and, as such, did not progress to viewing the questionnaires. Furthermore, one respondent declined to participate at the consent form stage, and the remaining 234 participants consented to the study. The percentage of respondents consenting to take part was 92.49%.

From the 234 respondents consenting to participate in the study, 207 completed all the questionnaires, resulting in an 88.46% completion percentage.

4.3 Descriptive data analyses

4.3.1 Categorical demographic variables

Frequency analyses provided an overview of the nominal demographic characteristics of the sample comprising of 207 participants. There was an almost equal split between trainee and qualified therapists (Table 3.1) and therapists working

at the low and the high intensity level (Table 3.2). The participant marking their employment status as 'Other' noted that they were an "Assistant Psychologist". Participants noting their job role as 'Other' reported the following job titles, "Assistant Psychologist", "Clinical Lead", Clinical Psychologist", "Counsellor", "Interpersonal Psychotherapist", "Psychologist", "Trainee Clinical Associate in Applied Psychology", and "Volunteer doing Integrative therapy".

Table 3.1

Employment status

Employment status	n	%
Trainee	96	46.4
Qualified	109	52.7
Unqualified	1	0.5
Other	1	0.5
Total	207	100

Note. n= frequency.

Table 3.2

Job role

Job role	n	%
Low intensity worker	92	44.4
High intensity worker	106	51.2
Other	9	4.3
Total	207	100

Note. n= frequency.

In comparison to the information published by the latest IAPT Adult Workforce Census (NHS England & Heath Education England, 2016), where qualified and trainee therapists represented 87% and 11% of the workforce respectively (the remaining 2% are employment advisors), the sample of the present study was characterised by an overrepresentation of trainee therapists at the expense of qualified therapists. Moreover, according to the IAPT Adult Workforce Census (NHS England & Heath Education England, 2016), therapists working at the high intensity level represented 62% of the workforce whereas low intensity therapists represented 36% of the workforce. Consequently, the present sample is characterised by a slight overrepresentation of low intensity workforce when compared to the IAPT workforce population.

Table 3.3 provides information regarding working hours; the majority of the participants worked full-time (85.5%).

Table 3.3

Working hours

Working hours	n	%
Full-time	177	85.5
Part-time	30	14.5
Total	207	100

Note. n= frequency.

Table 3.4 illustrates that the sample was predominantly female (85.5%); this was similar to what was reported in the latest IAPT Adult Workforce Census (NHS

England & Heath Education England, 2016), where 79% of the workforce was found to be female.

Table 3.4

Gender

Gender	n	%
Male	29	14
Female	177	85.5
Prefer not to say	1	0.5
Total	207	100

Note. n= frequency.

Similarly to the IAPT Adult Workforce Census (NHS England & Heath Education England, 2016) where the workforce was found to be predominantly White British (83%), most of the participant in this study identified as 'White British, White English, White Scottish, White Welsh' (Table 3.5). Participants identifying as having 'Other ethnic background' reported the following descriptions for their ethnicity, "Mixed- Black British and Asian British", "Mixed- White & Asian British", "Mixed White and Asian", "Mixed white british & middle eastern", and "mixed white/asian".

In addition, the majority of the participants identified as not having a religion or being Christian (Table 3.6). The participants selecting the response 'Other religion' noted their religion as "spiritual" and "Quaker".

Table 3.5

Ethnicity

Ethnicity	n	%
Asian British, Asian English, Asian Scottish, Asian Welsh	7	3.4
Black British, Black English, Black Scottish, Black Welsh	5	2.4
White British, White English, White Scottish, White Welsh	158	76.3
Black other	1	0.5
White other	25	12.1
Chinese	5	2.4
Middle Eastern	1	0.5
Other ethnic background	5	2.4
Total	207	100

Note. n= frequency.

Table 3.6

Religion

Religion	n	%
I do not have a religion	128	61.8
Buddhist	3	1.4
Christian	60	29
Jewish	3	1.4
Muslim	3	1.4
Sikh	3	1.4
Other religion	2	1
Prefer not to say	5	2.4
Total	207	100

Note. n= frequency.

With respect to marital status, most participants were either ‘married, in civil partnership or cohabitating’ or single and had never been married (Table 3.7).

Table 3.7

Marital status

Marital Status	n	%
Single, never been married	68	32.9
Married, in civil partnership or cohabiting	123	59.4
Divorced or separated	13	6.3
Widowed	2	1
Prefer not to say	1	0.5
Total	207	100

Note. n= frequency.

With regards to highest level of education attained the majority of the sample had either a bachelor’s degree or equivalent or a master’s degree (Table 3.8).

Table 3.8

Education level

Highest education level completed	n	%
GCSE or equivalent	2	1
A level, BTEC or equivalent	2	1
Bachelor's degree or equivalent	97	46.9
Master's degree	94	45.4
Doctorate Degree	10	4.8
Prefer not to say	2	1
Total	207	100

Note. n= frequency.

4.3.2 Ratio demographic variables

The variables 'Age', 'Years of clinically relevant experience', 'Hours of supervision received', and 'Years employed in IAPT' are ratio variables as the intervals between points of the scale are equal, the intervals are meaningful and a meaningful score of zero exists (Field, 2005). In order to select the most appropriate measures of central tendency and dispersion for these variables, analyses to test for the assumption of normality were carried out.

4.3.2.1 Assumption of normality analyses

The assumption of normality was explored both using plots and statistics (Field, 2005). Following examination of the histograms, Q-Q plots and box-plots, the calculated z-scores of skewness and kurtosis and the results of the Shapiro-Wilk tests of normality were examined.

For the variable ‘Age’, the histogram showed a positively skewed distribution, the Q-Q plots revealed patterning, and the box-plot whiskers were uneven. Moreover, the z-score for skewness was greater than +1.96 and the Shapiro-Wilk test was significant. These findings indicate that the distribution for the variable ‘Age’ differed significantly from the normal distribution. A similar pattern of results, namely one that points towards a distribution differing from the normal distribution was found for the variables ‘Years of clinically relevant experience’ and ‘Hours of supervision received’.

With respect to the variable ‘Years employed in IAPT’, two participants were excluded from analyses (leaving a sample of 205, instead of 207) as the recorded values of 2016.00 (participant 21) and 2009.00 (participant 61) for this variable were clearly invalid. Again, inspection of the patterns of results on the Q-Q plots, the histogram, the box-plot, skewness and kurtosis, and the Shapiro-Wilk test suggested that this variable differed significantly from the normal distribution.

In conclusion, all four ratio demographic variables were found to be not normally distributed. Appendix N provides graphical and statistical information regarding the non-normality findings; statistical information is presented for all variables and graphs are presented for the variable ‘Age’ for illustrative purposes.

4.3.2.2 Descriptive statistics for ratio demographic variables

Considering that the ratio demographic variables were not normally distributed, the median, and the interquartile range (IQR), and the range were used as measures of central tendency and variability respectively (Table 3.9).

The median, representing the middle value of the scores when all scores are arranged in ascending order (Manicandan, 2011), is affected to a smaller degree than

the mean by outliers and is regarded as an appropriate measure of central tendency for not normally distributed data (Manicandan, 2011; McCluskey & Lalkhen, 2007). The IQR and the range offer complimentary information regarding the variability or dispersion in the data. More specifically, while the range represents the spread between the highest and the lowest score (McCluskey & Lalkhen, 2007), the IQR shows the variability in the middle 50% of the data (Field, 2005) and is commonly used as a measure of dispersion in not normally distributed data (McCluskey & Lalkhen, 2007).

Table 3.9

Descriptive statistics for interval ratio demographic variables

	N	Median	IQR	Range
Age	207	31.00	13.00	44.00
Years of clinically relevant experience	207	6.00	6.00	33.00
Hours of supervision received per month	207	5.00	5.50	15.00
Years employed in IAPT	205	3.00	5.00	11.00

Note. IQR= Interquartile Range, N= sample size.

The median age of the IAPT therapists taking part in the study was 31 years. Moreover, participants had a median of 6 years of clinically relevant experience. It is worth noting the wide range of ages (Range= 44) and years relevant experience (Range= 33) in the sample, which may be understood in the context of the therapists' different professional paths and backgrounds (IAPT therapists at different levels of

stepped care range from qualified professionals such as psychologists and nurses to psychology graduates; DOH, 2008d) which may result in a workforce with a large spread of different ages and degrees of experience. Participants reported a median of 3 years of working in IAPT (Range= 11) indicating a relatively new workforce, which may be understood both in the context of IAPT being a relatively new initiative and with respect to the therapist retention difficulties in IAPT (Rizq, 2011).

4.3.3 Main study variables

The main study variables, namely perceived stress, work-related stressors and self-compassion were explored descriptively.

4.3.3.1 Assumption of normality analyses

Similarly to above, normality was checked for the main study variables via plots (histograms, Q-Q plots, and box-plots) and relevant statistics (skeweness and kurtosis z-scores, and the Shapiro-Wilk test) in the sample of 207 therapists (Field, 2005).

Perceived stress, measured by the PSS-10 (Cohen & Williamson, 1988) scale, was normally distributed as the skewness and kurtosis z-scores fell within the -1.96 to +1.96 range, and the Shapiro Wilk test was non-significant. Moreover, the histogram was characterised roughly by a bell-shaped curve, data were mapped onto the diagonal line on the Q-Q plots, and the box-plot whiskers appeared even. Appendix O includes graphical findings regarding perceived stress alongside statistical findings for all the main study variables.

The findings were mixed for the work-related potential stressors measured by the HSE Management Standards Indicator Tool (Cousins et al., 2004). Skewness and

kurtosis z-scores for ‘Control’ fell within the acceptable range and the Shapiro-Wilk test was non-significant indicating the subscale’s distribution does not differ significantly from the normal distribution. The plots for ‘Control’ were also indicative of an approximately normal distribution (a slight deviation from the line was found on the Q-Q plot resulted in characterising the distribution as approximately normal).

The decision to characterise the distribution of the ‘Change’ subscale as normally distributed was less straightforward. Although the z-scores for skewness and kurtosis fell within the -1.96 to +1.96 acceptable range (albeit the marginal value for kurtosis 1.92) and the histogram and Q-Q plots were indicative of a normal distribution, the slightly uneven whiskers on the box-plot and the significant Shapiro-Wilk result pointed towards a non- normal distribution. In the above context and considering the large sample size of the present study (Field, 2005), the significant Shapiro-Wilk result was seen as a likely result of a Type 1 error and thus the assumption of normality was regarded as being met.

For the remaining subscales, the majority of the z-scores fell outside the -1.96 to +1.96 range, the Shapiro-Wilk results were significant, and the plots pointed towards a non-normal distribution. As such, with the exception of the ‘Control’ and ‘Change’, all other work-related potential stressors were not normally distributed.

With regards to checking the normality of the Self-Compassion Scale’s (SCS; Neff, 2003a) total score and subscale scores, the visual and statistical explorations indicated that the ‘Isolation’ and ‘Over-identification’ subscales were not normally distributed. The z-scores for skewness and kurtosis and the visual inspection of the plots for remaining subscales pointed towards a normal distribution, despite the Shapiro-Wilk result being significant for some subscales. The significance of the

Shapiro-Wilk finding was again attributed to a Type 1 error brought on by the large sample size. Lastly, the total score for self-compassion was normally distributed.

In conclusion, the total self-compassion score, the self-compassion subscales scores for self-kindness, self-judgement, common humanity and mindfulness, the perceived stress score, and the control and change work related potential stressors subscales scores were normally distributed.

4.3.3.2 Descriptive statistics for main study variables

Given that perceived stress was normally distributed, the mean and standard deviation were the most relevant measures of central tendency and dispersion respectively (McCluskey & Lalkhen, 2007). For the entire sample (N=207), the mean score for perceived stress was 18.32 and the standard deviation was 6.70.

Table 3.10 includes the measures of central tendency and dispersion for the HSE Management Standards Indicator Tool (Cousins et al., 2004) subscales. The mean and standard deviation, and median and interquartile range are reported for normally and not normally distributed data respectively (McCluskey & Lalkhen, 2007). The range value is reported for all variables.

HSE Management Standards Indicator Tool (Cousins et al., 2004) subscale scores can range from one to five, higher scores indicating a better psychosocial working environment. The factor with the smaller mean score in the study was 'Change' (Mean= 2.71, SD= 0.92), indicating that how change is communicated and dealt with in the organisation may be difficult for IAPT therapists in the sample. The work related potential stressor with the highest median score was 'Relationships'

Table 3.10

Descriptive statistics for work-related potential stressors (N=207)

Subscale	Mean	Median	SD	IQR	Range
Demands		3.00		1.25	3.63
Managerial Support		3.60		1.40	4.00
Colleague Support		4.00		1.00	3.50
Role		4.00		1.00	3.20
Relationship		4.25		1.00	3.75
Change	2.71		0.92		4.00
Control	3.17		0.76		4.00

Note. IQR= Interquartile Range, SD= Standard Deviation.

(Median= 4.25, IQR= 1.00) indicating that working relationships may be less of a stressor for IAPT therapists in the sample.

Table 3.11 comprises the measures of central tendency and dispersion for the sample of 207 therapists on the self-compassion scale (Neff, 2003a). Data is presented for all six subscales and the total self-compassion score. Considering that the scores on the measure vary from '1' to '5', the mean or median scores for IAPT therapists in this sample fall around the middle of scale.

For the total self-compassions score, the mean (SD) was 3.11 (1.05) in this study. The mean (SD) self-compassion total score from Robinson's (2015) UK community sample was 2.99 (0.64). As such, the present sample of IAPT therapists can be thought of as having slightly higher levels of self-compassion compared to a UK community sample and that the average variability of the present data set is bigger than the deviation of the scores in Robinson's (2015) sample.

Table 3.11

Descriptive statistics for self-compassion (N=207)

(Sub)scale	Mean	Median	SD	IQR	Range
Self-kindness	3.04		0.88		4.00
Self-judgement	2.81		0.91		4.00
Common humanity	3.21		0.83		4.00
Mindfulness	3.45		0.73		3.50
Over-identification		2.75		1.50	4.00
Isolation		3.00		1.50	4.00
Total score	3.11		1.05		3.61

Note. IQR= Interquartile Range, SD= Standard Deviation.

4.4 Checking for confounding variables

Analyses were carried out to establish whether the demographic variables were significantly related to perceived stress. Any demographic variable found to be related to perceived stress would be regarded as a confounding variable in this study. Confounding effects of ratio demographic variables were explored through correlations. With respect to nominal variables, the potential confounding effect of the dichotomous demographic variables was explored through point or rank biserial correlations. For categorical variables with more than two levels, regression analyses with the variables dummy coded, were carried out.

4.4.1 Ratio demographic variables

4.4.1.1 Spearman's correlation coefficient

Three main conditions, or in other words assumptions, need to be met prior to conducting Pearson product-moment correlations; the data must be at least interval, the relationship between the variables must be linear, and data must be normally distributed (Field, 2005).

Given that all ratio demographic variables, namely 'Age', 'Years of clinically relevant experience', 'Hours of supervision received', and 'Years employed in IAPT', were not normally distributed, the assumptions for conducting Pearson's product-moment correlations were violated. As such Spearman's correlation coefficient rho was used to ascertain whether the ratio demographic variables were related to perceived stress (Table 3.12).

Only the variable 'Years of clinically relevant experience' was significantly negatively associated with perceived stress (rho= -.19, $p < .01$). This means that more

experienced therapists reported significantly less perceived stress that their less experienced counterparts. Given that 'Years of clinically relevant experience' was significantly related to the dependent variable, it was included in the main analyses of this study as a confounding variable.

Table 3.12

Spearman's rho correlations for demographic variables

	N	Perceived Stress
Age	207	-.07
Years of relevant clinical experience	207	-.19**
Hours of supervision received per month	207	.04
Years employed with IAPT	205	-.10

Note. N= sample size.

**p<.01

4.4.2 Dichotomous demographic variables

The potential confounding effect of the dichotomous demographic variables, namely working pattern (full/part time), gender (female/male), employment status (trainee/qualified), job role (high/ low intensity) and education level (bachelor's degree or equivalent/ postgraduate degree) was explored through point or rank biserial correlations.

A point biserial correlation, involving the computation of a Pearson's correlation when one of the variables is discretely dichotomous, was calculated when the assumptions of parametric tests were met (Field, 2005). In the event of the assumptions of parametric tests not being met, a rank correlation was run, whereby

the Spearman's rho correlation option was chosen when computing the biserial correlation.

The variable 'Gender', was treated as a dichotomous variable after one participant was excluded from the analyses as they were the only one who selected the option "prefer not to say". Retaining the three levels of the variable while having one participant represent the level 'prefer not to say' was meaningless and statistically unsound. The assumption of homogeneity of variances and the correlation were therefore run in a sample of 206.

The variable 'Employment status' was treated as a dichotomous variable after two participants were excluded from the analyses for similar reasons, namely they were the only ones who selected a response different than "trainee" or "qualified". Homogeneity and correlation analyses were therefore carried out on a sample of 205.

When calculating the homogeneity analysis and biserial correlation for the variable 'Job Role', nine participants were excluded from the analyses (leaving a sample of 198 participants) as they formed a very small (compared to the size of the other levels) group that had selected the option ('other') from that variable. Including these nine participants as a separate category would be meaningless, as the diversity of their job roles would hinder a coherent interpreting the results regarding the group. It would also be statistically unsound, as the group would be comparatively very small group in relation to the other two categories.

The variable 'Education level' was treated as a dichotomous variable. After identifying that the three levels with the most cases were 'Bachelor's degree or equivalent', 'Master's degree', and 'Doctorate degree' and that the 'Doctorate level' included considerably less participants than the other two groups, the master's and doctorate degree levels were collated into one level. This new variable level

represented the ‘postgraduate degree’ education level. The variable ‘Education level’ was then explored as a categorical variable with two levels, i.e. ‘Bachelor’s degree or equivalent’ and ‘Postgraduate degree’. The other levels of the variables did not have sufficient cases to represent separate groups and collating them did not make sense; cases therefore corresponding to them were excluded (‘GCSE or equivalent’ n= 2, ‘A level, BTEC or equivalent’ n= 2, ‘prefer not to say’ n= 2) from the analyses.

4.4.2.1 Parametric testing assumptions

Assumptions for parametric tests were checked prior to conducting point biserial correlations (Field, 2005). Given that the variables working pattern, gender, job role, and education level met the assumptions, the computation of a point biseral correlation for these variables was deemed appropriate. The variable employment status did not meet the assumptions and therefore the computation of a rank biserial correlation, whereby the Spearman’s rho correlation option was chosen when carrying out the biserial correlation, was deemed appropriate.

4.4.2.2 Point and rank biserial correlations

The findings of the point biserial correlations are as follows. There was no significant correlation between gender and perceived stress (r_{pb}= 0.068, p= .335), between pattern of working and perceived stress (r_{pb}= 0.003, p= .970), or between job role and perceived stress (r_{pb}= -0.008, p= .915). There was, however, a significant correlation between education level and perceived stress (r_{pb}= -0.217, p= .002). The results of the rank biserial correlation indicated that there was no significant correlation (rho= -0.064, p= .362) between employment status and perceived stress.

In conclusion, the point and rank biserial correlations revealed that only education level was a confounding variable in this study.

4.4.3 Categorical variables with more than two levels

The categorical variables with more than two levels were examined for their role as confounding variables in this study with multiple regressions. In the event that they were confounding in this study, the results of the multiple regressions would point towards the variables predicting perceived stress better than just using the mean. However, prior to carrying out the multiple regressions, the levels of each of the variables 'Ethnicity', 'Religion', and 'Marital status' were collapsed into three categories to enable statistical analyses and newly formed levels of the variables were dummy coded.

More specifically, for ethnicity, the ten levels of the original variable were collapsed into three categories, a) 'white UK' representing the level 'White British, White English, White Scottish, White Welsh' of the original variable, b) 'white other' representing level 'white other' of the original variable, c) 'other ethnicity' encompasses all other levels of the original variable.

For religion, the eight variable levels relating to religiosity were collapsed into three a) 'do not have a religion' representing the level 'I do not have a religion' of the original variable; b) 'Christian' representing the level 'Christian' of the original variable, c) 'other religion' encompassing levels 'Buddhist', 'Hindu', 'Jewish', 'Muslim', 'Sikh', and 'Other religion' of the original variable. Five cases were excluded from the analysis as they represented individuals who responded "Prefer not to say".

For marital status, analyses were carried out on the three groups with most cases, i.e. ‘single, never been married’, ‘Married, in civil partnership or cohabiting’ and ‘divorced or separated’. The other levels of the variables did not have sufficient cases, collating them did not make sense and thus cases corresponding to them were excluded (‘widowed’ n= 2, ‘prefer not to say’ n= 1).

The newly created collapsed variables for ethnicity and religion were dummy coded. For the collapsed ethnicity variable, the reference group was ‘white UK’ as this was the level with the most cases. For the collapsed religion variable, the reference group was ‘Do not have a religion’ as this was the level with the most cases. The newly formed three-level variable for marital status was also dummy coded with the reference group being ‘Married, in civil partnership or cohabiting’ as this was the level with the most cases.

Multiple regressions carried out using the dummy coded variables showed that ethnicity (N= 207) and religion (N= 202), and marital status (N= 204) do not predict perceived stress significantly better than just using the mean. As such, they were not confounding variables in this study.

4.4.4 Confounding variables conclusion

Overall, two variables appeared to be confounding variables in this study, namely ‘Years of relevant clinical experience’ and ‘Education level’. As such, these variables were included and controlled for in the moderation analyses.

4.5 Research aim A: Levels of perceived stress amongst IAPT therapists

As discussed earlier, the mean perceived stress for the entire sample of 207 therapists was 18.32 and the standard deviation was 6.70; this was higher in absolute values than the Cohen and Williamson (1988) US norms, which were based on a large adult national sample collected through a telephone poll. Considering that the moderation analyses were completed on a sample of N=200 (the reduction to 200 from an entire sample of 207 was due to removing of data of the seven participants who been excluded when exploring the confounding variables, 'Years of clinically relevant experience' and 'Education level'), it is worth noting the measures of central tendency on the sample of 200 participants. The mean perceived stress was 18.44 and the standard deviation was 6.47 (Appendix P).

Considering that the significance test for the biserial correlation is conceptually the same as the independent sample t-test (Field, 2005) and given that correlations carried out on the dichotomous demographic variables revealed no significant association between working pattern (full/part time), gender (female/male), employment status (trainee/qualified), or job role (high/ low intensity) and perceived stress, it is redundant to explore the between-group mean differences in perceived stress for these variables though independent samples t-tests.

It is, however, worthwhile descriptively noting (Table 3.13) the stress levels of participants based on their employment statuses and job roles considering that these characteristics inform the position of these participants within the newly formed IAPT mental health workforce. It appears that trainees reported higher levels of stress compared to qualified therapists and that low intensity therapists report higher levels of stress than high intensity level therapists.

Table 3.13

Levels of perceived stress by employment status and job role

	n	Mean	SD
Employment Status			
Trainee	95	19.08	5.72
Qualified	103	17.95	7.07
Job role			
High intensity	101	18.38	6.33
Low intensity	91	18.75	6.43

Note. n= frequency, SD= Standard Deviation.

Considering that 'Education level' was found to be a confounding variable, it is worth exploring the perceived stress in the two educational groups descriptively (Table 13.4). Therapists with a Batchelor's degree or equivalent as their highest educational level achievement report higher levels of stress compared to participants with a postgraduate degree.

Table 3.14

Perceived stress at different educational levels

	n	Mean	SD
Bachelor's degree or equivalent	97	19.91	5.98
Postgraduate Degree level	103	17.05	6.63

Note. n= frequency, SD= Standard Deviation.

The categorical variables with three levels were explored through conducting one-way Analysis of Variances (ANOVA) analyses. There was no significant difference in levels of perceived stress between participants with different ethnicities, n= 200, Levene's test= 0.384, p= .682, F(2, 197) =1.078, p= .342; religions, n=196, Levene's test= 0.347, p= .707, F(2, 193)= 1.673, p= .190; or marital statuses, n=197, Levene's test= 0.393, p= .675, F(2, 194)= 0.734, p= .481.

In conclusion, the levels of perceived stress in this sample of IAPT therapists appear to be higher than the levels reported by the US norms (Cohen & Williamson, 1988). Descriptive statistics suggest that (i) trainee therapists report higher levels of stress than qualified therapists, (ii) low intensity workers report higher levels of stress than high intensity workers, and (ii) therapists with a Batchelor's degree or equivalent as their highest educational level achievement report higher levels of stress compared to participants with a postgraduate degree.

4.6 Research aim B: Exploring self-compassion as a moderator of the relationship between work related potential stressors and perceived stress

Seven moderation analyses (Baron & Kenny, 1986; Field, 2013; Hayes, 2013) were conducted to ascertain whether the strength or direction of the relationship between each of the seven work-related potential stressors and perceived stress was affected by self-compassion.

In each of the seven separate analyses a different work related potential stressor was the independent variable, the total self-compassion score was the moderator variable and perceived stress was the dependent, or outcome, variable. Confounding variables ('Years of clinically relevant experience', and 'Education

level') were taken into account conceptually and statistically in the moderation analyses conducted (Hayes, 2013).

A moderation effect would be detected should the interaction between the predictor and the moderator significantly predict the dependent variable (Field, 2013). Significant moderation effects would be explored further by examining what happens to the relationship between the predictor and outcome variable at many different levels of the moderator using the Johnson and Neyman technique (Field, 2013). The Johnson and Neyman technique was preferred over the pick-a-point approach as it combats the arbitrariness of selecting points at which to evaluate the effect of the moderator on the relationship between the predictor and the outcome (Hayes, 2013).

Moderation analyses were completed using the PROCESS add-on dialog box (Hayes, n.d.; 2013; 2016) on a sample of N= 200; the reduction to 200 from an entire sample of 207 was due to removing of data of the seven participants who been excluded when exploring the confounding variables ('Years of clinically relevant experience' and 'Education level'). Names of the variables included in the moderation analyses were shortened where appropriate to meet the requirement of the PROCESS tool. Model '1', 'heteroscedasticity-consistent SEs', 'OLS/ML confidence intervals' and 'Generate data for plotting (model 1,2, and 3 only)' were selected. Bootstrapping for indirect effects was set to '1000', and the Johnson-Neyman conditioning choice was selected.

4.6.1 Correlations between self-compassion and work-related stressors and perceived stress

Correlations between the moderator, self-compassion, and the independent variables, work related stressors, and dependent variable, perceived stress, are presented below for reference purposes (Table 3.15).

Table 3.15

Correlations between the moderator, and the dependent and independent variables (N= 200)

	Total Self-Compassion
Perceived Stress [a]	-.51***
HSE control [a]	.26***
HSE change [a]	.11
HSE demands [b]	.10
HSE managerial support [b]	.13
HSE colleague support [b]	.10
HSE role [b]	.22**
HSE relationship [b]	.10

Note. HSE= HSE Management Standards Indicator Tool.

[a] Pearson's correlation co-efficient. [b] Spearman's rho.

** p< .01, *** p< .001

There was a significant negative correlation between perceived stress and self-compassion (p< .001) and a significant positive correlation between the psychosocial conditions relating to control over one's work (p< .001) and role clarity and self-compassion (p=.001). This meant that therapists reporting higher levels of self-compassion reported less perceived stress and better conditions of work regarding control and role clarity. All other correlations were non-significant.

In the present sample (N= 200), all stressors were significantly negatively related to perceived stress (Table 3.16). This meant that the better psychosocial working conditions therapists reported the less perceived stress they expressed.

Table 3.16

Correlations between the dependent and independent variables

	Perceived Stress
HSE control [a]	-.38***
HSE change [a]	-.29***
HSE demands [b]	-.44***
HSE managerial support [b]	-.39***
HSE colleague support [b]	-.34***
HSE role [b]	-.34***
HSE relationship [b]	-.37***

Note. HSE= HSE Management Standards Indicator Tool.

[a] Pearson's correlation co-efficient. [b] Spearman's rho.

*** p< .001

4.6.2 Moderation analyses

The moderation analyses were run with (see below) and without mean (see Appendix Q) centring and yielded the same results. Mean centering, the procedure of subtracting each score from the mean of all scores for the variable is not a sine qua non of moderation analysis (Hayes, 2013). Despite its usefulness in ensuring that the independent and moderator variable coefficients are always meaningful and interpretable in all circumstances, the interaction term findings are not affected by the

process of mean centring (Hayes, 2013). It is therefore unsurprising that mean centering did not impact the results of the interaction term (Hayes, 2013).

Examining the interaction terms produced by the moderation analyses, it was found that self-compassion did not moderate the relationship between any of the work-related stressors and perceived stress. More specifically self-compassion did not moderate the (i) the relationship between demands and perceived stress (unstandardized beta coefficient (B)= 0.62, t=0.88, p= .381, CI [-0.77, 2.02]; R Square Change due to interaction= 0.004, F(1, 194)= 0.77, p= .381), (ii) the relationship between control and perceived stress (B= 0.45, t= 0.73, p= .465, CI [-0.76, 1.65]; R Square Change due to interaction= 0.002, F(1, 194)= 0.54, p=.465), (iii) the relationship between managerial support and perceived stress (B= 0.53, t= 0.77, p= .441, CI [-0.83, 1.89]; R Square Change due to interaction= 0.004, F(1, 194)= 0.60, p=.441), (iv) the relationship between colleague support and perceived stress (B= -0.08, t= -0.11, p= .911, CI [-1.56, 1.39]; R Square Change due to interaction= 0.0001, F(1, 194)= 0.013, p= .911), (v) the relationship between role clarity and perceived stress (B= -0.30, t= -0.30, p= .762, CI [-2.23, 1.64]; R Square Change due to interaction= 0.0005, F(1, 194)= 0.092, p= .762), (vi) the relationship between relationships and perceived stress (B= -0.20, t= -0.27, p= .785, CI [-1.64, 1.24]; R Square Change due to interaction= 0.0004, F(1, 194)= 0.075, p= .785), or (vii) the relationship between change and perceived stress (B= 0.45, t= 0.76, p= .446, CI [-0.71, 1.61]; R Square Change due to interaction= 0.003, F(1, 194)= 0.58, p= .446).

As such, it can be concluded that self-compassion did not moderate the relationship between work related potential stressors and perceived stress in the sample of 200 IAPT therapists.

4.6.3 Model cleansing strategy analyses

In the event of an absence of a moderation effect, Hayes (2013) recommends a model cleansing strategy whereby a model is estimated without the interaction term. In the re-estimation, seven multiple regressions were carried out using the Enter method. In each multiple regression, the confounding variables 'Years of relevant clinical experience' and 'Education level' were entered as predictors in the first block, each work related potential stressor was entered as a predictor in the second block and, the 'Self-Compassion Total' was entered in the third block. The dependent variable was perceived stress.

4.6.3.1 Demands

Three models were generated: 'Model 1', $F (2, 197) = 8.747$, $p < .001$, only included the confounding variables and accounted for 8.2% of the variance in perceived stress.

'Model 2', $F (3, 196) = 25.085$, $p < .001$, included the confounding variables and the HSE demands subscale score; this model improved the fit by 19.6%, R Square Change= .196, F Change (1, 196)= 53.133, $p < .001$, accounting for a total of 27.7% of the variability in perceived stress.

'Model 3', $F (4, 195) = 38.385$, $p < .001$, included the confounding variables, the HSE demands subscale score and 'Self-Compassion Total'; this model improved the model by a further 16.3%, R Square Change= .163, F Change (1, 195) = 56.841, $p < .001$, accounting for a total of 44.1% of the variance. The multiple regression coefficients can be found in Table 3.17. Examination of the standardised coefficients in Model 3 showed that self-compassion had a stronger relationship with perceived stress ($\beta = -.43$) than did other predictors.

Table 3.17

Multiple regression coefficients: perceived stress as outcome variable, and confounders, HSE demands and self-compassion as predictors

				95% CI	
	B	SE B	β	LB	UB
Model 1					
Constant	23.80	1.46		20.92	26.68
Years of relevant clinical Experience	-0.23	0.09	-.18**	-0.40	-0.06
Education level	-2.55	0.89	-.20**	-4.30	-0.79
Model 2					
Constant	33.79	1.89		30.06	37.51
Years of relevant clinical Experience	-0.20	0.08	-.16*	-0.35	-0.05
Education level	-2.74	0.79	-.21**	-4.30	-1.18
HSE demands subscale	-3.37	0.46	-.44***	-4.28	-2.46
Model 3					
Constant	42.48	2.03		38.48	46.47
Years of relevant clinical Experience	-0.05	0.07	-.04	-0.19	0.09
Education level	-1.94	0.71	-.15**	-3.33	-0.55
HSE demands subscale	-3.09	0.41	-.41***	-3.90	-2.29
Self-compassion total score	-3.79	0.50	-.43***	-4.78	-2.80

Note. B= Unstandardized Coefficients, SE B= Standard Error of Unstandardized Coefficients, β= Standardized Coefficients Beta, HSE= HSE Management Standards Indicator Tool, CI= Confidence Interval for B, LB= Lower Bound, UB= Upper Bound.

*p<.05. **p<.01. ***p<.001.

The models fitted well the observed data, were not influenced by a small number of cases and could be generalised without losing substantial predictive power; information regarding the assumptions and cross-validation of the model can be found in Appendix R.

4.6.3.2 Control

Three models were generated: 'Model 1', $F (2, 197) = 8.747$, $p < .001$, only included the confounding variables and accounted for 8.2% of the variance in perceived stress.

'Model 2', $F (3, 196) = 15.458$, $p < .001$, included the confounding variables and the HSE control subscale score; this model improved the fit by 11%, R Square Change= .110, F Change $(1, 196) = 26.607$, $p < .001$, accounting for a total of 19.1% of the variability in perceived stress.

'Model 3', $F (4, 195) = 24.980$, $p < .001$, included the confounding variables, the HSE control subscale score and 'Self-Compassion Total'; this model improved the model by a further 14.7%, R Square Change= .147, F Change $(1, 195) = 43.491$, $p < .001$, accounting for a total of 33.9% of the variance. The multiple regression coefficients can be found in Table 3.18. Examination of the standardised coefficients in Model 3 showed that self-compassion had a stronger relationship with perceived stress ($\beta = -.41$) than did other predictors.

Table 3.18

Multiple regression coefficients: perceived stress as outcome variable, and confounders, HSE control and self-compassion as predictors

				95% CI	
	B	SE B	β	LB	UB
Model 1					
Constant	23.80	1.46		20.92	26.68
Years of relevant clinical Experience	-0.23	0.09	-.18**	-0.40	-0.06
Education level	-2.55	0.89	-.20**	-4.30	-0.79
Model 2					
Constant	32.50	2.18		28.21	36.79
Years of relevant clinical Experience	-0.12	0.09	-.09	-0.29	0.05
Education level	-2.52	0.84	-.20**	-4.17	-0.87
HSE control subscale	-2.99	0.58	-.34***	-4.13	-1.85
Model 3					
Constant	39.66	2.25		35.22	44.10
Years of relevant clinical Experience	0.00	0.08	0.00	-0.16	0.16
Education level	-1.77	0.77	-.14*	-3.29	-0.26
HSE control subscale	-2.29	0.54	-.26***	-3.35	-1.23
Self-compassion total score	-3.66	0.56	-.41***	-4.75	-2.56

Note. B= Unstandardized Coefficients, SE B= Standard Error of Unstandardized Coefficients, β= Standardized Coefficients Beta, HSE= HSE Management Standards Indicator Tool, CI= Confidence Interval for B, LB= Lower Bound, UB= Upper Bound.

*p<.05. **p<.01. ***p<.001.

The models fitted well the observed data, were not influenced by a small number of cases and could be generalised without losing substantial predictive power; information regarding the assumptions and cross-validation of the model can be found in Appendix R.

4.6.3.3 Managerial support

Three models were generated: 'Model 1', $F (2, 197) = 8.747$, $p < .001$, only included the confounding variables and accounted for 8.2% of the variance in perceived stress.

'Model 2', $F (3, 196) = 17.649$, $p < .001$, included the confounding variables and the HSE managerial support subscale score; this model improved the fit by 13.1%, R Square Change= .131, F Change $(1, 196) = 32.642$, $p < .001$, accounting for a total of 21.3% of the variability in perceived stress.

'Model 3', $F (4, 195) = 29.479$, $p < .001$, included the confounding variables, the HSE managerial support subscale score and 'Self-Compassion Total'; this model improved the model by a further 16.4%, R Square Change= .164, F Change $(1, 195) = 51.365$, $p < .001$, accounting for a total of 37.7% of the variance. The multiple regression coefficients can be found in Table 3.19. Examination of the standardised coefficients in Model 3 showed that self-compassion had a stronger relationship with perceived stress ($\beta = -.41$) than did managerial support.

Table 3.19

Multiple regression coefficients: perceived stress as outcome variable, and confounders, HSE managerial support and self-compassion as predictors

				95% CI	
	B	SE B	β	LB	UB
Model 1					
Constant	23.80	1.46		20.92	26.68
Years of relevant clinical Experience	-0.23	0.09	-.18**	-0.40	-0.06
Education level	-2.55	0.89	-.20**	-4.30	-0.79
Model 2					
Constant	31.59	1.92		27.80	35.38
Years of relevant clinical Experience	-0.25	0.08	-.20**	-0.41	-0.09
Education level	-2.17	0.83	-.17*	-3.80	-0.53
HSE managerial support subscale	-2.41	0.42	-.36***	-3.24	-1.58
Model 3					
Constant	40.20	2.09		36.07	44.33
Years of relevant clinical Experience	-0.10	0.08	-.08	-0.24	0.05
Education level	-1.43	0.75	-.11	-2.90	0.04
HSE managerial support subscale	-2.12	0.38	-.32***	-2.87	-1.37
Self-compassion total score	-3.81	0.53	-.43***	-4.85	-2.76

Note. B= Unstandardized Coefficients, SE B= Standard Error of Unstandardized Coefficients, β= Standardized Coefficients Beta, HSE= HSE Management Standards Indicator Tool, CI= Confidence Interval for B, LB= Lower Bound, UB= Upper Bound.

*p<.05. **p<.01. ***p<.001.

The models fitted well the observed data, were not influenced by a small number of cases and could be generalised without losing substantial predictive power; information regarding the assumptions and cross-validation of the model can be found in Appendix R.

4.6.3.4 Colleague support

Three models were generated: 'Model 1', $F (2, 197) = 8.747$, $p < .001$, only included the confounding variables and accounted for 8.2% of the variance in perceived stress.

'Model 2', $F (3, 196) = 14.831$, $p < .001$, included the confounding variables and the HSE colleague support subscale score; this model improved the fit by 10.3%, R Square Change= .103, F Change $(1, 196) = 24.880$, $p < .001$, accounting for a total of 18.5% of the variability in perceived stress.

'Model 3', $F (4, 195) = 26.437$, $p < .001$, included the confounding variables, the HSE colleague support subscale score and 'Self-Compassion Total'; this model improved the model by a further 16.7%, R Square Change= .167, F Change $(1, 195) = 50.108$, $p < .001$, accounting for a total of 35.2% of the variance. The multiple regression coefficients can be found in Table 3.20. Examination of the standardised coefficients in Model 3 showed that self-compassion had a stronger relationship with perceived stress ($\beta = -.43$) than did colleague support.

Table 3.20

Multiple regression coefficients: perceived stress as outcome variable, and confounders, HSE colleague support and self-compassion as predictors

				95% CI	
	B	SE B	β	LB	UB
Model 1					
Constant	23.80	1.46		20.92	26.68
Years of relevant clinical Experience	-0.23	0.09	-.18**	-0.40	-0.06
Education level	-2.55	0.89	-.20**	-4.30	-0.79
Model 2					
Constant	34.47	2.55		29.45	39.49
Years of relevant clinical Experience	-0.26	0.08	-.21**	-0.42	-0.10
Education level	-1.94	0.85	-.15*	-3.61	-0.26
HSE colleague support subscale	-2.87	0.58	-.33***	-4.00	-1.73
Model 3					
Constant	42.57	2.55		37.54	47.59
Years of relevant clinical Experience	-0.10	0.08	-.08	-0.26	0.05
Education level	-1.23	0.77	-.10	-2.74	0.28
HSE colleague support subscale	-2.45	0.52	-.28***	-3.47	-1.43
Self-compassion total score	-3.84	0.54	-.43***	-4.91	-2.77

Note. B= Unstandardized Coefficients, SE B= Standard Error of Unstandardized Coefficients, β= Standardized Coefficients Beta, HSE= HSE Management Standards Indicator Tool, CI= Confidence Interval for B, LB= Lower Bound, UB= Upper Bound.

*p<.05. **p<.01. ***p<.001.

The models fitted well the observed data, were not influenced by a small number of cases and could be generalised without losing substantial predictive power; information regarding the assumptions and cross-validation of the model can be found in Appendix R.

4.6.3.5 Role

Three models were generated: 'Model 1', $F (2, 197) = 8.747$, $p < .001$, only included the confounding variables and accounted for 8.2% of the variance in perceived stress.

'Model 2', $F (3, 196) = 12.848$, $p < .001$, included the confounding variables and the HSE role subscale score; this model improved the fit by 8.3%, R Square Change= .083, F Change $(1, 196) = 19.415$, $p < .001$, accounting for a total of 16.4% of the variability in perceived stress.

'Model 3', $F (4, 195) = 23.080$, $p < .001$, included the confounding variables, the HSE role subscale score and 'Self-Compassion Total'; this model improved the model by a further 15.7%, R Square Change= .157, F Change $(1, 195) = 45.105$, $p < .001$, accounting for a total of 32.1% of the variance. The multiple regression coefficients can be found in Table 3.21. Examination of the standardised coefficients in Model 3 showed that self-compassion had a stronger relationship with perceived stress ($\beta = -.43$) than did other predictors.

Table 3.21

Multiple regression coefficient: perceived stress as outcome variable, and confounders, HSE role and self-compassion as predictors

				95% CI	
	B	SE B	β	LB	UB
Model 1					
Constant	23.80	1.46		20.92	26.68
Years of relevant clinical Experience	-0.23	0.09	-.18**	-0.40	-0.06
Education level	-2.55	0.89	-.20**	-4.30	-0.79
Model 2					
Constant	34.47	2.80		28.96	39.98
Years of relevant clinical Experience	-0.19	0.08	-.15*	-0.36	-0.03
Education level	-2.31	0.85	-.18**	-3.99	-0.63
HSE role subscale	-2.82	0.64	-.29***	-4.09	-1.56
Model 3					
Constant	41.20	2.72		35.84	46.56
Years of relevant clinical Experience	-0.05	0.08	-.04	-0.21	0.10
Education level	-1.59	0.78	-.12*	-3.13	-0.06
HSE role subscale	-2.11	0.59	-.22***	-3.27	-0.94
Self-compassion total score	-3.76	0.56	-.43***	-4.87	-2.66

Note. B = Unstandardized Coefficients, SE B = Standard Error of Unstandardized Coefficients, β = Standardized Coefficients Beta, HSE = HSE Management Standards Indicator Tool, CI= Confidence Interval for B, LB= Lower Bound, UB= Upper Bound.

*p<.05. **p<.01. ***p<.001.

The models fitted well the observed data, were not influenced by a small number of cases and could be generalised without losing substantial predictive power; information regarding the assumptions and cross-validation of the model can be found in Appendix R.

4.6.3.6 Relationship

Three models were generated: 'Model 1', $F (2, 197) = 8.747$, $p < .001$, only included the confounding variables and accounted for 8.2% of the variance in perceived stress.

'Model 2', $F (3, 196) = 20.242$, $p < .001$, included the confounding variables and the HSE relationship subscale score; this model improved the fit by 15.5%, R Square Change= .155, F Change $(1, 196) = 39.787$, $p < .001$, accounting for a total of 23.7% of the variability in perceived stress.

'Model 3', $F (4, 195) = 32.660$, $p < .001$, included the confounding variables, the HSE relationship subscale score and 'Self-Compassion Total'; this model improved the model by a further 16.5%, R Square Change= .165, F Change $(1, 195) = 53.615$, $p < .001$, accounting for a total of 40.1% of the variance. The multiple regression coefficients can be found in Table 3.22. Examination of the standardised coefficients in Model 3 showed that self-compassion had a stronger relationship with perceived stress ($\beta = -.43$) than did relationship.

Table 3.22

Multiple regression coefficients: perceived stress as outcome variable, and confounders, HSE relationship and self-compassion as predictors

				95% CI	
	B	SE B	β	LB	UB
Model 1					
Constant	23.80	1.46		20.92	26.68
Years of relevant clinical Experience	-0.23	0.09	-.18**	-0.40	-0.06
Education level	-2.55	0.89	-.20**	-4.30	-0.79
Model 2					
Constant	36.80	2.46		31.96	41.65
Years of relevant clinical Experience	-0.30	0.08	-.23***	-0.45	-0.14
Education level	-2.17	0.82	-.17**	-3.78	-0.57
HSE relationship subscale	-3.20	0.51	-.40***	-4.20	-2.20
Model 3					
Constant	45.06	2.46		40.22	49.91
Years of relevant clinical Experience	-0.14	0.07	-.11	-0.29	0.01
Education level	-1.43	0.73	-.11	-2.87	0.02
HSE relationship subscale	-2.88	0.45	-.36***	-3.77	-1.99
Self-compassion total score	-3.81	0.52	-.43***	-4.83	-2.78

Note. B= Unstandardized Coefficients, SE B= Standard Error of Unstandardized Coefficients, β= Standardized Coefficients Beta, HSE= HSE Management Standards Indicator Tool, CI= Confidence Interval for B, LB= Lower Bound, UB= Upper Bound.

*p<.05. **p<.01. ***p<.001.

The models fitted well the observed data, were not influenced by a small number of cases and could be generalised without losing substantial predictive power; information regarding the assumptions and cross-validation of the model can be found in Appendix R.

4.6.3.7 Change

Three models were generated: 'Model 1', $F (2, 197) = 8.747$, $p < .001$, only included the confounding variables and accounted for 8.2% of the variance in perceived stress.

'Model 2', $F (3, 196) = 13.073$, $p < .001$, included the confounding variables and the HSE change subscale score; this model improved the fit by 8.5%, R Square Change= .085, F Change $(1, 196) = 20.036$, $p < .001$, accounting for a total of 16.7% of the variability in perceived stress.

'Model 3', $F (4, 195) = 24.637$, $p < .001$, included the confounding variables, the HSE change subscale score and 'Self-Compassion Total'; this model improved the model by a further 16.9%, R Square Change= .169, F Change $(1, 195) = 49.603$, $p < .001$, accounting for a total of 33.6% of the variance. The multiple regression coefficients can be found in Table 3.23. Examination of the standardised coefficients in Model 3 showed that self-compassion had a stronger relationship with perceived stress ($\beta = -.44$) than did other predictors.

Table 3.23

Multiple regression coefficients: perceived stress as outcome variable, and confounders, HSE change and self-compassion as predictors

				95% CI	
	B	SE B	β	LB	UB
Model 1					
Constant	23.80	1.46		20.92	26.68
Years of relevant clinical Experience	-0.23	0.09	-.18**	-0.40	-0.06
Education level	-2.55	0.89	-.20**	-4.30	-0.79
Model 2					
Constant	29.46	1.88		25.75	33.17
Years of relevant clinical Experience	-0.24	0.08	-.19**	-0.40	-0.07
Education level	-2.52	0.85	-.20**	-4.19	-0.84
HSE change subscale	-2.10	0.47	-.29***	-3.03	-1.18
Model 3					
Constant	38.24	2.10		34.11	42.37
Years of relevant clinical Experience	-0.08	0.08	-.07	-0.24	0.07
Education level	-1.72	0.77	-.13*	-3.24	-0.21
HSE change subscale	-1.76	0.42	-.24***	-2.60	-0.93
Self-compassion total score	-3.86	0.55	-.44***	-4.95	-2.78

Note. B= Unstandardized Coefficients, SE B= Standard Error of Unstandardized Coefficients, β= Standardized Coefficients Beta, HSE= HSE Management Standards Indicator Tool, CI= Confidence Interval for B, LB= Lower Bound, UB= Upper Bound.

*p<.05. **p<.01. ***p<.001.

The models fitted well the observed data, were not influenced by a small number of cases and could be generalised without losing substantial predictive power; information regarding the assumptions and cross-validation of the model can be found in Appendix R.

4.6.4 Checking analysis assumptions and considerations

4.6.4.1 Moderation analysis assumptions

Given that the statistical model for moderation is a multiple regression (Field, 2013; Hayes, 2013), it was important to ascertain whether regression assumptions were met in this sample as this would inform the inferences made regarding the aforementioned findings.

The assumptions regarding the predictor and outcome variables being at least interval, the values of the predictors being varied, the outcome variable scores being independent, and homoscedasticity of error variances were met. The scatterplots of each of the predictor and dependent variable were examined and did not indicate a curvilinear relationship (Appendix S). The variables were constrained and thus unbound; however, this is common and inevitable in research based on questionnaires.

Seven multiple regressions using the method enter were run to explore the remaining assumptions regarding multicollinearity, independence and distribution of errors, and outliers and influential cases as it was impossible to explore these through the PROCESS model output. Each multiple regression involved perceived stress as the outcome variable and five predictors, namely one confounding variables relating to years of relevant clinical experience, one confounding variable relating to education level, a work related potential stressor, the self-compassion total score, and

the corresponding ‘self-compassion total score X work-related potential stressor’ variable relating to the moderation interaction term. All predictors were entered in the aforementioned order in a single block. Seven interaction term variables were created by multiplying each work-related stressor score with the total self-compassion score.

With respect to multicollinearity, no predictors correlated substantially with each other. The correlations were all below .9 for all seven multiple regressions. The Variance Inflation Factor (VIF) and tolerance statistics were not examined as the generation of a model whereby an interaction term predictor exists alongside the variables that compose it, would potentially produce a very large VIF and a small tolerance; this is unavoidable given our endeavour of ‘running’ a moderation analysis as a multiple regression.

Considering the independent errors, the Durbin-Watson statistic was 1.97, 1.95, 1.90, 1.94, 1.93, 1.94 and 1.96 for the multiple regression relating to demands, control, managerial support, colleague support, role clarity, relationship and change respectively; this is close to 2 so the assumption of independent errors was deemed to be met.

The assumption regarding the linearity of residuals was met as there was no patterning observed on the plots of residuals. Normality of the standardised residuals was also met as the histograms were roughly bell-like shaped, and the points roughly mapped onto the line of the normal probability plots. Residual graphs can be found in Appendix T.

Casewise diagnostics showed that only one case had a standard residual greater than 3 for the multiple regressions regarding demands, managerial support, and change. Cook’s Distance for this case was less than one thus the case was not deemed to be influential. The multiple regressions regarding control, colleague

support, role clarity and relationship yelled two cases with residuals greater than 3; neither was deemed an influential case once Cook's distances were examined.

In conclusion, it appears that most of the assumptions of multiple regressions are met and the findings can be interpreted with relative trust.

4.7 Summary of results

Self-compassion did not moderate the relationship between work related potential stressors and perceived stress in the sample of 200 IAPT therapists. When data cleansing strategies were employed, work related stressors and self-compassion were found to be independent predictors of perceived stress.

5. Discussion

This chapter discusses the findings from the present study and explores how they can be understood considering previous research. The study will be critically appraised as the strengths and shortcomings of the project will be examined. Following this, there will be an evaluation of the study's implications in terms of theory, practice and future research.

5.1 Project summary

The study aimed to identify the levels of perceived stress in IAPT therapists and to explore whether self-compassion moderates the relationship between work related potential stressors and perceived stress. The findings relating to levels of perceived stress will be presented and discussed first followed by the findings relating to the moderation effect hypotheses.

5.1.1 Levels of perceived stress in the sample of IAPT therapists

To the researcher's knowledge, this is the first study examining perceived stress as measured by the PSS-10 (Cohen & Williamson, 1988) in IAPT therapists. In this study (N= 200), the mean score for perceived stress was M= 18.44 and the standard deviation was SD= 6.47. Considering that there is no published data on the levels of perceived stress in IAPT therapists and given that the IAPT workforce is relatively newly formed and the IAPT working practices are different to traditional mental health therapeutic settings (Baguley et al., 2010), these findings will first be discussed in relation to the normative data. Following this, the present findings will be discussed in relation to existing literature on healthcare professionals.

5.1.1.1 Normative levels of perceived stress

The initial norms for the PSS-10 derived from the 1983 US Harris telephone poll survey (Cohen & Williamson, 1988). The Harris poll sample consisted of over 2,000 adult respondents who reported a mean score of 13.02 and a standard deviation of 6.35 on the PSS-10 (Cohen & Williamson, 1988). When looking at the most relevant- in relation to the present sample's age- age brackets in the Harris poll sample, 30 to 44-year olds (n= 750) reported a mean score of 13.00 (SD= 6.2) on the measure (Cohen & Williamson, 1988).

Cohen and Janicki-Deverts (2012) presented more recent normative data collected online through the eNation survey from 2,000 US adults in 2006 and 2009. When looking at the most relevant- in relation to the present sample's age- age brackets, the 25 to 34-year olds in the 2006 sample (n= 331) reported a mean of 17.78 (SD= 7.19) and those in the 2009 sample (n= 433) reported a mean of 17.46 (SD= 7.31) (Cohen & Janicki-Deverts, 2012).

Considering that no published UK normative data for the PSS-10 could be found by the researcher and bearing in mind the findings from Cohen and Williamson (1988), and Cohen and Janicki-Deverts (2012), it could be argued that the present sample of IAPT therapists (N= 200) appeared to report higher levels of perceived stress (M= 18.44, SD= 6.47) compared the 1983, 2006 and 2009 US norms.

5.1.1.2 Stress in healthcare professionals

The present findings regarding levels of perceived stress in IAPT therapists can be discussed in relation to aforementioned healthcare professionals' studies using the same measure of perceived stress and in terms of findings relating to stress in health care professionals deriving from the same national workforce.

In terms of aforementioned healthcare professionals' studies using the 10-item Perceived Stress Scale, Erogul et al. (2014), Kemper et al. (2015) and Olson and Kemper (2014) report on the total perceive stress score of their samples. The levels of perceived stress in Erogul et al. (2014), while lower than the levels reported in the present study, were more similar to the findings of the present research compared to the results from the remaining studies. Erogul et al.'s (2014) sample of first year medical trainees reported an average of 17.9 (SD= 6.3) of perceived stress. The average level of perceived stress reported by Erogul et al. (2014) can be thought of as a high score given that Kemper et al. (2015) characterised the mean score found in their sample of young health care professionals and trainees (M= 17.4, SD= 5.3) as being "at the high end of perceived stress scores among health professionals" (Kemper et al., 2015, p. 499). Meanwhile, Olson and Kemper (2014) noted that their finding that medical trainees reported a mean of 13.5 (SD = 3.5) in perceived stress was "somewhat lower" (Olson & Kemper, 2014, p.293) that the levels reported by medical trainees in another study using the same measure.

In thinking about the UK context, the findings from the present study indicating relatively high levels of perceived stress in IAPT therapists are in line with outcomes presented by other studies deriving from the same national workforce. More specifically, the present findings are congruent with the results from the British Psychological Society and New Savoy Partnership (2016) survey, which showed that 70% of a sample of UK psychological therapies professionals found their work stressful.

Additionally, relatively high levels of perceived stress found in this sample of IAPT therapists, are consistent with the findings relating to burnout prevalence of 68.6% amongst step two practitioners and 50% amongst step three therapists

(Westwood et al., 2017). The present results are also in keeping with the finding that 29.5% of a sample of IAPT staff were found to be experiencing psychological stress which reached levels for minor psychiatric disturbance (Walket & Percy, 2014).

This research together with the British Psychological Society and New Savoy Partnership (2016) survey findings, and the results from Westwood et al. (2017), and Walket and Percy (2014) indicate that the IAPT workforce, which is embedded in the UK psychological therapies workforce, may be experiencing elevated levels of stress and psychological distress, and burnout.

5.1.2 Moderation effect

The study aimed to explore whether self-compassion moderated the relationship between work-related potential stressors and perceived stress in IAPT therapists. The moderation hypotheses were formed after acknowledging (i) the links between work-related stressors, and experiences of stress and reduced wellbeing, and (ii) the negative association between self-compassion, a potentially protective factor against emotional suffering, with stress.

More specifically, existing literature had found a relationship between work-related stressors and psychological difficulties (Clark et al., 2012; Stansfeld & Candy, 2006; Stansfeld et al., 1999), and an association between work-related stressors and physical symptoms (Nixon et al., 2011) such as headache, dizziness, sleep problems, fatigue and appetite loss, which are indicative of stress (NHS Choices, 2017). Self-compassion, on the other hand, had been associated with a host of positive outcomes relating to individual wellbeing (Barnard & Curry, 2011; Neff & Costigan, 2014). Self-compassion had, additionally, been seen as potentially holding a protective role in relation to emotional suffering and fostering emotional resilience (Raes, 2010,

2011) and was also found to be predominately negative related to perceived stress across the literature. As such, and in an attempt to understand whether self-compassion was a protective factor with respect to the relationships between perceived stress and workplace stressors, analyses testing whether self-compassion moderated the relationship between work-related stressors and perceived stress were conducted.

The analyses suggested that self-compassion did not moderate the relationship between work-related potential stressors and perceived stress in the sample of 200 IAPT therapists. Considering the existing literature, upon which the hypotheses were based, and the posited protective role of self-compassion, this was an unexpected finding.

With regards to the optimal conditions for a moderation analysis, Baron and Kenny (1986) and Hayes (2013) discuss the conceptual and statistical parameters of moderation analyses. According to Hayes (2013), an association between the independent and dependent variables is not necessary for a moderation analysis to be conducted. In the present sample, all stressors were significantly negatively related to perceived stress (Table 3.16).

In terms of the relationships between the variables in the moderation, Baron and Kenny (1986) suggest that it is preferable for the moderator to not be associated with either the independent nor the dependent variable as an absence of a correlation would make the moderation effect easier to interpret. As described previously (Table 3.15), there was an inverse relationship between perceived stress and self-compassion ($p < .001$) and a positive correlation between the psychosocial conditions relating to control over one's work ($p < .001$) and role clarity and self-compassion ($p = .001$) in

the present sample. Considering that moderation effects were not found, this desirable condition is not applicable to the findings.

The absence of moderation effects indicating that different levels of self-compassion did not affect the strength or direction of the relationship between work-related potential stressors and perceived stress, could be understood if one conceptualises self-compassion not as a protective factor but as a resource that aids individuals to cope with stressors (Allen & Leary, 2010).

Allen and Leary (2010) explored the links of self-compassion with five main categories of coping, namely cognitive restructuring, problem solving, support seeking, distraction and avoidance. The majority of the research reviewed supported the conceptualisation of self-compassion as a coping resource that primarily "involves thinking about stressful situations in ways that enhance coping" (Allen & Leary, 2010, p.115). Other researchers have understood self-compassion as a "useful emotional-approach coping strategy" (Neff, 2003b, p. 92), whereby the individual connects with their feelings. Its relationship with self-regulation in the context of coping with stress has also been posited (Neff, 2003b).

More recently, research has aimed to systematically understand the role of self-compassion in the stress and coping process. For example, Mosewich (2013), despite not finding a moderation effect of self-compassion on the relationship between goal progress, and appraisal, coping and affect in female athletes, suggested that self-compassion may have a more direct role in the stress and coping process in female athletes. More specifically, it was suggested that self-compassion may aid the prediction of perceived control appraisal, threat appraisal, avoidance coping and negative affect in female athletes (Mosewich, 2013). Given that the present study did not conceptualise self-compassion in relation to coping and did not measure aspects

of the coping process, it is impossible to comment on whether self-compassion may have held such a role in the sample of IAPT therapists. Future research should explore the role of self-compassion in relation to the coping process and phenomenon in IAPT therapists.

Considering that the present study did not find a moderation effect, data cleansing strategies were employed. Through these analyses, work related stressors and self-compassion were found to independently explain a unique amount of variance in perceived stress. While prior research had pointed towards work-stressors and self-compassion being important factors linked to individual stress, and physical and psychological health (e.g. Bosma et al., 1997; Clark et al., 2012; Crary, 2013; Danna & Griffin, 1999; Erogul et al. 2014; Kemper et al., 2015; MacBeth & Gumley, 2012; Nixon et al., 2011; Olson & Kemper, 2014; Stansfeld & Candy, 2006; Stansfeld et al., 1999), this project examining both work-related stressors and self-compassion in the same study showed that both variables are independent predictors of perceived stress.

The present finding relating to the independent contributions of work-related stressors and self-compassion in explaining perceived stress suggests that interventions aiming for a reduction in perceived stress in IAPT therapists would benefit from having a two-fold orientation, namely towards improving workers ability to related to themselves in a self-compassionate way and towards attending to the environmental stressors.

An additional finding of the present study relates to self-compassion having a stronger relationship with perceived stress than any of the work-related stressors as indicated by the standardised regression coefficients. While this finding suggests that an improvement in self-compassion can have more impact on perceived stress than a

reduction in work-related stressors, it is important that attempts to reduce stress in IAPT therapists attend to both these areas for two main reasons.

Firstly, working towards increasing self-compassion and reducing work-related stressors is important as both were found to be predictors of perceived stress. Secondly, the relevance of the social context and environment in shaping one's way of relating to oneself and others (Gilbert, 2018) suggests that attending to work related stressors may be important in facilitating the adoption of a self-compassionate attitude and, consequently, a reduction to perceived stress in IAPT therapists.

Gilbert (2018) has examined human suffering in relation to social contexts and culture and has commented on the need non-toxic mental environments and contexts for human wellbeing thus highlighting the relevance of the environments in shaping our orientation towards ourselves and others.

In the field of healthcare, McPherson, Hiskey and Alderson (2015) discuss the impact of contextual factors, such as organisational barriers, on the delivery of compassionate care in dementia wards and note that attending to contextual and structural factors in the work environment and practices may improve compassionate care.

Moreover, in their framework for compassionate care based on the perspective of healthcare professionals working with individuals with type 2 diabetes, Tierney, Seers, Tutton and Reeve (2017) discuss how one's wish to provide compassionate care is not enough for it to transpire. They explain how 'professional compassion', the "inner desire to improve patient well-being and to act as one would expect from someone in a healthcare role" (Tierney et al., 2017 p. 6) and driver of the compassionate care flow can be affected by systemic and other factors. The systemic factors identified by Tierney et al. (2017) functioned either as drainers (e.g. time

constraints and competing demands on resources) or defenders (e.g. support from colleagues, professional autonomy, compassionate organisation culture) of the compassionate care flow. Drainers hampered the compassionate care flow whereas defenders reinforced it.

Considering the findings from McPherson et al. (2015) and Tierney et al. (2017), which suggest that systemic, structural and contextual workplace factors affect the delivery of compassionate care, and given that directing compassion towards others (Gilbert, 2014) is one of three ways that compassion can flow, it could be hypothesised that toxic contexts at work may hinder the flow of compassion from oneself towards one's self, resulting in an increase in stress.

5.2 Strengths and limitations of the project

The present study will be critically appraised in relation to its strengths and limitations in terms of sampling strategies, design, method of data collection and measures.

5.2.1 Sampling

Quantitative research in social sciences is commonly interested in drawing wider conclusions regarding a target population (Field, 2005). Generalisability is considered a quality indicator in projects employing quantitative methods (Polit & Beck, 2010). The extent to which one can generalise findings from a particular sample to the target population depends on the representativeness of the sample. A sampling method giving each member of the population equal chance to participate in the study is thought to be the optimal way of achieving a representative sample (Polit & Beck, 2010).

It can be argued that, in the present study, the researcher endeavoured to provide each member of the trainee population with equal chance to participate in the study. The researcher attempted to contact every low and high intensity training institution in the UK to make them aware of the study taking place. Nineteen out of 33 courses agreed to make their trainees aware of the project meaning that trainees on the majority of the courses were given the opportunity to take part in the study.

An attempt to reach as many as possible trainee and non-trainee IAPT therapists at a nationwide level was made through the use of popular and specialised internet-based platforms (Facebook™, BABCP forum), relevant magazines (CBT Today) and through linking up with nationwide professional bodies (BPS, BABCP). Snowball sampling was also encouraged by inviting people who saw the advert to pass the link to the study on to others who might have been eligible and interested in taking part. The sampling can also be characterised as convenience sampling as individuals most accessible to the researcher were at first instance invited to the study.

Convenience and snowball sampling was employed in combination to maximise the chances of the research invitation being disseminated, considered and taken up by therapists and the required sample size being achieved. This was particularly important considering the high caseloads (DOH, 2008c), training commitments and demands, and thus heavy workload that some of the potential participants may have had, which could have rendered achieving the required sample size a challenge.

While this recruitment method did not allow for each and every IAPT therapist to have equal chance to be invited to take part in the study, it was deemed to

be a feasible, affordable and efficient, way of disseminating the invitation widely given the time and resource constraints of the project.

While convenience and snowball sampling allowed for the required sample size for this study to be achieved, it could have introduced a number of limitations to the project. More specifically, therapists with a particular interest in the topics of stress, work stressors and self-compassion or individuals who were more engaged with professional bodies may have been more likely to take part in the study. If this were to happen, the study sample may have been subject to self-selection bias and may have not accurately represented the entire population of IAPT therapists. The same applies regarding the possibility that IAPT therapist with particularly high or low stress levels could have been more likely to take part in the study due to possibly wanting to voice their experience of feeling stressed or because they may have had increased availability to take part.

It is not possible to determine if self-selection bias and motivational differences biased the findings as data on special interest in the study topic and engagement with professional bodies were not captured, and published research on levels of perceived stress in IAPT therapists is not available to allow for comparisons. Another way to evaluate the possibility of existence of self-selection bias in a study is to examine attrition rates. However, due to the nature of the anonymous online study, it was not possible to ascertain how many individuals saw the link but chose not to participate and what may have been the reasons for this choice. As such, the findings of the present study need to be considered with these limitations in mind.

Convenience sampling may also result in a demographically skewed sample. To examine if this was the case in this study, demographic data were collected from participants and were compared with information from the latest IAPT Adult

Workforce Census (NHS England & Heath Education England, 2016). The present sample was found to be characterised by an overrepresentation of trainee therapists and the low intensity workforce in comparison to the IAPT workforce population. This may have been a result of recruiting through training institutions and as a consequence of a higher proportion of Psychological Wellbeing Practitioner courses agreeing to disseminate the link compared to High Intensity Programmes.

Additionally, the sample was predominantly female which was fairly similar to what was reported in the latest IAPT Workforce Census (NHS England & Heath Education England, 2016). Again, similarly to the IAPT Workforce Census (NHS England & Heath Education England, 2016) where the workforce was found to be predominantly White British, most of the participant in this study identified as 'White British, White English, White Scottish, White Welsh'. As such, the present sample of IAPT therapists could be characterised as fairly representative of the IAPT workforce in terms of gender and ethnicity.

5.2.2 Design

This was a cross-sectional study. While cross-sectional designs are well suited to explore the prevalence of an outcome and the associations between many variables and in providing single-time-point information regarding a phenomenon (Levin, 2006), they have some significant shortcomings. The main limitations of cross-sectional designs, relevant to the present study, include the inability to infer causal relationships from the findings and susceptibility to biases produced by the single-time-point data collection (Levin, 2006).

The present study did not aim to explore causal relationships between variables but was, instead, interested in exploring prevalence of perceived stress in

IAPT therapists and the associations between work-related potential stressors, self-compassion and perceived stress. As such, the cross-sectional design was appropriate and relevant to the research aims.

Moreover, the present findings were consistent with existing literature pointing towards elevated levels of distress and burnout in IAPT therapists (Walket & Percy, 2014; Westwood et al., 2017); as such, it was deemed unlikely that contextual or historic influences biased the findings.

5.2.3 Method of data collection

The data collection happened online in the present study. The advantages of an online study in terms of speed, ease, affordability, and efficiency have been noted in the literature (Wright, 2005). It was assumed that therapists would be able to complete the study should they wish as internet access is widely available and internet-based studies are commonly used. The remoteness of online research could also reduce the presence of Hawthorne's effect, or in other words the extent to which participants would alter their behaviour due to being observed.

Despite presenting with these strengths, online research also has a number of limitations. In addition to the difficulty of evaluating attrition rates, a further limitation relates to the fact that the researcher is not physically present to offer clarifications to participants before and during their participation in the project. With this limitation in mind, the contact details of the researcher and the research supervisors were included in the study information sheet along with a sentence prompting individuals to contact the researcher should they wish to discuss the study further. No one used this option. In hindsight, the physical presence of the researcher may have offered the opportunity to participants who made an error when recording

their years of employment with IAPT to gain appropriate clarifications and this may have prevented them from responding in a way that was invalid.

It is important to note that the following factors may have also contributed to a reduction to the Hawthorne's effect and participants responding in a more open and honest way, namely (i) not recruiting through participants' place of work, (ii) communicating, during the recruitment process, that the study is completed as part of the researcher's doctorate degree training, (iii) amending the instructions of the HSE Management Standards Work-Related Stress Indicator Tool (Cousins et al., 2004) as to not suggest that the research is linked with their employing organisation, (iv) participation in the study was anonymous, (v) participation in the study was voluntary and participants gave freely of their time.

5.2.4 Measures

This study used self-report questionnaires, which is a widely used method of collecting data in the social and behavioural science (Harrison, McLaughlin, & Coalter, 1996). The measures' suitability for use in online research was screened. It was considered that participants would be familiar with this way of collecting data as self-report screening tools are frequently used within their day to day role in the IAPT setting.

Anonymity of the collected data and blinding to the specific study hypotheses were thought to be ways of minimising the effects of social desirability and obsequiousness bias (Delgado- Rodriguez & Llorca, 2004). More specifically, it was deemed that if responses were anonymous and participants did not know the study's specific hypotheses, it would be more likely that they would answer in a way that was

honest and that they would be less likely to want to portray themselves in a positive light or provide answers that they think the researcher wants to hear.

Given that the use of self-report measures to explore attitudinal and perceptual constructs and theories has been seen as appropriate (Schmitt, 1994), the employment of self-report measures to capture self-compassion, perceived stress and work-related potential stressors can be considered a strength of the research.

The measures used in the present study had good psychometric properties. The HSE Management Standards Work-Related Stress Indicator Tool (Cousins et al., 2004) was selected as a measure of work-related potential stressors as it has better internal consistency and is shorter, and therefore less taxing, compared to the other measures (e.g. Kirstensen, et al., 2005). In the present study, the HSE Management Standards Indicator Tool (Cousins et al., 2004) showed good internal consistency.

The PSS-10 (Cohen & Williamson, 1988) was selected as the measure of how stressful respondents perceived their lives to have been in the last month. The 10-item version of the scale had been found (Cohen & Williamson, 1988) to have better internal reliability compared to the longer 14-item version and the shorter 4-item version and was, as such, chosen for the present study. In this project, the PSS-10 showed even better internal consistency compared to previous literature in therapists (Shapiro et al., 2007).

The SCS (Neff, 2003a), was selected as the measure for self-compassion in the present study. The SCS (Neff, 2003a), although commonly used across the literature, has received a number of recent criticisms with respect to its theoretical validity and its psychometric properties (Cleare, Gumley, Cleare, & O'Connor, 2018; Neff, 2016b).

Some researchers have raised concerns around the existence of subscales representing uncompassionate responses, namely self-judgements, isolation and over-identification (Muris, Otgaar, & Petrocchi, 2016), which was thought to have the potential to lead to an inflation of the association of the self-compassion total score with measures of psychopathology (Muris & Petrocchi, 2017). In addition to noting the importance of the interactive and dynamic nature of the relationship between the self-compassion components in the conceptualisation of the construct (Neff, 2016b), the distinct but interrelated physiological manifestations of compassionate and uncompassionate responses have also been presented (Neff, 2016a) as an argument for why the presence of subscales representing both compassionate and uncompassionate responses is theoretically valid. According to Neff, "conceptualizing self-compassion as a dynamic system, and using a total SCS score to assess the relative balance of system components makes sense" (Neff, 2016a, p. 793).

To address the criticism around a possible boosting of the association between self-compassion and psychopathology, Neff (2016a) noted that the negative ways of self-relating measured by the SCS are not psychopathology outcomes as such and that future research might need to attend to this criticism "by comparing effect sizes when the link between self-compassion and psychopathology is examined using an SCS total score versus an intervention or mood induction" (Neff, 2016a, p.795).

The validity of the use of the total score on the SCS (Neff, 2003a) and the measure's factor structure has received criticism (Muris et al., 2016). Empirical evidence supporting the initial structure and the use of a total score has been mixed (Cleare et al., 2018). Neff (2016a) explained how recent findings support "the idea that the SCS could be used as originally proposed—to measure either a total self-

compassion score or else six separate subscales scores" (Neff, 2016a, p.793) considering that "estimates suggested a general self-compassion factor accounted for at least 90% of the reliable variance in SCS scores across" (Neff, Whittaker, & Karl, 2017, p. 596). Research by Cleare et al. (2018) also seemed to support the use of the six-subscales and total score. In the present study, the internal consistency of the measure was good.

The SCS (Neff, 2003a), used in the present study, is the only scale exclusively measuring self-compassion (López et al., 2015); other measures tap into the construct of self-compassion while also measuring compassion towards others (e.g. Narrative Compassion Scale; MacBeth, 2011) or relational aspects of compassion (e.g. Relational Compassion Scale; Hacker, 2008).

5.3 Implications

5.3.1 Implications for theory

The present study aligned itself to one of the three dominant conceptual orientations of stress, namely the transactional approach (Lazarus, 2006). The transactional approach places emphasis on the relational processes between the environment and the individual, and the role of appraisal and meaning making of the experience (Lazarus, 2006). This project focused on exploring a possible mechanism involved in the person-environment transaction namely, whether one's levels of self-compassion can moderate the relationship between their appreciation of workplace environment and their levels of perceived stress.

Brief and George (1995) have criticized the use of the transactional approach in workplace settings explaining that the transactional approach may be less interested in factors operating at a contextual level. One factor operating at a

contextual level is organisational culture or in other words “the way in which the organizations demonstrate management commitments and have procedures that are fair and open” (McKay et al., 2004, p. 95). Organisational culture is present in the areas of stressors relating to workplace demands, perceived control, support and relationships at work, job role and communication and managements of organisational change (McKay et al., 2004). Considering this and by incorporating the HSE Management Standards Work-Related Stress Indicator Tool (Cousins et al., 2004), it could be argued that the present project captured elements of organisational culture. As such, this research demonstrates how the transactional theory can be employed to guide research tapping into factors that operate on a contextual level.

A second theoretical implication relates to the finding that self-compassion did not moderate the relationship between work related stressors and perceived stress. This result indicated that the proposed protective role of self-compassion in relation to a moderating effect of the relationship between work-related potential stressors and perceived stress did not hold true in the present sample.

Exploring the role of self-compassion in the stress and coping phenomenon and understanding its potential function as a coping resource or a resource that aids individuals to cope with workplace stressors is important. The transactional approach to stress can theoretically accommodate such a function for self-compassion. According to the transactional approach of stress, should a primary appraisal establish that one’s goals, commitments, values and beliefs are at risk, a secondary evaluation of one’s coping options takes place. Self-compassion, involving how one responds emotionally to one’s failure or shortcomings and how one makes sense of one’s experience and attends to their circumstances (Neff, 2016a, 2016b), could potentially mitigate the aforementioned appraisal processes.

Exploring the role of self-compassion in the stress and coping process would also be in keeping with Gilbert's (2006, 2010a) conceptualisation of the interplay between the affect regulation systems. Experiencing compassion from others in early life is posited to support the calming of the threat-focussed system and the gradual development of a compassionate way of self-relating, which can be applied to internal and external threats. Further understanding how a compassionate way of self-relating can support coping with external and internal perceived threats in the workplace context may be an important step in compassion and self-compassion theory.

Research is already attempting to understand compassion towards others and towards oneself in relation to appraisal and coping. A review by Goetz et al. (2010) drew from evolutionally perspectives and relevant literature and noted the distinct appraisal processes of compassion. Goetz et al. (2010) suggested that compassion is shaped by (i) how relevant the sufferer is to oneself, (ii) how deserving the sufferer is thought to be of his predicament, and (iii) one's ability to cope with the difficulty.

Allen and Leary (2010) explored the links of self-compassion with five main categories of coping, namely cognitive restructuring, problem solving, support seeking, distraction and avoidance. The majority of the research reviewed supported the conceptualisation of self-compassion as a coping resource that primarily "involves thinking about stressful situations in ways that enhance coping" (Allen & Leary, 2010, p.115).

5.3.2 Implications for practice

Given prior knowledge regarding the detrimental effects of stress on individuals and collective level (Blaug et al., 2007; Bosma et al., 1997; Stansfeld et al, 1999), the finding that IAPT therapists reported levels of perceived stress that are

higher than the US norm and “at the high end of perceived stress scores among health professionals” (Kemper et al., 2015, p. 499) is worrying. This worry is exacerbated considering the slowly emerging research on the prevalence of stress and psychiatric disturbance, and burnout amongst IAPT staff (Walket & Percy, 2014; Westwood et al., 2017).

While exploring and intervening to reduce IAPT therapists’ stress levels are warranted, what is less clear is whether the interventions should be targeted at the intra-individual, inter-individual or contextual level (McPherson & Hiskey, 2016). Having explored stress as the transaction of the individual with their environment, one’s way of relating to themselves (self-compassion) and factors representing aspects of the workplace context (work-related stressors), this study supports the idea that any future intervention aiming towards a reduction in perceived stress in IAPT therapists should attend to both improving contextual factors, or in other words reducing work-related potential stressors, and supporting workers in self-relating with compassion.

In examining how individuals appraise their work environment, the mean and median scores for all seven different areas of potential work stressors fell around the middle of the scale. All stressors were significantly negatively related to perceived stress indicating that the better psychosocial working conditions therapists reported the less perceived stress they reported. This alongside the finding that each work-related stressor accounted for a unique amount of variance in perceived stress indicates that intervening at the organisational level may helpful when attending to the difficulties of perceived stress in IAPT therapists.

Considering the findings in relation to self-compassion, IAPT therapists in this sample appeared to have reported slightly higher levels of self-compassion (M=

3.11, SD= 1.05) compared to Robinson's (2015) UK community sample. Similarly to what has been reported regarding clinical psychologists (Robinson, 2015), while IAPT therapists may know about the links between self-compassion and wellbeing, the overall moderate scores on the self-compassion measure suggest that they may struggle to put these principles into practice.

It seems that particular aspects of the workplace environment are linked to self-compassion; therapists reporting higher levels of self-compassion reported better conditions of work regarding control (r= .26) and role (rho= .22). While it is important to note that these correlational findings should not interpreted as causal relationships, they suggest that perceiving that one has clarity over one's role and responsibility, and reporting that one has a say over how they work is linked to relating towards one's self in a compassionate manner. As such, it could be argued that by improving therapists' role clarity and the level of say they have over their work, self-compassion may increase or vice versa.

Given the positive relationship between self-compassion and better conditions of work regarding control and role alongside the finding relating to a strong negative association between self-compassion and perceived stress (r= -.51), it could be suggested that, by increasing levels of IAPT therapists' control over how they do their work and improving their role clarity and conflict, self-compassion and stress levels may improve or vice versa.

While the important role of the context in shaping self-relating has been noted (Gilbert, 2018), interventions that target the development of self-compassion may be warranted considering that this way of relating to one's self was the strongest predictor of perceived stress. Two of the most prominent interventions that aim to teach individuals how relate to themselves in a more compassionate way are the

Compassion Focused Therapy (Gilbert, 2010b) and the Mindful Self-Compassion (Germer & Neff, 2013; Neff & Germer, 2013).

Compassion Focused Therapy was developed as an intervention for individuals struggling with mental health difficulties relating to shame and self-criticism (Gilbert, 2010b). It is based on evolutionary neuroscience model and is a multimodal therapy using a host of practices to promote wellbeing and recovery such as guided discovery, monitoring, behavioural interventions, imagery, chair work, letter writing, and mindfulness (Gilbert, 2010b).

Mindful Self-Compassion was developed for use with people without mental health difficulties and with some clinical groups (Neff & Germer, 2013). It is an eight-week intervention with participants meeting for two or two and a half hours weekly plus a half-day meditation retreat (Neff & Germer, 2013). Mindful Self-Compassion supports individuals to learn how to practice mindfulness and self-compassion through discussions, experiential exercises, meditative practice, small group conversations, and homework (Centre for Mindful Self-Compassion, 2017; Neff & Germer, 2013).

In thinking about using Compassion Focused Therapy and Mindful Self-Compassion as ways of targeting the development of self-compassion in IAPT therapists, one may need to consider the appropriateness, feasibility and effectiveness of these interventions with IAPT workers. As well as increasing the evidence base for these interventions with IAPT workers, understanding how widely available these interventions are and thinking about how they would be implemented in the IAPT context may be important issues to consider.

5.3.3 Implications for future research

It would be important for future research to focus on the topic of perceived stress in IAPT therapists. Given that this project was the first measuring perceived stress in IAPT therapists, it is pivotal that more data is collected at a national level in order to increase the confidence in the present study's estimate of the prevalence of perceived stress in this professional group.

In order to increase the generalisability and reliability of the finding, it would be helpful for the project to be replicated. It might be helpful to examine levels of perceived stress and the moderation hypotheses in particular IAPT settings (e.g. long-term conditions, severe mental illness, children and young people's IAPT) especially given the initiatives relating to rolling out the service provision to these clinical populations (DOH, 2011) are extending the initial remit of the IAPT programme which involved working with common mental health difficulties. This type of project would allow a better understanding of the prevalence of stress and mechanisms implicated in the stress experience in different IAPT service settings.

Examining more systemic and contextual factors implicated in the stress phenomenon may be an important next step in transactional theory research. Using a measure of organisational culture may provide a different dimension to the understanding of stress as it is experienced by IAPT therapists.

Future research may examine the self-compassion and stress constructs broached in this study through measures other than self-report questionnaires and though different research designs. More specifically, it might be helpful to capture stress and self-compassion though biological measures. The heart rate variability as a proxy for cardiac vagal tone or parasympathetic nervous system activation has attracted increased interest (Laborde, Mosley, & Thayer, 2017) and may be relevant

in the study of self-compassion. Neff (2016a) has already noted that Gilbert's Social Mentality Theory posits that compassionate responses are linked to parasympathetic activation and uncompassionate responses are linked to the sympathetic activation. Physiological measures of stress used in the existing literature include heart period, muscle tension, skin conductance, pulse transit time and cortisol excretion (Alvarsson, Wiens, & Nilsson, 2010; Ulrich et al., 1991; van Holland, Frings-Dresen, & Sluiter, 2012).

Moreover, considering how one can unconsciously repress difficult emotions and be unaware of their levels of self-compassion, Neff (2003a) has already highlighted the benefits of developing and employing clinical assessment tools to measure self-compassion. The same can be said to apply for the measurement of stress levels. As such it may be helpful if future research looks into the development of clinical assessment tools for stress and self-compassion.

Understanding whether self-compassion is linked to particular behavioural indicators and developing measures to capture these may also be an area of future research. Research may also benefit from developing and using measures that capture behavioural indicators of stress (NHS Choices, 2017) as this may provide new insights into the stress phenomenon.

In terms of using a different research design, studies exploring the effects of interventions targeting either the workplace stressors or the cultivation of self-compassion may help generate robust evidence regarding the link between self-compassion, work-related potential stressors and perceived stress in IAPT therapists.

In a pilot study, Neff and Germer (2013) found that, amongst other positive outcomes, participants of a Mindfulness Self-Compassion intervention reported a reduction of perceived stress and an increase in self-compassion following the course.

Moreover, in a randomised controlled study, participants in the Mindfulness Self-Compassion condition showed, amongst other positive outcomes, greater improvements in their self-compassion (large effect size) and perceived stress (small effect size) scores compared to the wait list controls (Neff & Germer, 2013). Increases in self-compassion predicted reductions in perceived stress following the course and gains linked to the intervention were maintained at six-months and one-year follow up (Neff & Germer, 2013).

As already discussed, it might also be worth exploring the effects of interventions targeting stress through attending to the work place stressors. Given the impact of systemic, structural and contextual factors on compassion as it is demonstrated through compassionate care (McPherson et al., 2016; Tierney et al., 2017), it may be helpful for future research to consider targeting the improvement of work-related stressors in particular IAPT services and examining the levels of stress and self-compassion pre- and post the improvements. Improving work-related stressors can be done through using the HSE Management Standards Approach to assess workplace stressors and developing plans to tackle them at a practical level, a policy level or an organisational culture level (TUC & HSE, 2017).

Experimental designs may be useful in exploring the relationship between self-compassion, stressors and perceived stress; conducting controlled experimental studies involving the manipulation of the variable of self-compassion through for example self-compassion priming or involving the manipulation of the contextual stressors may lead to new knowledge regarding the role of self-compassion on the stress phenomenon. The employment of experimental designs in the study of self-compassion has been recommended by Neff (2003a) and is starting to materialise (Rowe et al., 2016).

Research exploring the role of self-compassion in the stress and coping phenomenon, is also relevant considering the aforementioned theoretical implication of the present study. This area of research has been attracting interest (e.g. Neff, Hseih, & Dejitthirat, 2005; Sirois et al., 2015). It will be helpful if future research explored self-compassion in relation to coping processes and coping skills in light of compassion and self-compassion theories, and the transactional approach to stress. Following on from the reviews by Goetz et al. (2010), and Allen and Leary (2010), understanding the appraisal processes involved in engendering a self-compassionate response and further exploring how self-compassion links in with different coping strategies in different contexts are important areas for future research.

5.4 Research summary

The present study was a quantitative cross-sectional online project examining the levels of perceived stress in IAPT therapists and exploring whether self-compassion moderated the relationship between work-related stressors and perceived stress in IAPT therapists.

Participants reported experiencing levels of perceived stress that were higher than the US norm and at the higher end of scores among healthcare professionals. Self-compassion did not moderate the relationship between work-related stressors and perceived stress. Nonetheless, work related stressors and self-compassion were found to be independent predictors of perceived stress in IAPT therapists. Moreover, self-compassion was more strongly related to perceived stress than work-related stressors.

The findings suggest that IAPT therapists are experiencing elevated levels of stress and that interventions focusing on improving self-compassion and tackling work-related stressors may have an impact on their stress levels.

6. References

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7. Appendices

Appendix A: Steps in literature search

Table A1

Literature search procedure

Search Number	Search Terms	Limiters
Search 1 (S1)	self-compassion OR "self compassion"	
Search 2 (S2)	"perceived stress"	
Search 3 (S3)	relation* OR associat* OR correlat*	
Search 4 (S4)	S1 AND S2 AND S3	
Search 5 (S5)	S1 AND S2 AND S3	Peer reviewed
Search 6 (S6)	S1 AND S2 AND S3	Peer reviewed, English language
Search 7 (S7)	S1 AND S2 AND S3	Peer reviewed, English language, adulthood (18yrs &older), young adulthood (18-29yrs), middle age (40-64 yrs), thirties (30-39yrs), adult: 19-44 years, aged (65yrs & older) all adult, middle aged (45-64 years), aged (65+years)

Appendix B: Online study information sheet

Name of Study: Factors associated with perceived stress in IAPT therapists

Summary of Study:

The purpose of this study is to explore the levels of stress experienced by therapists in Improving Access to Psychological Therapies (IAPT) services. The study is also interested in looking into which factors may be associated to these levels of stress. The study will involve questions related to stress, work related potential stressors, self-compassion and demographics.

Why is this study being conducted?

Stress has been explored in health care professionals delivering psychological therapy and there have been studies exploring self-compassion as a factor protecting psychological wellbeing. Research exploring the levels of stress experienced by IAPT therapists and the factors that are associated with it is emerging. It is hoped that this study will further shed light on this area.

Why have I been invited?

You have been invited as you are a therapist working in IAPT. In this study, the term "therapist" is used broadly and it encompasses staff having clinical contact (i.e working clinically with patients with an assessment and/or intervention focus). Possible job titles of potential participants may include (Trainee) Psychological Wellbeing Practitioner, (Trainee) High intensity worker, Counsellor, Psychologist, Assistant Psychologist.

What will I have to do?

You will be invited to complete four questionnaires. There are no right or wrong answers. Please select the answer that best suits you. All responses will be anonymous. The questionnaires will take approximately 10-20 minutes to complete.

Do I have to take part?

No. Participation in this study is voluntary. If you decide not to take part, there will be no consequences. If you decide to participate and start completing the questionnaires but then wish to withdraw, you can close your browser and exit; your responses will not be included in the study. If you know any IAPT therapist who may be interested in participating in the study, please email them the link for the study.

Are there any risks to taking part?

This study will require about 10-20 minutes of your time. The questionnaires will ask you to think about yourself and your thoughts, emotions and behaviours in difficult situations. In doing this, you may experience a temporary lower mood. If you feel a dip in your mood and you would like support with this, please do not hesitate to contact one of the following organisations:

a) Samaritans: Telephone support. Phone: 116 123 (24-hour helpline), Website: www.samaritans.org.uk ,

b) Mind: Provides general mental health information and can be used to look for details of help and support in your own area. Phone: 0300 123 3393 (infoline), Website: www.mind.org.uk ,

c) Rethink Mental Illness: Provides advice and information. Phone: 0300 5000 927, Website: www.rethink.org.

The contact details for these organisations also appear at the end of the study. If your feelings persist, it is advised that you contact your GP.

What are the possible benefits of taking part?

There are no direct benefits to participants of taking part. This research will help add to the knowledge base on perceived stress and factors associated with it in IAPT therapists.

How do I consent?

You will be asked to complete a consent form on the next page.

What will happen with my answers?

Once your questionnaires are submitted at the end of the study, it will not be possible to delete your data as it will be saved anonymously. Data will be accessed by the principal investigator and her supervisors. Your answers will be stored securely in a database. The results will be analysed and included in a clinical psychology doctorate thesis. They may be published in a journal article. The data may be used in future analyses. Your answers will not be identifiable in any future publication or analysis.

To discuss this study further please contact the principal investigator, Evgenia Kostaki : ekostab@essex.ac.uk . The study will be supervised by Dr Leanne Andrews: landre@essex.ac.uk and Dr Syd Hiskey: syd.hiskey@nhs.net .

Thank you for reading this information sheet.

Appendix C: Online Debrief Page

Thank you for completing the questionnaires. Your responses will allow us to further develop our knowledge of stress levels and the factors that are associated with it in therapists working in IAPT with the aim of promoting both personal and professional wellbeing.

If you know an IAPT therapist (trainee/ qualified/unqualified/other, high or low intensity) who you think may be interested in participating in the study, please copy and paste the link below and email it to them. <insert link>

If, after completing this study, you feel a dip in your mood and you would like support with this please do not hesitate to contact one of the following organisations:

Samaritans

Telephone support.

Phone: 116 123 (24-hour helpline)

Website: www.samaritans.org.uk

Mind

Provides general mental health information and can be used to look for details of help and support in your own area.

Phone: 0300 123 3393 (infoline)

Website: www.mind.org.uk

Rethink Mental Illness

Provides advice and information.

Phone: 0300 5000 927

Website: www.rethink.org

If your feelings persist, please visit your GP.

Should you wish to discuss this study further or receive a summary of the study results, you can contact the lead researcher Evgenia Kostaki: ekostab@essex.ac.uk . If you would like to contact one of the supervisors, please contact Dr Leanne Andrews: landre@essex.ac.uk or Dr Syd Hiskey: syd.hiskey@nhs.net

Appendix D: Institutions offering IAPT training

Table D1

List of Institutions offering Psychological Wellbeing Practitioner courses (last updated March 2016)

Name of Institution
Birmingham and the Black Country Consortium/University of Birmingham
University of Central Lancashire
De Montfort University
University of Essex
University of Exeter
Liverpool John Moores University
University College London
University of Manchester
Newcastle University
University of Reading
University of Sheffield
University of Southampton
University of Surrey
Teesside University
Ulster University

Note. N= 15

Table D2

List of Institutions offering IAPT high intensity training (retrieved September 2016)

Name of Institution
University of Birmingham
Canterbury Christ Church University
University of Chester
Coventry University
University of Cumbria
University of East Anglia
University of Exeter
King's College London
Greater Manchester West
Newcastle University
University of Nottingham
Royal Holloway University of London
University of Reading
University of Sheffield
University of Southampton
Staffordshire University
University of Surrey
Teesside University

Note. N=18

Appendix F: Online Consent Form

Name of study: Factors associated with perceived stress in IAPT therapists

Please read the following six statements.

1. I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions.
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason and without any consequences.
3. I understand than my answers will remain anonymous.
4. I agree that data gathered in this study may be stored and may be used for future analyses.
5. I confirm that I am a IAPT staff whose work is clinical (i.e. I have clinical contact with patients and deliver work that is assessment and/or intervention focused).
6. I agree to participate in the study.

After reading the six statements above, I confirm that I agree <u>with all six statements</u> and that I consent to take part in the study.

Yes

No

Appendix G: End of study message for participants who do not consent

You have been directed to the end of the study as you have indicated that you do not consent to the statements in the consent form.

Thank you for taking the time to consider participating in this study.

If you know an IAPT therapist (trainee/ qualified/unqualified/other, high or low intensity) who you think may be interested in participating in the study, please copy and paste the link below and email it to them. <insert link>

If, after considering this study, you feel a dip in your mood and you would like support with this please do not hesitate to contact one of the following organisations:

Samaritans

Telephone support.

Phone: 116 123 (24-hour helpline)

Website: www.samaritans.org.uk

Mind

Provides general mental health information and can be used to look for details of help and support in your own area.

Phone: 0300 123 3393 (infoline)

Website: www.mind.org.uk

Rethink Mental Illness

Provides advice and information.

Phone: 0300 5000 927

Website: www.rethink.org

If your feelings persist, please visit your GP.

Should you wish to discuss this study further or receive a summary of the study results, you can contact the lead researcher Evgenia Kostaki: ekostab@essex.ac.uk . If you would like to contact one of the supervisors, please contact Dr Leanne Andrews: landre@essex.ac.uk or Dr Syd Hiskey: syd.hiskey@nhs.net

Appendix H: Perceived Stress Scale (Cohen & Williamson, 1988)

Perceived Stress Scale- 10 Item

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, please indicate with a check how often you felt or thought a certain way.

1. In the last month, how often have you been upset because of something that happened unexpectedly?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

2. In the last month, how often have you felt that you were unable to control the important things in your life?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

3. In the last month, how often have you felt nervous and "stressed"?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

4. In the last month, how often have you felt confident about your ability to handle your personal problems?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

5. In the last month, how often have you felt that things were going your way?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

6. In the last month, how often have you found that you could not cope with all the things that you had to do?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

7. In the last month, how often have you been able to control irritations in your life?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

8. In the last month, how often have you felt that you were on top of things?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

9. In the last month, how often have you been angered because of things that were outside of your control?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

___0=never ___1=almost never ___2=sometimes ___3=fairly often ___4=very often

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Permissions: Permission for use of scales is not necessary when use is for nonprofit academic research or nonprofit educational purposes

(http://www.psy.cmu.edu/~scohen/)

Appendix I: Self-compassion Scale (Neff, 2003a)

To Whom it May Concern:

Please feel free to use the Self-Compassion Scale in your research. Masters and dissertation students also have my permission to use and publish the Self-Compassion Scale in their theses. The appropriate reference is listed below.

Best,

Kristin Neff, Ph. D.
Associate Professor
Educational Psychology Dept.
University of Texas at Austin

e-mail: kneff@austin.utexas.edu

Reference:
Neff, K. D. (2003). Development and validation of a scale to measure self-compassion. *Self and Identity, 2, 223-250.*

Coding Key:
Self-Kindness Items: 5, 12, 19, 23, 26
Self-Judgment Items: 1, 8, 11, 16, 21
Common Humanity Items: 3, 7, 10, 15
Isolation Items: 4, 13, 18, 25
Mindfulness Items: 9, 14, 17, 22
Over-identified Items: 2, 6, 20, 24

Subscale scores are computed by calculating the mean of subscale item responses. To compute a total self-compassion score, reverse score the negative subscale items before calculating subscale means - self-judgment, isolation, and over-identification (i.e., 1 = 5, 2 = 4, 3 = 3. 4 = 2, 5 = 1) - then compute a grand mean of all six subscale means. Researchers can choose to analyze their data either by using individual sub-scale sores or by using a total score.

(This method of calculating the total score is slightly different than that used in the article referenced above, in which each subscale was added together. However, I find it is easier to interpret the total score if a mean is used.)

HOW I TYPICALLY ACT TOWARDS MYSELF IN DIFFICULT TIMES

Please read each statement carefully before answering. To the left of each item, indicate how often you behave in the stated manner, using the following scale:

Almost never				Almost always
1	2	3	4	5

_____ 1. I'm disapproving and judgmental about my own flaws and inadequacies.

_____ 2. When I'm feeling down I tend to obsess and fixate on everything that's wrong.

_____ 3. When things are going badly for me, I see the difficulties as part of life that everyone goes through.

_____ 4. When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world.

_____ 5. I try to be loving towards myself when I'm feeling emotional pain.

_____ 6. When I fail at something important to me I become consumed by feelings of inadequacy.

_____ 7. When I'm down and out, I remind myself that there are lots of other people in the world feeling like I am.

_____ 8. When times are really difficult, I tend to be tough on myself.

_____ 9. When something upsets me I try to keep my emotions in balance.

_____ 10. When I feel inadequate in some way, I try to remind myself that feelings of inadequacy are shared by most people.

_____ 11. I'm intolerant and impatient towards those aspects of my personality I don't like.

_____ 12. When I'm going through a very hard time, I give myself the caring and tenderness I need.

_____ 13. When I'm feeling down, I tend to feel like most other people are probably happier than I am.

_____ 14. When something painful happens I try to take a balanced view of the situation.

_____ 15. I try to see my failings as part of the human condition.

_____ 16. When I see aspects of myself that I don't like, I get down on myself.

_____ 17. When I fail at something important to me I try to keep things in perspective.

_____ 18. When I'm really struggling, I tend to feel like other people must be having an easier time of it.

_____ 19. I'm kind to myself when I'm experiencing suffering.

_____ 20. When something upsets me I get carried away with my feelings.

_____ 21. I can be a bit cold-hearted towards myself when I'm experiencing suffering.

_____ 22. When I'm feeling down I try to approach my feelings with curiosity and openness.

_____ 23. I'm tolerant of my own flaws and inadequacies.

_____ 24. When something painful happens I tend to blow the incident out of proportion.

_____ 25. When I fail at something that's important to me, I tend to feel alone in my failure.

_____ 26. I try to be understanding and patient towards those aspects of my personality I don't like.

Please note that the following change was made to the instructions; the phrase "To the left of each item" was changed to "Below each item".

Appendix J: HSE Management Standards Indicator Tool (Cousins, Mackay, Clarke, Kelly, Kelly, & McCaig, 2004)

Instructions: It is recognised that working conditions affect worker well-being. Your responses to the questions below will help us determine your working conditions. It is important that your responses reflect your work in the last six months.

		Never	Seldom	Sometimes	Often	Always
1	I am clear what is expected of me at work	☐1	☐2	☐3	☐4	☐5
2	I can decide when to take a break	☐1	☐2	☐3	☐4	☐5
3	Different groups at work demand things from me that are hard to combine	☐5	☐4	☐3	☐2	☐1
4	I know how to go about getting my job done	☐1	☐2	☐3	☐4	☐5
5	I am subject to personal harassment in the form of unkind words or behaviour	☐5	☐4	☐3	☐2	☐1
6	I have unachievable deadlines	☐5	☐4	☐3	☐2	☐1
7	If work gets difficult, my colleagues will help me	☐1	☐2	☐3	☐4	☐5
8	I am given supportive feedback on the work I do	☐1	☐2	☐3	☐4	☐5
9	I have to work very intensively	☐5	☐4	☐3	☐2	☐1
10	I have a say in my own work speed	☐1	☐2	☐3	☐4	☐5
11	I am clear what my duties and responsibilities are	☐1	☐2	☐3	☐4	☐5
12	I have to neglect some tasks because I have too much to do	☐5	☐4	☐3	☐2	☐1
13	I am clear about the goals and objectives for my department	☐1	☐2	☐3	☐4	☐5
14	There is friction or anger between colleagues	☐5	☐4	☐3	☐2	☐1
15	I have a choice in deciding how I do my work	☐1	☐2	☐3	☐4	☐5
16	I am unable to take sufficient breaks	☐5	☐4	☐3	☐2	☐1
17	I understand how my work fits into the overall aim of the organisation	☐1	☐2	☐3	☐4	☐5
18	I am pressured to work long hours	☐5	☐4	☐3	☐2	☐1
19	I have a choice in deciding what I do at work	☐1	☐2	☐3	☐4	☐5

20	I have to work very fast	Never ☐5	Seldom ☐4	Sometimes ☐3	Often ☐2	Always ☐1
21	I am subject to bullying at work	Never ☐5	Seldom ☐4	Sometimes ☐3	Often ☐2	Always ☐1
22	I have unrealistic time pressures	Never ☐5	Seldom ☐4	Sometimes ☐3	Often ☐2	Always ☐1
23	I can rely on my line manager to help me out with a work problem	Never ☐1	Seldom ☐2	Sometimes ☐3	Often ☐4	Always ☐5
24	I get help and support I need from colleagues	Strongly disagree ☐1	Disagree ☐2	Neutral ☐3	Agree ☐4	Strongly agree ☐5
25	I have some say over the way I work	Strongly disagree ☐1	Disagree ☐2	Neutral ☐3	Agree ☐4	Strongly agree ☐5
26	I have sufficient opportunities to question managers about change at work	Strongly disagree ☐1	Disagree ☐2	Neutral ☐3	Agree ☐4	Strongly agree ☐5
27	I receive the respect at work I deserve from my colleagues	Strongly disagree ☐1	Disagree ☐2	Neutral ☐3	Agree ☐4	Strongly agree ☐5
28	Staff are always consulted about change at work	Strongly disagree ☐1	Disagree ☐2	Neutral ☐3	Agree ☐4	Strongly agree ☐5
29	I can talk to my line manager about something that has upset or annoyed me about work	Strongly disagree ☐1	Disagree ☐2	Neutral ☐3	Agree ☐4	Strongly agree ☐5
30	My working time can be flexible	Strongly disagree ☐1	Disagree ☐2	Neutral ☐3	Agree ☐4	Strongly agree ☐5
31	My colleagues are willing to listen to my work-related problems	Strongly disagree ☐1	Disagree ☐2	Neutral ☐3	Agree ☐4	Strongly agree ☐5
32	When changes are made at work, I am clear how they will work out in practice	Strongly disagree ☐1	Disagree ☐2	Neutral ☐3	Agree ☐4	Strongly agree ☐5
33	I am supported through emotionally demanding work	Strongly disagree ☐1	Disagree ☐2	Neutral ☐3	Agree ☐4	Strongly agree ☐5
34	Relationships at work are strained	Strongly disagree ☐5	Disagree ☐4	Neutral ☐3	Agree ☐2	Strongly agree ☐1
35	My line manager encourages me at work	Strongly disagree ☐1	Disagree ☐2	Neutral ☐3	Agree ☐4	Strongly agree ☐5

Thank you for completing the questionnaire.

Appendix K: Demographics questionnaire

Demographic Questionnaire

Please select your employment status: a) Trainee

b) Qualified

c) Unqualified

d) Other

If 'Other,' please state ☐

Please select your job role: a) Low intensity worker

b) High intensity worker

c) Other

If 'Other', please state ☐

Please select: I work in my current job: a) full-time

b) part-time

Please select your gender:

a) male
b) female
c) other
d) prefer not to say

Please type your age using numbers ☐

What is your ethnicity:

a) Asian British, Asian English, Asian Scottish or Asian Welsh
b) Black British, Black English, Black Scottish or Black Welsh
c) White British, White English, White Scottish or White Welsh
d) Asian other
e) Black other

f) White other

g) Chinese

h) Middle Eastern

i) Other ethnic background

j) Prefer not to say

If 'Other ethnic background', please state

Please select your religion:

a) I do not have a religion

b) Buddhist

c) Christian

d) Hindu

e) Jewish

f) Muslim

g) Sikh

h) Other religion

i) Prefer not to say

If 'Other religion', please state

Please select your marital status:

a) Single, never been married

b) married, in civil partnership or cohabiting

c) divorced or separated

d) widowed

e) prefer not to say

Please select the highest level of education you have completed:

a) no formal qualification

b) GCSE or equivalent

c) A levels, BTEC or equivalent

d) Bachelor's degree or equivalent

e) Master's degree

f) Doctorate degree

g) Prefer not to say

Please type in how many years of clinically relevant experience you have to date, to the nearest year. ☐

Please type in how long you have been employed with IAPT, to the nearest month and year. years ☐

months ☐

How many hours of supervision do you receive per month? ☐

Appendix L: University of Essex Ethics Committee Approval

University of Essex

Application for Ethical Approval of Research Involving Human Participants

This application form must be completed for any research involving human participants conducted in or by the University. 'Human participants' are defined as including living human beings, human beings who have recently died (cadavers, human remains and body parts), embryos and foetuses, human tissue and bodily fluids, and human data and records (such as, but not restricted to medical, genetic, financial, personnel, criminal or administrative records and test results including scholastic achievements). Research must not commence until written approval has been received (from departmental Director of Research/Ethics Officer, Faculty Ethics Sub-Committee (ESC) or the University's Ethics Committee). This should be borne in mind when setting a start date for the project. Ethical approval cannot be granted retrospectively and failure to obtain ethical approval prior to data collection will mean that these data cannot be used.

Applications must be made on this form, and submitted electronically, to your departmental Director of Research/Ethics Officer. A signed copy of the form should also be submitted. Applications will be assessed by the Director of Research/Ethics Officer in the first instance, and may then passed to the ESC, and then to the University's Ethics Committee. A copy of your research proposal and any necessary supporting documentation (e.g. consent form, recruiting materials, etc) should also be attached to this form.

A full copy of the signed application will be retained by the department/school for 6 years following completion of the project. The signed application form cover sheet (two pages) will be sent to the Research Governance and Planning Manager in the REO as Secretary of the University's Ethics Committee.

1. Title of project: Factors associated with perceived stress in IAPT therapists

2. The title of your project will be published in the minutes of the University Ethics Committee. If you object, then a reference number will be used in place of the title.
   Do you object to the title of your project being published? Yes ☐ / No ☒

3. This Project is: ☐ Staff Research Project ☒ Student Project

4. Principal Investigator(s) (students should also include the name of their supervisor):

Name:	Department:
Evgenia Kostaki	Doctorate in Clinical Psychology, School of Health and Human Sciences
Dr Leanne Andrews (Internal/University Supervisor)	Doctorate in Clinical Psychology, School of Health and Human Sciences
Dr Syd Hiskey (Extenal/Field Supervisor)	Clinical Psychologist, NEPFT NHS

5. **Proposed start date:** 1st March 2017

6. **Probable duration:** approximately 18 months

7. Will this project be externally funded? Yes ☐ / No ☒
   If Yes,

8. What is the source of the funding?

9. If external approval for this research has been given, then only this cover sheet needs to be submitted

External ethics approval obtained (attach evidence of approval) Yes ☐/ No ☒

Declaration of Principal Investigator:

The information contained in this application, including any accompanying information, is, to the best of my knowledge, complete and correct. I/we have read the University's *Guidelines for Ethical Approval of Research Involving Human Participants* and accept responsibility for the conduct of the procedures set out in this application in accordance with the guidelines, the University's *Statement on Safeguarding Good Scientific Practice* and any other conditions laid down by the University's Ethics Committee. I/we have attempted to identify all risks related to the research that may arise in conducting this research and acknowledge my/our obligations and the rights of the participants.

Signature(s): Ekwgrakn

Name(s) in block capitals: EVGENIA KOSTAKI

Date: 28/1/17

Supervisor's recommendation (Student Projects only):

I have read and approved the quality of both the research proposal and this application.

Supervisor's signature: [illegible]

Outcome:

The departmental Director of Research (DoR) / Ethics Officer (EO) has reviewed this project and considers the methodological/technical aspects of the proposal to be appropriate to the tasks proposed. The DoR / EO considers that the investigator(s) has/have the necessary qualifications, experience and facilities to conduct the research set out in this application, and to deal with any emergencies and contingencies that may arise.

This application falls under Annex B and is approved on behalf of the ESC ☑

This application is referred to the ESC because it does not fall under Annex B ☐

This application is referred to the ESC because it requires independent scrutiny ☐

Signature(s): [signature]

Name(s) in block capitals: WAYNE Wilson

Department: S-HITS

Date: 8/2/2017

The application has been approved by the ESC ☐

The application has not been approved by the ESC ☐

The application is referred to the University Ethics Committee ☐

Signature(s):

Name(s) in block capitals:

Faculty:

Date:

Appendix M: University of Essex Ethics Committee Amendment Request Approval

Ethics Approval: Amendment Request

Name: Evgenia Kostaki

Date: 18.3.17

Signature: Ekwstaki

Description of Amendment:

Two amendments are requested regarding the project titled "Factors associated with perceived stress in IAPT therapists" (ethics approval application ref. 16044):

1) Adding the following question to the Demographic Questionnaire: How many hours of supervision do you receive per month?
2) Amending the information sheet to include a list of support organisations and their contact details.

Reason for Amendment:

Regarding the first amendment: It was deemed important to measure the variable "hours of supervision received" with the aforementioned question as a recent paper from Westwood, Morison, Allt and Holmes (2017) showed that in Psychological Wellbeing Practitioners hours of supervision predicted lower odds of burnout.

Sophie Westwood, Linda Morison, Jackie Allt & Nan Holmes (2017): Predictors of emotional exhaustion, disengagement and burnout among improving access to psychological therapies (IAPT) practitioners, Journal of Mental Health, DOI: 10.1080/09638237.2016.1276540

Regarding the second amendment: It was deemed important to include the list of support organisations and their contact details in the information sheet of the study (in addition to them already been listed in the 'debrief page' and the 'end of study message for participants who do not consent') so that it is ensured that all participants have access to them. The amended information sheet is attached for your consideration.

(For office use only)

The amendment has been approved ☑

The amendment has not been approved ☐

Resubmission required ☐

Signature:

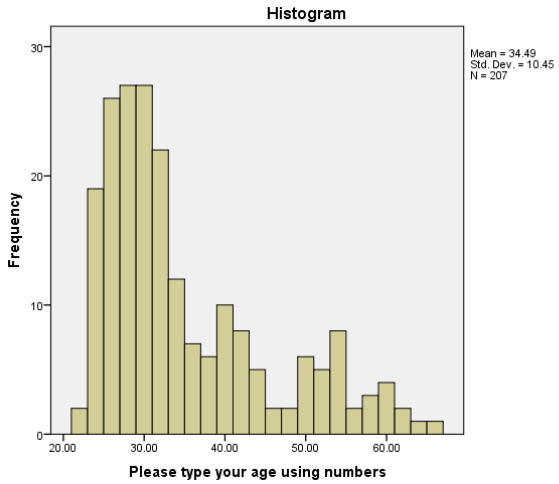
Name (in block capitals): W WILSON

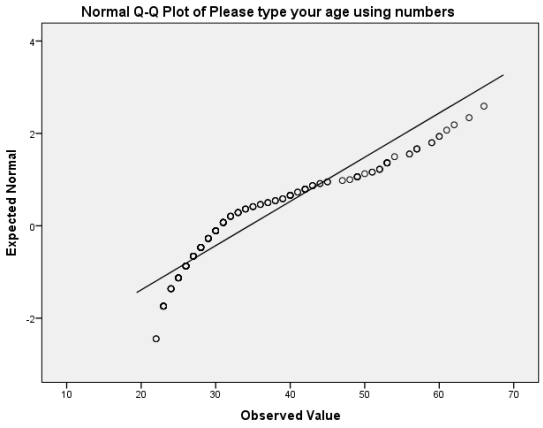
Department: S.H.M.S

Date: 6/3/17

Appendix N: Normality assumption analyses for ratio demographic variables

Graphical results for the variable ‘Age’.





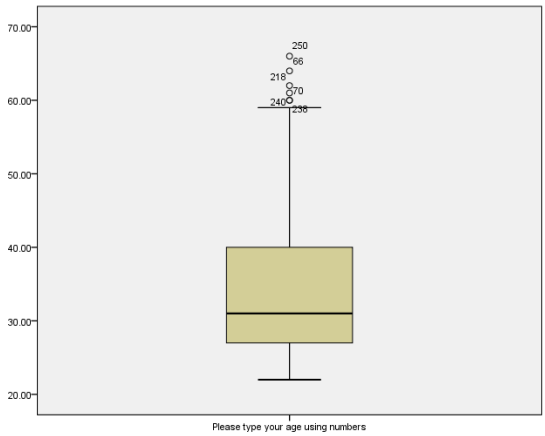


Table N1

Statistical results for variables

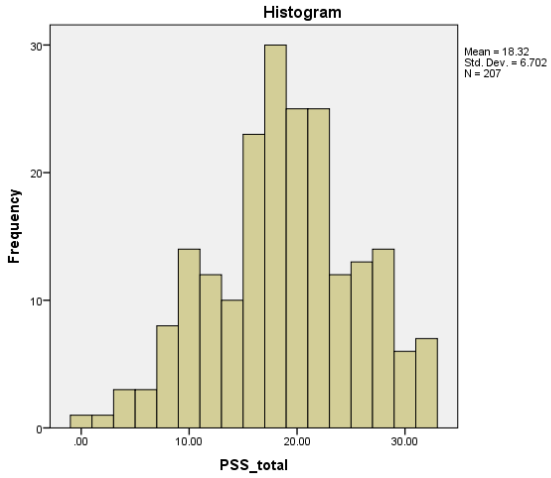
	N	Skewness (SEskew)	z-skewness	Kurtosis (SEkurt)	z-kurtosis	Shapiro-Wilk Signf.
Age	207	1.126 (.169)	6.663	0.306 (.337)	0.908	<.001
Years of clinically relevant experience to date (to the nearest year)	207	1.815 (.169)	10.740	5.373 (.337)	15.944	<.001
Hours of supervision received per month	207	0.671 (.169)	3.970	-.050 (.337)	-0.148	<.001
How long have you been employed with IAPT, to the nearest month and year. - years	205	0.532 (.170)	3.129	-.933 (.338)	-2.760	<.001

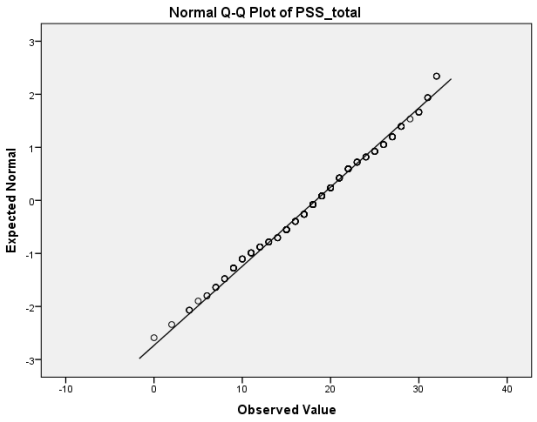
Note. N= sample size, SEskew= Standard Error for skewness, SEkurt= Standard Error for kurtosis, Signf. = significance level.

[a] The z-scores for skewness and kurtosis were calculated using the following formulas z-skewness= Skewness /St Error, z-kurtosis= Kurtosis/St Error.

Appendix O: Normality assumption analyses for the main study variables

Graphical results for the variable ‘Perceived Stress’.





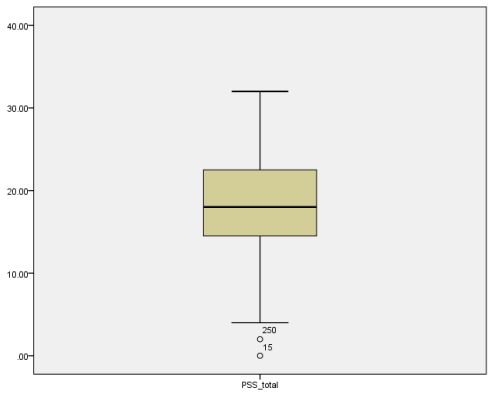


Table O1

Statistical results for the main study variables (N=207)

	Skewness	z-skewness [a]	Kurtosis	z-kurtosis [a]	Shapiro-Wilk Signf.
Perceived Stress Total	-.136	-.805	-.352	-1.045	.103
HSE Demands	-.322	-1.905	-.742	-2.202	<.001
HSE Control	-.079	-.467	-.024	-0.071	.088
HSE Managerial Support	-.524	-3.101	-.488	-1.448	<.001
HSE Colleague Support	-.714	-4.225	.266	0.789	<.001
HSE Role	-.818	-4.840	.759	2.252	<.001
HSE Relationship	-1.407	-8.325	1.912	5.674	<.001
HSE Change	.073	.432	-.647	-1.920	.001
SCS Self-Kindness	.022	.130	-.215	-.638	.083
SCS Self-Judgement	.145	.858	-.401	-1.190	.026
SCS Common Humanity	.091	.538	-.125	-.371	.009
SCS Isolation	.161	.953	-.812	-2.409	<.001
SCS Mindfulness	-.004	-.024	-.127	-.377	.008
SCS Over-identification	.249	1.473	-.654	-1.941	.001
SCS Total	.191	1.130	-.152	-.451	.478

Note. Signf. = significance level.

[a] The z-scores for skewness and kurtosis were calculated using the following formulas z-skewness= Skewness /Skewness Standard Error, z-kurtosis= Kurtosis/Kurtosis Standard Error, where Skewness Standard Error is .169 and Kurtosis Standard Error is .337.

Appendix P: Normality assumptions Perceived Stress (N= 200)

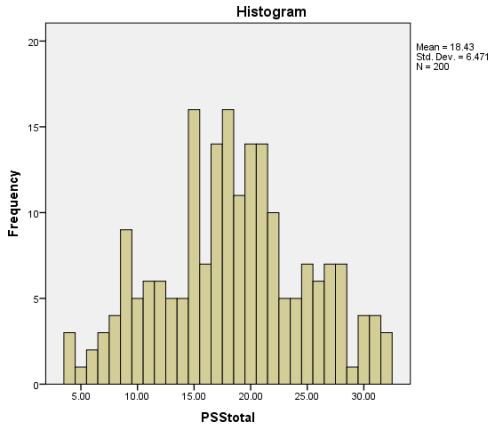
With respect to the normal distribution the z-scores for skewness and kurtosis fell within the acceptable range and the Shapiro-Wilk test was non-significant (Table P1). The plots were also indicative of a normal distribution.

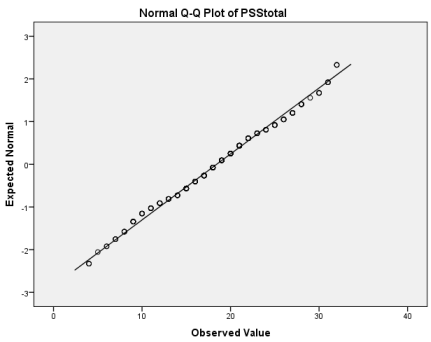
Table P1

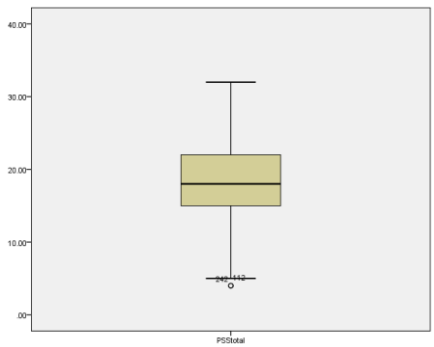
Skewness and Kurtosis scores for Perceived Stress

	n	Skewness	z-skewness	Kurtosis	z-kurtosis	Shapiro-Wilk Signf.
Perceived Stress Total	200	-.019	-1.10	-.485	-1.42	.053

Note. n=frequency, Signf= Significance level.







Appendix Q: Moderation analyses with mean centering

Table Q1

Interaction effect moderation analyses significance levels (N= 200)

Interaction effect	p
HSE Demands X Total SCS	.381
HSE Control X Total SCS	.465
HSE Managerial Support X Total SCS	.441
HSE Colleague Support X Total SCS	.911
HSE Role X Total SCS	.762
HSE Relationship X Total SCS	.785
HSE Change X Total SCS	.446

Note. p= significance level

Appendix R: Assumptions for fit and generalisability of model cleansing strategy analyses

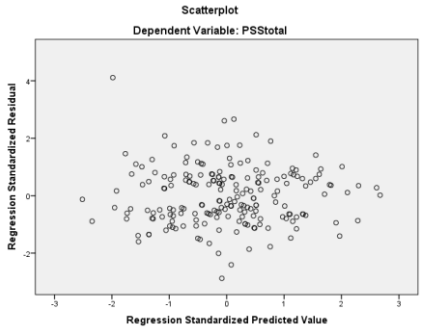
Demands

Multicollinearity: The SPSS correlation matrix did not show indication of multicollinearity as no predictors correlated substantially with each other. The correlations were all well below .9 (highest absolute value of correlation coefficient was .51). Moreover, the largest Variance Inflation Factor (VIF) across all three models was 1.13, which is well below 10, the average VIF for each model was very close to 1 (Model 1= 1.02, Model 2= 1.01, Model 3= 1.07) and tolerance statistics were well above .2 (smallest tolerance across the three models was .89). The correlation matrix coefficients, and the VIF and tolerance values pointed towards no multicollinearity.

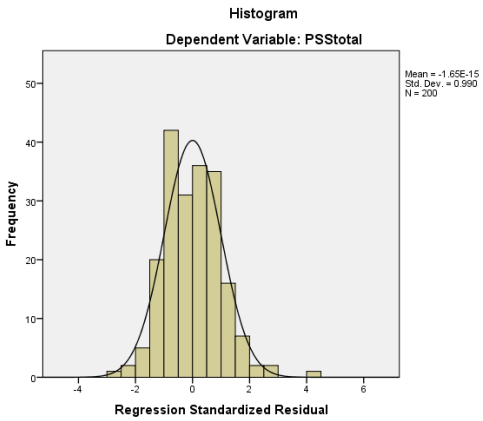
Independent Errors: The Durbin-Watson statistic was 2 so the assumption of independent errors was met.

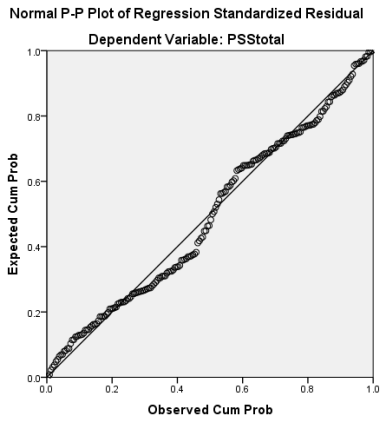
Influential Cases: Casewise diagnostics showed that only one case had a standard residual greater than 3 (case 255). Cook's Distance for case 255 was .20 (<1) thus the case was not influential.

Linearity: The plot of residuals looked like a "random array of dots evenly dispersed around zero" (Field, 2005, p. 202) suggesting that the assumption of linearity was met.



Normality of Residuals: The histogram was roughly bell-like shaped and the points roughly mapped onto the line of the normal probability; this suggested that the residuals were normally distributed.





Cross- validity/ Generalisability: The difference between the R^2 and the Adjusted R^2 was small for all three models (Model 1= .010, Model 2= .011, Model 3= .012) This means that if the models 1, 2 and 3 derived from the population as opposed to the sample, they would account for 1%, 1.1% and 1.2% less variance in perceived stress respectively.

Control

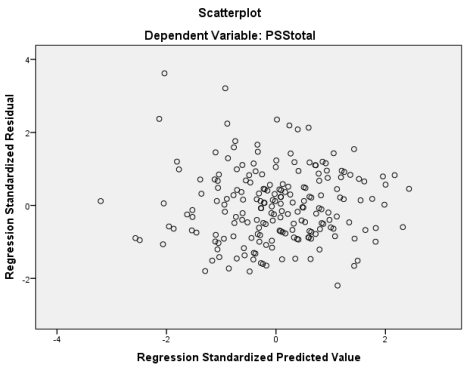
Multicollinearity: The SPSS correlation matrix did not show indication of multicollinearity as no predictors correlated substantially with each other. The correlations were all well below .9 (highest absolute value of correlation coefficient was .51). Moreover, the largest Variance Inflation Factor (VIF) across all three models was 1.16, which is well below 10, the average VIF for each model was very close to 1 (Model 1= 1.02, Model 2= 1.06, Model 3= 1.11) and tolerance statistics were well above .2 (smallest tolerance across the three models was .86). The

correlation matrix coefficients, and the VIF and tolerance values pointed towards no multicollinearity.

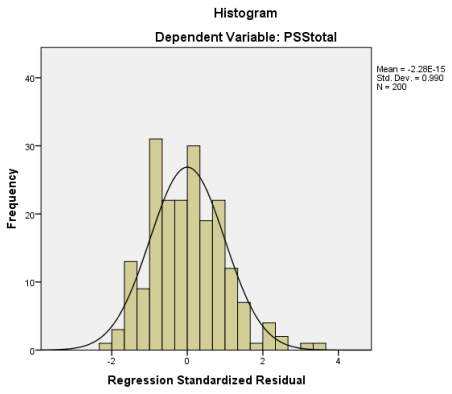
Independent Errors: The Durbin-Watson statistic was 1.95, which is close to 2 so the assumption of independent errors was met.

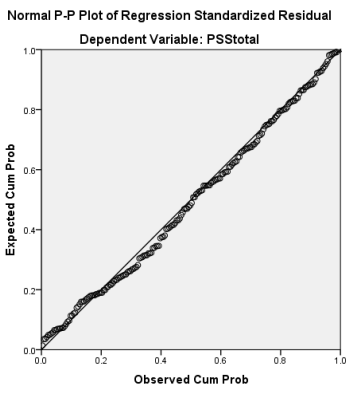
Influential Cases: Casewise diagnostics showed that only two cases had a standard residual greater than 3 (cases 217 and 255). Cook's Distance for case 217 was .03 (<1) and for case 255 was .16 (<1) thus the case was not influential.

Linearity: The plot of residuals looked like a "random array of dots evenly dispersed around zero" (Field, 2005, p. 202) suggesting that the assumption of linearity was met.



Normality of Residuals: The histogram was roughly bell-like shaped and the points roughly mapped onto the line of the normal probability; this suggested that the residuals were normally distributed.





Cross- validity/ Generalisability: The difference between the R^2 and the Adjusted R^2 was small for all three models (Model 1= .010, Model 2= .012, Model 3= .014) This means that if the models 1, 2 and 3 derived from the population as opposed to the sample, they would account for 1%, 1.2% and 1.4% less variance in perceived stress respectively.

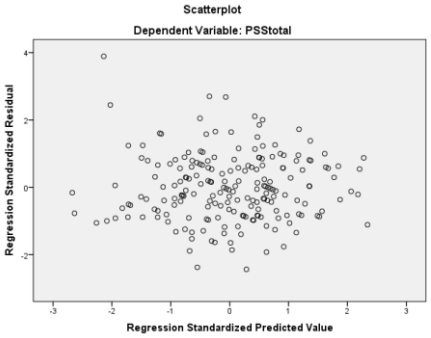
Managerial support

Multicollinearity: The SPSS correlation matrix did not show indication of multicollinearity as no predictors correlated substantially with each other. The correlations were all well below .9 (highest absolute value of correlation coefficient was .51). Moreover, the largest Variance Inflation Factor (VIF) across all three models was 1.13, which is well below 10, the average VIF for each model was very close to 1 (Model 1= 1.02, Model 2= 1.02, Model 3= 1.08) and tolerance statistics were well above .2 (smallest tolerance across the three models was .88). The correlation matrix coefficients, and the VIF and tolerance values pointed towards no multicollinearity.

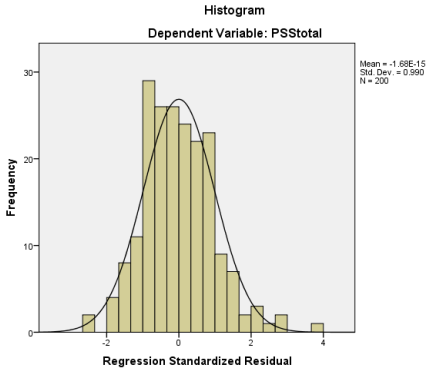
Independent Errors: The Durbin-Watson statistic was 1.89, which is close to 2 so the assumption of independent errors was met.

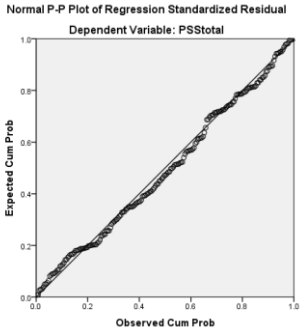
Influential Cases: Casewise diagnostics showed that only one case had a standard residual greater than 3 (case 255). Cook's Distance for case 255 was .20 (<1) thus the case was not influential.

Linearity: The plot of residuals looked like a "random array of dots evenly dispersed around zero" (Field, 2005, p. 202) suggesting that the assumption of linearity was met.



Normality of Residuals: The histogram was roughly bell-like shaped and the points roughly mapped onto the line of the normal probability; this suggested that the residuals were normally distributed.





Cross- validity/ Generalisability: The difference between the R^2 and the Adjusted R^2 was small for all three models (Model 1= .010, Model 2= .012, Model 3= .013) This means that if the models 1, 2 and 3 derived from the population as opposed to the sample, they would account for 1%, 1.2% and 1.3% less variance in perceived stress respectively.

Colleague support

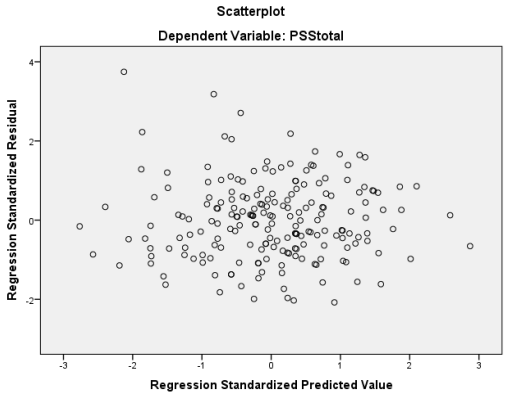
Multicollinearity: The SPSS correlation matrix did not show indication of multicollinearity as no predictors correlated substantially with each other. The

correlations were all well below .9 (highest absolute value of correlation coefficient was .51). Moreover, the largest Variance Inflation Factor (VIF) across all three models was 1.13, which is well below 10, the average VIF for each model was very close to 1 (Model 1= 1.02, Model 2= 1.03, Model 3= 1.09) and tolerance statistics were well above .2 (smallest tolerance across the three models was .88). The correlation matrix coefficients, and the VIF and tolerance values pointed towards no multicollinearity.

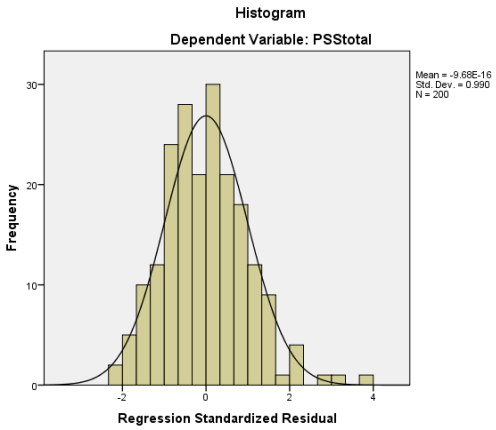
Independent Errors: The Durbin-Watson statistic was 1.94, which is close to 2 so the assumption of independent errors was met.

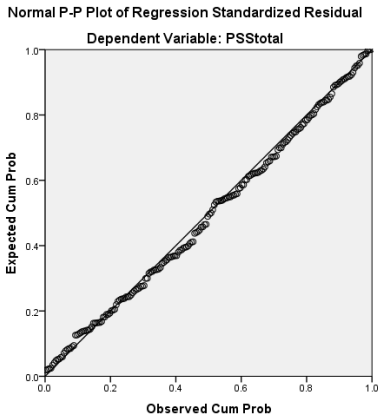
Influential Cases: Casewise diagnostics showed that only two cases had a standard residual greater than 3 (cases 217 and 255). Cook's Distance for case 217 was .03 (<1) and for case 255 was .18 (<1) thus the case was not influential.

Linearity: The plot of residuals looked like a "random array of dots evenly dispersed around zero" (Field, 2005, p. 202) suggesting that the assumption of linearity was met.



Normality of Residuals: The histogram was roughly bell-like shaped and the points roughly mapped onto the line of the normal probability; this suggested that the residuals were normally distributed.





Cross- validity/ Generalisability: The difference between the R^2 and the Adjusted R^2 was small for all three models (Model 1= .010, Model 2= .012, Model 3= .014) This means that if the models 1, 2 and 3 derived from the population as opposed to the sample, they would account for 1%, 1.2% and 1.4% less variance in perceived stress respectively.

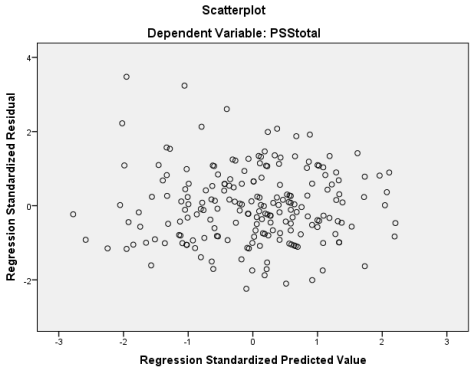
Role

Multicollinearity: The SPSS correlation matrix did not show indication of multicollinearity as no predictors correlated substantially with each other. The correlations were all well below .9 (highest absolute value of correlation coefficient was .51). Moreover, the largest Variance Inflation Factor (VIF) across all three models was 1.16, which is well below 10, the average VIF for each model was very close to 1 (Model 1= 1.02, Model 2= 1.02, Model 3= 1.09) and tolerance statistics were well above .2 (smallest tolerance across the three models was .86). The correlation matrix coefficients, and the VIF and tolerance values pointed towards no multicollinearity.

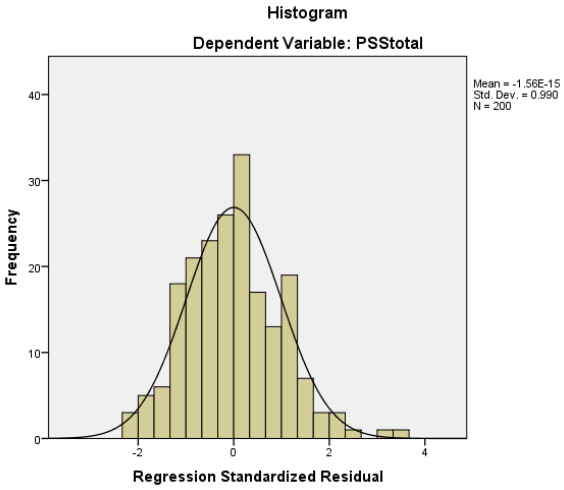
Independent Errors: The Durbin-Watson statistic was 1.93, which is close to 2 so the assumption of independent errors was met.

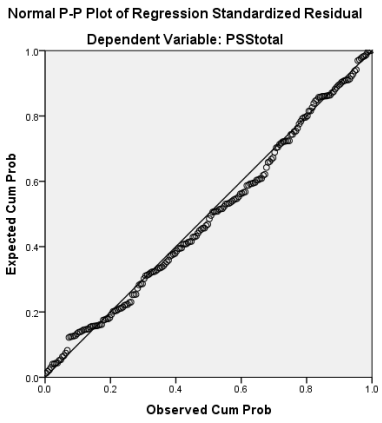
Influential Cases: Casewise diagnostics showed that only two cases had a standard residual greater than 3 (cases 217 and 255). Cook's Distance for case 217 was .04 (<1) and for case 255 was .15 (<1) thus the case was not influential.

Linearity: The plot of residuals looked like a "random array of dots evenly dispersed around zero" (Field, 2005, p. 202) suggesting that the assumption of linearity was met.



Normality of Residuals: The histogram was roughly bell-like shaped and the points roughly mapped onto the line of the normal probability; this suggested that the residuals were normally distributed.





Cross- validity/ Generalisability: The difference between the R^2 and the Adjusted R^2 was small for all three models (Model 1= .010, Model 2= .012, Model 3= .014) This means that if the models 1, 2 and 3 derived from the population as opposed to the sample, they would account for 1%, 1.2% and 1.4% less variance in perceived stress respectively.

Relationship

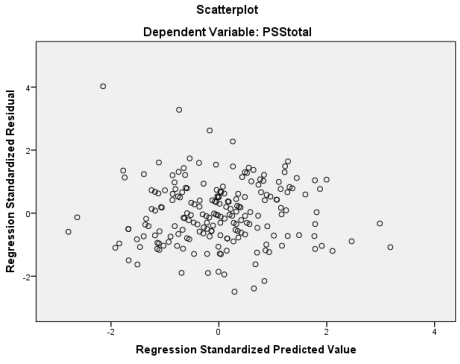
Multicollinearity: The SPSS correlation matrix did not show indication of multicollinearity as no predictors correlated substantially with each other. The

correlations were all well below .9 (highest absolute value of correlation coefficient was .51). Moreover, the largest Variance Inflation Factor (VIF) across all three models was 1.13, which is well below 10, the average VIF for each model was very close to 1 (Model 1= 1.02, Model 2= 1.03, Model 3= 1.08) and tolerance statistics were well above .2 (smallest tolerance across the three models was .89). The correlation matrix coefficients, and the VIF and tolerance values pointed towards no multicollinearity.

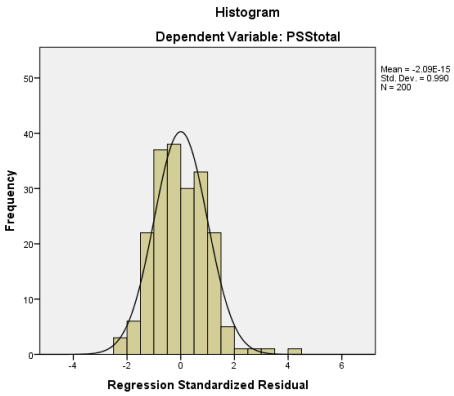
Independent Errors: The Durbin-Watson statistic was 1.94, which is close to 2 so the assumption of independent errors was met.

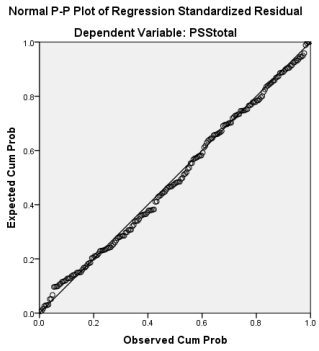
Influential Cases: Casewise diagnostics showed that only two cases had a standard residual greater than 3 (cases 217 and 255). Cook's Distance for case 217 was .03 (<1) and for case 255 was .21 (<1) thus the case was not influential.

Linearity: The plot of residuals looked like a "random array of dots evenly dispersed around zero" (Field, 2005, p. 202) suggesting that the assumption of linearity was met.



Normality of Residuals: The histogram was roughly bell-like shaped and the points roughly mapped onto the line of the normal probability; this suggested that the residuals were normally distributed.





Cross- validity/ Generalisability: The difference between the R^2 and the Adjusted R^2 was small for all three models (Model 1= .010, Model 2= .012, Model 3= .012) This means that if the models 1, 2 and 3 derived from the population as opposed to the sample, they would account for 1%, 1.2% and 1.2% less variance in perceived stress respectively.

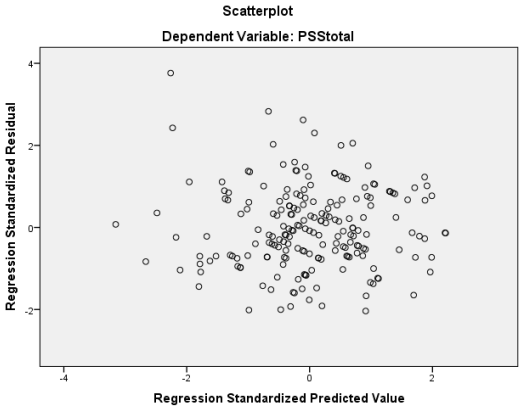
Change

Multicollinearity: The SPSS correlation matrix did not show indication of multicollinearity as no predictors correlated substantially with each other. The correlations were all well below .9 (highest absolute value of correlation coefficient was .51). Moreover, the largest Variance Inflation Factor (VIF) across all three models was 1.13, which is well below 10, the average VIF for each model was very close to 1 (Model 1= 1.02, Model 2= 1.01, Model 3= 1.07) and tolerance statistics were well above .2 (smallest tolerance across the three models was .88). The correlation matrix coefficients, and the VIF and tolerance values pointed towards no multicollinearity.

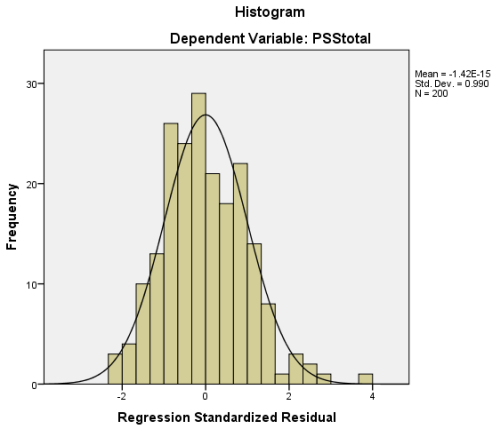
Independent Errors: The Durbin-Watson statistic was 1.96, which is close to 2 so the assumption of independent errors was met.

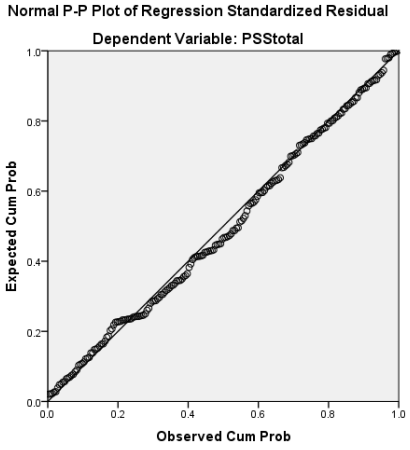
Influential Cases: Casewise diagnostics showed that only one case had a standard residual greater than 3 (case 255). Cook's Distance for case 255 was .21 (<1) thus the case was not influential.

Linearity: The plot of residuals looked like a "random array of dots evenly dispersed around zero" (Field, 2005, p. 202) suggesting that the assumption of linearity was met.



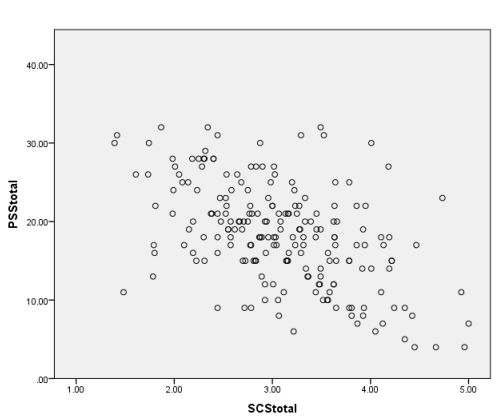
Normality of Residuals: The histogram was roughly bell-like shaped and the points roughly mapped onto the line of the normal probability; this suggested that the residuals were normally distributed.

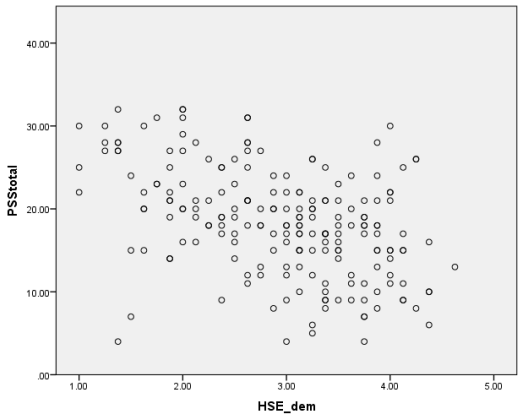


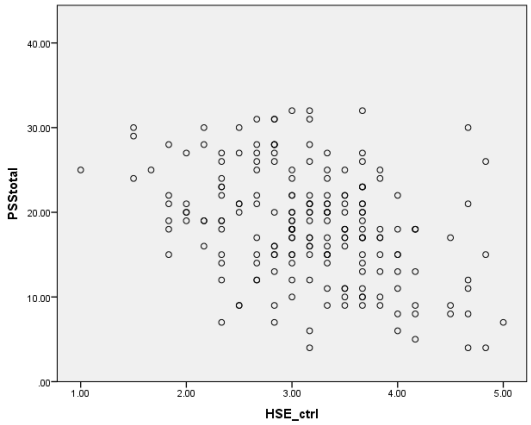


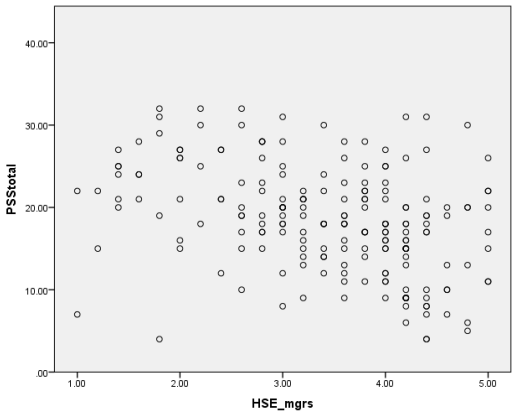
Cross- validity/ Generalisability: The difference between the R^2 and the Adjusted R^2 was small for all three models (Model 1= .010, Model 2= .013, Model 3= .014) This means that if the models 1, 2 and 3 derived from the population as opposed to the sample, they would account for 1%, 1.3% and 1.4% less variance in perceived stress respectively.

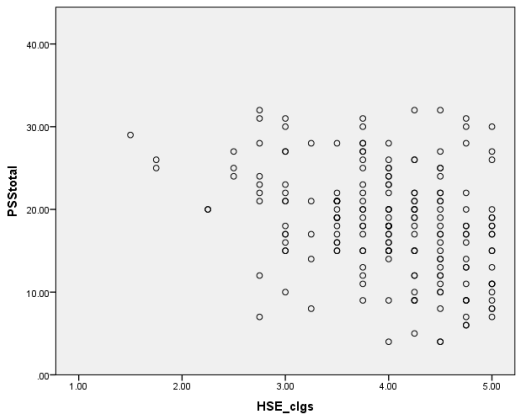
Appendix S: Scatterplots assessing linearity

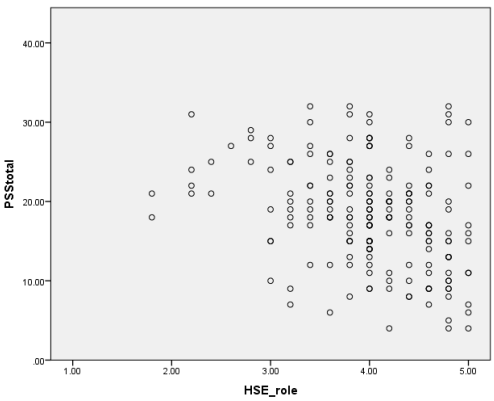


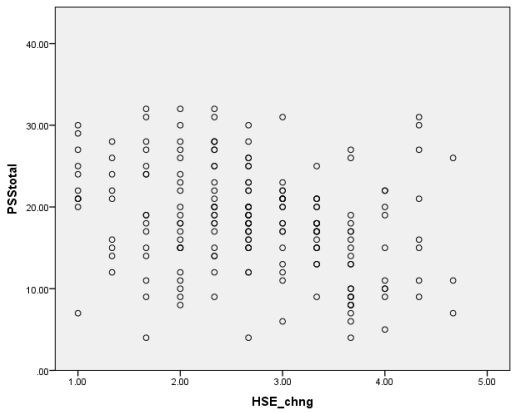


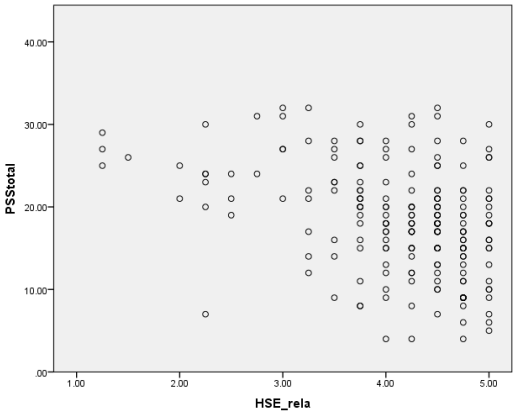


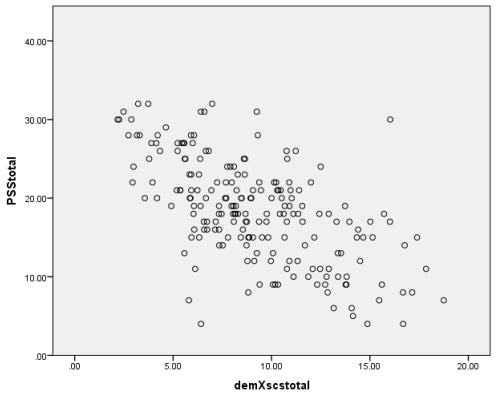


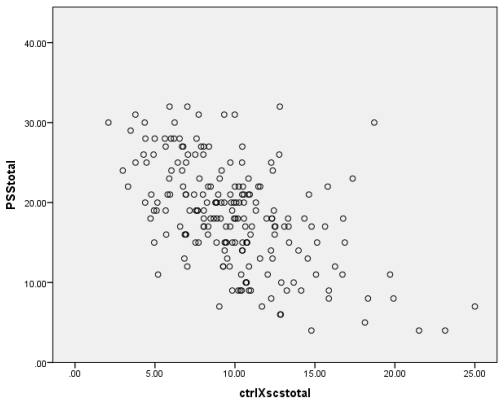





PSStotal
HSE_chng


PSStotal
HSE_rela


PSStotal
demXscstotal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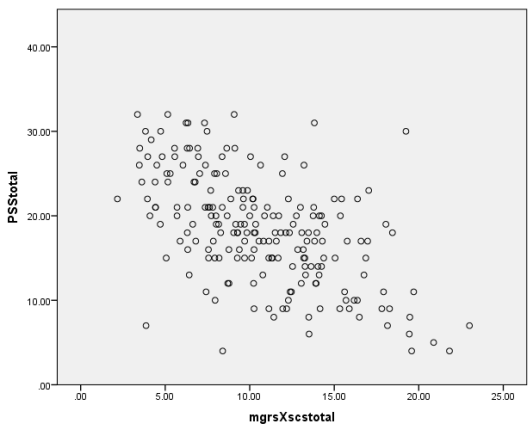
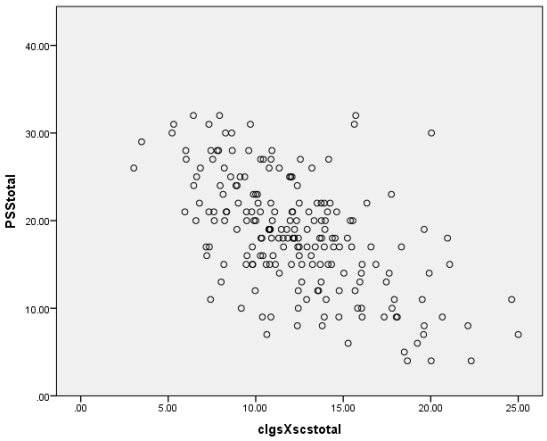
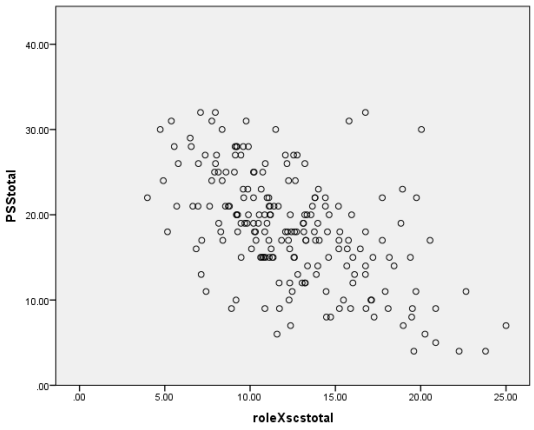
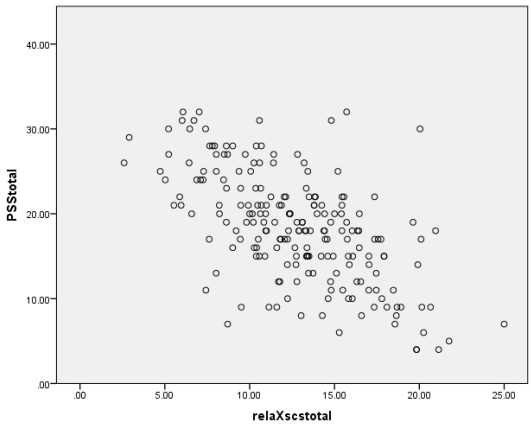
ctrlXscstotal


PSStotal
mgrsXscstotal


PSStotal
clgsXscstotal


PSStotal
40.00
30.00
20.00
10.00
.00
.00
5.00
10.00
15.00
20.00
25.00
roleXscstotal


PSStotal
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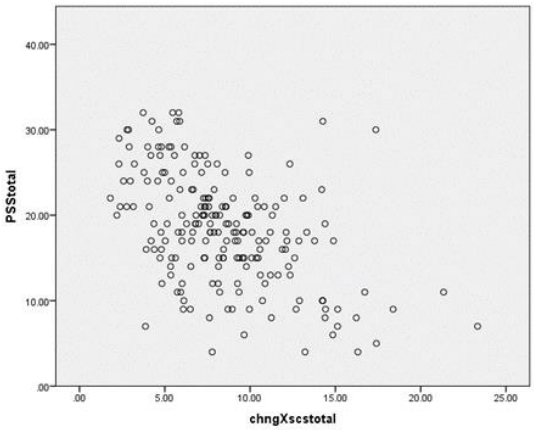
.00
.00
5.00
10.00
15.00
20.00
25.00
relaXscstotal


PSStotal
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20.00
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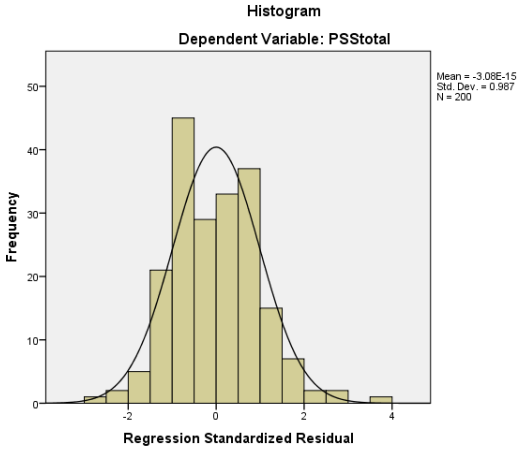
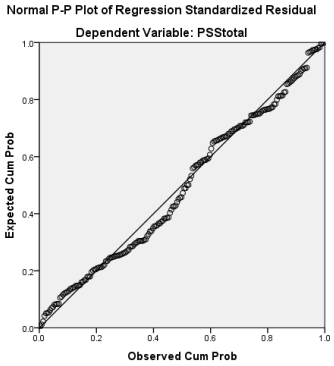
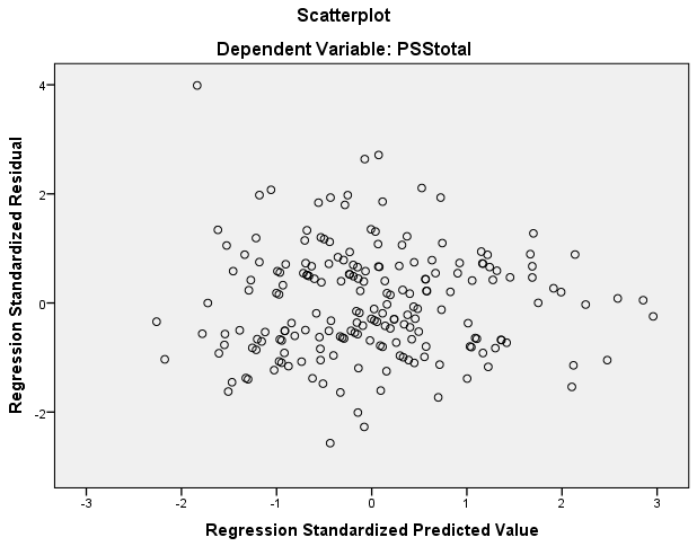
.00
5.00
10.00
15.00
20.00
25.00
chngXscstotal

Appendix T: Residual graphs

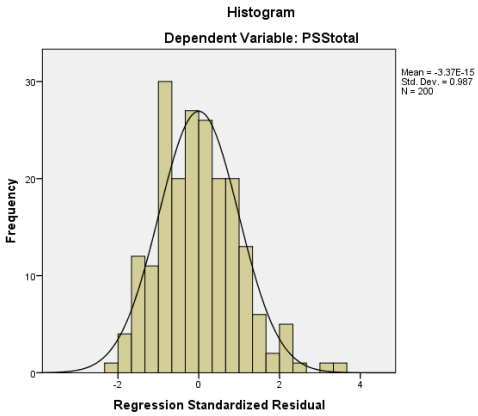
Demands:

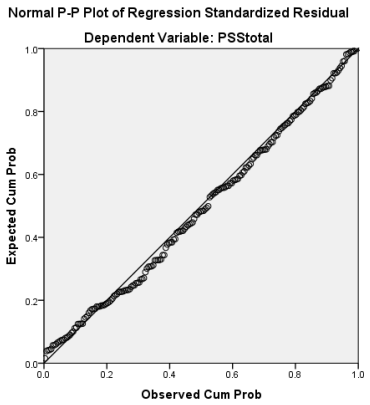


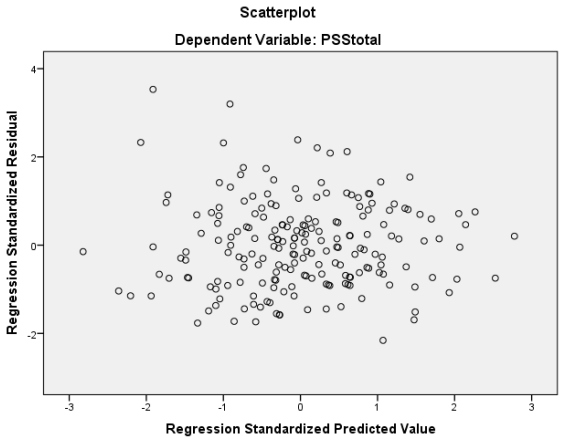




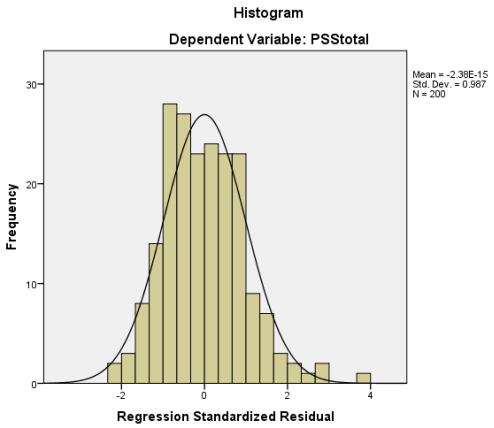
Control:

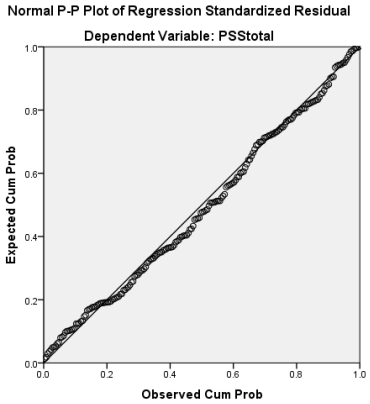

Histogram
Dependent Variable: PSStotal
Mean = -3.37E-15
Std. Dev. = 0.987
N = 200
Frequency
Regression Standardized Residual

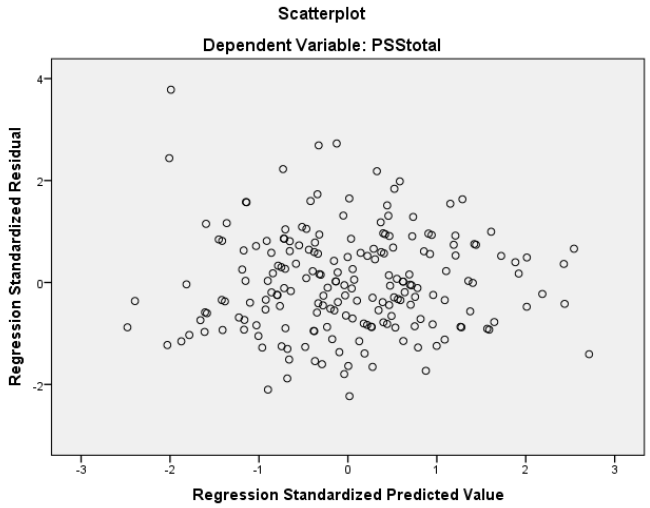

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: PSStotal
Expected Cum Prob
Observed Cum Prob


Scatterplot
Dependent Variable: PSStotal
Regression Standardized Residual
Regression Standardized Predicted Value

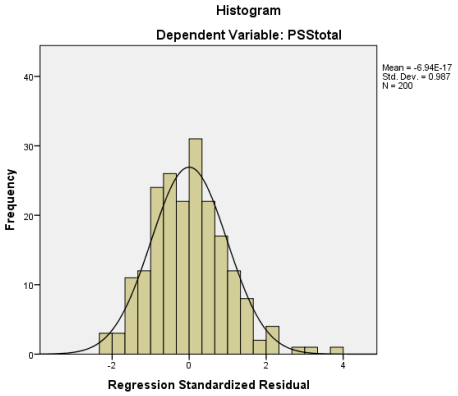
Managerial support:

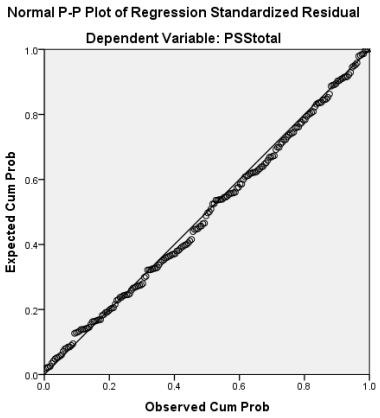


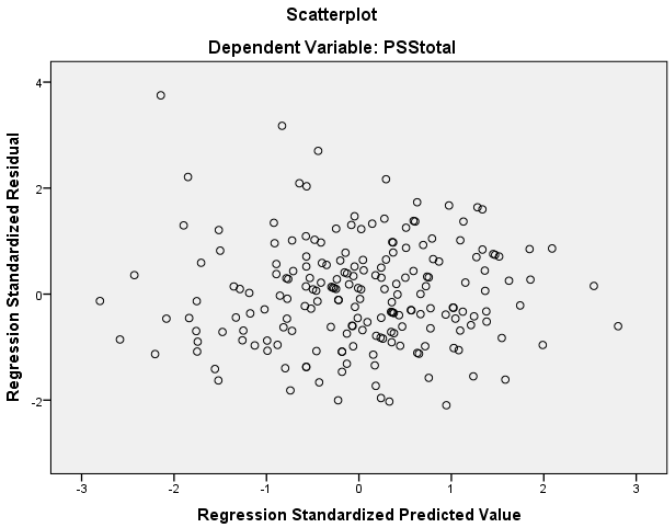




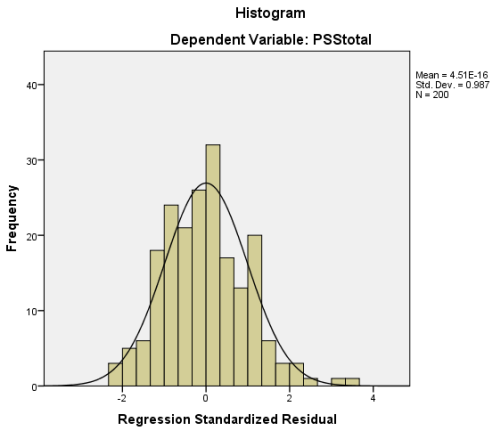
Colleague support:

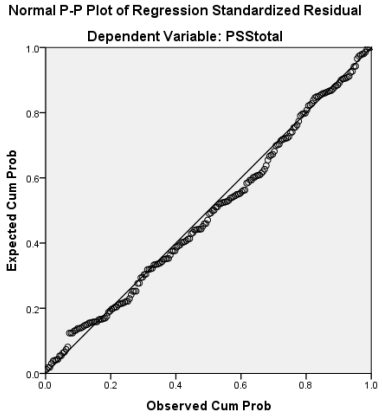


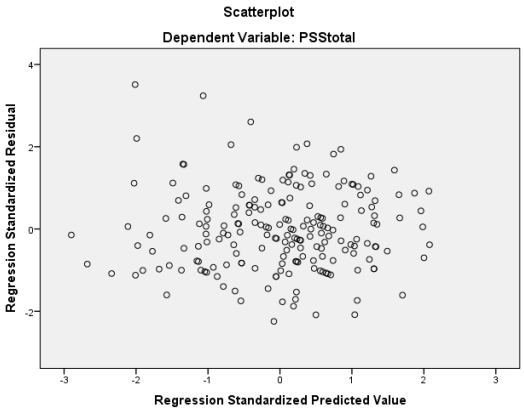




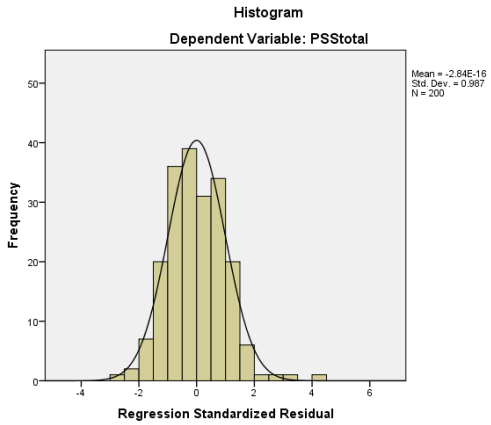
Role clarity:

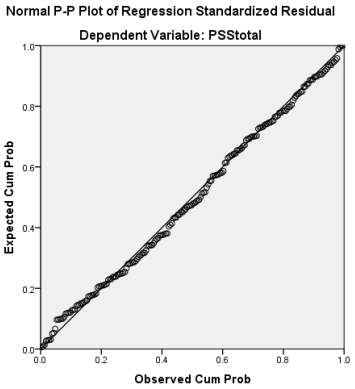


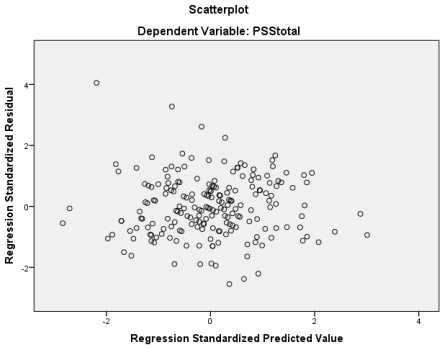




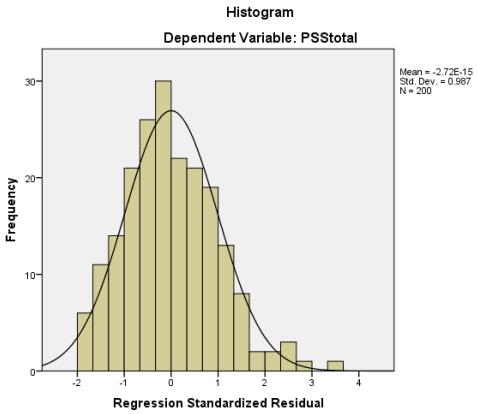
Relationship:

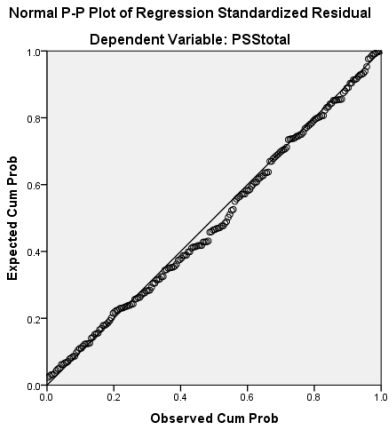


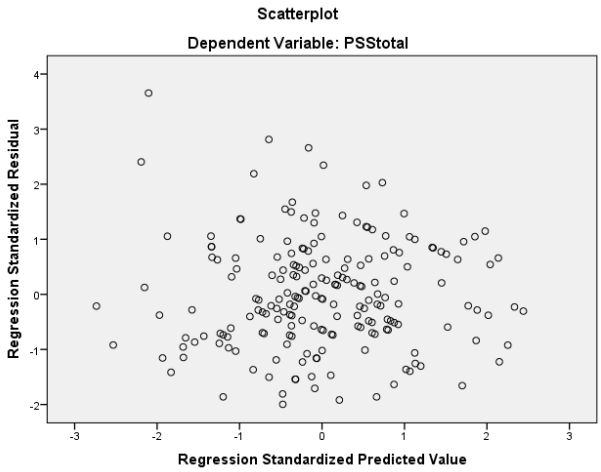




Change:


Histogram
Dependent Variable: PSStotal
Mean = -2.72E-15
Std. Dev. = 0.987
N = 200
Frequency
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: PSStotal
Expected Cum Prob
Observed Cum Prob


Scatterplot
Dependent Variable: PSStotal
Regression Standardized Residual
Regression Standardized Predicted Value