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Perfectionism in the workplace: Examining the influence of perfectionistic characteristics on employees' work day and respite experiences.

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Abstract

This thesis comprises three studies that were designed to investigate the outcomes and mechanisms of perfectionism in a working population. Study one utilised a daily diary design and asked participants to complete questionnaires recording levels of event stress, emotional exhaustion, negative affect and coping immediately after work for five consecutive days. Work characteristics, demographics and measures of neuroticism, conscientiousness and perfectionism were collected in initial questionnaire booklets in all three studies. Results from 136 employees found that evaluative concerns perfectionism predicted daily levels of negative affect, event stress and avoidant coping. As predicted, event stress and avoidant coping mediated the relationship between evaluative concerns perfectionism and both negative affect and emotional exhaustion.

Study two employed the same daily diary methodology and participant sample as study one but asked participants to record their levels of work-related perseverative cognition, negative affect and emotional exhaustion experienced during the evening. Analyses revealed that evaluative concerns perfectionism predicted evening levels of negative affect and work-related perseverative cognition. Work-related perseverative cognition predicted evening levels of negative affect and emotional exhaustion. End of work-day well-being was controlled for in both models. Further analyses suggested that work-related perseverative cognition mediated the relationship between evaluative concerns perfectionism and emotional exhaustion but not negative affect.

Study three applied an eight-week longitudinal respite design over the Christmas vacation, in a sample of 140 teachers from the UK and Canada. Levels of fatigue, emotional exhaustion and negative affect were recorded weekly for eight consecutive weeks. In addition levels of work-related perseverative cognition were measured during the two Christmas vacation weeks (weeks three and four). Socially prescribed perfectionism predicted a quicker fade-out rate of vacation effects upon return to work. Work-related perseverative cognition during the vacation predicted levels of well-being upon return to work but further analysis suggested it did not function as a mechanism of perfectionism.

The general discussion focuses on the theoretical implications of this research for the perfectionism and leisure time recovery literatures.

Chapter 1. Introduction

Traditionally organisational psychology approaches to workplace well-being have focused on organisational-level factors. However, a burgeoning amount of research has increasingly found that individual differences play an important role Lazarus, 1995; Semmer, 2003). Perfectionism is one such individual difference that has consistently been associated with poor indicators of well-being (Flett & Hewitt, 2002; Hill & Curran, 2016; Molnar, Sadava, Flett & Colautti, 2012). The domain of work has been identified as the most likely life domain to foster perfectionistic tendencies (Stoeber & Stoeber, 2009). Therefore, research investigating perfectionism in the workplace is important to further understanding regarding the factors contributing to workplace well-being.

Perfectionism is not only associated with negative health outcomes, research also suggests individuals higher on a maladaptive dimension of perfectionism are more likely to exhibit maladaptive psychological and coping processes; such as avoidant coping, perseverative cognition and increased levels of stress appraisals (Dunkley, Zuroff & Blankstein, 2003; Flaxman, Ménard, Bond & Kinman, 2012). These processes associated with perfectionism are also linked with indicators of poor well-being, for example negative affect and anxiety (Dunkley et al., 2003; McLaughlin, Borkovec & Sibrava, 2007). This indicates that coping style, perseverative cognition and stress appraisal may act as mechanisms of perfectionism, mediating the relationship between perfectionism and levels of well-being. Although some studies have explored these mediational relationships in the workplace (Flaxman et al., 2012; Stoeber & Rennert, 2008), given that work is the domain most likely to be affected by perfectionism, little attention has been paid to this important area of research

(Stoeber & Damian, 2016). This thesis will therefore focus on the mechanisms of perfectionism in the workplace, with the aim of furthering understanding as to the role of individual differences in workplace well-being.

1.1 The Conceptualization of Perfectionism

How perfectionism has been conceptualized has changed over the past fifty years. Early theorists viewed perfectionism as unidimensional with a focus on the cognitive component, which was seen as comprising of irrational beliefs and dysfunctional attitudes (Burns, 1980; Ellis, 1962; Weissman & Beck, 1978). Moving on from a unidimensional framework, Hamachek (1978) categorized perfectionism as either *normal* or *neurotic.* Normal perfectionism was seen as striving for achievable and realistic standards and was associated with self-satisfaction and improved self-esteem. Neurotic perfectionism shared the striving for standards but was motivated by a fear of failure and causing disappointment in others. Whilst this model acknowledged two different dimensions of perfectionism, a multidimensional framework was needed to examine which specific facets led to mental health outcomes such as depression and anxiety (Burns, 1980; Hollander, 1965; Pacht, 1984).

In the early 1990s two prominent models of perfectionism were constructed: one by Frost (1990) and the other by Hewitt and Flett (1991b). In order to measure the identified facets within these models, scales were developed: Frost's multidimensional perfectionism scale (1990) and a scale of the same name by Hewitt and Flett (1991b). Although both were multidimensional, the scales have different foci. Frost's scale focuses on self-directed cognitions and also the role of parental pressures and expectations

(Frost, Marten, Lahart & Rosenblate, 1990). Hewitt and Flett's (1991b) scale focuses more on from whom the perfectionism originates and toward whom it is directed. The following section will explore both scales to provide a comprehensive overview of the main measures currently used in perfectionism research.

    1.1.1 Hewitt and Flett's Multidimensional Perfectionism Scale. Hewitt and Flett (1991b) recognized that although perfectionism had previously been recognized as a positive factor in achievement (Hamachek, 1978), it was also associated with numerous negative outcomes such as failure, guilt, low self-esteem, depression and personality disorders (Burns & Beck, 1978; Hamachek, 1978; Pacht, 1984). In response to these conflicting findings, Hewitt and Flett proposed that perfectionism consisted of both personal and social components, suggesting that recognizing both intraindividual and interindividual aspects of perfectionism was important in its classification. As a result of this theoretical viewpoint, Hewitt and Flett's multidimensional model consists of three facets: self-oriented, socially prescribed, and other-oriented perfectionism (Hewitt & Flett 1991b). The function of the subscales is not to differentiate behaviour per se but to whom the behaviour is directed. For instance self-oriented perfectionism involves perfectionistic behaviour directed to the self and other-oriented perfectionism describes perfectionistic behaviour directed towards others (Hewitt & Flett, 1991). Socially prescribed perfectionism also involves perfectionistic behaviour directed toward the self but the high standards are perceived as being imposed by others.

    Self-Oriented Perfectionism (SOP). SOP is characterized by setting high standards and striving to be as perfect as possible. The self-oriented perfectionist

aims for perfection, is perfectionistic in her goal-setting and is motivated by both striving for this perfection and avoiding failures (Hewitt & Flett, 2002). Although initial applications of the scale were in clinical populations and school and college students, excessively high goal setting can occur in different domains such as home, work and relationships (Stoeber & Stoeber, 2009). For example a student high in SOP may expect 'A' grades in all of her exams and anything less would be a failure. This need for perfection could also be seen in the workplace, where an individual may set themselves high sales targets or a timeline for promotion. Again, an inability to meet these goals would be seen as failure. The striving for perfection may be seen as ultimately adaptive but failure to meet the excessively high targets can result in a preoccupation on shortcomings and deficiencies when failure occurs, resulting in cognitions such as self-blame (Hewitt, Mittelstaedt, & Wollert, 1989). The intrapersonal nature of this facet is reflected in these example items: "One of my goals is to be perfect in everything I do" and "I must always be successful at school or work".

Although some research has shown SOP as adaptive (Kilbert, Langhinrichsen-Rohling & Saito, 2005) other research suggests that a purely adaptive conceptualization of SOP is questionable. Theoretically Hewitt and Flett (2002) refer to the consistent failure of an individual high in SOP to meet her own expectations being a key aspect which can lead to a range of mental health outcomes, such as subclinical depressive symptoms, eating disorders (Cooper, Cooper, & Fairburn, 1985; Garner, Olmstead, & Polivy, 1983) and anxiety (Flett, Hewitt & Dyck, 1989). Specifically the perceived difference between actual and ideal self has been linked with depressive affect (Higgins,

Bond, Klein, & Strauman, 1989) and low self-regard (Hoge & McCarthy, 1983; Lazzari, Fioravanti, & Gough, 1978).

Socially prescribed perfectionism (SPP). Individuals who are high in socially prescribed perfectionism believe that other people expect very high standards from them. This contrasts with individuals high in SOP who expect perfection of themselves. Also, as well as high unrealistic expectations, individuals high in SPP believe that others are evaluating them harshly and putting pressure on them to be perfect (Hewitt & Flett, 1991). The inability to meet the standards of others twinned with the belief that upon failure they will be assessed and treated harshly, suggests that SPP is likely to result in mental health outcomes such as hostility, depression and anxiety. This interpersonal dimension of perfectionism is shown in these example items from Hewitt and Flett's scale: "The people around me expect me to succeed at everything I do" and "Anything I do that is less than excellent will be seen as poor work by those around me."

Failure to meet the standards imposed by others often leads to self-directed criticism, as failure is perceived as due to deficiencies within the self rather than an inappropriate goal being set by someone else (Hewitt & Flett, 2002). With these beliefs, one can imagine how this might manifest itself in the workplace; for example an employee feeling like anything other than a perfect presentation or project will be seen as poor work by those around them and result in a loss of favor.

Other-oriented Perfectionism (OOP). The OOP dimension refers to the tendency to demand perfect standards of performance and behaviour from others. An example item from this facet illustrates this interpersonal dynamic "I have high expectations for the people who are important to me". In this sense it is in

contrast to individuals high in SPP and SOP who have self-directed perfectionist expectations. The perceived consistent failure of others is hypothesized to lead to interpersonal problems such as lack of trust and feelings of hostility (Hewitt & Flett, 1991). Criticizing others for accepting second best and making mistakes are common behaviours of OOP. This facet of perfectionism is unlike SOP and SPP as it is studied from a social perspective and has been shown to be distinct from the other facets (Hewitt & Flett, 1990a).

Scale Construction and Validity. Using the three facets of perfectionism that Hewitt and Flett (1991b) theorized were central to developing a multidimensional model of perfectionism, an initial pool of 122 potential items were generated across the three subscales. Responses were rated for agreement on a seven-point Likert scale. The items were given to 156 university students and a final list of 45 items was derived, with each facet of perfectionism being assessed by 15 items. This 45-point scale became the Hewitt and Flett Multidimensional Perfectionism Scale.

Studies testing the validity of the scale, compared self-ratings, observer ratings and clinicians' ratings, all of which had strong correlations (Hewitt & Flett, 1991b). Additionally, personality measures and performance standards were used to test convergent and discriminant validity. SOP was related to anxiety and hostility items from the Symptom Checklist subscales (SCL-90; Derogatis, 1983). However, it was SPP that showed the strongest relationship with SCL-90 symptoms. These symptoms included fear of negative evaluation, need for approval, and external locus of control, all unsurprising given the nature of SPP. Results from 77 mixed-diagnosis psychiatric patients showed that SPP was also the most strongly correlated with clinical symptom subscales within the

Millon Clinical Multiaxial Inventory (MCMI; Millon, 1983). This suggests that SPP is a dimension of maladaptive perfectionism, which is consistently associated with negative outcomes.

Further validity of the MPS was shown when the test was administered to a clinical sample and a community sample, (Hewitt, Flett, Turnbull-Donovan, and Mikail, 1991). A difference in SPP score was found with the psychiatric patients' scores significantly higher than the community sample. Further studies within the clinical population compared patients with unipolar depression, patients with anxiety disorder and a control group. SPP scores were significantly higher in both clinical groups, suggesting its maladaptive status. However, SOP scores were found to be higher in the group with depression, suggesting a specific link between SOP and depression (Hewitt & Flett, 1991a). As discussed earlier, this evidence questions whether there is a purely adaptive type of perfectionism.

Further research provided more evidence for the maladaptive facet of SPP with associations with suicidal ideation (Hewitt, Flett, and Turnbull-Donovan, 1992), frequency and intensity of professional distress and low job satisfaction in teachers (Flett, Hewitt & Hallett, 1994) and a negative self-perception of social problem-solving ability (Flett, Hewitt, Blankstein, Solnik, & Van Brunschot, 1996). In a study examining the role of perfectionism and acute life stress in adolescents, O'Connor, Rasmussen & Hawton (2010) found SPP predicted depression and when interacted with life stress SPP also predicted levels of self-harm in adolescent school children. In the same study, SOP did not predict any of the measures of distress. SPP has also been associated with burnout in elite athletes (Appleton, Hall & Hill, 2009) and depression and

anxiety in students (Einstein, Lovibond & Gaston, 2000). Given the breadth of research discussed, the SPP subscale shows the strongest relation with different types of maladaptive outcomes. This dimension of maladaptive perfectionism is most strongly associated with negative mental health outcomes. However, as the research has also shown, SOP cannot be viewed as a purely adaptive form of perfectionism.

1.1.2. Frost's Multidimensional Perfectionism Scale. Frost, Martin, Lahart & Rosenblate (1990) recognized a major difference between Hamachek's (1978) normal and neurotic perfectionists is the extent to which mistakes are tolerated. Normal perfectionists allowed themselves to feel free and be less precise in contrast to neurotic perfectionists whom allow themselves little freedom to make mistakes, often feeling nothing is good enough. Hamachek (1978) suggested that normal perfectionists could make a mistake in their work yet still appraise it as a success. Conversely, neurotic perfectionists become overly concerned with mistakes and their striving for goals is fuelled by a fear of failure rather than a need for achievement. Alongside this concern over mistakes, maladaptive perfectionism had also been associated with a reluctance to complete tasks and chronic uncertainty as to when a task can be considered complete (Reed, 1985). Frost et al. (1990) argued that no existing scale addressed these core components of perfectionism, providing the basis for the development of their multidimensional scale. From an initial pool of 67 items, six factors were formed from 36 items, which were then used to form Frost's Multidimensional Perfectionism Scale (FMPS) with the following facets.

Personal Standards (PS). PS is a dimension of perfectionism associated with setting high standards for oneself and focusing efforts in order to achieve

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these standards e.g. "I have extremely high goals". For example, a student high in PS would target attaining an 'A' in her exams with nothing less being satisfactory. They would then be able to focus on any tasks that would help them attain this. Those with PS are able to recognize that the goals they set themselves are higher than others and that they expect more of themselves than others do of themselves. This dimension alongside Organisation was related to several positive personal characteristics in Frost et al.'s scale development.

Concern over Mistakes (CM). CM is characterized by excessive concern about making a mistake and a fear of losing people's approval if mistakes are made (Frost et al., 1990), for example "If I fail at work/school, I am a failure as a person". Catastrophic thinking is employed, as those high in CM view a failure in one part of a task as failure of the entire task. Those high in CM often compare themselves to others and perceive themselves as not performing as well. This results in them feeling inferior, leading to a fear of social rejection. For example, an employee with high levels of CM will think that the fewer mistakes she makes in a piece of work, the more people in the office will like her. Frost et al. (1990) state that this facet is central to their concept of perfectionism and was highly correlated with paranoid ideas and general distress in their original scale validation research.

Doubts about Actions (DA). DA can be viewed as a more 'compulsive' aspect of perfectionism, an example item being "Even when I do something very carefully, I often feel that it is not quite right". This facet refers to the tendency to repeat tasks over and over until they have been completed 'just right', combined with a difficulty in feeling satisfied that a task has been completed to the required standard (Frost et al, 1990). For example, an employee high in

doubts about actions might check and recheck the content of an email numerous times to ensure no mistakes have been made. It is not difficult to imagine how this type of behavioural tendency could increase time pressure on a perfectionist individual. This feeling of uncertainty has been described in the literature as a need to repeat the task over and over until it feels complete. The reluctance to complete a task has been linked to both uncertainty as to when a task has finished (Reed, 1985) and the fear of failure once a task has been completed (Solomon & Rothblum, 1984). Alongside concern about mistakes, this facet also correlated highly with general distress (Frost et al., 1990).

Parental Expectations and Parental Criticism (PE, PC). PE and PC are considered antecedents of perfectionism (Stoeber & Otto, 2006) and are the belief that parents' love is conditional. Parents are viewed as setting impossible goals, for example "My parents set very high standards for me", with love and approval conditional on these goals being met. Ever-increasing levels of perfection were needed and any mistakes made resulted in a withdrawal of these emotions (Frost et al, 1990). Given this environment in the formative years, the need for parental approval is seen as a formative component of perfectionism.

Organization (O). O refers to a strong preference (or 'fetish') for precision, order, and neatness (Frost et al., 1990; Frost & Dibartolo, 2002); e.g. "I am a neat person". A need for orderliness and neatness in day-to-day life is associated with the perfectionistic personality (Hollander, 1965). Although not directly associated with excessive goal setting, this preoccupation is an important part of the daily life of the perfectionist. Given its regular occurrence, this fetish for orderliness may be an important consideration when defining perfectionism

(Hollander, 1965). Alongside personal standards, this facet was related to positive personality characteristics by Frost et al. (1990).

1.1.3. Higher order perfectionism dimensions: personal standards and evaluative concerns. The conceptualization of perfectionism as multidimensional has already led to the development of two prominent perfectionism measures as mentioned previously, namely the HMPS (Hewitt & Flett, 1991b) and FMPS (Frost et al, 1990). Within these scales, self-oriented perfectionism in the HMPS and personal standards subscale in the FMPS have both been associated with a factor of perfectionism that by itself is not considered maladaptive. In contrast, the concern over mistakes and doubts about actions subscales of the FMPS and socially prescribed perfectionism from the HMPS are associated with the maladaptive characteristics of perfectionism. Although these facets of concerns over mistakes, doubts about actions and socially prescribed perfectionism are from both the HMPS and FMPS, they all load significantly and strongly onto the same latent factor (Dunkley et al, 2006).

These two higher-order dimensions of perfectionism can be referred to as several different names: adaptive and maladaptive (Bieling et al., 2003; Chang et al., 2004; Cox et al., 2002; Enns et al., 2001; Rice et al., 2005; Suddarth & Slaney, 2001); positive strivings and maladaptive evaluation concerns (Frost et al., 1993); healthy and dysfunctional (Parker & Stumpf, 1995); healthy and unhealthy (Stumpf & Parker, 2000), personal standards and evaluative concerns (Dunkley et al., 2000); personal standards and self-critical (Dunkley et al., 2003); conscientious and self-evaluative (Hill et al., 2004); active and passive (Lynd-Stevenson & Hearne, 1999) and more recently perfectionistic strivings and perfectionistic concerns (Stoeber & Gaudreau, 2017). For the purpose of this

research the two higher order dimensions will be referred to as *personal standards perfectionism* and *evaluative concerns perfectionism*. Personal standards perfectionism is associated with the setting of high goals and standards for and by oneself. Evaluative concerns perfectionism however is associated with harsh self-evaluation, a constant expectation of criticism from others and an inability to derive satisfaction from one's own performance (Dunkley et al, 2006). The ability to distinguish between these two dimensions of perfectionism allows research to address the differences between what Hamachek (1978) labeled "normal" and "neurotic" perfectionism.

Establishing two higher order dimensions allows perfectionism researchers to partial out, or control for, one dimension whilst looking at the effects of the other dimension. The two higher dimensions are often correlated and therefore the process of controlling for either dimension allows unique effects to be tested. For example, in a study examining the effects of evaluative concerns perfectionism on levels of negative affect, by controlling for the effects of personal standards perfectionism, the researcher can test the unique effect of evaluative concerns perfectionism on the outcome. This practice is commonplace in perfectionism research: however, Hill (2014) argued that the process of partialling out changes the meaning of the higher order dimensions. Hill (2014) argues that the conceptual meaning of personal standards perfectionism is unclear after evaluative concerns perfectionism has been partialled out. However, in response, Stoeber and Gaudreau (2017) explain that accepting the argument that one dimension of perfectionism loses meaning without the other, merely returns perfectionism research to its one-dimensional conception of the 1980s (Burns 1980; Pacht, 1984). Indeed, the paper concludes by stating "To us, there

are currently no satisfactory alternatives to partialling, if we want to understand the shared (bivariate) and unique (partialled) relations that different dimensions of perfectionism show with psychological adjustment and maladjustment." (Stoeber & Gaudreau, 2017, p. 385). Therefore in parsimony with current thinking and existing perfectionism research, this thesis will use partialling when studying the effects of evaluative concerns and personal standards perfectionism. This will allow the unique contributions of each higher order dimension of perfectionism to be explored. As mentioned, the higher order dimensions of evaluative concerns and personal standards perfectionism have been used consistently in perfectionism research and the following section provides an overview.

A research review of Personal Standards and Evaluative Concerns Perfectionism. Stoeber and Otto's (2006) comprehensive overview of perfectionism research specifically addressed the topic of whether some aspects of perfectionism could be considered adaptive. Differences in how researchers have used facets and combinations to derive the two types of perfectionism are thought to have compounded the situation. As a result, researchers have either taken a dimensional or group-based approach. Perfectionism studies with both clinical and non-clinical populations found higher levels of perfectionism in those suffering from depression, obsessive-compulsive disorder, eating disorders and higher levels of distress and anxiety (Flett, Hewitt, & Dyck, 1989; Hewitt, Mittelstaedt & Wollert, 1989; Klibert et al., 2014; Santanello & Gardner, 2007; Thompson, Berg, & Shatford, 1987).

Stoeber and Otto's review (2006) included 35 studies, and a distinction was made between dimensional and a group-based conceptions. 15 studies were

dimensional, categorizing perfectionism as either personal standards perfectionism or evaluative concerns perfectionism. As discussed previously, the two dimensions of perfectionism often significantly correlate and so to examine the true effect of either personal standards or evaluative concerns perfectionism, the other has to be controlled for. After the overlap was statistically controlled for, ten out of the 15 studies provided positive evidence, that is, personal standards perfectionism was related to positive outcomes only.

The conceptualization of personal standards perfectionism followed Frost et al.'s (1993) factor structure including the subscales personal standards, organization (Frost et al., 1990) self-oriented and other-oriented perfectionism (Hewitt & Flett, 1991). This dimension was related to higher levels of extraversion and conscientiousness, and lower levels of external locus of control (Stoeber &Otto, 2006). Personal standards perfectionism was also positively correlated with positive affect, satisfaction with life and lower levels of suicidal ideation, attachment avoidance and attachment anxiety (Stoeber & Otto, 2006).

Stoeber and Otto's review paper also found four studies that provided mixed evidence for the adaptiveness of personal standards perfectionism. Although there were positive results considering achievement characteristics such as perceived ability, exam performance, past year performance, plans to study and conscientiousness, personal standards perfectionism was also positively related to neuroticism (Enns, Cox, Sareen & Freeman, 2001). Within these mixed results studies, personal standards perfectionism was related to higher levels of both positive and negative affect (Bieling, Israeli & Anthony, 2003). Personal standards perfectionism was also related to higher levels of active (adaptive) coping but also higher levels of perceived hassles, (Dunkley,

Blankstein, Halsall, Williams & Winkworth, 2000). However, it is important to note that after the results had been reanalyzed controlling for overlap with evaluative concerns perfectionism, the four studies identified as contributing mixed evidence dropped to two.

The review also included 20 studies that used a group-based framework with cluster analysis or dichotomization to create two groups – healthy and unhealthy perfectionists. Those categorized as unhealthy perfectionists scored highly on both perfectionism scale facets conceptualized as adaptive and maladaptive. 'Healthy' perfectionists were those who scored highly on perfectionism facets considered adaptive (e.g. personal standards), with non-perfectionists scoring low on all facets. 12 out of the 20 studies provided evidence showing healthy perfectionists had both higher levels of positive characteristics than unhealthy perfectionists and non-perfectionists. Four studies showed mixed evidence with healthy perfectionists showing higher levels of positive characteristics than unhealthy perfectionists but lower levels than non-perfectionists. Four studies provided null evidence, failing to find any significant differences between healthy and unhealthy perfectionists in relation to positive characteristics. The findings from the group-based studies fitted with those from the dimensional approach. So-called 'healthy' perfectionists had higher levels of positive personality traits and adaptive behaviour (e.g. adaptive coping, social adjustment) but also less obsessive-compulsive symptoms than non-perfectionists.

Within the mixed evidence studies, healthy perfectionists showed higher levels of positive personality traits, well-being, social integration and academic adaptation than unhealthy perfectionists, and higher levels of neuroticism and

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depression than non-perfectionists. Also, some studies found higher levels of neuroticism and depression in healthy perfectionists than non-perfectionists. Considering how 'healthy' perfectionism was categorized, this suggests that personal standards perfectionism can be associated with negative affectivity even alongside low levels of evaluative concerns perfectionism (Parker, 1997; Rice & Dellwo, 2002).

Following the extensive analyses, Stoeber and Otto (2006) had recommendations for future research. Although longitudinal effects of the negative influence of evaluative concerns perfectionism have been found, the equivalent positive effects of personal standards perfectionism were not. Paradoxically, personal standards perfectionism can show long term increases in hopelessness when coupled with low levels of adaptive coping (Dunkley et al., 2000). The review concludes by suggesting that the conceptualization of healthy and unhealthy perfectionism, corresponds to Hamachek's (1978) initial distinction between normal and neurotic perfectionism. Additionally, evaluative concerns perfectionism may be the factor which differentiates healthy goal striving from clinical manifestation (Dunkley et al., 2006; Shafran et al., 2002).

This section has thus far focused on the research reviewed by Stoeber and Otto in their 2006 review paper, attention will now turn to more recent perfectionism research. Perfectionism research has continued to use the two higher order dimensions to conceptualise perfectionism. Evaluative concerns perfectionism is consistently associated with negative health outcomes such as perceived stress (Rice & Van Arsdale, 2010; Tashman, Tenenbaum & Eklund, 2010), burnout (Childs & Stoeber, 2010; D'Souza, Egan & Rees, 2011; Hill & Curran, 2015; Tashman, Tenenbaum & Eklund, 2010) and negative affect

(Downey & Chang, 2007; Dunkley, Berg & Zuroff, 2012; Flett, Blankstein & Hewitt, 2009). Personal standards perfectionism has continued to provide mixed results. In a meta-analysis of 43 studies, Hill and Curran (2016) found that overall personal standards perfectionism had small negative or non-significant relationships with burnout once evaluative concerns perfectionism was controlled for. The same study found evaluative concerns perfectionism had medium to large positive relationships with burnout. However, the relationships were not stable across domains. As mentioned earlier, the workplace is one of the most likely places for individuals to experience perfectionistic tendencies (Stoeber & Stoeber, 2009) and this meta-analysis found that personal standards perfectionism was less adaptive and evaluative concerns perfectionism more maladaptive in the work domain (Hill & Curran, 2016).

Another meta-analysis, this time of ten longitudinal perfectionism studies, explored the added explanatory value given by perfectionism after neuroticism had been controlled for when predicting depressive symptoms (Smith et al., 2016). The meta-analysis found that both evaluative concerns perfectionism and personal standards perfectionism predicted levels of depressive symptoms, even after neuroticism was controlled for. This suggests again that personal standards perfectionism should not automatically be conceptualized as adaptive. However, once evaluative concerns perfectionism was controlled for, the results for personal standards perfectionism were non-significant, suggesting caution for the interpretation of results.

In summary, perfectionism research has consistently found evaluative concerns perfectionism associated with negative health outcomes. The results for personal standards perfectionism have been more mixed and certainly caution

against an overall conceptualization of it being adaptive. Results can be affected by the type of analyses used, thus partialling out one perfectionism dimension whilst investigating the effects of the other, is recommended to allow a clearer picture of unique effects of the higher order dimensions. Although the perfectionism literature is vast, as already mentioned there remain gaps in the research, which impede both the generalisation of results and furthering understanding of perfectionism in the workplace.

1.1.4 A critique of the perfectionism literature. Perfectionism research to date has lacked both uniformity of measurement, robust research designs and has an overreliance on student samples. As discussed in the previous section, higher order constructs have been found to be relatively stable across studies (Dunkley et al., 2006) but many studies continue to use lower order perfectionism scales (e.g. Affrunti, Gramszlo & Woodruff-Borden, 2016; Taylor, Couper & Butler, 2017). Consistent differences in how perfectionism is measured could result in a lack of ability to generalize and compare findings across studies and difficulty in being able to clearly align the higher order constructs of perfectionism with their associated outcomes. A lack of longitudinal perfectionism studies has also resulted in an inability to explore how the construct manifests over time.

In addition to a lack of uniformity of measurement, perfectionism research also lacks a selection of robust research designs. Cross-sectional studies collect data once and in one short period, allowing them to be quick and easy to recruit participants for. In contrast longitudinal studies collect data from the same sample on more than one occasion over a period of time thereby allowing sequences of behaviour and action to be analysed (Payne & Payne, 2004). Cross-

sectional studies in perfectionism have consistently shown negative relationships between evaluative concerns perfectionism and psychological well-being (Flett, Hewitt & Dyck, 1989; Hewitt & Flett, 1991; Moroz & Dunkley, 2015). The concurrent measurement of variables not only negates the ability to study patterns of behaviour over time but in the case of mediational studies, they can lead to illusory results (Cole & Maxwell, 2003). Conversely, longitudinal perfectionism research, including respite and daily diary studies, has highlighted both how perfectionism predicts certain behavioural patterns and subsequent well-being (Dunkley, Mandel & Ma, 2014; Flaxman et al., 2012; Smith, Sherry, Saklofske & Musquash, 2017).

Perfectionism research to date has also focused mainly on students, athletes and clinical populations, with relatively little attention paid to workplace research (Stoeber & Damian, 2016). The consequences of relying on student populations in psychology research have been raised over the decades (Rosenberg, Rosenthal & Rosnow, 1969; Barr & Hitt, 1986) and a more recent meta-analysis suggests that college students are likely to produce more homogenous responses than nonstudents (Peterson, 2001). Specifically in organisational psychology, Barr and Hitt (1986) found substantive differences between students and managers in a selection task. Attempting to generalise results to a working population from a student population could therefore be problematic. The differences between student and working populations, as well as the latter being one of most prevalent domains for perfectionist tendencies (Stoeber & Stoeber, 2009), mean that a working population is needed to understand fully the implications of perfectionism in the

workplace. The following section will review the current research base of perfectionism in the workplace.

1.1.5. Perfectionism in the workplace. As mentioned previously, work (either academic or professional) is the domain of life most affected by perfectionism (Slaney & Ashby 1996; Stoeber & Stoeber, 2009). Nonetheless, perfectionism research has generally focused attention on students, athletes and the clinical population with little attention given to research amongst employees or in the workplace (Stoeber & Damian, 2016). As mentioned in the previous section, different patterns in the effects of perfectionism can be seen in the workplace compared to other research, with both evaluative concerns perfectionism and personal standards perfectionism exhibiting more maladaptive effects (Hill & Curran, 2016). Theories as to why perfectionism can be so pernicious in the workplace include the role of mechanisms associated with those with high levels of evaluative concerns perfectionism; such as coping style and work-related perseverative cognition and these potentially mediating mechanisms will be discussed in later sections. One theory that provides an insight as to why the workplace (whether academic studies or professional work) appears to activate perfectionistic tendencies and exacerbate the maladaptive nature of perfectionism, is the diathesis-stress hypothesis.

The diathesis-stress hypothesis. A diathesis-stress model is a theory that suggests an individual's behaviour or psychological symptoms are a result of an interaction between her own vulnerability and stress experienced within her environment (Zuckerman, 1999). Indeed, research has shown that those with high levels of evaluative concerns perfectionism are more likely to have stressful

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experiences than those with lower levels (Dunkley, Zuroff & Blankstein, 2003); the potential reasons why will be discussed in a later section in this introduction addressing the mechanisms of perfectionism. The diathesis-stress hypothesis is therefore important as it aids our understanding as to why work can be such a problem for workers with perfectionistic tendencies, specifically the self-oriented and socially prescribed dimensions of perfectionism. Hewitt et al. (1996) proposed that stressors that match the particular perfectionistic dimension are more harmful than those that do not. For example, a student with high levels of socially prescribed perfectionism may find an exam an aversive stressor because of the pressure she perceives from others to perform well, matching her vulnerability for interpersonal stress. The diathesis-stress hypothesis would suggest it is this matching of situational context with a core facet of perfectionism that could result in heightened negative experiences or maladaptive behaviours for the student. In the workplace it is possible this could manifest itself when an employee with high levels of socially prescribed perfectionism is asked to make a presentation that will be watched by his peers. As discussed earlier, those with high levels of socially prescribed perfectionism can believe that others expect perfection of them and anything less will result in rejection. Therefore, this particular work situation may interact with the social expectation of perfectionism from oneself, resulting in higher levels of stress and potentially maladaptive behaviour.

The diathesis-stress hypothesis not only suggests why socially prescribed perfectionism is so pernicious in the workplace but also why those with high levels of self-oriented perfectionism may also be at risk from higher levels of stress. Indeed, a study by Hewitt and Flett (1993) specifically focused on socially

prescribed perfectionism and self-oriented perfectionism found that self-oriented perfectionism interacted with achievement stress across two samples to predict depression. The same study found socially prescribed perfectionism interacted with interpersonal stress in one sample and achievement stress in the other sample to predict depression, thus the study provided support for the diathesis-stress hypothesis with both dimensions of perfectionism. However, further research testing the diathesis-stress hypothesis has produced mixed results.

A study testing the longitudinal effects of the diathesis-stress hypothesis, measured perfectionism and depression at time one and then again along with measures of stress four months later (Hewitt, Flett & Ediger, 1996). Self-oriented perfectionism was found to interact specifically with achievement-related stressors over time in predicting depressive symptoms. However, socially prescribed perfectionism was a main predictor only, showing no interaction with social stressors. Enns, Cox and Clara (2005) longitudinally tested a neuroticism diathesis-stress model. They found that although some perfectionism dimensions interacted with negative life events to predict future distress symptoms, these interactions did not predict above and beyond the more general neuroticism diathesis-stress model. However, lack of heterogeneity in the sample and the methodology in the measurement of the stressors were cited as limitations that may explain the lack of supporting results. In their original paper, Hewitt and Flett (1993) suggested further studies should examine differences in stress dimensions such as frequency and valence in order to further understand the relationship between perfectionism and stress generation. Nonetheless, even given the mixed results from the initial research, the diathesis-stress hypothesis

provides a framework within which the pernicious effects of perfectionism in the workplace can be further understood.

Perfectionism in the workplace: a research review. As mentioned previously, work is the main life domain for perfectionism (Stoeber & Stoeber, 2009) but conversely perfectionism research in the workplace is still lacking. This section will provide a review of the existing research in this area and suggest further consideration should be directed at the potential mechanisms of perfectionism, in order to further our understanding as to the relationships between perfectionism and well-being in the workplace. Studies exploring the relationships between perfectionism and engagement, burnout and workaholism will be discussed as well as studies investigating the psychological and coping processes exhibited by those with high levels of evaluative concerns perfectionism and how these may affect psychological well-being.

Engagement. Work engagement is an outcome of interest for the perfectionism researcher because it shows positive relationships with both employee well-being as well as work-based outcomes such as work motivation and job performance (Stoeber & Damian, 2016). Although not directly measured in this thesis, the relationships between both higher order factors of perfectionism and work engagement provide an insight as to positive and negative manifestations of perfectionism in a work context. In fact, all studies reviewed by Stoeber and Damian (2016) found that personal standards perfectionism was positively related to work engagement, suggesting personal standards perfectionism has some adaptive properties in the workplace. Childs and Stoeber (2010) explored the relationships between perfectionism and the three aspects of work engagement: vigor, dedication and absorption. In their

sample comprising of public sector, law firm and retail employees, they found that personal standards perfectionism was positively related to all three aspects of engagement. Conversely, evaluative concerns perfectionism was negatively related to both vigor and dedication (after personal standards perfectionism was controlled for).

Tziner and Tanami (2013) also found personal standards perfectionism positively correlated with work engagement but in this study evaluative concerns perfectionism was not negatively related. The same null result for evaluative concerns perfectionism was also found by Wojdylo, Baumann, Buczny, Owens & Kuhl (2013) in their study of office workers and teachers. However, a study by Ozbilir, Day & Catano (2014) found a different pattern. Their study found personal standards perfectionism positively correlated with work engagement but evaluative concerns perfectionism negatively correlated, suggesting those with high levels of evaluative concerns perfectionism could show lower levels of engagement at work than those with personal standards perfectionism. Therefore, the perfectionism studies discussed so far suggest that the two higher order perfectionism dimensions show divergent patterns in levels of work engagement. Another outcome frequently associated with perfectionism and prevalent in perfectionism research is workaholism.

Workaholism. Workaholism is characterized by an uncontrollable need to work excessively (Schaufeli, Taris & van Rhenen, 2008). Workaholism is associated with increased levels of burnout at work and low levels of satisfaction with home life (Clark, Michel, Zhdanova, Pui & Baltes, 2016) and is therefore a useful indicator of poor well-being. Interestingly both personal standards perfectionism and evaluative concerns perfectionism have shown positive

correlations with workaholism (Clark, Lelchook & Taylor, 2010; Taris, van Beek & Schaufeli, 2010; Tziner & Tanami, 2013). However, in Taris et al.'s study (2010), when both dimensions of perfectionism were entered into the regression analyses, only evaluative concerns perfectionism predicted levels of workaholism over and above job characteristics. Further studies have examined potential mediators and moderators in the relationship between perfectionism and workaholism. Stoeber, Davis and Townley (2013) found that employees' self-regulated work motivation mediated the relationship between personal standards perfectionism and workaholism. Mazzetti, Schaufeli and Gugliemi (2014) also found a positive relationship between personal standards perfectionism and workaholism, which was moderated by an overwork climate. Interestingly, this last piece of research suggests that those with high levels of personal standards perfectionism who did not perceive a culture of overworking in their workplace, would not experience high levels of workaholism. Unfortunately this study did not measure levels of evaluative concerns perfectionism, thus, this dimension could not have been controlled for in the analyses, which would have allowed a clearer picture of the potentially maladaptive facets of perfectionism.

Burnout. Burnout is often associated with work-related outcomes such as absenteeism, high turnover and low levels of morale and performance, as well as outcomes outside of the workplace such as marital and family problems (Maslach, Schaufeli & Leiter, 2001). Due to these negative well-being consequences, researchers are interested in the situational (e.g. job characteristics) and personal factors that predict burnout. Research has found that although both personal standards perfectionism and evaluative concerns

perfectionism can have an effect on levels of burnout, it is evaluative concerns perfectionism that provides the most consistent results.

In a study of working women, Mitchelson and Burns (1998) found that only evaluative concerns perfectionism and not personal standards perfectionism showed positive correlations with two facets from the burnout measure: cynicism and exhaustion at work. Similar results were also found by Fairlie and Flett (2003), Van Yperen et al. (2011) and Kazemi and Ziaaddini (2014) in studies including students, employees suffering from mental health issues and employees from large organisations in Iran. However, the facet of burnout measuring inefficacy has shown different results for personal standards perfectionism. Studies have found personal standards perfectionism unrelated to the facets of exhaustion and cynicism but also having a negative correlation with inefficacy (Caliskan, Arikan & Saatchi, 2014; Li, Hou, Chi, Liu & Hager, 2014). These studies appear to show a neutral effect of personal standards perfectionism in the workplace, however, studies have also found this dimension of perfectionism positively predicting aspects of burnout (Hrabluik, Latham & McCarthy, 2012; Taris et al., 2010; Tashman, Tenenbaum & Eklund, 2010). Interestingly, these studies only found personal standards perfectionism predicting levels of exhaustion and cynicism and not inefficacy (previously negatively predicted by personal standards perfectionism).

In sum, the perfectionism literature has found evaluative concerns perfectionism consistently related to high levels of burnout, with results for personal standards perfectionism more mixed. This therefore supports perfectionism theory suggesting evaluative concerns perfectionism is largely maladaptive, with personal standards perfectionism as an adaptive or neutral

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dimension (Sirois & Molnar, 2016). However, why evaluative concerns perfectionism is so consistently associated with negative health outcomes is still unclear. Studies have suggested that evaluative concerns perfectionism predicts increased levels of burnout by means of maladaptive coping (Stoeber & Damian, 2016), illustrating how behaviours can potentially work as mechanisms of perfectionism. As well as coping style, other mechanisms have also been suggested as important mediators in the relationship between perfectionism and poor levels of well-being. The following section will explore the mechanisms of stress, coping and work-related perseverative cognition as a way of understanding the enduring maladaptive nature of evaluative concerns perfectionism.

1.2 Mechanisms of Perfectionism

As documented in the previous section, perfectionism as a concept has been split into two higher order constructs: personal standards and evaluative concerns perfectionism. The higher order of evaluative concerns perfectionism is most persistently associated with psychological distress (Chang, 2000; Chang, Watkins & Banks, 2004; Dunkley et al., 2003; Molnar, Sadava, Flett & Colautti, 2012) and therefore this distinction between higher order constructs has helped researchers to explore the relationship between perfectionism and poor levels of well-being further. However, in order to fully understand why perfectionism is so persistently linked with poor levels of well-being, it may be useful to examine if there are particular mechanisms which affect the relationship between perfectionism and poor psychological health.

Mechanisms can be thought of as cognitive and/or emotional patterns that can influence behaviour in given situations. Mechanisms are important because

they can help us understand why some personality traits can lead to particular

health outcomes. Specifically in this case, we are interested in why perfectionism

is so persistently linked with poor levels of well-being; are there certain

behaviour patterns or other mechanisms that those with high levels of

perfectionism (specifically evaluative concerns perfectionism) use that make

experiencing low levels of psychological well-being more likely? Perfectionism

literature has identified three mechanisms have been identified as potentially

influential in the relationship between perfectionism and psychological ill-health:

stress, coping and perseverative cognition (Dunkley, Solomon-Krakus & Moroz,

2016; Flett, Nepon & Hewitt, 2015). These three processes have also been

identified as potential mechanisms in the relationship between evaluative

concerns perfectionism and poor levels of well-being in the workplace (Stoeber

& Rennert, 2008; Flaxman et al., 2012). The following sections will explore

these three mechanisms and consider why they are important in perfectionism

research.

1.2.1 Stress as a mechanism of perfectionism: Theoretical perspectives.

Stress is associated with major psychological and physical health problems

(Cohen, Janicki-Deverts & Miller, 2007; Marin et al., 2011). In addition,

perfectionism has been identified as an important cognitive-personality factor

that can have a negative impact on stress appraisal and coping processes and in

turn can lead to an increased vulnerability to poor psychological health

(Dunkley, Solomon-Krakus & Moroz, 2016). Increasingly, research has focused

on the dispositional and situational influences that perfectionism can have on

stress appraisal and coping strategies, with a view to further understand the

relationship between perfectionism and poor levels of well-being (Dunkley et al.,

2016). Stress has been identified as a mechanism of perfectionism in studies involving both clinical and non-clinical samples (Chang, Watkins & Banks, 2004; Dunkley, Sanislow, Grilo & McGlashan, 2006). Additionally, workplace research has also found stress mediating the relationship between perfectionism (specifically evaluative concerns perfectionism) and poor levels of well-being (D'Souza, Egan & Rees, 2011). To further understand why those with high levels of perfectionism (particularly evaluative concerns) are more vulnerable to stress and its associated negative outcomes, the next section will explore a transactional theory of stress and a theory of personality and the stress process.

    Transactional theory of stress. Lazarus and Folkman (1987) suggest that it is only possible to understand the relationship between the person and the environment by viewing it conceptually as a transaction, rather than trying to understand it purely from one standpoint or the other. Their transactional theory of stress is built upon the premise that the individual states of person and environment are lost when the two interact. A threat is not the sole property of either person or environment; it requires a particular environment to interact with a person whom will react with threat when exposed to that environment. This is of particular interest when considering perfectionism in the workplace as it compliments the diathesis-stress hypothesis discussed in the previous section which suggests evaluative concerns perfectionism interacts with achievement-related stressors leading to heightened levels of reactivity (Dunkley et al., 2003). It is within this transaction between person and environment that stress exists. This transactional theory of stress comprises of two basic constructs: cognitive appraisal and coping.

In this framework cognitive appraisal contains two kinds of appraisal: primary and secondary. Although they are termed primary and secondary, that is not to say there is a temporal order. Primary appraisal involves the motivational relevance of the situation being appraised. Motivational relevance is whether we consider the situation as relevant to our well-being. If a situation is appraised as having no bearing at all on our well-being, it will not be appraised as a stressor. The extent to which a situation is either harmful or beneficial is dependent on both the social environmental conditions and the psychological characteristics of the person. Lazarus and Folkman (1987) suggest that one of the most important factors in this relationship are the goals and hierarchies of the person, their motivation. In addition, the cognitive attributes of the individual, that is the way a person thinks and believes the situation is happening are also important. Therefore, a situation can only be appraised as of potential harm or benefit if it confronts the person's motivational and cognitive vulnerabilities to that particular situation. The intensity of the emotional reaction to these situations varies across individuals reflecting individual differences in personality and coping tendencies (Lazarus & Folkman, 1989).

This framework of primary appraisal can be useful when considering perfectionism in the workplace. The workplace is one of the primary areas of life where perfectionistic tendencies are likely to manifest (Stoeber & Stoeber, 2009). Therefore considering an individual with high levels of evaluative concerns perfectionism in the workplace, it is possible they have a number of achievement-related goals related to her work. The goals and hierarchies of the person are one of the most important factors in the person-environment transaction and the intensity of their emotional reaction to the situation also

varies according to their personality. With these vulnerabilities in mind, it is probable that someone with high levels of evaluative concerns perfectionism will not only encounter a number of situations with high motivational relevance in the workplace but may also experience a more intense emotional reaction. Perfectionism is also associated with particularly unhelpful cognitive attributes such as catastrophic thinking (Graham et al., 2010) which may also influence primary appraisal. Therefore, in this transactional framework, why someone with high levels of evaluative concerns perfectionism may experience a higher level of stress appraisal can start to be understood.

Secondary appraisal involves evaluative judgments as to whether any actions can be taken to improve the potentially stressful environment and if so, which coping strategies may be effective. Secondary appraisal is an important part of the cognitive appraisal process as if the person evaluates they will easily be able to cope with the potentially stressful situation, then the threat is nullified or at least minimised. Within this transactional model, coping is conceptualised as fluid cognitive and behavioural efforts to try and reduce the potential gap between the situational demands and personal resources (Lazarus, 1993). This model proposes that coping is split into two basic strategies: problem-focused and emotion-focused (Lazarus, 1999). Problem-focused coping aims to change the external person-environment relationship and tends to be used more when the person feels they have control in a situation. Problem-focused coping can involve strategies such as learning new skills, thinking of alternative solutions and objective reappraisal. In contrast, emotion-focused coping focuses more on changing the personal or internal relationship between the person and the situation and tends to be employed more when the person feels they have little

control over the situation. Examples of emotion-focused coping strategies are avoiding the stressor and seeking emotional support.

Lazarus and Folkman's framework also provides an opportunity to understand why evaluative concerns perfectionism is typically associated with poor coping strategies (Dunkley et al., 2003; Dunn, Whelton & Sharpe, 2006). Evaluative concerns perfectionism is associated with negative self-evaluation (Flett, Blankstein & Martin, 1995), which in turn may affect the secondary appraisal process. Negative self-evaluation may result in the person lacking belief in their ability to effectively cope with the given situation. This would result in a situation being considered as a threat during secondary appraisal. Lazarus (1999) later added emotion as a moderator in the relationship between cognitive response and coping and this is also relevant to perfectionism research. Evaluative concerns perfectionism is associated with emotions such as anxiety (Flett, Endler, Tassone & Hewitt, 1994), which is associated with an appraisal of low problem-focused coping potential. This may lead those with high levels of evaluative concerns perfectionism to choose a less effective emotion-focused coping strategy rather than a problem-focused strategy.

Considering perfectionism in the workplace, this transactional theory of stress and coping can provide a framework within which it is possible to understand why those with high levels of evaluative concerns perfectionism are more likely to view situations as stressful and in turn choose less effective coping strategies. This transactional theory provides a comprehensive stress framework within which the relationship between evaluative concerns perfectionism, stress appraisal and ineffective coping strategies can start to be understood (Hewitt & Flett, 1993; Wei, Heppner, Russell & Young, 2006). Lazarus and Folkman's

transactional theory introduced the psychological characteristics and cognitive attributes of the person as factors in the stress appraisal and coping processes. Another theory that allows personality to be explored as an important part of stress and coping is that of Bolger and Zuckerman (1995). Their theory of personality and the stress process (Bolger & Zuckerman, 1995) includes personality differences as key predictors of stress exposure and the effectiveness of coping strategies.

Personality and the stress process. Bolger and Zuckerman's framework for understanding personality in the stress process is built on the premise that personality differences in how we react to stressors can be due to either different choices in coping strategy, differences in how effective those strategies are, or both (Bolger & Zuckerman, 1995). In their model the stress process is split into two stages: stressor exposure and stressor reactivity. This enables the exploration of different combinations of how personality may affect each stage to be explored. The most complex model is the differential exposure-reactivity model, which suggests that personality affects both the exposure and reactivity stages of the stress process. Previous research has suggested that those with a Type A personality have both an increased exposure to stressful situations and a greater reactivity and the differential exposure-reactivity model helps to explain the relationship between Type A personality and coronary disease (Smith & Anderson, 1986; Smith & Rhodewalt, 1986). Furthermore, the exposure-reactivity model has also helped to explain how neuroticism leads to daily levels of distress (Bolger & Schilling, 1991). Neuroticism is often highly correlated with evaluative concerns perfectionism (Cox, Enns & Clara, 2002) and therefore these findings may further our understanding in the links between evaluative

concerns perfectionism and levels of daily distress (Dunkley, Zuroff &
Blankstein, 2003). Returning to our example of someone with high levels of
evaluative concerns perfectionism in the workplace, the exposure-reactivity
model suggests that they may not only be exposed to a greater number of
stressors in the workplace but that they will also respond with a higher level of
reactivity

In addition to dividing the stress process into stressor exposure and
stressor reactivity, Bolger and Zuckerman (1995) continue to break down
stressor reactivity further into two components: coping choice and coping
effectiveness. Coping choice concerns the type of coping strategy someone has
chosen in response to the stressor. Coping effectiveness refers to how effective
the strategy has been in reducing the potential negative outcomes of the stressor.
This distinction between elements of the reactivity process can further explain
how personality could affect stressor reactivity. In particular the differential
choice-effectiveness model suggests that personality affects both coping choice
and coping effectiveness (Bolger & Zuckerman, 1995). Evaluative concerns
perfectionism has been linked with both poor choice of coping strategy (Dunkley
et al., 2003) and a lack of coping effectiveness in behaviours such as
procrastination and avoidance (Flett, Blankstein, Hewitt & Koledin, 1992).
Therefore both the exposure-reactivity model and choice-effectiveness models
provide a framework within which the reasons why evaluative concerns
perfectionism is so frequently linked with levels of daily stress and distress can
be explored.

The results from Bolger and Zuckerman's daily diary study were mixed,
with the most appropriate model fit to the data varying on the outcome studied.

The differential exposure-reactivity model showed the best fit for the data when the outcomes were anger or depression. This is interesting for perfectionism research as perfectionism has been associated with depression (Hewitt & Flett, 1991) and anger (Saboonchi & Lundh, 2003), suggesting an exposure-reactivity model may help explain why such relationships exist. In terms of coping choice and effectiveness, the differential-choice model was the best model fit for anger but the results were mixed when depression was the outcome. Even given the mixed results, support for the differential coping choice-effectiveness model suggests that personality can affect both the choice of coping efforts and their effectiveness. Although Bolger and Zuckerman studied neuroticism as their predictive personality variable, neuroticism is highly correlated with evaluative concerns perfectionism, therefore, the results provide an insight as to the potential mediating mechanisms of perfectionism. Bolger and Zuckerman (1995) and Lazarus and Folkman (1987) both provide general frameworks within which the influences of personality on both the stress and coping processes can start to be understood. The next theory to be discussed is an expansion of the general arousal and activation theories (Ursin & Eriksen, 2003). The cognitive activation theory of stress (CATS) is different from other stress theories as it differentiates between the response to a stressful situation and the expectation from that response. From this theoretical viewpoint CATS suggests that the difference in a positive or negative outcome from the stressful situation depends on expectancies attached to the response (rather than the response itself) and it is this distinction that can help further our understanding of why evaluative concerns perfectionism is so often linked with poor well-being.

Cognitive Activation Theory of Stress. In comparison to other stress

theories, the foundations of CATS is that stress itself has adaptive effects and

although stress arousal can be uncomfortable to experience, it is vital for the

operation if our complex brains (Ursin, 2005). CATS suggests that there are four

aspects of stress: the stress stimuli, the stress experience, the stress response and

feedback from the stress response (Ursin & Eriksen, 2004). The stress stimuli

depends on the individual appraisal of the situation. As with previous stress

theories, not all situations will be seen as stressful by all individuals, instead the

appraisal of the potential stressor depends on the situational setting and previous

experience with this type of stressor. The stress experience is a result of a

situation being appraised as stressful by the individual. The stress response is a

general response to stressful stimuli and leads to an increase in brain arousal and

wakefulness (Ursin & Eriksen, 2004). The final stage of stress is the feedback

from the stress response, these effects are stored as outcome expectancies, which

will be discussed further later on. CATS suggests that the purpose of the stress

arousal process is to motivate the individual to remove the source of the stress; or

if it cannot be removed then to take action to handle it (Meurs & Perrewé, 2011).

CATS proposes that the stress alarm is raised when there is a discrepancy

between what is desired and what is being experienced as reality, in other words

when expectancies are not met. CATS describes this as the discrepancy between

the set value (SV) and the actual value (AV) of the same variable (Ursin &

Eriksen, 2004). The stress alarm can only be stopped when the discrepancy is

eliminated by changing either the SV or the AV. Perfectionism has been

associated with a discrepancy between the actual self and the ideal self (Hewitt &

Flett, 1991), thus, in the CATS framework an individual with high levels of this

type of perfectionism is likely to experience the stress alarm with more regularity than an individual with low levels.

As a result of the stress alarm, CATS proposes that individuals subsequently associate a probability with their likelihood of ceasing the alarm and its associated stressor. This is also known as expectancy; what does the stimulus mean and what can the individual do about it? Expectancy is a specific brain function that involves registering, storing and using certain information about a stimulus that precedes a second stimulus, or that one response will lead to a particular outcome. Therefore, the probability of how able the individual feels able to control the stressor and achieve a desired outcome is an expectancy. If the individual feels confident in her ability to deal with the stressor, then the activation level is low. Consequently, if the outcome is uncertain or the individual does not feel she is able to cope with the stressor, the activation level is high. Evaluative concerns perfectionism is negatively correlated with self-efficacy (Stoeber, Hutchfield & Wood, 2008) suggesting that those with high levels of this maladaptive form of perfectionism may have a negative expectancy about the outcome of their stressor. CATS also suggests that in some cases doing nothing (for example, avoidant coping) can lead to a positive outcome expectation as the individual is removing themselves from a situation they cannot cope with. Indeed, early research with animals showed a reduction in corticosterone levels in rats when they learnt to avoid stressful stimuli (Coover, Ursin & Levine, 1973). CATS suggests that this adaptive learning of avoidance coping led to a reduced level of arousal due to the expected certain positive outcome of future stimuli (Ursin & Eriksen, 2004). In contrast, perfectionism research suggests this strategy is not helpful for those with high levels of

evaluative concerns perfectionism. Research has consistently shown that avoidant coping acts as a mediator in the relationship between evaluative concerns perfectionism and poor levels of well-being such as depressive symptoms (Dunkley, Sanislow, Grilo & McGlashan, 2006; Dunkley, Zuroff & Blankstein, 2003; Weiner & Carton, 2012). This suggests that even when avoiding the stressor may be a positive strategy for the individual, if they have high levels of evaluative concerns perfectionism this may still lead to a negative outcome and thereby influence the expectancy for any subsequent similar stressors.

As mentioned previously, expectancies play an important role in the stress appraisal process. CATS suggests that there are two types of expectancy that are important in appraisal: stimulus and outcome expectancies. Stimulus expectancies are the understanding of how a particular stressor may lead to a particular event. Outcome expectancies are about how a response to a stressor is linked to an outcome from that response. For example, if an individual in the workplace is faced with a work stressor such as an important presentation, her stimulus expectancy may be that task is linked with her manager's appraisal of her overall work performance. The outcome expectancy would concern how the employee associates her proposed coping strategy (for example problem-focused coping) with the outcome, which if they felt they had control of the stressful situation would be positive. The result of these expectancies would be the uncomfortable stress arousal process would cease. However, if an employee with high levels of evaluative concerns perfectionism were in the same stressful situation, the expectancies may be different. She also may link her performance in the presentation with her manager's appraisal of how well they are performing

in general at work but evaluative concerns perfectionism is linked with trying to maintain approval from others by being perfect (Hewitt, Flett & Ediger, 1998), which may lead to this stimulus expectancy being inflated. The outcome expectancy for this employee may also be different.

As mentioned earlier, avoidant coping can be a mediator in the relationship between evaluative concerns perfectionism and negative outcomes. Those with high levels of evaluative concerns perfectionism are also more likely to use avoidant coping strategies (Dunkley et al., 2003). This predisposition to use coping strategies more likely to result in negative outcomes may result in the employee with high levels of evaluative concerns perfectionism experiencing a higher level of negative outcome expectancy. These combined levels of higher stimulus and outcomes expectancies may explain why those with high levels of evaluative concerns perfectionism are more likely to experience stress in the workplace (Childs & Stoeber, 2012; Stoeber & Rennert, 2008). CATS proposes that coping is not a strategy or behaviour because it may involve doing nothing (e.g. avoidant coping) instead it is the adoption of the expected positive outcome. From this viewpoint, CATS describes hopelessness as the opposite of coping.

CATS describes hopelessness as occurring when an individual recognises that her response to the stressor *does* have an effect but that effect is entirely negative (Meurs & Perrewé, 2011). In other words the individual has control as they recognise that her responses will have effects on the situation but they are all negative (Ursin & Eriksen, 2004). In contrast to helplessness (where the individual feels they have no control over the situation), hopelessness can result in feelings of guilt, as the negative outcome is directly her own fault. As a result CATS suggests that hopelessness is better fit for a model of depression than

helplessness. In a study of university students, maladaptive forms of perfectionism were found to predict levels of hopelessness; in addition levels of interpersonal and achievement hopelessness were found to moderate the relationship between perfectionism and suicide risk (Blankstein, Hillis Lumley & Crawford, 2007). This illustrates how evaluative concerns perfectionism can adversely affect the potentially adaptive stress process, leading to negative health outcomes.

Returning to the example of the employee with high levels of evaluative concerns perfectionism facing the stressor of the work presentation, it can be seen how that individual may feel hopeless in the face of perceived inevitable failure. The employee may feel that based on previous experience and her own levels of self-efficacy, any response that she makes will lead to a perceived failure. This is also especially likely given the high goals associated with perfectionism indicating a high level of success would be necessary to achieve success. Additionally, Ursin and Eriksen (2004) state that the self-efficacy construct is related to self-esteem, neuroticism and locus of control, indicating a common core construct which is the aim of the CATS coping concept. Self-esteem, neuroticism, locus of control and self-efficacy are all variables that have been linked with perfectionism (Ashby & Slaney, 1998; Cox, Enns & Clara, 2002; Rice, Periasamy & Ashby, 2002; Stoeber et al., 2008) reinforcing the utility of using CATS as a framework for understanding evaluative concerns perfectionism.

In agreement with other stress research such as sustained activation (Brosschot, Gerin & Thayer, 2006), CATS proposes that only continuous high arousal levels constitute a potential health risk (Ursin & Erkisen, 2004).

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Repeated, albeit brief, exposures to the stress alarm have been linked to cardiovascular pathology (Sterling & Eyer, 1988). Within the CATS theory, this repeated exposure is only likely in individuals whom are faced with challenges they do not feel able to deal with effectively. Returning to the example of the employee with high levels of evaluative concerns perfectionism, CATS provides a framework within which it can be seen how she may be exposed more frequently to stressors in the workplace and how in turn this exposure may lead to poor levels of both physical and psychological well-being. By differentiating between stress responses and the expectancies associated with those responses, CATS provides an explanation as to why stress arousal may be sustained and subsequently become a health risk which is of particular interest to perfectionism research. In common with the stress theories explored earlier, CATS provides a general stress framework within which the effects of perfectionism can be explored. The next section will explore a theoretical model that specifically addresses the link between perfectionism and depressive symptoms: the existential model of perfectionism and depressive symptoms (Graham et al., 2010).

The Existential Model of Perfectionism and Depressive Symptoms (EMPDS). The EMPDS is a theoretical model that specifically seeks to explain the mediating mechanisms in the relationship between perfectionism and depressive symptoms. In particular, EMPDS suggests that catastrophic interpretations of minor setbacks and a view of life experiences as unacceptable, dissatisfying and meaningless mediate the relationship between perfectionism and depressive symptoms. Graham et al. (2010) argue that evaluative concerns perfectionism is a risk factor for depressive symptoms and although the

relationship between perfectionism and depressive symptoms is robust (Dunkley, Sanislow, Grilo & McGlashan, 2009), the mediators responsible for the relationship have not been fully explored or understood. The first mechanism proposed by EMPDS as a mediator between evaluative concerns perfectionism and depressive symptoms is catastrophic thinking. It had previously been identified that those with high levels of evaluative concerns perfectionism engaged in catastrophic thinking, magnifying relatively minor events into major problems (Brown & Beck, 2002). Graham et al. (2010) use the example of a student receiving a 'B' grade and magnifying this relatively minor 'failure' into a calamitous situation. In the workplace, an employee with high levels of evaluative concerns perfectionism may show the same distorted cognitive pattern by perhaps forgetting a few words in a presentation and magnifying that minor setback into a completely disastrous presentation performance worthy of losing one's job over. EMPDS suggests that by catastrophising these relatively minor life experiences, those with high levels of evaluative concerns perfectionism are more likely to view their lives as meaningless and unsatisfying, which in turn may lead to depressive symptoms and existential crises.

EMPDS suggests that the catastrophic thinking experienced by those with high levels of evaluative concerns perfectionism is automatic (Rudolph, Flett & Hewitt, 2007); this is in line with Beck's view of automatic thoughts about everyday events being rapid, transient and distorted (Beck, Rush, Shaw & Emery, 1979). Such automatic thoughts are suggested to arise in those with high levels of evaluative concerns perfectionism due to their view that everyday stressors and challenges are both unacceptable and examples of threatening imperfections (Ellis, 2002). Furthermore, EMPDS suggests that this type of

catastrophic thinking distorts even objective features of everyday challenges and interprets them as more negative and important than they are. This consistent catastrophic, negative reinterpretation has a depressive effect on individuals with high levels of evaluative concerns perfectionism. EMPDS thus views these individuals as active agents who shape their own experiences, such as sadness, through their own reinterpretations and distortions (Graham et al., 2010). Returning to a workplace example, the employee with high levels of evaluative–concerns perfectionism who made a minor error in her presentation may view that minor mishap as both a threatening experience flaw and as a potently negative event. In turn, EMPDS suggests that this may result in them feeling sad and experiencing depressive symptoms, potentially overshadowing any positive results from the workday. In addition to automatic catastrophic thoughts, EMPDS suggests that having difficulty accepting the past also works as a mechanism between evaluative concerns perfectionism and depressive symptoms.

Difficulty accepting the past including viewing life as meaningless and unacceptable is proposed as a central tenet as to why evaluative concerns perfectionism is a vulnerability to depressive symptoms (Graham et al., 2010). Conformity and compliance (in contrast to agency and authenticity) are themes central to those with high levels of evaluative concerns perfectionism, which can also involve a sensitivity to external influences such as parental expectations (Bruch, 1979; Hewitt & Flett, 1991). Individuals with high levels of evaluative concerns perfectionism may feel as if they have lived their lives according to others' high expectations of them and this may lead to feeling as if their lives are inauthentic. The student with high levels of evaluative concerns perfectionism

may be studying law at university because they feel that is what their parents expect of them and in the future may feel as if their choice of career was inauthentic and lacking agency. EMPDS suggests that these feelings of leading an inauthentic life may lead to feelings of sadness and depressive symptoms. Furthermore, certain behaviours that are associated with evaluative concerns perfectionism may also lead to narrow life experiences.

Compulsive checking, consistently trying to avoid mistakes and constant overstriving are all behaviours associated with evaluative concerns perfectionism and EMPDS suggests these behaviours may result in a narrow, imbalanced experience of life lacking in opportunities for personal growth and social relationships. This lack of meaningful opportunities may lead to meaningful experiences being missed, resulting in a life viewed as dissatisfying. Evaluative concerns perfectionism is also associated with constant harsh self-scrutiny and a failure to accept normal levels of failure and imperfection (Flett, Besser, Davis & Hewitt, 2003). EMPDS suggests that this constant harsh self-criticism makes it hard for those with high levels of evaluative concerns perfectionism to accept the past. This inability to accept the past makes those with high levels of evaluative concerns perfectionism more likely to adopt a rather bleak view of their lives, leading to depressive symptoms. Returning to the employee with high levels of evaluative concerns perfectionism, the mistakes she made in her presentation last week may not only have been catastrophised at the time into major life problems but the resulting harsh self-criticism may also result in her inability to accept the mistakes happened a week or a month later. Indeed, in the four-wave longitudinal study by Graham et al., (2010) to test their mediational model of EMPDS, catastrophic thinking at time 2 and an inability to accept the past at time

3 mediated the relationship between evaluative concerns perfectionism measured at time 1 and depressive symptoms measured at time 4. Graham et al., (2010) suggest that these results show catastrophic thinking is both depressogenic and an end product or cognitive expression of evaluative concerns perfectionism. This catastrophic thinking style is both an ineffective coping strategy and the catalyst to an inability to accept past events, which have potentially been magnified and distorted. EMPDS suggests how minor everyday stressors are magnified by those with high levels of evaluative concerns perfectionism and combined with an ability to accept past events, presents a framework for exploring why evaluative concerns perfectionism is associated with high levels of stress.

In sum, this section has discussed the role of stress in the relationship between perfectionism (specifically evaluative concerns perfectionism) and levels of poor well-being. Transactional, cognitive and more specific perfectionism theories have been explored, in an aim to further understand the role of stress as a potential mechanism of perfectionism. Alongside stress, some of the theories covered so far have also discussed choice of coping method as important in the relationship between perfectionism and well-being. It is this potential mechanism which will be explored in the next section.

1.2.2. Coping as a mechanism of perfectionism. Theoretical perspectives. So far this section has examined coping in the context of stress appraisal but coping itself has been shown to be important in the relationship between perfectionism and poor well-being in both undergraduate and clinical populations (Dunkley & Blankstein, 2000; Dunkley et al., 2003; Hewitt, Flett & Endler, 1995). Workplace research has also found significant differences in

coping styles between evaluative concerns perfectionism and non-perfectionism with coping style mediating the relationship between perfectionism and burnout (Li, Hou, Chi, Liu & Hager, 2014; Stoeber & Rennert, 2008). The next section will explore the reinforcement sensitivity theory as a framework for understanding coping style as a potential mechanism of perfectionism.

The Reinforcement Sensitivity Theory (RST). RST is a neuropsychological theory that proposes that differences in personality can explain differences in behaviour in response to stressors. RST suggests there are three major neuropsychological systems (RST-3): the Behavioural Approach System (BAS) which is positive, and two negative systems, the Fight-Flight-Freeze system (FFFS) and the Behavioural Inhibition System (BIS) (Corr & Cooper, 2016). The BAS is motivated by appetitive stimuli, the FFFS by aversive stimuli and the BIS by conflicting stimuli (for example when the FFFS and BAS are both activated). Stimuli appraised as punishment is divided into either stimuli that can be avoided, which is therefore assigned to the FFFS, or stimuli that cannot be avoided, which is assigned to the BIS. The BIS is responsible for reducing goal conflict and RST suggests it does this by increasing in repetitive loops the negative valence of the stimuli (Corr & Cooper, 2016). This activation of the BIS leads to worry and rumination about possible dangers, obsessive thoughts about the chance something dreadful will happen and behavioural disengagement. These cognitive consequences of the activation of the BIS are also behaviours frequently associated with evaluative concerns perfectionism (Dunkley, Blankstein, Halsall, Williams & Winkworth, 2000; Flett, Coulter, Hewitt & Nepon, 2011; Flett, Hewitt, Blankstein & Grey, 1998); therefore it is unsurprising that research has found high correlations between

evaluative concerns perfectionism and the BIS (Stoeber & Corr, 2015). In contrast, the BAS involves processes of planning behaviour, problem solving and creating sub-goal scaffolding (Corr, 2008). Items from the RST-PQ also suggest an explanation as to why evaluative concerns perfectionism is so strongly associated with the BIS: "I often worry about letting down other people", "The thought of mistakes in my work worries me" and "I take a long time to make decisions" appear to reflect thoughts about perceived pressure from others, a concern over mistakes and doubts about actions which are all also key facets of evaluative concerns perfectionism (Frost, Marten, Lahart & Rosenblate, 1990; Hewitt & Flett, 1991). Conversely, items in the BAS "I am motivated to be successful in my personal life" and "I will actively put plans in place to accomplish goals in my life" reflect key features of personal standards perfectionism such as high goal setting and personal striving.

Results linking forms of perfectionism and the different behaviour systems have been mixed, with both forms of perfectionism being correlated with BIS (Flett, Hewitt, Oliver and Macdonald, 2002) and both forms of perfectionism have showed divergent patterns of correlation with BAS when certain facets were used (Kaye, Conroy & Fifer, 2008). Research examining the role of behavioural systems as mediators has found the BIS serves as a mechanism in the relationship between evaluative concerns perfectionism and psychological maladjustment (Randles, Flett, Nash, McGregor & Hewitt, 2010). Since then a new psychometric measure of RST has been developed called the Reinforcement Sensitivity Theory Personality Questionnaire (RST-PQ) (Corr & Cooper, 2015). This new questionnaire allowed individual differences in the BIS, FFFS and BAS to be explored. Stoeber and Corr (2015) used the RST-PQ in a

study of 388 university students. Regression and mediational analyses were used to explore the relationships between evaluative concerns and personal standards perfectionism, reinforcement sensitivity and levels of positive and negative affect. Low levels of BAS goal-drive persistence were found to mediate the relationship between evaluative concerns perfectionism and low levels of positive affect. The BIS mediated the relationship between both evaluative concerns and personal standards perfectionism and negative affect. This suggests that personal standards perfectionism should not be considered entirely adaptive, although only personal standards perfectionism was positively related to positive affect through the mediational pathways of the BAS. This ability to utilise both the BAS and BIS suggests that those with high levels of personal standards perfectionism have a choice of behavioural systems to use, in contrast evaluative concerns perfectionism is predominantly associated with the BIS, illustrating less choice. Low goal drive persistence and high BIS activity were suggested as causal pathways from perfectionism through RST factors to levels of positive and negative affect (Stoeber & Corr, 2015). A later study by Stoeber & Corr (2017) suggested that since the expectations of BAS and BIS are primarily focused around future reward, then the RST should be able to explain individual differences in future-directed thinking.

Positive thoughts about the future are indicators of hope and optimism whereas negative future thoughts suggest levels of hopelessness, which the cognitive activation theory of stress (CATS) also suggested is likely to be linked with depression. In turn, negative future-directed thinking is suggested to be a vulnerability factor for stress and emotional disorders (Stoeber & Corr, 2017). In common with previous research, Stoeber and Corr (2017) found evaluative

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concerns perfectionism positively related to the BIS and FFFS and a negative relationship with BAS goal-drive persistence. In addition, evaluative concerns perfectionism had a negative relation with positive expectations for the future and a positive relation with negative expectations. This negative pattern of future-directed thinking reflects levels of pessimism and hopelessness reflecting the relationships found between evaluative concerns perfectionism and hopelessness, suicide ideation and depression (Stoeber & Corr, 2017). These patterns are cohesive with the CATS framework linking hopelessness and depression and also the EMPDS framework as negative thoughts about the future may leave those with high levels of evaluative concerns perfectionism more vulnerable to viewing their life as meaningless or unacceptable. Therefore, the RST is cohesive with the stress and coping theories explored earlier and adds to the frameworks available within which to explore why evaluative concerns perfectionism is linked to increased levels of stress, maladaptive coping strategies and subsequent levels of poor psychological well-being.

Previous research on the roles of stress and coping in the relationship between perfectionism and well-being. As mentioned throughout this section, there has been a wealth of research on stress and coping processes. The daily diary methodology is particularly useful in this area of research as it allows multiple assessments of how participants appraise and cope with a variety of stressors. Daily measurements being 'nested' within individuals allows the extent to which variability in stress appraisals and coping reflects within-person (situational) and between-person (dispositional) influences (Dunkley et al., 2003). This section will give an overview of the stress and coping research specifically linked to perfectionism to date and identify gaps in the literature,

namely a lack of daily diary studies in the workplace, which this thesis will aim to address.

In a study of university students, Dunkley et al. (2000) asked 443 participants to complete questionnaires measuring levels of perfectionism, coping, daily stress, perceived social support and current levels of distress. The results found daily hassles, an avoidant coping style and levels of perceived social support all uniquely mediated the relationship between evaluative concerns perfectionism and levels of distress. However, this study used cross-sectional data thereby compromising the ability to make causal statements and suggested future research should employ a longitudinal design. Dunkley et al. (2003) asked 163 students to complete questionnaires measuring levels of perfectionism, daily affect, hassles, event appraisals, coping style and social support. In response to limitations of the previous research, this study employed a daily diary methodology and participants recorded their daily levels of affect, hassles, event appraisals, coping style and social support for seven days. Once again, daily hassles, avoidant coping and low levels of perceived support mediated the relationship between evaluative concerns perfectionism and levels of daily affect. Other research has also used student populations and found results supportive of the mediating role of stress and/or coping in the relationship between evaluative concerns perfectionism and poor levels of well-being (Ashby, Noble & Gnilka, 2012; Chang 2006; Chang, Watkins & Banks, 2004; O'Conner & O'Conner, 2003; Rice, Vergara & Aldea, 2006). However, a limitation of this research is its use of college student populations, which affects how generalizable the results can be (Dunkley et al., 2003).

Support for the theory of stress and coping as mechanisms of perfectionism has also been found in clinical populations. In a three-year study with a clinical population, Dunkley et al. (2006) found that avoidant coping and negative perceptions of social support mediated the relationship between evaluative concerns perfectionism and depressive symptoms three years later. However, the workplace provides a unique environment within which to explore the relationship between perfectionism, coping stress and poor levels of well-being. Work has been identified as one of the main areas for perfectionistic tendencies (Stoeber & Stoeber, 2009) and the workplace is also an environment where the likelihood of experiencing stressors is high. Therefore, the workplace is an important environment within which to examine the levels of stress appraisal and coping in those with high levels of evaluative concerns perfectionism.

Stoeber & Rennert (2008) studied levels of perfectionism, stress appraisal, coping style and burnout in 118 secondary school teachers. Their results suggested that evaluative concerns perfectionism was positively related to threat and loss appraisals, avoidant coping and burnout and negatively related to challenge appraisals and active coping. In a separate study, Childs and Stoeber (2012) found that levels of evaluative concerns perfectionism in healthcare service provision employees predicted increased levels of role stress and with a separate population of school teachers, found that levels of evaluative concerns perfectionism predicted increases in exhaustion and cynicism. In a six-month lagged study Dunkley et al. (2014) asked 196 employed adults to complete perfectionism measures and then six months later completed daily questionnaires for 14 days recording levels of appraisals, coping and affect across stressful

situations. Their results showed a disengagement maintenance pattern, involving avoidant coping and event stress maintenance kept mood levels low after a period of months in those with high levels of evaluative concern perfectionism. These maintenance behaviours may explain why evaluative concerns perfectionism is so enduringly associated with poor levels of well-being and can be resistant to therapy (Riley, Lee, Cooper, Fairburn & Shafran, 2007).

A study of university professors by Dunn, Whelton & Sharpe (2006) found avoidant coping and hassles mediated the relationship between evaluative concerns perfectionism and psychological distress. The study highlighted the specific challenges of academia including grant and manuscript review rejections as well as a need for creativity and risk (Dunn, Whelton & Sharpe, 2006), alongside the findings that evaluative concerns perfectionism and psychological distress were strongly related in their sample. Illustrating the generalizability of these findings across cultures, Chang (2012) also found that emotion-focused (a type of maladaptive) coping fully mediated the relationship between evaluative concerns perfectionism and burnout in a sample of Taiwanese nurses. Workplace research has demonstrated how evaluative concerns perfectionism is robustly associated with poor levels of psychological well-being and how maladaptive coping and stress can act as mediators in the relationship. Those with high levels of evaluative concerns perfectionism are likely to experience higher levels of daily stressors (Dunkley et al., 2003) and daily stressors are a better predictor of psychological symptoms than major life events (Kanner, Coyne, Schaefer & Lazarus, 1981).

With the exception of Dunkley et al. (2014), the workplace research discussed in this section is of a cross-sectional design and is therefore unable to

explore the extent to which the variability seen in stress appraisals and coping strategy is accountable to within-person (situational) or between-person (dispositional) influences (Dunkley et al., 2003). By employing a daily diary methodology, the mechanisms of perfectionism measured at the day-level can be explored. Daily hassles are likely to be common in the workplace rather than major life events and therefore day-level research is an important addition to the perfectionism workplace literature. This section has explored stress and coping as important mechanisms of perfectionism. Perfectionism research has also suggested that worrying or ruminating about negative events, or perseverative cognition, can also act as an important mediator in the relationship between evaluative concerns perfectionism and poor levels of psychological well-being (Flett, Nepon & Hewitt, 2016) and this will be discussed in the next section.

1.2.3. Perseverative Cognition as a mechanism of perfectionism.

Perseverative cognition is defined as "the repeated or chronic activation of the cognitive representation of one or more psychological stressors" (Brosschot, Gerin & Thayer, 2006, p113). Repeated thoughts about a problem can lead to negative health outcomes and it is suggested that it is the cognitive representation of a problem or difficulty that can be responsible for the effects on somatic health. Perseverative cognition is associated with different personality variables and one such variable is perfectionism (Frost & Henderson, 1991; Frost, Trepanier, Brown, Heimberg, Juster, Makris & Leung, 1997; Guidano & Liotti, 1983). Previous research has shown that perfectionists report high levels of perseverative cognition specifically following the experience of failure (Flett, Madorsky, Hewitt & Heisel, 2002). Given perfectionists' high goal setting, their experiences of perceived failure are likely to be more frequent than non-

perfectionists. This could therefore lead to the more frequent occurrence of perseverative cognition and consequently more frequent and enduring episodes of psychological distress. The evident relationships between perfectionism and distress, perseverative cognition and distress, and perfectionism and perseverative cognition have led researchers to suggest that perseverative cognition is a potential mediator between perfectionism and psychological distress. Indeed research in both workplace and student populations has identified perseverative cognition as a potential mediator between perfectionism and psychological distress (Flaxman, Ménard, Bond & Kinman, 2012; Flett, Madorsky, Hewitt & Heisel, 2002). Specifically individuals with evaluative concerns perfectionism have been shown to be more likely to engage in perseverative cognition for many different reasons.

One of the reasons individuals with high levels of evaluative concerns perfectionism show a higher frequency of perseverative cognition, is that they tend to show perfectionistic tendencies in a wide range of life issues (Santaniello & Gardner, 2007; Stöber & Joorman, 2001). The increased number of high standards set across a wider range of life issues than the non-perfectionist, leaves those with high levels of evaluative concerns perfectionism more likely to engage in perseverative cognition. As the mediation model would suggest, this increased level of perseverative cognition is likely to result in higher levels of negative mood. Perseverative cognition prolongs periods of negative mood because the individual is likely to reflect on the negative emotional state and its contributing factors (Flett et al., 2002). One suggestion as to why increased levels of perseverative cognition are associated with increased levels of psychological distress, is that the perseverative cognition serves an avoidant

function thus preventing necessary emotional processing and preventing the use of adaptive coping strategies (Borkovec, 1994; Fresco, Frankel, Mennin, Turk & Heimberg, 2002); this will be discussed later in this section. Avoidant coping therefore prolongs the experience of stress resulting in both physiological and psychological distress.

Given these negative health outcomes and the links between perfectionism and perseverative cognition, it is important to understand why perfectionists are prone to this pernicious way of thinking. In order to further understanding, the following section will consider a stress and arousal process, a model of the initiation and termination of the worrying process, effects that mood can have on the process, the avoidant function of perseverative cognition and meta-beliefs surrounding the function of perseverative cognition. Goal discrepancy is also an important theory in understanding why perfectionism is so consistently linked to perseverative cognition and this will also be discussed in this section, followed by a review of the current research exploring perfectionism and perseverative cognition. By reflecting on how perfectionists differ in these processes to non-perfectionists, it is proposed that the relationship between perfectionism and perseverative cognition will be more fully understood.

Cognitive activation theory: a stress and arousal process. Perseverative cognition is associated with an increased risk of cardiovascular disease due to the prolonged activation of the stress process (Brosschot, Gerin, & Thayer, 2006). Cognitive Activation Theory proposes that arousal and stress are vital for the efficient use of complex brains (Ursin & Erikson, 2004). When there is a discrepancy between what is desired and what is reality, the stress alarm occurs. The purpose of cognitive arousal is to remove the underlying cause of the stress

alarm. Consequently, if an individual feels in control and expects a positive outcome from a situation, then there will be no stress alarm and thus no cognitive activation. However, when faced with an unpredictable and possibly negative outcome twinned with a lack of resources to deal with the situation, then the stress alarm is activated (Meurs & Perrewé, 2011). For example an employee who is faced with a short deadline in which to produce a detailed report could face a discrepancy between the desired outcome (production of a perfect report) and the likely outcome (a somewhat substandard report). Considering the high standards perfectionists expect from themselves, it is suggested that these discrepancies are likely to occur more frequently among perfectionists compared to non-perfectionists. Short-term activation is a positive function and adaptive process however sustained cognitive activation produces strain. It is suggested that continual attention on a negative outcome prolongs cognitive activation and when considering the high goals set by perfectionists, a negative outcome is often salient. Cognitive activation in the form of perseverative cognition prolongs the experience of a stressful event therefore resulting in detrimental physiological and psychological outcomes (Brosschot, van Dijk & Thayer, 2007; Kuehner & Weber, 1999). Considering the employee with the short deadline, a continued focus on the discrepancy between the desired and real outcome and subsequent engagement in perseverative cognition, could result in less cognitive attention paid to the task resulting in a positive outcome being even less likely as well as the associated negative health outcomes. Cognitive activation theory therefore could explain the strong association between perfectionism and psychological distress via perseverative cognition.

The Cognitive Activation Theory proposes a way in which perseverative cognition may start, initiated by a stress alarm. In order to further understand how perseverative cognition works as a mechanism for perfectionism, the following section will explore the process of perseverative cognition within the initiation-termination (IT) theory of rumination. The iterative-termination theory provides a detailed framework for understanding how perseverative cognition begins and the conditions necessary for it to stop. Given the pernicious effect of prolonged perseverative cognition, the circumstances under which it can stop are of particular interest. By considering the specific implications of IT theory for perfectionists and also the direct influence of negative mood on perseveration, the following section will demonstrate why perfectionists are prone to perseverative cognition and its associated mental and physiological health outcomes.

The Initiation-Termination Theory of Worrying. The initiation-termination (IT) theory falls within the general framework of systematic processing which is defined as "a comprehensive, analytic orientation in which perceivers access and scrutinize all useful information in forming their judgments" (Chaiken, Liberman, & Eagly, 1989, p.212). Although systematic processing shares many factors with worry, it is used in many different judgment tasks such as decision-making and forming attitudes (Martin & Hewstone, 2003; Steginga & Occhipiniti, 2004). Systematic processing is seen as adaptive and so is not the same as pathological worry but can be seen as the start of the process and the origin for certain ways of thinking in the worrying process. IT theory suggests that worrying begins when a threat has been identified. In order for a situation to be deemed a threat, there are two properties that are evaluated:

likelihood of an undesirable outcome and perceived valence if the outcome occurs.

Worry initiation: likelihood of an undesirable outcome. There are many factors that influence the evaluation of how likely it is that an undesirable outcome will happen but two are particularly important when considering perfectionism: perceived competence and perceptions of others. It is suggested that past success is of primary importance when assessing perceived competence. Due to the setting of unrealistic standards, perfectionists are likely to experience more perceived failures than non-perfectionists and this could result in lower levels of perceived competence. Additionally, those with high levels of evaluative concerns perfectionism are more likely to engage in avoidant coping (Dunkley et al., 2003) and this also results in a lower likelihood of success. Some specific dimensions of perfectionists also differ in how they view the perceptions of others. Perfectionists who score highly in evaluative concerns perfectionism, may feel that other people expect very high standards from them and anything short of perfection will result in rejection (Hewitt & Flett, 1991). Research has shown how those who perceive others as malevolent have higher perceptions of the probability of undesirable outcomes (Berenbaum, 2010) and arguably those scoring high in evaluative concerns perfectionism could be said to have negative views of others.

Considering the two factors above that influence the likelihood of an undesirable outcome, it may be useful to consider an example of an employee in the workplace. An employee with high levels of evaluative concerns perfectionism is due to give a presentation to her managers and peers. In the past she has strived to attain her unrealistically high standards, whether she views

these as imposed upon her by others or standards which she has set for herself. Failure to attain perfection, such as the perfect presentation, has led to this employee feeling low levels of competence to succeed. Engagement in avoidant coping such as procrastinating has led to her running late with her preparation for the task, therefore making failure even more likely. Employees with high levels of evaluative concerns perfectionism could think that their manager expects perfection from them and this may lead to them having a negative view of others and the world around them; they may view their workplace as unfair and as such think that failure is even more likely. This increased likelihood of an undesirable outcome could result in the perfectionist perceiving more possible threats than a non-perfectionist resulting in greater likelihood of worry initiation (Berenbaum, 2010).

   Worry initiation: perceived valence of outcome. Berenbaum (2010) suggests that there are three important factors when considering the perceived cost of an outcome: standards, level of goal investment and tendency to catastrophise. Berenbaum (2010) described catastrophising as "the tendency to generate a chain of feared outcomes of feared outcomes." (p.966) and this process has been repeatedly linked to perfectionism (Graham et al., 2010). The setting of high standards is a core feature of perfectionism and whether an outcome is seen as desirable or undesirable is dependent on the individual's goals, as determined by their standards. The more undesirable an outcome is seen to be, the more threatening is it perceived. Given that perfectionists set high goals, it is likely that they will perceive more threatening outcomes than non-perfectionists, which may result in more instances of worry initiation. This process has been illustrated by previous perfectionism research that linked high

standards with worrying and furthermore this relationship was shown to be mediated by perceived costs of undesirable outcomes (Berenbaum, Thompson & Bredemeier 2007; Berenbaum, Thompson & Pomerantz 2007; Slaney, Rice, Mobley, Trippi, & Ashby, 2001; Stober & Joorman, 2001). The level to which an individual is invested in her goal is also an influencing factor in the perceived valence of an outcome. Higher levels of investment result in a higher perceived valence of the outcome (Berenbaum, 2010). Perfectionists are highly invested in achieving their goals and view achieving them as central to their identity (Rice, Ashby, & Slaney, 1998) and as a result are more likely to view a situation as threatening than a non-perfectionist. Thirdly, Berenbaum (2010) suggested that a tendency to catastrophise also increases the perceived valence of an outcome. As already mentioned, perfectionism has consistently been associated with a tendency to catastrophise and so once again the perfectionist is more likely to perceive the situation as threatening and therefore initiate the worry process.

As well as the probability and cost of threat, how dangerous the threat is perceived to be is also a factor in worry initiation. IT theory proposes that there are three factors contributing towards danger and risk salience: attentional biases, negative affect and perceived controllability and predictability. Research shows that individuals with increased levels of anxiety devote more time and attention to threatening stimuli (Mathews & Mackintosh, 1998; Williams, Watts, MacLoed, & Matthews, 1997). Paying greater amounts of attention to threatening stimuli increases threat awareness, which in turn could lead to an increase in worry initiation. Perfectionism is associated with higher levels of anxiety (Kawamura, Hunt, Frost, & DiBartolo, 2001; Saboonchi & Lundh, 1997) and so it can be seen how those with higher levels of perfectionism may be prone

to this attentional bias. Finally, perceived controllability and predictability serve as signals of safety and danger (Lohr, Olatunji, & Sawchuk, 2007; Seligman & Binik, 1977). A low sense of control will likely result in a heightened state of threat awareness, as the individual searches for danger in her environment. Research has illustrated that there is an interaction between perfectionism and a low sense of control, which can lead to higher levels of anxiety and lower levels of goal satisfaction (Mor, Day, Flett, & Hewitt, 1995). Given that low sense of control is a factor within worry initiation, as are anxiety levels linking with attentional bias and levels of perceived valence in terms of goal achievement, this combination of low perceived control and perfectionism could further understanding as to the conditions most troublesome for perfectionism in terms of worry initiation.

Worry initiation: the role of negative affect. The relationship between emotional experience and self-regulatory processes is an important issue within psychology, however, most research has focused on the impact of the cognitive processes on emotions, rather than the impact of emotions on cognitive processes (Higgins, 1987; Martin & Tesser, 1996). Research has suggested that negative mood can lead to increased standards and consequent levels of perseverative cognition but the process for why this happens has not previously been understood (Scott & Cervone, 2002). Additionally a negative or sad mood can result in increases in systematic processing (Davey et al., 2005). Self-regulatory processes alter one's behaviour in accordance to internal or social standards, ideals or goals (Baumeister & Vohs, 2007) and systematic processing is one such process. Systematic and deliberate processing involves a comprehensive, analytical judgment of a situation, in comparison to heuristic processing which

uses learned pre-existing knowledge structures already stored in memory. Due to the comprehensive nature of systematic processing, it has a higher cognitive load than heuristic processing (Chaiken & Trope, 1999). In the following section the effect of mood on the processes of threat evaluation, goal setting and catatrophising thinking, will be explored to understand the link between perfectionism and perseverative cognition.

The presence of negative affect increases danger and risk salience (Berenbaum, 2010). Negative affect can result in the recall of more negative events, the generation of negative outcomes and an alert to the individual that something is going wrong and so a threat search should begin (Slovic, Finucane, Peters, & MacGregor, 2002). As with anxiety, negative affect is also strongly linked with perfectionism (Dunkley et al., 2003) suggesting that perfectionists may experience higher recall of negative events, thoughts of negative outcomes and feelings of an impending threat than non-perfectionists. Worrying begins when a threat has been identified and mood congruence theory suggests that negative affect alerts the individual that something is not going well, which results in a heightened search for potential threats (Scott & Cervone, 2002). The perception of threat is what initiates the anxiety process and, as suggested earlier, the initiation of worry. As discussed in the previous section, one's own level of standards and goal investment are crucial in the evaluation of the threat.

The presence of negative affect influences how people evaluate their performance and can result in dissatisfaction with any level of imagined performance. Moreover, the presence of negative affect can result in even higher standards being set. For example, a student who receives a 'C' grade in her exam may experience negative affect as a result which may in turn result in a higher

goal being set. Consequently the student who previously received a 'C' grade may need to achieve a 'B' or 'A' grade to be satisfied. In turn, when the student fails to achieve the higher grade now deemed necessary, this results in more negative affect. Considering the high standards set by those with perfectionistic tendencies, it is easy to understand how this behaviour could quickly become self-perpetuating resulting in the ever-increasing levels of dysphoric and depressive states as reported by Flett, Hewitt and Mittelstaedt (1991).

In an experimental setting Scott and Cervone (2002) used either negative or neutral induction procedures to manipulate the mood of the participants. A questionnaire measuring evaluative judgments, minimal performance standards and self-efficacy appraisals was then administered to the participants. It was found that those who had received the negative affect induction displayed the highest minimal standards for performance. This demonstrated a direct link between affect and systematic processing, in this instance the setting of goals. It was also found that a lack of increase in self-efficacy in relation to an increase in standards is damaging to mood repair. This continuing mismatch between self-efficacy and standards is a self-regulatory pattern that is continuously detrimental. Combine this with the disparity of perfectionism and self-efficacy and the setting of high standards, it can be seen how pernicious this process could be. The fact that one's evaluation of a previously acceptable performance can be diminished due to affect may explain why personal standards perfectionism is sometimes associated with negative outcomes as highlighted by Flett and Hewitt (2006). As the gulf between desired and achieved performance widens, negative affect increases further resulting in activities being abandoned, for example by quitting a job or failing to turn up for an exam (Bandura &

Cervone, 1983; Cervone & Peake, 1986). Not only does mood affect how a threat is perceived and therefore worry initiated but it can also influence the length of time before worrying is terminated.

Worry termination. IT theory states that worrying will only stop when the individual has accepted the prospect of the threat. There are four factors that determine the acceptance of the threat: desire for certainty, perseverative-iterative style, meta-beliefs about the usefulness of worrying and a sense of closure regarding one's own influence on the outcome. Once again individuals with high levels of evaluative concerns perfectionism are particularly vulnerable to these factors. A desire for certainty makes the acceptance of threat difficult as not only is the outcome unknown but there is uncertainty in the threat itself. Research has suggested that perfectionists are prone to high levels of intolerance of uncertainty (Moulding & Kyrios, 2007), which illustrates how someone with high levels of perfectionism may find it difficult to accept the threat and cease worrying. The second factor in worry termination is perseverative-iterative style.

Worry termination: a perseverative-iterative style. A perseverative-iterative style is a tendency to dwell on the topic concerned and continually generate the next step in a chain of connected outcomes (Davey & Levy, 1998). These steps are known as catastrophising steps and often result in the outcome being perceived as growing ever worse rather than to a satisfactory closure (Davey, Startup, MacDonald, Jenkins, & Patterson, 2005). Perfectionism is associated with a perseverative-iterative style (Flett, Madorksy, Hewitt & Heisel, 2002) and this is a particular area of interest to understand perseverative cognition as a mechanism of perfectionism. A specific area within the perseverative-iterative factor in IT theory is the use of 'as many as can' stop

rules. Stop rules are what allow the individual to stop making the catastrophising steps, thereby cease worrying and accept the threat. Mood-as-input hypothesis suggests that an individual's negative mood interacts with the stop rules and so influences the number of catastrophising steps. There are two different types of stop rules, 'feel like continuing' and 'as many as can'. 'Feel like continuing' is when an individual continues a task until they don't want to do it anymore; 'as many as can' is when an individual only stops when they feel they have generated as many items as they can. Martin, Ward, Achee and Wyer (1993) found that mood interacted with the stop rule being used in that when in a positive mood individuals using the 'as many as can' rule stopped before those in a negative mood and when using the 'feel like continuing' rule those in a negative mood stopped before those in a positive mood. Individuals with higher levels of trait worry are more likely to use 'as many as can' stop rules which in turn predicts the number of catastrophising steps in the worrying process.

Measures of perfectionism and intolerance of uncertainty (associated with perfectionism) have also been associated with 'as many as can' stop rules (Dugas, Freeston, & Ladouceur, 1997; Frost, Marten, Lahart, & Rosenblate, 1990; Ladouceur, Talbot, & Dugas, 1997; Pratt, Tallis, & Eysenck, 1997). For the perfectionist, the standards are set so high that an outcome that is perceived to be getting worse, would only exacerbate the amount of catastrophising steps. Perfectionism is associated with high levels of negative mood and this plus the use of 'as many as can' stop rules will result in a longer period of perseverative cognition necessary before worrying can cease.

Meta-beliefs about the usefulness of perseverative cognition and a sense of closure. Another reason why individuals consistently engage in perseverative

cognition may be their metacognitive beliefs as to why they do so. One such belief given by those who have high levels of perseverative cognition is that by worrying about potential negative events in the future, they can prepare themselves and potentially avoid them or prepare for the worse if the event is unavoidable (Borkovec & Roemer, 1995). Furthermore, the type of metacognitive belief can be both positive (such as, "perseverative cognition aids me in my future planning") and negative (for example, "people will judge me for worrying so much"). A clinical study found both positive and negative metacognitive beliefs present in a sample of individuals experiencing depression (Papageorgiou & Wells, 2003). If an individual views worrying as useful and necessary to protect them against future threat, then termination of the worrying process is going to be very difficult. Individuals with general anxiety disorder (GAD) also perceive worrying as a useful and necessary process (Davey, Startup, MacDonald, Jenkins & Patterson, 2005; Wells & Carter, 2002) and research has shown significant associations between perfectionism, pathological worry and GAD (Handley, Egan, Kane, & Rees, 2014). Specifically, individuals with high levels of evaluative concerns perfectionism also believe that ruminating about past failures is useful in order to try and not repeat the same mistakes (Macedo, Marques & Pereira, 2014).

The superstitious reinforcement paradigm suggests that the content of perseverative cognition can have a reinforcing effect on metacognitive beliefs. The paradigm suggests that because the content of perseverative cognition is so catastrophic, the likelihood of such events occurring is very small. This in turn reinforces the perceived value of perseverative cognition as it is viewed as protecting the individual from the catastrophic event happening. This paradigm

may also explain why many individuals whom engage in perseverative cognition believe that in doing so they are making the event less likely but cannot explain why they think so (Borkovec & Roemer, 1995). If individuals believe that perseverative cognition has positive consequences, then they are more likely to maintain the process. These metacognitive beliefs illustrate how perseverative cognition has the ability to change normal thoughts into the excessive and uncontrollable perseverative cognition of anxiety disorders (Wells, 1999).

Finally, a sense of closure that the individual has done as much as they could reasonably have done to prevent or cope with the threat, is necessary for perseverative cognition to stop (Berenbaum, 2010). Those with high levels of evaluative concerns perfectionism are likely to have a low sense of self-efficacy and high levels of self-criticism (Sirois & Molnar, 2015) and therefore they might find it difficult to accept they have done all they could reasonably have done. Evaluative concerns perfectionism has also been associated with an external locus of control (Hewitt & Flett, 1991), which could affect how an individual regards her own influence over an outcome. An external locus of control may leave the perfectionist feeling out of control and helpless as to the outcome of the threat, which would only extend the worrying process. The association between perfectionism and these factors that allow worrying to cease, illustrate how perfectionists may find it difficult to stop worrying. As already mentioned, perfectionism is associated with the setting of high goals (Frost, Marten, Lahart & Rosenblate, 1990) and threats to goal progress are one of the most common reasons for perseverative cognition to start (Martin & Tesser, 1996), the following section will discuss the role of goal discrepancy further.

The role of goal discrepancy in perseverative cognition. As previously

mentioned, both personal standards and evaluative concerns perfectionism are

characterized by the setting of high goals. Given that threats to goal progress are

theorized to initiate perseverative cognition (Martin & Tesser, 1996), it can be

understood why perfectionism is so commonly associated with perseverative

cognition. Another characteristic of evaluative concerns perfectionism is that

goal achievement is highly salient with their sense of self (Flett, Besser, Davies

& Hewitt, 2003). Theories of goal discrepancy suggest that levels of

perseverative concern are higher when the unattained goal is linked to more

important higher-level outcomes (Martin & Tesser, 1996). This is illustrated in a

study which found the unattainment of lower-order goals which were linked to

higher-order goals, resulted in higher levels of perseverative cognition than if the

lower-order goals were unlinked (McIntosh, Harlow & Martin, 1995; Smit,

2016). Additionally Smit (2016) also showed how for those individuals who link

lower-order goals to higher-order goals, everyday hassles predicted higher levels

of perseverative cognition over a two week period. Interestingly, research with

call centre staff found a parallel pattern with attainment of work goals considered

relevant to higher-order goals associated with pleasurable affect (Harris, Daniels

& Briner, 2003). In a similar design to that used by Dunkley et al. (2003)

discussed in the stress and coping section of this introduction, Lavallee and

Campbell (1995) asked participants to record their level of mood and

perseverative cognition in relation to their most bothersome event of the day. The

study showed that levels of perseverative cognition and negative affect were

higher after goal-relevant events than events rated as irrelevant to higher goals.

These results potentially support both goal discrepancy and mood-as-input

theories. Additionally, if perseverative cognition started as a result of the perceived threat from non-achievement of a goal, it could be seen as a mediator in the relationship between evaluative concerns perfectionism and well-being.

Consistent with the role of goal discrepancy in perseverative cognition, is the theory that those with high level of evaluative concerns perfectionism are vulnerable to engaging in perseverative cognition focusing on previous mistakes or future potential mistakes (Flett, Nepon & Hewitt, 2016). The attention given and remorse felt about having made the mistake is often out of proportion with the importance of the mistake. Additionally, the level of perceived importance is proportionate to the level of cognitive perseveration (Flett et al., 2016). This cognitive perseveration can also incorporate thoughts of "what might have been" which can centre around a feeling of not having achieved a goal and being discrepant with how the situation "should be". Discrepancy can also be an initiator of perseverative cognition when those with high levels of evaluative concerns perfectionism perceive a difference between their actual self and the ideal self (Flett, Madorsky, Hewitt & Heisel, 2002). As mentioned earlier, the workplace is one of the main areas for perfectionistic tendencies and therefore provides an arena for mistakes being made which may be linked to higher-order goals, leading to situations that are discrepant from the perceived ideal. As such, it is likely that employees with high levels of evaluative concerns perfectionism may engage in perseverative cognition as a result of making mistakes at work, which in turn may lead to poor levels of well-being. Studies measuring levels of perseverative cognition after individuals have made a public speech showed that evaluative concerns perfectionism predicted levels of perseverative cognition up to two days after the speech was given (Brown & Kocovski, 2014; Cox & Chen,

2014). These studies clearly show the relationship between evaluative concerns perfectionism and perseverative cognition and the next section will provide an overview of other research in this area.

Previous research exploring the relationship between perfectionism and perseverative cognition. Research in this area has already been discussed in the previous sections and therefore this section will focus mainly on research examining the mediating role of perseverative cognition in the relationship between evaluative concerns perfectionism and well-being, and on workplace research. Studies which have found evaluative concerns perfectionism correlated with levels of perseverative cognition are plentiful (Besharat, Issazadegan, Etemadina, Golssanamlou & Abdolmanafi, 2014; Brown & Kocovski, 2014; Chang et al., 2007; Egan, Hattaway & Kane, 2014; Flett, Madorsky, Handley, Egan, Kane & Rees, 2014; Hewitt & Heisel, 2002; Randles et al., 2010; Santanello & Gardner, 2006; Short & Mazmanian, 2013; Stöber & Joorman, 2001) and whilst this confirms the relationship between the two variables, studies examining perseverative cognition as a mechanism of perfectionism can potentially further understanding as to why evaluative concerns perfectionism is so frequently linked with poor well-being.

Harris, Pepper and Maack (2008) asked students to identify their most recent disappointing test score and subsequent levels of perseverative cognition. The results showed levels of perseverative cognition fully mediated the relationship between evaluative concerns perfectionism and depressive symptoms. Interestingly, Short and Mazmanian (2013) explored a multiple mediator model in their study with university students. Their results showed that although perseverative cognition mediated the relationship between evaluative

concerns perfectionism and levels of distress (negative affect, depression, anxiety and stress), this pathway was only significant in those with low levels of mindfulness. This study suggests that mindfulness may offer a protective quality to those with high levels of evaluative concerns perfectionism against the effects of perseverative cognition. In a slightly different study, Short, Musquash and Sherry (2013) defined perseveration in terms of response time difficulties to a computerised task. Their results showed perseveration acting as a moderator in the relationship between evaluative concerns perfectionism and levels of binge eating. Returning to the traditional method of measuring perseverative cognition, Flett, Coulter, Hewitt and Nepon (2011) conducted a study of school students and found perseverative cognition acting as a mediator in the relationship between evaluative concerns perfectionism and depressive symptoms. As discussed in the perfectionism section of this introduction, research tends towards either clinical or student populations but as mentioned, work is one of the main life domains to experience perfectionistic tendencies (Stoeber & Stoeber, 2009).

In a student sample study, Chang et al., (2007) found that evaluative concerns perfectionism predicted levels of work incompetence worries. Although this was again in a student population, this subject of worry and work, highlights a particular area of perseverative cognition, work-related perseverative cognition. In a longitudinal study of academic employees, Flaxman et al., (2012) measured levels of well-being and work-related perseverative cognition weekly for four weeks over the Easter respite period. The study showed that levels of perseverative cognition during the Easter respite mediated the relationship between evaluative concerns perfectionism and well-being upon return to work.

This particular study provides insight into the experiences of work for those with high levels of evaluative concerns perfectionism. Although this is an important area for organisational and perfectionism research, the number of workplace and employee studies exploring perfectionism, perseverative cognition and well-being, is still low.

In summary, by exploring the cognitive activation theory, initiation-termination theory and mood-as-input theory and factors associated with perfectionism such as goal discrepancy and negative mood, it can be seen why perfectionism and perseverative cognition are so closely linked. Indeed Davey et al. (2005) suggested that mood-as-input theory provides a framework that is capable of explaining similarities in perseveration across disorders including general anxiety disorder and perfectionism. The theory that negative affect can itself lead to an increase in goal standards not only illustrates a 'perfect storm' scenario for those high in evaluative concerns perfectionism but also suggests that perfectionism is not necessarily a stable construct (Scott & Cervone, 2002). Work and studies are the most likely domains for the manifestation of perfectionistic tendencies (Stoeber & Stoeber, 2009) and workplace research has already identified perseverative cognition as a maladaptive behaviour during off-job time (Flaxman et al., 2012). Therefore further research in a working population is necessary to further understanding of perseverative cognition as a key mechanism and cognitive-level manifestation of perfectionism (Kobori & Tanno, 2005).

1.3. Thesis Outline

Firstly, chapter one of the present thesis aims to extend previous literature by examining stress appraisal and coping strategy in the workplace as a

mechanism of perfectionism. Previous research has employed a day-level design with a working population (Dunkley et al., 2014) but has not specifically targeted mechanisms during the work part of the day. This is important because it has the potential to reveal if the mechanisms of stress and coping at work are consistent with the diathesis-stress hypothesis, which suggests that stressors that are congruent with the perfectionistic style are more harmful than those that are not (Hewitt & Flett, 1993). As discussed, the workplace provides a specific social and achievement-related arena for perfectionism and therefore it is important for the mechanisms of perfectionism to be explored specifically in this environment.

Secondly, chapter two of this thesis aims to explore the mechanisms of perfectionism across different parts of the day. Previous research has shown that work-related perseverative cognition works as a mechanism of perfectionism during respites from work (Flaxman et al., 2012). This thesis aims to further explore work-related perseverative cognition as a mechanism of perfectionism in workday evenings. In addition by controlling for end-of-workday well-being, this thesis will uniquely aim to explore specifically if work-related perseverative cognition affects evening well-being in those with high levels of evaluative concerns perfectionism. The work-day and work-day-evening studies will employ a day-level diary design with the aim to examine both the dispositional and situational influences of evaluative concerns perfectionism on both the mechanisms of perfectionism and associated well-being (Dunkley et al., 2003).

Finally, chapter three of this thesis will explore the respite and subsequent fade-out effects of perfectionism. Previous research has shown that those with high levels of evaluative concerns perfectionism enjoy similar vacation effects on well-being but upon return to work, these effects fade-out

significantly quicker for individuals with high levels of evaluative concerns perfectionism (Flaxman et al., 2012). The present study will aim to measure levels of well-being before, during and after the Christmas vacation to explore the effect perfectionism may have on levels of vacation effects and subsequent fade-out of well-being benefits upon return to work. In addition, this thesis will extend previous vacation literature that found levels of perseverative cognition during vacation mediated the relationship between perfectionism and well-being upon return to work. By using the Christmas vacation as the respite opportunity, this study aims to explore whether the same mechanisms are prevalent for those with high levels of evaluative concerns perfectionism across vacation and respite occasions.

Chapter 2: A Workplace Study of Perfectionism and Daily Well-being: the Role of Stress Appraisal and Coping Strategies.

Abstract

Perfectionism in the workplace is a factor in poor levels of well-being but there remains a lack of research in this area. Stress appraisal and coping strategies have been identified as potential mechanisms in the relationship between evaluative concerns perfectionism and poor levels of well-being but there is a lack of workplace research exploring these relationships. The current study used a daily diary design measuring levels of negative affect, emotional exhaustion, perceived event stress and coping strategies immediately after work. Results found evaluative concerns perfectionism significantly predicted levels of negative affect, perceived event stress and avoidant coping. Personal standards perfectionism predicted active coping. Both perceived event stress and avoidant coping were found to mediate the relationship between evaluative concerns perfectionism and poor levels of well-being. Discussion focused on the importance of extending existing perfectionism, coping and stress theories into the workplace.

Introduction

Perfectionism in the workplace has been identified as a factor in poor psychological well-being (Flaxman, Ménard, Bond & Kinman, 2012). Despite being identified as an important area for psychology, to date there has been a lack of research exploring perfectionism in the workplace (Stoeber & Damian, 2016). Exploring potential state-level mechanisms of perfectionism could further understanding of the pernicious effects of perfectionism in the workplace. Gaining insight into the mechanisms of perfectionism at play in the workplace could also further understanding as to why the relationship between perfectionism and distress is so enduring. Furthermore, perfectionism can be resistant to change and can have a negative impact on psychotherapy (Dunkley, Mandel & Ma, 2014), so by identifying the mechanisms of perfectionism, appropriate interventions can be designed to help facilitate change that would otherwise be very difficult.

One such mechanism of perfectionism is stress appraisal. Previous research has suggested that those with high levels of maladaptive perfectionism are more reactive to daily stressors (Dunkley, Zuroff & Blankstein, 2003). Experiencing daily stressors is highly likely in the workplace, which is also somewhere people are more likely to experience perfectionistic tendencies (Stoeber & Stoeber, 2009). Another potential mechanism of perfectionism is avoidant behaviour. Research has suggested that avoidant behaviour is both frequently adopted by those with high levels of a maladaptive type of perfectionism and associated with poor mental health outcomes (Carver, Scheier & Weintraub, 1989, Santanello & Gardner, 2006). Considering all of this, the

aim of this piece of workplace research is to explore the relationships between perfectionism and two potential mediating strategies: stress appraisal and coping.

Perfectionism was conceptualized as a multifaceted personality repertoire in the early 1990s and since then two relatively distinct higher order constructs have been developed: personal standards perfectionism and evaluative concerns perfectionism. Personal standards perfectionism involves setting high standards for oneself and striving for excellence and is often associated with adaptive outcomes such as positive affect and higher levels of academic performance (Stoeber & Otto, 2006). Evaluative concerns perfectionism, however, involves feelings of doubt about one's own actions, harsh self-evaluation and a perceived pressure from others to be perfect. This dimension of perfectionism is commonly associated with maladaptive outcomes such as negative affect, burnout and a lower level of achievement (e.g., Sherry, Sherry, Hewitt, Flett & Graham, 2010). The differentiation between dimensions of perfectionism has allowed researchers to examine if there are key mechanisms that may explain why the different facets are associated with differing outcomes. Two mechanisms have been proposed to have mediating relationships between perfectionism and psychological well-being but to date have mainly been tested in student populations or in cross-sectional studies. These potential mechanisms are stress appraisal strategies and coping strategies.

Theory of stress appraisal. One stress theory that can help to explain the processes of stress appraisal and coping strategies is that of Lazarus and Folkman (1984). Their transactional theory of stress suggests that when faced with a potentially threatening situation there are two basic constructs in the person-environment relationship: cognitive appraisal and coping. Cognitive appraisal is

seen as having two parts: primary and secondary. Although they are called primary and secondary, the processes occur in relation to each other, not necessarily one after the other in a particular order (Lazarus, 1999). Primary appraisal is concerned with the motivational relevance of the situation, that is, if the situation is likely to impact our well-being. A key point is that a situation can only be appraised as a threat (or benefit) if it is deemed relevant to one's needs. This motivational relevance affects the strength of emotional response (Smith & Kirby, 2009). For example, if someone is asked to make a presentation at work and the individual concerned appraises the task as important for keeping her job, then it is likely that the presentation would be appraised as a threat (assuming she views keeping her job as a need). Performing well at work has a high motivational relevance for many people. Additionally during primary appraisal, the extent to which the situation is congruent or incongruent with one's goals is also assessed. This second aspect of cognitive appraisal is called motivational congruence and different emotions are experienced when a situation is viewed as incongruent rather than congruent (Smith & Kirby, 2009). Returning to the earlier example of the workplace presentation, if performing well and being viewed as highly competent were one of the individual's goals, then having to make a presentation at work would also likely have a high motivational congruence. For this individual, the task of having to make a presentation at work would have both high motivational relevance and motivational congruence and would therefore be likely to produce a strong emotional response.

Secondary appraisal involves evaluative judgments as to whether any actions can be taken to improve the situation, and if so, which coping strategies are likely to be most useful. In short "do I have the resources to cope with this?"

Secondary appraisal is an important supplement to primary appraisal because if a situation is deemed as threatening but one is confident that a negative outcome can be prevented, then the threat is appraised as minimal or absent (Lazarus & Folkman, 1987). Within the transactional model, coping mechanisms are seen as persistently changing cognitive and behavioural efforts to try and reduce the perceived difference between the situational demands and personal resources (Lazarus, 1993). Two major functions of coping are identified in this model: one that is focused on changing the external person-environment relationship (known as problem-focused coping) and one that is focused on changing the personal or internal meaning or relationships with the stressor (known as emotion-focused coping) (Lazarus, 1999). Although both forms of coping are often used in the same situation, problem-focused coping is most often used when one feels control over the situation. Examples of problem-focused coping are learning new skills, generating alternative solutions and objective reappraisal. Emotion-focused coping strategies tend to be employed when one feels little control of the situation and examples of these strategies include avoidance, acceptance and seeking emotional support. Later additions to the theory suggested that how long the stressor is likely to last is also evaluated at the primary stage and that at the secondary stage emotions can act as a moderator between the cognitive response and coping (Lazarus, 1999). Returning to our earlier example of the workplace presentation, if the individual felt able to meet the demands of the presentation, the situation would not be appraised as a stressor. Alternatively, if the person lacked the ability to deal adequately with the presentation at the secondary appraisal stage, the situation would be appraised as a stressor and subsequently coping strategies would be considered.

Lazarus and Folkman's theory (1984) is of particular interest when considering how those with perfectionistic tendencies react to stressful situations. As mentioned, those with high levels of evaluative concerns perfectionism are likely to set themselves high goals alongside doubts about their ability to reach them, harsh self-evaluation and a perceived pressure from others to be perfect. Considering the workplace presentation example discussed previously, it is possible to see how someone with high levels of evaluative concerns perfectionism may consider a situation stressful. Someone with high levels of evaluative concerns perfectionism is likely to expect nothing less than perfection from her performance in the presentation but this may be twinned with a feeling they lack the skills necessary to achieve this. Using Lazarus and Folkman's model (1984), it can be seen how the workplace presentation may be perceived as a stressor during primary appraisal, as it may score highly on motivational relevance and congruence; an individual high in evaluative concerns perfectionism may perceive the task as very important to her job (motivational relevance) and if setting high goals and not being perceived as a failure by others were part of her goals, then the task would also be high in motivational congruence.

Evaluative concerns perfectionism can be associated with negative self-evaluation (Flett, Blankstein & Martin, 1995) that may manifest itself in a lack of belief that one's own actions could overcome a stressful situation. Consequently, considering the workplace presentation, the individual with high levels of evaluative concerns perfectionism is more likely to perceive the presentation as a stressor during secondary appraisal because he may consider himself lacking the required personal resources to adequately deal with the situation. Differences in

choice of coping strategy between those with high levels of personal standards and those with high levels of evaluative concerns perfectionism has also been shown in previous research (Dunkley et al., 2003; Dunn, Whelton & Sharpe, 2006), however, there remains a lack of research exploring the daily coping styles exhibited in the workplace.

In contrast to evaluative concerns perfectionism, personal standards perfectionism can tend to be associated with self-esteem and self-efficacy (Flett et al., 1991; Mills & Blankstein, 2000) and therefore those with high levels of personal standards perfectionism may be more confident in their abilities to overcome a stressful situation. Returning to the workplace presentation example, if the individual has high levels of personal standards perfectionism then he is more likely to think he has the skills necessary to achieve the task, the result being the workplace presentation is not seen as a threat.

In a later addition to the theory of stress appraisal, Lazarus (1999) included emotion as a moderator between cognitive response and coping. Evaluative concerns perfectionism is commonly associated with emotions such as anxiety (Flett, Endler, Tassone & Hewitt, 1994), which is suggested to lead to an appraisal of low problem-focused coping potential and motivational congruence (Lazarus, 1999). In summary, this theory of stress appraisal suggests that those with a high level of evaluative concerns perfectionism are more likely to experience situations as stressful at both stages of the stress appraisal process: firstly, experiencing increased levels of motivational relevance and congruence during the primary appraisal phase and then secondly, a lack of belief in the ability to effectively cope with the situation followed by a poor choice of coping strategy during the secondary appraisal process.

Lazarus and Folkman (1984) provide a comprehensive stress framework that can be used to explore why perfectionism is so strongly related to psychological distress, particularly in the workplace. Theories of stress appraisal can help explain why those with high levels of evaluative concerns perfectionism are more likely to experience stressful events (Hewitt & Flett, 1993) and choose ineffective coping strategies (Wei, Heppner, Russell & Young, 2006). Another useful framework for understanding the different ways personality can influence stress and coping is that of Bolger and Zuckerman (1995). An important feature in Bolger and Zuckerman's model (1995) is the inclusion of personality differences as a key predictor of both stress exposure and coping. It is therefore of use to consider this model when examining perfectionism, stress and the workplace.

Personality and the stress process. Bolger and Zuckerman (1995) propose a model in which personality differences can affect both the amount of exposure and type of reaction an individual has when faced with a stressor; this is called an exposure-reactivity model. Previous research has shown that an exposure-reactivity model provided the best explanation of the relationship between neuroticism and daily distress (Bolger & Schilling, 1991). As well as how a stressor is appraised, Bolger and Zuckerman's (1995) model also suggests that personality differences can affect both choice of coping strategy and the effectiveness of coping; this is known as a differential choice-effectiveness model. The differential choice-effectiveness model suggests that coping choice and coping effectiveness processes help to explain personality differences in stress outcomes. In a daily diary study, Bolger and Zuckerman (1995) found that those with higher levels of neuroticism reported more instances of daily conflicts

than those with low levels of neuroticism, thus providing support for the exposure element of the exposure-reactivity model. Furthermore, when depression was used as an outcome, the exposure-reactivity model showed the best fit for the data, suggesting that those with high levels of neuroticism showed significant differences in both the amount of stressors they encountered and how they reacted to those stressors. Although both exposure to stressors and reactivity to stressors were significant, it was the reactivity to stressors that was most detrimental in terms of negative affect among those with high levels of neuroticism.

When considering the coping element of this model, those with high levels of neuroticism were found to engage in significantly more coping activities than those with low levels of neuroticism. Although the results were mixed, those with high levels of neuroticism were also found to show differences in coping effectiveness when depression and anger were outcomes (Bolger & Zuckerman, 1995). Although support for the choice-effectiveness model was mixed, the results did provide support for personality differences in both coping choice and the effectiveness of coping strategy.

Bolger and Zuckerman's model may be particularly useful when exploring the relationship between perfectionism and (a) stress appraisal and (b) coping strategy. For example, the model demonstrates how a personality variable can affect both stress exposure and reaction as well as coping choice and effectiveness. Neuroticism has been shown to be highly correlated with perfectionism (Enns, Cox & Clara, 2005) and therefore similar patterns could be expected to be found when using perfectionism as the personality predictor.

Studies have shown that there are significant differences between individuals with high levels of evaluative concerns and those with high levels of personal standards perfectionism in how they both appraise and subsequently react to minor stressors (Dunkley et al, 2003), although the amount of research into these stressors on a daily basis in the workplace remains low. This current piece of research aims to capture individuals' stress appraisals by combining how bothersome and stressful an event was as well as how long they continued to be bothered by the stressful event. This is in line with previous research and is a measurement of event stress (Dunkley et al., 2003). The underlying cognitive mechanisms responsible for these differences may represent one of the key reasons why evaluative concerns perfectionism is so consistently linked with poor psychological well-being. The theories of Lazarus and Folkman (1984) and Bolger and Zuckerman (1995) have provided general frameworks within which to begin to understand individual differences in stress appraisal; two theories that offer more detailed explanations of stress appraisal processes are the cognitive activation theory of stress appraisal and the existential model of perfectionism and depressive symptoms.

The cognitive activation theory of stress appraisal. The cognitive activation of stress theory (CATS) is a psychobiological theory that seeks to explain how one views challenges and subsequently responds (Meurs & Perrewé, 2011). CATS suggests the stress response occurs when there is a discrepancy between what is desired and reality and identifies four components to the stress process. In common with previous theories, it is the person's own appraisal of the situation which influences whether the situation is deemed to be a threat or not, rather than the physical elements of the situation itself. According to the

CATS, the first part of the stress process is the initial situation. The second part of the process is the stress experience, which is most likely to determine whether the situation should elicit a stress response. During the stress experience phase, the individual experiences a range of physiological and emotional responses to the initial stimuli and it is this feeling of stress that is most commonly measured in job stress questionnaires (Ursin & Eriksen, 2004). CATS proposes that at the stress experience stage individuals assess the likelihood of being able to remove the source of alarm and it is this expectancy which will affect the level of stress arousal. As suggested earlier in Lazarus and Folkman's (1984) model, if the individual feels they have control of the situation and a desired outcome, then the stress response (or alarm) is not activated. However, if the individual feels they do not have the necessary resources to remove the source of the threat, then the alarm is activated (Meurs & Perrewé, 2011). The third and fourth stages of the stress response are the individual's response to the situation (such as coping strategies – discussed further below) and subsequently the individual's experience (or feedback) from the results of his response.

CATS provides a useful framework within which to consider why those with evaluative concerns perfectionism may experience more stressful situations than non-perfectionists or those with high levels of personal standards perfectionism. Due to the nature of perfectionism, those with high levels of both dimensions (evaluative concerns and personal standards) are likely to set a higher number of high goals than non-perfectionists. However, it is only those with high levels of evaluative concerns perfectionism who are likely to view these goals as unattainable and therefore experience discrepancies between what is desired and what is reality. According to CATS, this discrepancy is likely to lead to a stress

response and therefore may be one reason why those with high levels of evaluative concerns perfectionism are more likely to experience increased event stress. Secondly, part of the appraisal process includes the individual assessing whether they will be able to deal with the threatening situation. As mentioned earlier, personal standards perfectionism tends to be associated with increased levels of self-esteem (Mills & Blankstein, 2000) and evaluative concerns perfectionism is associated with negative self-evaluation and self-doubt (Flett, Blankstein & Martin, 1995). Therefore those with high levels of evaluative concerns are less likely to believe they are able to deal with a stressful situation than those with high levels of personal standards, leading to heightened stress appraisals in those with high levels of evaluative concerns perfectionism.

In sum, the cognitive activation theory of stress appraisal offers an explanation of how the experiences gained by an individual can be a significant predictor of psychological health when faced with stressful events. This cognitive theory therefore offers a framework within which individual differences, such as those seen in perfectionism research, can be viewed and the relationship with poor levels of well-being explored. The theories explored so far have been general stress theories, however, a theory that more specifically links perfectionism to stress appraisal is the existential model of perfectionism and depressive symptoms (Graham, Sherry, Sherry, McGrath, Fossum & Allen, 2010).

The existential model of perfectionism and depressive symptoms (EMPDS). The EMPDS theory suggests that evaluative concerns perfectionism puts individuals at risk for depressive symptoms in two ways: firstly, through catastrophic interpretations of stressors which magnify minor problems into

major obstacles; and secondly, through a distorted, negative view of life experiences as unacceptable, meaningless and dissatisfying. This combination of a catastrophic view of current events and a negative view of the past puts those with high levels of evaluative concerns perfectionism at risk of depressive symptoms. Indeed, perfectionism predicts depressive symptoms above and beyond self-esteem and ineffective coping (Rice, Ashby, & Slaney, 1998; Wei, Mallinckrodt, Russell, & Abraham, 2004). An ability to view life as with purpose, direction and coherence is important for our psychological well-being and catastrophic views prevent us from being able to do this and therefore can lead to poor mental well-being. Those with high levels of evaluative concerns perfectionism tend to catastrophise everyday stressors because they view them as unacceptable and threatening imperfections (Ellis, 2002). Additionally, catastrophic thinking distorts the objective view of everyday stressors and thus presents life as more negative and treacherous than it may actually be. As a result of this, the EMPDS views those with high levels of evaluative concerns perfectionism as active agents who generate their own experiences (such as sadness) through their own interpretations of life. High levels of evaluative concerns perfectionism can demonstrate a pattern involving high levels of self-scrutiny and low levels of self-acceptance. This lack of forgiving the self may make it hard for the individual to accept the past. Research shows that disproportionate cognitive appraisals – viewing minor setbacks as major problems – are depressogenic (Graham et al, 2010). It is therefore theorized that catastrophic thinking can be thought of as a cognitive expression of those with high levels of evaluative concerns.

Previous research examining perfectionism and stress. Previous studies have explored the role of stress appraisal in the relationship between perfectionism and negative well-being. In a study of younger and older adults, Chang (2000) found the negative relationship between evaluative concerns perfectionism and positive psychological outcomes was fully mediated by stress, although the relationship between perfectionism and negative psychological outcomes was only partially mediated.

Studies in college students also consistently found stress as a mediator in the relationship between evaluative concerns perfectionism and low psychological well-being (Ashby, Noble, & Gnilka, 2012; Chang 2006; Chang, Watkins, & Banks, 2004). Results of stress as a mediator have also been found in the clinical population. In a cross-sectional study of 142 patients with bipolar, stress was found to mediate the relationship between evaluative concerns perfectionism and bipolar depressive symptoms (Corry et al., 2013). Longitudinal studies have also found stress as a significant mediator in the relationship between perfectionism and distress. In a 16 week study of Israeli students, stress was found to mediate the relationship between negative life events, lower positive life events and evaluative concerns perfectionism (Shahar & Priel, 2003). In a working population study by Dunkley, Mandel and Ma (2014) participants completed daily diary questionnaires for 14 days and again six months and then three years later. This study found that event stress mediated the relationship between perfectionism and daily affect over the course of the study, demonstrating the enduring effects of stress as a mediator.

As discussed earlier, those with high levels of evaluative concerns perfectionism are more likely to experience lower levels of well-being in the

workplace. Several theories have been explored to further understanding as to why this might be. CATS theory suggests that those with high levels of evaluative concerns perfectionism are likely to have an increased stress response due to the discrepancy between goals set and what is experienced as reality. In addition, those with high levels of evaluative concerns perfectionism experience a lack of belief that they are able to cope with a stressful situation, which in turn is also likely to lead to a heightened stress response. Although those with high levels of personal standards perfectionism also set themselves high goals, this is combined with proactive coping strategies meaning that this type of perfectionism is less likely to view situations as likely to end in failure. EMPDS suggests that those with high levels of evaluative concerns perfectionism are more likely to experience depressive symptoms due to disproportionate cognitive appraisals. In addition trying to attain perfection in itself is likely to lead to decreased levels of life satisfaction and increased risk for depressive symptoms.

This research aims to explore the relationship between perfectionism and stress appraisal by measuring employees' response of a stressful experience that has happened to them that day. Employees will be asked to reflect on how bothersome and stressful the event was as well as how long they were bothered by the stressful event. This measurement of event stress will allow the relationship between perfectionism, stress and psychological well-being to be explored.

Given the theories reviewed and previous research, this study hypothesizes that:

Hypothesis 1a) Evaluative concerns perfectionism will positively predict event stress.

Hypothesis 1b) Personal standards perfectionism will be unrelated to event stress.

Hypothesis 2a) Evaluative concerns perfectionism will predict high daily levels of negative affect.

Hypothesis 2b) Evaluative concerns perfectionism will predict high levels of emotional exhaustion.

Hypothesis 2c) Personal standards perfectionism will be unrelated to daily levels of negative affect and emotional exhaustion.

Hypothesis 3a) Event stress will mediate the relationship between evaluative concerns perfectionism and daily negative affect.

Hypothesis 3b) Event stress will mediate the relationship between evaluative concerns perfectionism and emotional exhaustion.

Perfectionism and coping. How people cope with stress is a key predictor of psychological well-being (Lazarus & Folkman, 1984) and research has shown that those with high levels of evaluative concerns perfectionism tend to choose different coping strategies to those chosen by non-perfectionists or those with high levels of personal standards perfectionism (Dunkley et al., 2003). As mentioned earlier, there are different types of coping and although these were previously conceptualized as problem-focused and emotion-focused, further research has suggested that this distinction is too simple (Carver, Scheier & Weintraub, 1989). In response, Carver et al. (1989) developed a scale with thirteen independent subscales, although not all are relevant to this study. The subscales of active coping and planning are most closely related to the problem-focused coping discussed earlier. These types of coping involve taking steps to try to solve the stressful situation and thinking about how this can be done. These

are generally seen as active, adaptive coping strategies and are associated with positive characteristics such as optimism and high levels of self-esteem (Carver et al., 1989). This type of adaptive coping is also inversely correlated with anxiety, underlining its adaptive nature (Carver et al., 1989).

Conversely, the subscales of behavioural and mental disengagement are considered less adaptive and are avoidant in nature. Disengagement behaviours can include giving up trying to reach a goal and daydreaming about another matter. Although this type of behaviour can have short-term benefits (as the stressor is avoided), this response impedes adaptive coping strategies and is ultimately maladaptive (Carver et al., 1989).

As seen with Bolger and Zuckerman's (1995) model earlier, individual differences can play a role in the choice and function of coping strategies. In particular, research has shown that those with high levels of evaluative concerns perfectionism are more likely to choose avoidant coping strategies and those with high levels of personal standards perfectionism are more likely to choose active coping strategies (Dunkley et al., 2003). Given the relationship between these coping strategies and their outcomes, it is of interest to consider why perfectionists are more likely to choose certain coping strategies. One theory which may provide an explanation for this relationship is the reinforcement sensitivity theory.

Reinforcement sensitivity theory (RST). Gray's (1970) neuropsychological theory explains the role of personality in fear and anxiety-related behaviours (Stoeber & Corr, 2015). Three brain systems are suggested to be responsible for different types of motivation: The behavioural approach system (BAS) is associated with reward cues and regulates approach behaviour.

An active BAS is associated with active coping strategies (Litman, 2006). The fight, flight, freeze system (FFFS) is avoidant and is associated with fear as a response in the face of threat. The behavioural inhibition system (BIS) is associated with punishment, uncertainty and non-rewarding cues and also regulates avoidant behaviour, including avoidant coping. In later revisions of the model, BIS was proposed as a mediator when there is conflict between BAS and FFFS; when this conflict occurs the resultant emotion is anxiety (Pickering & Corr, 2008). A problem with RST is that the three systems (BIS, BAS and FFFS) are not functionally separate and as a result research with different personality characteristics has been mixed.

Kaye, Conray and Fifer (2008) found that both evaluative concerns perfectionism and personal standards perfectionism correlated with the behavioural inhibition system and that evaluative concerns perfectionism negatively correlated with the behavioural approach system. Evaluative concerns perfectionism was only associated with avoidant behaviour; this suggests that when those with high levels of evaluative concerns perfectionism face a stressor, they are more likely to use avoidant coping and subsequently experience a negative outcome. Stoeber and Corr (2015) found that those with high levels of evaluative concerns perfectionism also showed high levels of BIS activity but alongside a low goal-drive persistence. Goal-drive persistence is part of the BAS and is concerned with how motivated and persistent one is when achieving one's goals. A low goal-drive persistence therefore means than an individual gives up on her goals easily and this twinned with high BIS activity could lead to increased levels of negative affect for those with high levels of evaluative concerns perfectionism.

Both personal standards and evaluative concerns perfectionism are associated with avoidant type behaviour but as personal standards was also associated with approach based behaviour, those with higher levels of personal standards perfectionism have a choice in behaviour to either approach or avoid. More recent research has shown personal standards perfectionism to be associated with both BIS and BAS suggesting it is an ambivalent form of perfectionism (Stoeber & Corr, 2015). In summary, the reinforcement sensitivity theory provides an explanation as to why those with high levels of evaluative concerns perfectionism are more likely to choose avoidant coping strategies and as a result, experience increased levels of negative affect and event stress. It also provides an explanation as to why personal standards perfectionism provides mixed results.

Previous research examining perfectionism and coping. Several studies have tested the role of coping as a mechanism of perfectionism. In a daily diary study with university students, Dunkley et al. (2003) found that the pathway between evaluative concerns perfectionism and negative affect was fully mediated by daily hassles and avoidant coping. These results fitted with Dunkley's model that those with high levels of evaluative concerns perfectionism tend to engage in dysfunctional, avoidant types of coping such as disengagement and denial. Dunkley et al.'s (2003) research was in keeping with previous evidence suggesting that the negative affect experienced by those with high levels of evaluative concerns perfectionism is due to ineffective self-regulation strategies (Fichman, Koestner, Zuroff, & Gordon, 1999). In conclusion Dunkley et al (2003) state that those with high levels of evaluative concerns perfectionism experience high levels of negative affect and low levels

of positive affect due to maladaptive tendencies – they are emotionally reactive to stressors that threaten personal failure, loss of control, and criticism from others and are also ineffective in their choice of coping strategies. In other studies with undergraduates, results have shown that problem-focused coping mediated the relationship between personal standards perfectionism and lower levels of depressive symptoms whereas avoidant coping mediated the relationship between evaluative concerns perfectionism and depressive symptoms, anxiety and test anxiety (Gnilka, Ashby & Noble, 2012; Noble, Ashby & Gnilka, 2014; Weiner & Carton, 2012).

Of interest to this current piece of research, there have also been studies exploring the relationship between perfectionism and coping in working populations. Chang (2012) found that emotion-focused coping mediated the relationship between evaluative concerns perfectionism and burnout in Taiwanese nurses. Dunkley, Ma, Lee, Preacher and Zuroff (2014) conducted a 6-month follow-up study of community adults during which they were able to explore the longitudinal indirect effects of perfectionism dimensions on daily affect through daily stress and coping. Results showed that daily avoidant coping and event stress maintenance mediated the relation between evaluative concerns perfectionism and daily negative affect six months later. In addition the positive relationship between personal standards perfectionism and positive affect was mediated by daily problem-focused coping. The mediating relationship between the two dimensions of perfectionism and daily affect was also found to be present when the same sample completed daily questionnaires three years later, demonstrating the long-term influences of perfectionism on daily stress and coping processes (Dunkley, Mandel & Ma, 2014).

In a study specifically looking at the role of perfectionism in burnout within teachers, Stoeber & Rennert (2008) found that personal standards perfectionism was positively related to active coping and negatively related to negative stress appraisals and, avoidant coping and burnout. Additionally evaluative concerns perfectionism was positively related to negative stress appraisals, avoidant coping and burnout and inversely related to active coping. These findings were in common with earlier research on teacher stress and perfectionism (Flett, Hewitt & Hallett, 1995) and show the importance of examining perfectionism in the workplace.

There have been few studies employing a daily diary method to explore the relationship between employee perfectionism, coping strategies and psychological well-being (Dunkley et al., 2014) and this piece of research aims to add to it. As minor daily hassles show greater variance than life events, a daily diary method will allow the participants to reflect on the daily bothersome events they encounter at work and consider the coping strategies they used on the same day therefore reducing recall bias and distortion (Stone & Shiffman, 2002). Given the importance of understanding the key predictors of workplace well-being and the previous research that has identified the influence of perfectionism (Flaxman et al., 2012), this piece of research will also use a working sample. The mediating role of coping in the relation between perfectionism and well-being in working samples (Chang, 2012; Dunkley et al., 2014; Flett et al., 1995; Stoeber & Rennert, 2008) has been explored previously but this piece of research will contribute by measuring well-being at the end of the workday. This will reduce recall bias by measuring well-being as soon as work is finished. In line with previous research, it is hypothesised that coping strategies are an influential

mechanism of perfectionism and will mediate the relationship between both evaluative concerns perfectionism and personal standards perfectionism and psychological well-being. Given that this research is in the workplace, emotional exhaustion (a particular type of burnout) is used as an outcome as well as negative affect. Given the theoretical background and previous research findings, this study tests the following hypotheses:

Hypothesis 4a) Evaluative concerns perfectionism will positively predict avoidant coping behaviour.

Hypothesis 4b) Evaluative concerns perfectionism will negatively predict active coping behaviour.

Hypothesis 5a) Personal standards perfectionism will negatively predict avoidant coping behaviour.

Hypothesis 5b) Personal standards perfectionism will positively predict active coping behaviour.

Hypothesis 6a) Avoidant coping will positively predict negative affect.

Hypothesis 6b) Active coping will negatively predict negative affect.

Hypothesis7a) Avoidant coping will positively predict emotional exhaustion.

Hypothesis7b) Active coping will negatively predict emotional exhaustion.

Hypothesis8a) Avoidant coping will mediate the relationship between evaluative concerns perfectionism and emotional exhaustion.

Hypothesis8b) Avoidant coping will mediate the relationship between evaluative concerns perfectionism and negative affect.

Method

Daily Diary Design. Participants completed an initial survey (Appendix 1) followed by five daily after work surveys, to be filled in as soon as work is finished (Appendix 2). These surveys were filled in on five consecutive days in one working week (Monday-Friday). This methodology is in line with Bolger, Davies and Rafaeli (2003) who suggest that concrete events (such as event details) are less likely to be affected by recall bias than transient feelings (such as well-being).

Participants and Procedure. Participants were employees from the NHS, local council, oil and gas suppliers, charity workers and teachers. Participants were recruited with a flyer via internal communications and sent an email if they wished to register for the study upon which, they were sent a pack.

A total of 299 employees volunteered for the study and received the paper and pencil survey packs which were sent in the post. The packs consisted of an initial booklet and an after work booklet. The initial booklet measured demographics, job characteristics, perfectionism, neuroticism and conscientiousness. The after work booklet measured current time, positive and negative affect, perceived stress, coping, burnout and satisfaction.

A total of 136 employees returned their packs, of which 54% were NHS employees, 19% teachers, 15% council workers, 9% charity workers and 3% oil and gas workers. Average tenure in current workplace was 9 years (SD=7). The final sample was predominantly female (80.1%), average age was 40 years old (SD=12), 55% had children.

Measures.

Job characteristics. Work characteristics were measured in the initial booklet (see appendix 1) using Haynes, Wall, Bolden, Stride and Rick (1999) subscales of Autonomy & control, six items, (e.g. "To what extent do you plan your own work?"), Peer Support, four items, (e.g. "To what extent can you count on your colleagues to back you up at work?") and Work Demands, six items, (e.g. I do not have enough time to carry out my work). The subscales of Autonomy & Control and Work Demands were rated on a five point response scale ranging from 1 – not at all to 5 – a great deal. Peer Support was rated on a five point response scale ranging from 1 – not at all to 5 – completely. Cronbach's alpha for autonomy and control, peer support and work demands were .85, .87 and .87 respectively.

Perfectionism. Perfectionism was measured in the initial booklet with two subscales from the brief scale of Hewitt and Flett (1991) as developed and validated by Cox, Enns and Clara (2002), namely self-oriented (five items) and socially prescribed perfectionism (five items). Items were rated using a scale from 1 (strongly disagree) to 7 (strongly agree). The brief form of the Frost Multidimensional Perfectionism Scale (1990) was also utilized with subscales of Concern over Mistakes, five items, Doubts about Actions, three items, and Personal Standards, five items (Cox et al., 2002). Two higher order perfectionism variables were then constructed. Evaluative concerns perfectionism was indicated by socially prescribed perfectionism (Hewitt & Flett, 1991) and the subscales of concern over mistakes and doubts about actions from Frost's scale (1990). Personal standards perfectionism was indicated by self-oriented perfectionism (Hewitt & Flett, 1991) and Frost's personal standards

subscale (1991). For this study Cronbach's alpha for socially prescribed

perfectionism, concern over mistakes, doubts about actions, self-oriented

perfectionism and personal standards were .79, .83, .70, .87 and .79 respectively.

Big Five Inventory. Subscales of the BFI (Benet-Martinez & John, 1998)

measuring Conscientiousness (9 items; e.g. "I see myself as someone who does

things efficiently") and Neuroticism (8 items; e.g. "I see myself as someone who

worries a lot"). This was measured in the initial booklet. The reliability of these

subscales has been tested by John & Srivastava, 1999. Cronbach's alpha in the

present study for neuroticism and conscientiousness were .79 and .77

respectively.

Daily Affect. The PANAS (Watson, Clark, & Tellegen, 1988) was used

to measure daily negative affect. This was measured in the daily after work

booklets (see appendix 2). The scale consists of ten negatively worded adjectives

and participants were asked to rate how they have felt so far that day using a five

point response scale ranging from 1 – very slightly or not at all to 5 – Extremely.

This was measured directly after work. Cronbach's alphas ranged from .89 to .90

(mean α = .89).

Emotional Exhaustion. Work-related burnout was measured in the daily

booklets using five items adapted from the Maslach Burnout Inventory (Maslach,

Jackson, & Leiter, 1996). Items were adapted to reflect the time of day

participants were asked to be reflecting upon e.g. "Still thinking about your

evening – the period since finishing work and now – please indicate how much

you agree or disagree with each of the following statements:". Cronbach's alphas

ranged from .85 to .89 (mean α = .87).

Event Stress. Participants were asked to think about their most bothersome or problematic event or issue of the day so far. They were then asked to rate the stressfulness of the event using the following three items: "how unpleasant was the bothersome event or issue to you?", "For how long were you bothered by this event or issue" and "how stressful was the event or issue for you?" (Dunkley, 2003). These questions were rated on a scale from 1 – Not at All to 11 – Exceptionally. This was measured in the daily booklets. These items were then added together to create the Event Stress variable. Cronbach's alphas ranged from .87 to .94 (mean α = .91).

Coping. Participants were then asked to rate how they reacted to that bothersome or problematic event. 6 subscales were used from the Brief COPE (Carver, 1997) – self-distraction, active coping, planning and behavioural disengagement. This was measured in the daily booklets. Participants rated their behaviour on a 4 point scale ranging from 1 – I didn't do this at all to 4 – I did this a lot. Participants were also asked to rate their reactions to the event on the Problem-Focused Style of Coping Scale (Heppner, Cook, Wright and Johnson Jr., 1995). Items from the suppressive style subscale were used. Two higher order dimensions were then calculated; Active Coping was calculated by adding together the active coping and planning subscales of the COPE. Avoidant Coping was calculated by summing self-distraction, behavioural disengagement from the COPE and suppressive style from problem-focused style of coping scale. Cronbach's alphas range from .78 to .86 for the active coping subscale (mean α = .82) and from .85 to .90 for the avoidant coping subscale (mean α = .87).

Results

Due to the daily diary method and subsequent data structure, the data were analysed using multi level modeling in SPSS 24. Days (level 1) were nested within persons (level 2). Level 2 data was centred around the grand mean and level 1 data was centred around the person mean.

Perfectionism and event stress. In hypothesis 1, it was predicted that evaluative concerns perfectionism will significantly predict event stress. It was also predicted that personal standards perfectionism will not significantly predict event stress. In Table 1.2, the null model contained only the intercept as the predictor. Model 1 contained work characteristics as control variables and showed a significant improvement over the null model (Δ-2 x log = 37.81 $p <$ .001) (all tables can be found at the end of the results section). Model 2 includes personality variables as predictors and showed a significant improvement over Model 1 (Δ-2 x log = 66.50, p < .001) with evaluative concerns perfectionism significantly predicting event stress (γ = .14, SE = .05, t = 2.74, p < .01), thus providing support for hypothesis 1a. Personal standards perfectionism was not significant in predicting event stress, thus hypothesis 1b was supported.

Perfectionism and negative affect. In hypothesis 2a, it was predicted that evaluative concerns perfectionism would significantly predict negative affect measured after work. As can be seen in model 2 table 1.6 (Δ-2 x log = 85.62, $p <$ .001), this hypothesis was supported with evaluative concerns perfectionism significantly predicted after work negative affect (γ = .23, SE = .04, t = 5.17, $p <$ .001). In partial support of hypothesis 2c, personal standards perfectionism was unrelated to negative affect.

Event stress as a mediator in the relationship between evaluative concerns perfectionism and after work negative affect. Hypothesis 3a predicted that event stress would mediate the relationship between evaluative concerns perfectionism and negative affect. Process for SPSS 2.15 was used to test for mediation. Day –level measures were averaged across the week. Job demands, job control, job support, neuroticism, conscientiousness and personal standards perfectionism were all used as controls in the analysis. Event stress was entered as the proposed mediator between evaluative concerns perfectionism and negative affect measured after work. The results showed a significant indirect effect of evaluative concerns perfectionism on after work negative affect through event stress, b = .048, 95% BCa CI [.017, .092]. Therefore hypothesis 3a was supported as event stress was shown to mediate the relationship between evaluative concerns perfectionism and negative affect.

   Perfectionism and emotional exhaustion. In hypothesis 2b, it was predicted that evaluative concerns perfectionism would significantly predict emotional exhaustion. As can be seen in model 2 table 1.5 (Δ-2 x log = 43.07, p < .001), although the personality variables model was a significant improvement on the job controls model, evaluative concerns perfectionism did not significantly predict emotional exhaustion (γ = .01, SE = .04, t = 1.80, *ns*), therefore hypothesis 2b was not supported. Personal standards perfectionism was also unrelated to emotional exhaustion (γ = .01, *SE* = .05, t = .17, *ns*) therefore hypothesis 2c stating that personal standards perfectionism will be unrelated to both negative affect and emotional exhaustion was fully supported.

Event stress as a mediator in the relationship between evaluative concerns perfectionism and emotional exhaustion. In hypothesis 3b it was predicted that event stress would mediate the relationship between evaluative concerns perfectionism and emotional exhaustion. As before, job demands, job control, job support, neuroticism, conscientiousness and personal standards perfectionism were all used as controls in the analysis. Event stress was entered as the proposed mediator between evaluative concerns perfectionism and emotional exhaustion measured after work. The results showed a significant indirect effect of evaluative concerns perfectionism on emotional exhaustion through event stress, $b = .053$, 95% BCa CI [.017, .094]. Therefore hypothesis 3b was supported as event stress was shown to mediate the relationship between evaluative concerns perfectionism and emotional exhaustion.

Perfectionism and coping. Hypothesis 4a anticipated that evaluative concerns perfectionism would significantly predict avoidant coping behaviour. Table 1.3, Model 2 which includes the personality variables shows a significant improvement over Model 1 which included the job control variables (Δ-2 x log = 42.85, $p < .001$). As can be seen in Model 2, evaluative concerns perfectionism significantly predicted avoidant coping ($\gamma = .12$, $SE = .04$, $t = 3.11$, $p < .01$) supporting hypothesis 4a. Model 2 also shows that personal standards perfectionism did not predict avoidant coping ($\gamma = -.02$, $SE = .04$, $t = -.42$, $p < .05$) therefore hypothesis 5a was not supported.

Hypothesis 5b predicted that evaluative concerns perfectionism would significantly negatively predict active coping behaviour. Model 2 in Table 1.4 shows both dimensions of perfectionism added to the model predicting active coping styles. Although Model 2 shows a significantly improved fit over Model

1 (Δ-2 x log = 22.84, p < .001), neither evaluative concerns perfectionism (γ = -.01, SE = .02, t = -.25, ns) or personal standards perfectionism (γ = .03, SE = .03, t = 1.20, ns) are significant predictors. Thus, hypotheses 4b and 5b are not supported.

Coping and emotional exhaustion. Hypothesis 7a suggested that avoidant coping will significantly predict emotional exhaustion. Table 1.5 Model 3ii shows that when coping styles are added to the model predicating emotional exhaustion, there is a significantly better model fit over Model 2 (Δ-2 x log = 247.38, p < .001). However neither coping style independently predicts emotional exhaustion therefore neither hypothesis 7a or hypothesis 7b is supported.

Avoidant coping as a mediator in the relationship between evaluative concerns perfectionism and emotional exhaustion. In hypothesis 8a it was hypothesised that avoidant coping would mediate the relationship between evaluative concerns perfectionism and emotional exhaustion. Job demands, job control, job support, neuroticism, conscientiousness and personal standards perfectionism were all used as controls in the analysis. Avoidant coping was entered as proposed mediator between evaluative concerns perfectionism and emotional exhaustion measured after work. The results showed a significant indirect effect of evaluative concerns perfectionism on emotional exhaustion through avoidant coping, b = .029, 95% BCa CI [.007, .061]. Therefore hypothesis 8a was supported as avoidant coping was shown to mediate the relationship between evaluative concerns perfectionism and emotional exhaustion.

Coping and Negative Affect. Hypothesis 6a predicted that avoidant coping would significantly predict negative affect after work. Table 1.6 Model 3ii shows both avoidant and active coping styles added to the model predicting after work negative affect. This coping model shows a significant improvement to model fit over Model 2 (Δ-2 x log = 247.51, p < .001), however, neither coping styles are significant predictors by themselves. Therefore hypothesis 6a and 6b are unsupported.

Avoidant Coping as a mediator in the relationship between evaluative concerns perfectionism and negative affect. In hypothesis 8b it was anticipated that avoidant coping would mediate the relationship between evaluative concerns perfectionism and negative affect. Again, job demands, job control, job support, neuroticism, conscientiousness and personal standards perfectionism were all used as controls in the analysis. Avoidant coping was entered as the proposed mediator between evaluative concerns perfectionism and negative affect measured after work. The results showed a significant indirect effect of evaluative concerns perfectionism on after work negative affect through avoidant coping, b = .226, 95% BCa CI [.001, .058]. Therefore hypothesis 8b was supported as avoidant coping was shown to mediate the relationship between evaluative concerns perfectionism and negative affect.

Table 1.1

Means, Standard Deviations and Zero-Order Correlations Among Study Variables for Study 1.

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Demands	17.38	5.49	-											
2. Control	21.10	4.62	-.17	-										
3. Support	14.51	3.40	-.22*	.35**	-									
4. Neuroticism	22.92	6.16	-.01	-.23**	-.04	-								
5. Conscientiousness	35.39	5.51	-.10	.16	.07	-.32**	-							
6. ECP	39.46	10.59	.16	-.35**	-.38**	.41**	-.25*	-		.52**	.52**	.10**	-.01	
7. PSP	42.64	8.46	.01	-.12	-.18*	.23**	-.33**	.53**	-		.59**	.47**	.02	-.01
8. Event Stress	13.12	5.04	.32**	-.22**	-.13	.33**	.11	.43**	.14	-		.52**	.05	-.01
9. Negative Affect	15.00	4.64	.11	-.18*	-.09	.39**	-.38**	.54**	.16	.59**	-		.24**	-.03
10. E. Exhaustion	13.99	4.76	.58**	-.31**	-.26**	.28**	-.17	.39**	.15	.63**	.53**	-		-.14**
11. Avoidant Coping	8.98	4.26	.05	-.08	-.06	.03	-.15	.28**	.10	.17	.29**	.24**	-	
12. Active Coping	11.62	2.08	.08	.09	.01	-.03	-.04	.04	.09	-.03	.01	.02	.05	-

Note. Below the diagonal: person–level data (*N* = 136), averaged across five days. Above the diagonal: day-level data (*n* = 610-680).

* p < .05, ** p < .01.

Table 1.2

Multilevel Estimates for Models predicting Event Stress.

Variable	Null Model Estimate	SE	t	Model 1 Estimate	SE	t	Model 2 Estimate	SE	t
Intercept	13.07	.43	30.10***	13.04	.41	32.01***	13.48	.47	28.55***
Demands				.27	.07	3.57***	.25	.07	3.64***
Support				-.19	.10	-2.03*	-.05	.09	-.58
Job Control				-.01	.13	-.09	.12	.12	.94
Neuroticism							.12	.07	1.73
Conscientiousness							-.16	.08	-2.03*
ECP							.14	.05	2.74**
PSP							.01	.06	.16
Diff log likelihood						37.81***			66.50***
Level 1 intercept variance					.01			.01	
Level 2 intercept variance				0.43			.39		

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

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Table 1.3

Multilevel Estimates for Models predicting Avoidant Coping.

Variable	Null Model			Model 1			Model 2		
	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t
Intercept	8.85	.30	29.26***	8.85	.30	29.60***	9.31	.36	25.62***
Demands				.06	.06	1.09	.03	.05	.58
Support				-.06	.07	-.87	-.02	.07	-.30
Job Control				.03	.10	.33	.15	.10	1.55
Neuroticism							-.13	.05	-2.45*
Conscientiousness							-.13	.06	-2.24*
ECP							.12	.04	3.11**
PSP							-.02	.04	-.42
Diff log likelihood				2.2			42.85***		
Level 1 intercept variance				0			-.01		
Level 2 intercept variance				.30			.25		

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

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Table 1.4

Multilevel Estimates for Models predicting Active Coping.

Variable	Null Model			Model 1			Model 2		
	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t
Intercept	11.63	.18	65.70***	11.61	.18	66.22***	11.46	.23	50.60***
Demands				.03	.03	.99	.03	.03	.97
Job Control				.06	.04	1.53	.08	.04	1.75
Support				-.03	.06	-.45	-.03	.06	-.46
Neuroticism							-.01	.03	-.02
Conscientiousness							-.03	.04	-.81
ECP							-.01	.02	-.25
PSP							.03	.03	1.20
Diff log likelihood				25.83***			22.84***		
Level 1 intercept variance				-.01			0		
Level 2 intercept variance				.20			.19		

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

Table 1.5

Multilevel Estimates for Models predicting After Work Emotional Exhaustion.

Variable	Model 1			Model 2			Model 3i			Model 3ii		
	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t
Intercept	14.00	.32	43.62***	14.02	.39	36.16***	14.22	.39	36.20***	14.24	.40	35.76***
Demands	.46	.06	7.67***	.46	.06	8.03***	.46	.06	7.98***	.45	.06	7.77***
Job Control	-.21	.08	-2.74**	-.11	.07	-1.44	-.10	.07	-1.31	-.15	.08	-1.94
Support	-.11	.10	-1.09	-.06	.10	-.58	-.07	.10	-.67	-.04	.10	-.40
Neuroticism				.15	.06	2.58**	.14	.06	2.48*	.15	.06	2.51*
Conscientiousness				.01	.06	.05	-.01	.06	-.04	.03	.07	.42
ECP				.08	.04	1.80	.07	.04	1.75	.07	.04	1.74
PSP				.01	.05	.17	.01	.05	.10	-.01	.05	-.35
Event Stress							.39	.03	13.86***			
Avoidant Coping										.04	.04	1.05
Active Coping										-.02	.06	-.35
Diff log likelihood	83.71***			43.07***			223.47***			247.38***		
Level 1 intercept variance	0			-.01			.29			.01		
Level 2 intercept variance	.48			.44			.54			.44		

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

Table 1.6

Multilevel Estimates for Models predicting After Work Negative Affect.

Variable	Model 1			Model 2			Model 3i			Model 3ii		
	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t
Intercept	14.51	.39	36.96***	15.39	.41	37.46***	15.35	.41	37.60	15.38	.41	37.12***
Demands	.07	.07	.95	.03	.06	.51	.03	.06	.53	.02	.06	.34
Job Control	-.17	.09	-1.80	.01	.08	.16	.01	.08	.08	.01	.08	.08
Support	-.02	.13	-.14	.18	.11	1.68	.17	.11	1.57	.17	.11	1.54
Neuroticism				.09	.06	1.45	.09	.06	1.48	.08	.06	1.26
Conscientiousness				-.18	.07	-2.70**	-.18	.07	-2.72**	-.17	.07	-2.49**
ECP				.23	.04	5.17***	.23	.04	5.22***	.24	.04	5.29***
PSP				-.03	.05	-.69	-.03	.05	-.68	-.03	.05	-.70
Event Stress							.40	.03	13.63***			
Avoidant Coping										.02	.04	.42
Active Coping										.02	.06	.33
Diff log likelihood	20.99***			85.62***			228.40***			247.51***		
Level 1 intercept variance	-.01			-.01			-.01	.29		-.01	.06	
Level 2 intercept variance	.60			.46			.56			.45		

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

Discussion

The current study set out to add to existing literature concerning the mechanisms of perfectionism and extend it by focusing on the workplace as the arena for perfectionistic behaviour. Employing a daily diary methodology, the relationship between perfectionism and negative psychological outcomes was explored, alongside potential mediators of the relationship. The results confirmed the relationship between evaluative concerns perfectionism and negative health outcomes. Additionally, event stress and avoidant coping were shown as mediators in the relationship between perfectionism and levels of well-being. The findings have implications for possible interventions for those with high levels of evaluative concerns perfectionism in the workplace environment.

Overall perfectionism effects. As shown by the results supporting hypothesis 2, this study found that evaluative concerns perfectionism significantly predicts negative affect. These results concur with previous research that found evaluative concerns perfectionism closely associated with negative affect (Dunkley et al., 2003; Sherry et al., 2010). Personal standards perfectionism was not associated with negative affect and this suggests that this type of perfectionism is more ambivalent than adaptive (Enns & Cox, 2002), otherwise a significant negative relationship between personal standards perfectionism and negative affect may have been expected. These results also show how perfectionism can have a significant effect on psychological health outcomes outside of the clinical population.

In contrast to the results seen with negative affect, evaluative concerns did not significantly predict emotional exhaustion. As this study was focusing on

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well-being in the workplace, it was important to include work characteristics as control variables and this is a strength of the research compared to previous workplace perfectionism studies. However, as emotional exhaustion is an outcome strongly associated with workplace demands, it is unsurprising that the work demands variables were the strongest predictors. Indeed, subsequent analysis omitting the work characteristics variables showed evaluative concerns predicting emotional exhaustion even after controlling for neuroticism, conscientiousness and personal standards perfectionism.

Perfectionism and Stress. Consistent with previous research, this study found support for a significant relationship between perfectionism and stress appraisal. The results showed evaluative concerns perfectionism significantly predicting perceived event stress. This is in line with the cognitive activation theory that suggested that the stress response is activated when there is a discrepancy between the stressor faced and whether the individual feels they have the necessary resources to cope (Meurs & Perrewé, 2011). Due to this perceived discrepancy it was predicted that those with high levels of evaluative concerns perfectionism would experience more perceived event stress and this was shown in the results. The results also fit with the existential model of perfectionism and depressive symptoms, which suggests that those with high levels of evaluative concerns perfectionism experience poor mental well-being due to cognitive distortions and catastrophic thinking (Ellis, 2002). By demonstrating the relationship between evaluative concerns perfectionism and event stress, this research adds weight to the theory that cognitive distortions are a key component in the relationship between perfectionism and poor mental well-being. The fact that personal standards perfectionism did not significantly

predict event stress also supports the notion that it is maladaptive cognitive processes that leaves those with high levels of evaluative concerns perfectionism more susceptible to low psychological health.

Perfectionism and Coping. Supportive of previous research, this study found a significant relationship between perfectionism and coping strategies (Dunkley et al., 2003). Evaluative concerns perfectionism significantly predicted avoidant coping, with personal standards perfectionism being unrelated to this potentially maladaptive coping strategy. This shows there are fundamental differences in the type of coping behaviour likely to be employed depending on whether an individual is high in evaluative concerns or personal standards perfectionism. These findings support previous research showing similar patterns (Dunkley et al., 2003; Stoeber & Rennert 2008) and extend research in this area by employing a daily diary design in a workplace setting. Avoidant coping style did not significantly predict emotional exhaustion over and above the work characteristics used as control variables. However the mediation hypothesis was supported, showing avoidant coping as a significant mediator in the relationship between evaluative concerns perfectionism and emotional exhaustion. This suggests that the type of coping strategy chosen by those with high levels of evaluative concerns perfectionism is a key factor in the level of psychological well-being experienced as a result. These findings support Bolger and Zuckerman's differential choice-effectiveness model (1995), which suggests that personality differences in reactivity to a stressful event may be due to different choices in coping strategies.

Interestingly avoidant coping did not predict after work negative affect. This may be reflecting how avoiding the stressor can have a positive affect in the

short term. Avoiding an unpleasant situation (or in this case stressful event) means that the individual is reducing the distress they are experiencing in the short term. The short term 'success' of avoidant behaviour is enough for the individual to keep using it, even when its use is inconsistent with long-term goals or leads to lower levels of well-being in the long term (Hayes et al., 2005).

Theoretical Contributions. As already discussed, this study supports the major stress and coping theories considered earlier. This study showed different dimensions of perfectionism chose different coping styles, lending support to Bolger and Zuckerman's (1995) coping choice model that suggested personality differences in reactivity may be due to differential choices of coping strategy. The relationship shown between evaluative concerns perfectionism and avoidant coping strategy also supports the reinforcement sensitivity theory (Gray, 1970); research from which showed evaluative concerns perfectionism correlated with an avoidant type of behaviour, negatively correlated with active behaviour and low levels of goal persistence (Stoeber & Corr, 2015). The current study not only supports these theories but extends them into the workplace with a non-clinical population at the day-level. The workplace has been identified as one the main areas for perfectionistic tendencies to manifest (Stoeber & Stoeber, 2009) and therefore it is important for theory to be tested in this context.

Findings from the current study also support current stress appraisal theories. As previously discussed, Lazarus and Folkman's (1984) transactional theory of stress suggests that a situation is deemed threatening firstly if it is congruent with goals and motivation and secondly if the individual perceives themselves lacking the coping mechanisms to deal with the stressor. The cognitive activation theory of stress appraisal (CATS) suggests a combination of

perceived discrepancy between a desired situation and reality with a perceived lack of resources to deal with the situation will elicit a stress response. Both these theories provide a framework within which the specific characteristics of evaluative concerns perfectionism (namely high levels of goal setting combined with negative self-evaluation) can be seen to be catalysts for a high rate of stress appraisal. The relationship shown between evaluative concerns perfectionism and perceived event stress supports these theories and brings them into workplace literature. The daily diary method also allowed the theories to be rigorously tested at the day level. This is important because minor hassles show greater variation in emotional affect than life events (Kanner et al., 1981), therefore, this research extends theory by aiding understanding of how individuals react to stressors in everyday life.

Strengths, limitations, and directions for future research. A major strength of this study is the use of the daily diary questionnaires in the workplace. Although levels of perfectionism in the workplace have been identified as a factor for poor levels of psychological well-being (Flaxman et al., 2012), there are still few studies in the perfectionism literature using a workplace sample. Additionally, previous studies using daily questionnaires have called for the variables to be measured during the day to capture the dynamics of the stress and coping variables as they occur (Dunkley, Solomon-Krakus & Moroz, 2016). This study measured well-being immediately after work, enabling the short term effects of work day variables to be explored with a low level of recall bias. Future research could expand on the measurement points during the day by using an experiential sampling method to capture momentary changes in participants' well-being levels (Csikszentmihalyi & Hunter, 2003). Measuring physiological

indicators of stress (e.g. salivary cortisol levels) alongside self-report measures in further studies would reduce self-report bias (Donaldson & Grant-Vallone, 2002) and potentially allow causal links to be made between coping strategies in the workplace and physical stress symptoms.

This study also controlled for other personality variables closely associated with perfectionism: neuroticism and conscientiousness. Previous research has found significant correlations between conscientiousness and personal standards perfectionism and neuroticism and evaluative concerns perfectionism (Stoeber, Otto & Dalbert, 2009). Conscientiousness has also been shown to predict longitudinal increases in personal standards perfectionism (Stoeber et al., 2009), thus, it was important in this study to ensure that the outcomes were being predicted by perfectionism and not by associated personality traits.

A further strength of this study is the inclusion of work characteristics as control variables. The demand-control-support model of workplace stress (Johnson & Hall, 1988) suggests that work demands, the level of control an individual has at work and the levels of social support they receive are significant predictors of workplace stress and poor psychological well-being. By including work demands, control and support as control variables in this study, it has demonstrated that personality variables have additional explanatory power when exploring the predictors of workplace well-being.

A limitation of this research was the use of aggregated scores of the day level variables in the mediation analysis. Multilevel structural equation modeling (MSEM) has been suggested as the best way to find mediation relationships in multilevel models, however, the sample size needed to ensure the

generalizability of results using this method is greater than the sample size in this study (Wolf, Harrington, Clark & Miller, 2013). Future research may benefit from greater sample size so this type of analysis can be run.

Conclusion

Perfectionism in the workplace has been identified as a key predictor of workplace stress (Flaxman et al., 2012). This study extended existing theory and research by exploring the relationships between perfectionism, stress appraisal and coping strategies on a daily level in the workplace. Results showed that high levels of evaluative concerns perfectionism predicted event stress and avoidant coping strategies, which in turn predicted poor levels of psychological well-being. Avoidant coping and event stress were shown as important mediators in the relationship between perfectionism and well-being. As such, these findings have furthered understanding as to the mechanisms of perfectionism in a non-clinical sample in the workplace. Further research using an experiential sampling method and physiological markers of stress is suggested.

Chapter 3. A Workplace Study of Perfectionism and

Daily Well-being:

The Role of Work-Related Perseverative Cognition

Abstract

Levels of perseverative cognition have been linked with poor levels of both recovery from work demands and psychological well-being. Daily recovery from work stressors has been highlighted as potentially more important for well-being than traditional longer vacation respites from work. Work-related perseverative cognition has been shown to be a mediator in the relationship between perfectionism and poor psychological well-being but there is a lack of day-level workplace research exploring this potential mechanism. 136 employees took part in the current study, which used a daily diary design measuring levels of negative affect, emotional exhaustion and levels of work-related perseverative cognition both after work and again before bed. Results found evaluative concerns perfectionism significantly predicted levels of negative affect and work-related perseverative cognition. Work-related perseverative cognition predicted evening levels of well-being after controlling for well-being at the end of the work part of the day. Work-related perseverative cognition functioned as a mediator in the relationship between evaluative concerns perfectionism and emotional exhaustion. Discussion focuses on the implications for perseverative cognition theories in workplace research and the importance of day-level research in recovery literature.

Introduction

The relationship between perfectionism and psychological distress is well documented (Dunkley Blankstein, Halsall, Williams & Winkworth, 2000) and as a result understanding why this relationship is so enduring has become of interest to researchers. In addition, as a trait, perfectionism has been shown to be relatively resistant to change and indeed can have a negative impact on the outcomes of therapies (Blatt & Zuroff, 2005; Kannan & Levitt, 2013). Understanding which characteristics of perfectionism are most likely to result in negative health outcomes is important so that interventions can target the mechanisms of this trait that is so resistant to change. As explored in the previous chapter, research has shown that coping and stress are important mechanisms of perfectionism (e.g. Dunkley, Zuroff & Blankstein, 2003); however, perseverative cognition has also been found to be important in the relationship between perfectionism and negative health outcomes. (Flett, Nepon & Hewitt, 2016).

Perseverative cognition is a collective term for repeatedly thinking about negative events; this can include worry, rumination and any other type of cognition involving stressful events in the past or future (Brosschot, Gerin & Thayer, 2006). The relationship between perfectionism and perseverative cognition has been well documented (e.g. Randles, Flett, Nash, McGregor & Hewitt, 2010), as has the mediating role of perseverative cognition in the link between perfectionism and psychological distress (Harris, Pepper & Maack, 2008). Workplace research has also found that perseverative cognition is a significant mechanism of perfectionism (Flaxman, Ménard, Bond & Kinman, 2012). However, there is a lack of research exploring the relationship between

perfectionism, perseverative cognition and poor levels of well-being both at the day-level and in the workplace.

Everyday minor hassles have been shown to create greater variance in levels of emotional affect than larger life events (Kanner, Coyne, Schaefer & Lazarus, 1981), therefore the mechanisms which influence these levels of affect should also be investigated at the day level. Workplace well-being is an important topic both in mainstream media and scientific journals (Danna & Griffin, 1999) and the workplace has been identified as one of the main domains for perfectionism (Stoeber & Stoeber, 2009). The concept of perseverative cognition as a state-level characteristic of perfectionism integrates the structural and process approaches to personality (Fleeson, 2001), which combined, have been shown to explain trait level differences in state level behaviour. By using a daily diary method, this study will present a more naturalistic and representative measure of state-level experiences (Hopko, Armento, Cantu, Chambers & Lejuez, 2003). This method will be used to measure daily levels of perseverative cognition alongside trait-level measures of perfectionism; with the aim of furthering understanding as to the reasons why perfectionism is so perniciously linked with poor psychological health.

Perseverative cognition refers to both conscious and unconscious representations of stressors (Verkuil, Brosschot, Gebhardt & Thayer, 2010) and can result in a prolonged stress response. When a threat to one's goals is initially detected, there are cognitive and physiological changes that occur as a defense mechanism. In addition to obviously threatening stimuli, neutral and novel experiences can also elicit a defensive response; this negativity bias is evolutionarily adaptive by maximizing survival and adaptive responses (LeDoux,

2000). When safety has been ensured, this automatic defensive stress response is lifted but if safety cannot be detected and an important goal still appears threatened then the stress process is prolonged. Perfectionism is characterized by the setting of very high standards, which is likely to result in more frequent and stringent goals being set. As a result, those with high levels of perfectionism are more likely to view many situations as threatening to their goals. Those with high levels of evaluative concerns perfectionism also posses a lack of belief that they can effectively deal with the stressor and make it safe, which in turn makes a prolonged stress response more likely. There are some key characteristics of evaluative concerns perfectionism which make engaging in perseverative cognition more likely which are: a tendency to engage in avoidant behaviour, meta-cognitions about the usefulness of perseverative cognition and a perceived discrepancy between their own high goals and their reality. Some theories propose that engaging in perseverative cognition is a way to avoid the very stressor that we are thinking about. This twinned with research that reports experiential avoidance can mediate the relationship between evaluative concerns perfectionism and perseverative cognition (Santanello & Gardner, 2007), may help to explain why those with high levels of evaluative concerns perfectionism may choose perseverative cognition as a coping mechanism. The cognitive avoidant theory is one theory that suggests engaging in perseverative cognition means that we are not fully engaging in the emotions associated with the stressor and therefore we are delaying having to deal with those potentially distressing feelings and images.

The Cognitive Avoidant Theory of Perseverative Cognition Despite the concept of perseverative cognition being commonplace, systematic research

into the phenomenon did not start until the early 1980s (Borkovec, Ray & Stöber, 1998). During this time, research began to conclude that many psychologically based insomnias were caused by invasive cognitive activity at bedtime. The results suggested that engaging in perseverative cognition in the evening has the ability to cause the brain to stay active and disturb the natural pattern of sleep. Poor sleep quality has been linked to low levels of psychological health (Buysse, Reynolds, Monk, Berman & Kupfer, 1989) and therefore illustrates some of the longer-term consequences of perseverative cognition. Given the negative health consequences of perseverative cognition, it is important to understand why we have a tendency to engage in it so frequently. The content and form of this particular type of cognition may provide an insight as to why perseverative cognition is such a prevalent mechanism.

The avoidant theory of perseverative cognition suggests that when we engage in worrisome thoughts, we have a tendency to use verbal thought activity rather than imagery. In other words we often talk to ourselves about negative things rather than imagine them. This was demonstrated by comparison between a group who had generalised anxiety disorder (GAD) and a control group (Borkovec & Inz, 1990). During a relaxation exercise, those in the control group reported mostly positive imagery with little thought activity; the GAD group reported equal amounts of imagery and thought, both predominantly negative. However, when specifically asked to engage in perseverative cognition about a certain topic, both groups reported a shift to negative thoughts rather than imagery. This shift towards negative thoughts rather than imagery experienced by both groups in the perseverative cognition condition shows the predisposition

towards verbal thought processes (rather than imagery) during perseverative cognition.

In order to understand why the shift towards verbal thoughts rather than imagery might happen, it is necessary to acknowledge that verbal thoughts about an emotional stimuli result in very little cardiovascular response in comparison to images of the same stimuli (Vrana, Cuthbert & Lang, 1986). Therefore thinking about a stressor is likely to be less distressing than visualizing it. In addition, verbalization is often used as means of disengagement and emotional control, which in turn can decrease sympathetic arousal responses to emotional stimuli (Tucker & Newman, 1981).

This ability to isolate the verbal system from arousal does have adaptive advantages; it allows different scenarios and responses to be experimented with, without the immediate environmental consequences that direct action may result in. However, it also means that emotional processing is inhibited, which results in negative emotional meaning being maintained and prolonged. Therefore if perseverative cognition consists of more verbal thought than imagery, then engaging in perseverative cognition about an emotional topic is likely to inhibit emotional processing and maintain emotional disturbance.

In these terms, it is possible to view perseverative cognition as a type of cognitive avoidance strategy to perceived dangers. Consequently, if perseverative cognition avoids exposure to an anxious experience then it may be negatively reinforced because the feared event rarely happens (Borkovec et al., 1998). In order to understand why verbal thoughts differ from imagery in terms of physiological response, it is useful to explore the type of thoughts generally contained in verbal cognition.

One of the reasons suggested as to why verbal thought results in a reduced sympathetic response is that the content of perseverative cognition is less concrete and thus leads to less vivid imagery (Borkovec et al., 1998). This less vivid imagery is harder to detect than more detailed images and therefore may be the reason why study participants report less imagery in perseverative cognition tasks (Hirsch, Hayes, Mathews, Perman & Borkovec, 2012). Indeed, the more a person uses perseverative cognition, the less concrete the thoughts became. To be able to solve a problem by creating action plans and task models, being able to think in specific concrete terms is vital (Schönpflug, 1989). Unfortunately as mentioned earlier, perseverative cognition has characteristically low levels of concreteness and therefore is unlikely to provide a basis for adaptive coping. With adaptive coping not being utilized, the threat and then subsequent perseverative cognition will continue. Additionally because we tend to engage in perseverative cognition about things that have not yet happened, the stressful scenario can only be imagined and so mentally trying to prepare for it is one of the few coping strategies available. This suggests that perseverative cognition in itself is unlikely to result in positive consequences.

Studies with speech phobics have shown that engaging in perseverative cognition just after exposure to the stressor increased cognitive intrusions about the stressors over the next few days, in comparison to an imagined rehearsal of the stressor or neutral conditions which did not predict such intrusions (Butler, Wells & Dewick, 1995). In another study, patients with insomnia engaged in perseverative cognition about giving a speech the next day took longer to fall asleep and were more anxious about delivering the speech than those who imaginally processed the implications (Nelson & Harvey, 2002). Therefore

engaging in perseverative cognition before or after emotional events does not allow adaptive processing of the emotional content and contributes to maintenance or even an increase in the emotional disturbance generated by such events (Borkovec et al., 1998). Together with the earlier research showing how engaging in perseverative cognition in the evening can affect sleep quality, these results show the longer-term health consequences of engaging in perseverative cognition. However, even given these negative health consequences, some individuals engage in perseverative cognition because they believe it is helpful to them.

Perfectionism and meta-cognitive beliefs about perseverative cognition. Individuals who engage in perseverative cognition can hold certain metacognitive beliefs, as to why they do so. One reason given by those with high levels of perseverative cognition is that it helps them to think about different ways of avoiding negative events in the future and also that they can prepare for the worst if it is unavoidable (Borkovec & Roemer, 1995). In a clinical study involving individuals with depression, both positive (e.g. it helps to engage in perseverative cognition to find answers to my problems) and negative (e.g. people will reject me if I engage in perseverative cognition) metacognitive beliefs about perseverative cognition were found in all patients (Papageorgiou & Wells, 2003). In addition metacognitive beliefs about the perceived usefulness of perseverative cognition were also found in those with general anxiety disorder (Wells & Carter, 2002). Individuals with high levels of evaluative concerns perfectionism may also think it is useful to think about past failures in order to try and avoid making the same mistakes again (Macedo, Marques & Pereira, 2014). For example, in the workplace an individual with high levels of evaluative

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concerns perfectionism may choose to engage in perseverative cognition about a sales pitch that has gone wrong in the belief that doing so will prevent future failure.

The superstitious reinforcement paradigm can also have an effect on metacognitions about the value of perseverative cognition. This paradigm explains that because the content of perseverative cognition tends to be catastrophic, it is also likely to not happen: this negatively reinforces perseverative cognition as somehow protecting the individual from the feared outcome. This paradigm may explain why those who engage in perseverative cognition feel that doing so makes the occurrence of the feared event less likely, even though they cannot explain why (Borkovec & Roemer, 1995). The belief that perseverative cognition has positive consequences can lead to its maintenance. This meta-cognitive process of perseverative cognition has the potential of changing normal cognitions into the excessive and uncontrollable perseverative cognition found in anxiety disorders (Wells, 1999). Again, this process illustrates how perseverative cognition can lead to longer-term negative health consequences. By understanding perseverative cognition as an avoidant strategy and associated meta-cognitive beliefs as to its perceived usefulness, the reasons why perseverative cognition is so prevalent in those with high levels of perfectionism can start to be understood. As mentioned earlier, discrepancy is also a key theme in perfectionism and is useful to consider in the relationship between perfectionism and perseverative cognition.

The role of goal discrepancy in perfectionism and perseverative cognition. Setting high goals is a key characteristic of evaluative concerns perfectionism (Frost, Marten, Lahart & Rosenblate, 1990). Theory has suggested

that perceived threats to goal progress are the most common reason for the process of perseverative cognition to start (Martin & Tesser, 1996). Furthermore levels of perseverative cognition are reported to be higher when the unattained goal is linked to important, higher-level outcomes (Martin & Tesser, 1996). Given that those with high levels of evaluative concerns perfectionism are likely to have many high goals which are important to their sense of self, it can be seen how failure to meet those goals could result in high levels of perseverative cognition. Research found that unattainment of lower-order goals (e.g. getting the highest sales target) which are linked to the attainment of higher-order goals (e.g. being perfect in my work) resulted in higher levels of perseverative cognition than when unlinked lower-order goals were not attained (McIntosh, Harlow & Martin, 1995; Smit, 2016). The same study found that over a two-week period everyday hassles predicted higher levels of perseverative cognition for those who linked lower-order goals with higher-order goals than those who did not.

Considering an individual with high levels of evaluative concerns perfectionism in the workplace, it is easy to see how they could be exposed to everyday lower-level hassles that may be linked to higher-order goals, resulting in high levels of perseverative cognition. Workplace research with call-centre staff found the attainment of work goals that were considered important to the individual was associated with pleasurable affect (Harris, Daniels & Briner, 2003). Additionally, recent research has shown that employees find it difficult to psychologically detach (switch off) from incomplete work goals high in valence, that they experienced earlier in their workday (Smit, 2016). This shows that affect and the ability to psychologically detach from work can be related to the

attainment and non-attainment of important goals in the workplace. Consistent with the methodology of the present study, Lavallee and Campbell (1995) asked participants to rate their mood and levels of perseverative cognition in relation to a bothersome event encountered in their day. They found that levels of perseverative cognition and negative affect were higher after goal-relevant negative events rather than goal-irrelevant negative events. These studies may partially explain the relationship between perfectionism and low levels of affect and if perseverative cognition has resulted from the perceived threat of non-attainment of a goal then it could be seen as a mediator in this relationship.

Consistent with the relationship between the relevance of goals and levels of perseverative cognition is the theory that perfectionists are prone to engage in perseverative cognition specifically about mistakes they have made or may make in the future (Flett, Nepon & Hewitt, 2016). The remorse felt at having made the mistake is often out of proportion to the importance of the mistake and how important the mistake was perceived to be by the individual will determine the level of cognitive perseveration (Flett et al., 2016). Considering the workplace, an individual who has made a mistake at work (perhaps publicly) is likely to engage in perseverative cognition about the mistake if they consider doing well at work as important to them and fear social evaluation. Perseverative cognition can also incorporate thoughts of "what might have been" (Flett et al., 2016). These counterfactual thoughts are often based around the feeling of not having achieved a goal and being discrepant. Those with high levels of perfectionism are also more likely to engage in perseverative cognition following a performance situation where negative evaluation was a possibility. In a longitudinal study of students with social anxiety, Brown and

Kocovski (2014) found that perfectionism predicted perseverative cognition two days after an anxiety-inducing speech task. Cox and Chen (2014) also found perfectionism predicting perseverative cognition 24 hours after a speech. In the workplace, performance situations with the possibility of negative evaluation can be commonplace. This would suggest that those with high levels of perfectionistic tendencies may be likely to engage in perseverative cognition following a day at work.

Those with high levels of perfectionism are likely to engage with perseverative cognition when a discrepancy between their actual self and the ideal self is sensed (Flett, Madorsky, Hewitt & Heisel, 2002). The workplace is one of the main domains where individuals are likely to have perfectionistic tendencies (Stoeber & Stoeber, 2009) and therefore is a context likely to produce discrepancy between goals aimed for and reality. Given the likelihood that this sense of discrepancy may be felt repeatedly in the workplace, it is suggested that perfectionistic tendencies in the workplace may lead to a habit of perseverative cognition during the hours after work.

Previous research examining the relationship between perfectionism and perseverative cognition. Previous research has linked perfectionism and perseverative cognition in both clinical and general populations (Buhr & Dugas, 2006; Egan, Hattaway & Kane, 2014; Handley, Egan, Kane & Rees, 2014; Short & Mazmanian, 2013). Furthermore research has shown perseverative cognition working as a mechanism of perfectionism, mediating the link between perfectionism and negative health outcomes. A study asking students to identify their most recent disappointing test score found that perseverative cognition fully mediated the association between evaluative concerns perfectionism and

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depressive symptoms (Harris, Pepper & Maack, 2008). Similar results were also found by Short and Mazmanian (2013), with perseverative cognition mediating the link between evaluative concerns and negative affect; however, the mediating effect was not significant for those with high levels of mindfulness. This suggests mindfulness may provide a protective factor for those with high levels of perfectionism who have high levels of perseverative cognition and therefore may be a potential direction for treatment.

Alongside school, the workplace has been identified as the most likely place individuals will have perfectionistic tendencies (Stoeber & Stoeber, 2009). However, there have been few studies examining perfectionism in the workplace especially at the day-level. Consistent with previous domains research (Stoeber & Stoeber, 2009) evaluative concerns perfectionism has been shown to positively correlate with work incompetence worries (Chang et al., 2007). This shows that those with high levels of evaluative concerns perfectionism are likely to engage in perseverative cognition specifically about work. In a longitudinal study of academic employees, levels of participants' well-being were measured weekly for four weeks, before, during and after the Easter break (Flaxman et al., 2012). Interestingly during the Easter respite period well-being levels were similar between those with high levels of evaluative concerns perfectionism and non-perfectionists. However, on returning to work the levels of fatigue, emotional exhaustion and anxiety were significantly higher for those with high levels of evaluative concerns perfectionism. Levels of work-related perseverative cognition during the Easter respite period mediated the relationship between evaluative concerns perfectionism and levels of well-being upon return to work. This suggested that the workplace triggered a vulnerability in those with high

levels of evaluative concerns perfectionism and that this process was evidenced by high levels of work-related perseverative cognition.

In summary, research to date has shown that perseverative cognition is an important mediator in the relationship between evaluative concerns perfectionism and poor well-being. Perfectionistic tendencies are most likely to be experienced in the workplace and work-related perseverative cognition has been shown to mediate the relationship between evaluative concerns perfectionism and levels of well-being in a workplace sample. Nevertheless the existing research leaves a number of questions unanswered: Are findings from research in student populations (e.g. Short & Mazmanian, 2013) transferable to a working population? Perfectionism research has traditionally been founded in the clinical psychology literature (e.g. Hewitt & Flett, 1991) or research has used student populations (e.g. Stoeber & Rambow, 2007). More recent workplace research has illustrated the poor levels of well-being that can manifest from high levels of perfectionism in a workplace sample (Flaxman et al., 2012; Stoeber & Rennert, 2008). Although lagged effects of perseverative cognition have been found in those with high levels of evaluative concerns perfectionism (Flaxman et al., 2012), how do these mechanisms affect well-being at the day level? Minor stressors and hassles create greater variance than major life events (Pillow, Zautra & Sandler, 1996). The workplace is also likely area to provide these everyday hassles, especially considering the goal-oriented nature of most workplaces. By measuring well-being both at the end of the workday and again before bed, using the same well-being scales, this study is able to extend the current literature by specifically exploring the effects of work-related

perseverative cognition in the evening on well-being. In order to explore these questions, this current study seeks to address the following hypotheses.

Study hypotheses. The cognitive avoidant theory proposes some individuals may engage in perseverative cognition to avoid the stressor they are thinking about. This short-term avoidant strategy can explain why people continue to use perseverative cognition even though it is associated with negative health outcomes. Certain meta-cognitive beliefs are also associated with perseverative cognition such as believing it helps prepare for negative events in the future and the superstitious reinforcement paradigm. The role of goal discrepancy has also been discussed and it is easy to see why this theory is particularly relevant when considering why those with high levels of evaluative concerns perfectionism are likely to engage in perseverative cognition. Research to date has been mainly in student populations and correlational or longitudinal over a period of weeks in design. This current study will attempt to address this gap in the literature by employing a day-level design in a working population to further examine the relationship between evaluative concerns perfectionism, perseverative cognition and negative health outcomes.

The current research will use a working sample and employ a daily diary method to ask participants about their levels of work-related perseverative cognition during the evening. In line with previous research well-being outcomes of negative affect and emotional exhaustion will also be measured at this time. These outcome measures will also be measured earlier in the day when the participant finishes work and this measure of affect will be controlled for in the multilevel models, in order that the specific influence of perseverative cognition during the evening on well-being before bed can be explored. Based on the

characteristics of perfectionism discussed and the research already done in these areas, this study will test the following hypotheses:

Hypothesis 1a) Evaluative concerns perfectionism will predict daily levels of negative affect.

Hypothesis 1b) Evaluative concerns perfectionism will predict daily levels of emotional exhaustion.

Hypothesis 2) Evaluative concerns perfectionism will predict work-related perseverative cognition over the course of consecutive evenings.

Hypothesis 3a) Perseverative cognition will predict daily levels of negative affect.

Hypothesis 3b) Perseverative cognition will predict daily levels of emotional exhaustion.

Hypothesis 4a) Work-related perseverative cognition during the evening will mediate the relationship between evaluative concerns perfectionism and negative affect.

Hypothesis 4b) Work-related perseverative cognition during the evening will mediate the relationship between evaluative concerns perfectionism and emotional exhaustion.

Method

     Daily diary design. Participants completed an initial survey (see appendix 1) followed by five before bed surveys, to be completed just before going to bed (see appendix 3). These surveys were filled in on five consecutive days in one working week (Monday-Friday). This methodology is in line with Bolger, Davies and Rafaeli (2003) who suggest that concrete events (such as event details) are less likely to be affected by recall bias than transient feelings (such as well-being). By asking participants to report their psychological well-being both after work and then again before bed, it is consistent with other respite research which suggests taking these measures when job stressors are present and then absent (Eden, 2001).

     Participants and procedure. Participants were employees from the NHS, local council, oil and gas suppliers, charity workers and teachers. Participants were recruited with a flyer via internal communications and registered by email. They were then sent the information pack including the questionnaire booklets by post.

     A total of 299 employees volunteered for the study and received the paper and pencil survey packs which were sent in the post. The packs consisted of an initial booklet, an after work booklet and a before bed booklet. The initial booklet measured demographics, job characteristics, perfectionism, neuroticism and conscientiousness. The after work booklet measured levels of negative affect and emotional exhaustion. The before bed booklet measured hours spent on work activities that evening, negative affect, emotional exhaustion and perseverative cognition.

A total of 136 employees returned their packs (response rate of 45%), of which 54% were NHS employees, 19% teachers, 15% council workers, 9% charity workers and 3% oil and gas workers. Average tenure in current workplace was 9 years (SD=7). The final sample was predominantly female (80.1%), average age was 40 years old (SD=12), 55% had children.

Measures

Job characteristics. Work characteristics were measured in the initial booklet using Haynes, Wall, Bolden, Stride and Rick (1999) subscales of Autonomy & control, six items, (e.g. "To what extent do you plan your own work?"), Peer Support, four items, (e.g. "To what extent can you count on your colleagues to back you up at work?") and Work Demands, six items, (e.g. "I do not have enough time to carry out my work"). The subscales of Autonomy & Control and Work Demands were rated on a five point response scale ranging from 1 – not at all to 5 – a great deal. Peer Support was rated on a five point response scale ranging from 1 – not at all to 5 – completely. Cronbach's alpha for autonomy and control, peer support and work demands were .85, .87 and .87 respectively.

Perfectionism. Perfectionism was measured in the initial booklet with two subscales from the brief scale of Hewitt and Flett (1991) as developed and validated by Cox, Enns and Clara (2002), namely self-oriented (five items) and socially prescribed perfectionism (five items). Items were rated using a scale from 1 (strongly disagree) to 7 (strongly agree). The brief form of the Frost Multidimensional Perfectionism Scale (1990) was also utilized with subscales of Concern over Mistakes, five items, Doubts about Actions, three items, and Personal Standards, five items (Cox et al., 2002). Two higher order

perfectionism variables were then constructed. Evaluative concerns perfectionism was indicated by socially prescribed perfectionism (Hewitt & Flett, 1991) and the subscales of concern over mistakes and doubts about actions from Frost's scale (1990). Personal standards perfectionism was indicated by self-oriented perfectionism (Hewitt & Flett, 1991) and Frost's personal standards subscale (1991). For this study Cronbach's alpha for socially prescribed perfectionism, concern over mistakes, doubts about actions, self-oriented perfectionism and personal standards were .79, .83, .70, .87 and .79 respectively.

Big Five Inventory. Subscales of the BFI (Benet-Martinez & John, 1998) measuring Conscientiousness (nine items; e.g. "I see myself as someone who does things efficiently") and Neuroticism (eight items; e.g. "I see myself as someone who worries a lot") were used in the initial booklet. The reliability of these subscales has been tested by John and Srivastava, 1999. Cronbach's alpha for neuroticism and conscientiousness were .79 and .77 respectively.

Daily affect. The Positive and Negative Affect Scale, PANAS, (Watson, Clark, & Tellegen, 1988) was used to measure daily negative affect. This was measured in the daily booklets. The scale consists of 10 negatively worded adjectives. Participants were asked immediately after finishing work to rate how they had felt during the working part of their day and then asked again just before bed as to how they had felt that evening in the period since finishing work using a five point response scale ranging from 1 – very slightly or not at all to 5 – Extremely. Cronbach's alphas ranged from .89 to .90 (mean α = .89) for the 'after work' measurement and from .81 to .93 (mean α = .88) for the 'before bed' measurement.

Emotional exhaustion. Work-related emotional exhaustion was measured using five items adapted from the Maslach Burnout Inventory (Maslach, Jackson, & Leiter, 1996). This was measured in the daily booklets. Participants were asked how they felt twice per day using the same methodology as for daily affect. Items were adapted to reflect the time of day participants were asked to be reflecting upon e.g. "…thinking about your evening – the period since finishing work and now – please indicate how much you agree or disagree with each of the following statements:". Cronbach's alphas ranged from .84 to .88 (mean $\alpha = .86$) for the 'after work' measurement and from .85 to .89 (mean $\alpha = .87$) for the 'before bed' measurement.

Perseverative cognition. Participants were asked to indicate the degree to which they have had thoughts about work that evening on a five-point scale ranging from 1-not at all to 5-a great deal (e.g. "I repeatedly thought about a situation that had upset me at work."). This was measured in the daily booklets. The scale was five items and has previously been used in measuring work-related levels of perseverative cognition (Flaxman et al., 2012). Cronbach's alphas ranged from .89 to .91 (mean $\alpha = .90$).

Hours worked. In the daily booklet, participants were asked to record in hours and minutes "Approximately how long (if at all) did you spend on work-related activities this evening? (e.g., catching up with emails, speaking with work, or preparing work)".

Results

Due to the daily diary method and subsequent data structure, the data was analysed using multi level modeling in SPSS 24. Days (level 1) were nested within persons (level 2). Level 2 data was centred around the grand mean and level 1 data was centred around the person mean.

Evaluative concerns perfectionism and well-being. Hypotheses 1a and 1b predicted that evaluative concerns perfectionism will be related to levels of negative affect and emotional exhaustion. In Table 2.3, Model 1 contained gender, work characteristics, the number of hours worked that evening, neuroticism, conscientiousness and the level of negative affect measured after work as control variables and showed a significant improvement over the null model (Δ-2 x log = 302.28, $p < .001$) (all tables can be found at the end of the results section). Model 2 included personal standards perfectionism and evaluative concerns perfectionism as predictors and showed a significant improvement over Model 1 (Δ-2 x log = 21.18, p < .001) with evaluative concerns perfectionism significantly predicting negative affect ($\gamma = .18$, $SE = .04$, $t = 4.18$, $p < .001$), thus providing support for hypothesis 1a. Hypothesis 1b, predicted that evaluative concerns perfectionism will significantly predict levels of emotional exhaustion. In Table 2.4, Model 1 contained gender, work characteristics, the number of hours worked that evening, neuroticism, conscientiousness and the level of emotional exhaustion measured after work as control variables and showed a significant improvement over the null model (Δ-2 x log = 474.56, $p < .001$). Model 2 included personal standards perfectionism

and evaluative concerns perfectionism as predictors but did not show a significant improvement over Model 1 (Δ-2 x log = 5.18, *ns*), thus hypothesis 1b was not supported.

Evaluative concerns perfectionism and perseverative cognition. In hypothesis 2, it was predicted that evaluative concerns perfectionism will significantly predict work-related perseverative cognition. In Table 2.2, the null model contained only the intercept as the predictor. Model 1 contained work characteristics, the number of hours worked that evening, levels of negative affect and emotional exhaustion taken at the end of the work day and neuroticism and conscientiousness all as control variables and showed a significant improvement over the null model (Δ-2 x log = 413.40, *p* < .001). Job demands, hours worked that evening, levels of negative affect and emotional exhaustion measured at the end of the work part of the day, neuroticism and conscientiousness were all significant predictors. Model 2 includes personal standards perfectionism and evaluative concerns perfectionism as predictors and showed a significant improvement over Model 1 (Δ-2 x log = 20.45 p < .001). Evaluative concerns perfectionism significantly predicted work-related perseverative cognition (γ = .12, *SE = .04, t* = 3.38, *p* < .001), thus supporting hypothesis 2.

Work-related perseverative cognition and well-being. In hypothesis 3a and 3b, it was anticipated that work-related perseverative cognition will significantly predict levels of negative affect and emotional exhaustion. Table 2.3 shows negative affect as the dependent variable and Model 3 contained only perseverative cognition, which showed a significant improvement over the Model 2 which included gender, work characteristics, personality variables and a

measure of negative affect taken at the end of the work day (Δ-2 x log = 78.52, p < .001), providing support for hypothesis 3a. Emotional exhaustion is the outcome variable in Table 2.4 and once again Model 3 contained only perseverative cognition and showed a significant improvement over the Model 2 which included gender, work characteristics, personality variables and a measure of emotional exhaustion taken at the end of the work day (Δ-2 x log = 128.69, p < .001), thereby supporting hypothesis 3b.

Work-related perseverative cognition as a mediator in the relationship between evaluative concerns perfectionism and well-being. Process for SPSS 2.15 was used to test for mediation. Day–level measures were averaged across the week. The first outcome of the proposed mediation relationship to be tested was negative affect before bed. Gender, job demands, job control, job support, neuroticism, conscientiousness, personal standards perfectionism, hours worked in the evening and the level of negative affect measured at the end of the work part of the day were all used as controls in the analysis. Work-related perseverative cognition was entered as proposed mediator between evaluative concerns perfectionism and negative affect before bed. The results showed no significant indirect effect of evaluative concerns perfectionism on before bed negative affect through work-related perseverative cognition, b = .002, 95% BCa CI [-.016, .023], therefore hypothesis 4a was not supported. The second outcome to be tested for mediation was emotional exhaustion. The same control measures were used as for the previous mediation model with the measure of emotional exhaustion taken at the end of the work-day used instead of the negative affect measure at that time. There was a significant indirect effect of evaluative concerns perfectionism on before bed emotional exhaustion

through work-related perseverative cognition, $b = .02$, 95% BCa CI [.005, .042], supporting hypothesis 4b. Therefore the mediation hypotheses were partially supported as work-related perseverative cognition was only shown to mediate the relationship between evaluative concerns perfectionism and emotional exhaustion.

Table 2.1

Means, Standard Deviations and Zero-Order Correlations Among Study Variables for Study 2.

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Gender	1.82	.37	-													
2. Demands	17.38	5.49	.04	-												
3. Control	21.10	4.62	.00	-.12	-											
4. Support	14.51	3.40	.17	-.22*	.35**	-										
5. Neuroticism	22.92	6.16	.09	-.01	-.23**	-.04	-									
6. Conscientiousness	35.39	5.51	.11	-.10	.16	-.07	-.32**	-								
7. ECP	39.46	10.59	-.02	.16	-.35**	-.38**	.41**	-.25**	-							
8. PSP	42.64	8.46	.07	.01	-.12	.04	.22	.23**	.53**	-						
9. Hours worked	.40	.53	-.15	-.30**	-.08	-.20*	-.06	-.12	.22*	.13	-	.12**	.20**	.23**	.26**	.29**
10. After Work NA	14.50	4.64	-.15	-.11	-.18*	-.09	.39**	-.38**	.54**	.16	.22**	-	.52**	.70**	.49**	.62**
11. After Work EE	13.99	4.76	-.07	.58**	-.31**	-.26**	.28**	-.17	.39**	.15	.36**	.53**	-	.46**	.83**	.55**
12. Before Bed NA	13.64	4.15	-.12	.10	-.18**	-.07	.36**	-.39**	.48**	.11	.31**	.85**	.54**	-	.48**	.65**
13. Before Bed EE	14.03	4.99	-.12	.61**	-.31**	-.30**	.22*	-.16	.37**	.16	.35**	.51**	.92**	.48**	-	.62**
14. WR Pers. Cog.	10.03	3.65	-.12	.28**	-.19*	-.14	.32**	-.35**	.49**	.18*	.37**	.73**	.62**	.75**	.64**	-

Note. Below the diagonal: person-level data (*N* = 136), averaged across 5 days. Above the diagonal: day-level data (*n* = 610-680).

* p < .05, ** p < .01.

Table 2.2

Multilevel Estimates for Models predicting Work-related Perseverative Cognition.

Variable	Null Model			Model 1			Model 2		
	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t
Intercept	10.03	.31	32.30***	12.06	1.39	8.69***	12.14	1.28	9.45***
Gender				-1.12	.75	-1.49	-1.15	.69	-1.67
Demands				.17	.05	3.23**	.15	.05	3.04**
Job Control				-.03	.07	-.37	.01	.06	.22
Support				-.05	.09	-.49	.08	.09	.93
Hours				.85	.22	3.83***	.86	.22	3.83***
After Work NA				.26	.04	6.64***	.26	.04	6.63***
After Work EE				.21	.04	5.15***	.21	.04	5.16***
Neuroticism				.15	.05	2.90**	.07	.05	1.32
Conscientiousness				-.15	.06	-2.68**	-.14	.06	-2.50*
ECP							.12	.04	3.38***
PSP							.03	.04	.70
Diff log likelihood					413.40***			20.45***	
Level 1 intercept variance					.26			0	
Level 2 intercept variance					.55			.50	

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

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Table 2.3

Multilevel Estimates for Models predicting Negative Affect Before Bed

Variable	Model 1 Estimate	SE	t	Model 2 Estimate	SE	t	Model 3 Estimate	SE	t
Intercept	15.96	1.60	9.96***	15.95	1.48	10.78***	16.00	1.48	10.81***
Gender	-1.24	.86	-1.44	-1.23	.80	-1.54	-1.27	.80	-1.58
Demands	.06	.06	1.02	.03	.06	.57	.03	.06	.55
Job Control	-.07	.08	-.86	-.02	.07	-.24	-.01	.07	-.12
Support	.04	.12	.38	.20	.10	1.89	.18	.10	1.74
Hours	.59	.25	2.35*	.59	.25	2.37*	.28	.24	1.17
Neuroticism	.18	.06	3.04**	.08	.06	1.39	.09	.06	1.51
Conscientiousness	-.21	.06	-3.29***	-.17	.06	-2.59*	-.17	.06	-2.62**
A. Work NA	.32	.04	8.11***	.32	.04	8.12***	.18	.04	4.54***
WR Perseverative Cognition				.18	.04	4.18***	.38	.05	7.89***
ECP				-.02	.05	-.53	.17	.04	4.08***
PSP							-.03	.05	-.57
Diff log likelihood	302.28***			21.18***			78.52***		
Level 1 intercept variance	.11			0			.12		
Level 2 intercept variance	.57			.52			.56		

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

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Table 2.4

Multilevel Estimates for Models predicting Emotional Exhaustion Before Bed

Variable	Model 1			Model 2			Model 3		
	Estimate	*SE*	*t*	*Estimate*	*SE*	*t*	*Estimate*	*SE*	*t*
Intercept	17.41	1.55	11.23***	17.51	1.52	11.51***	17.51	1.51	11.58***
Gender	-1.79	.84	-2.14*	-1.84	.82	-2.24	-1.85	.82	-2.26
Demands	.52	.06	8.65***	.51	.06	8.60***	.52	.06	8.79***
Job Control	-.14	.08	-1.80	-.11	.08	-1.55	-.11	.08	-1.51
Support	-.14	.10	-1.40	-.08	.11	-.71	-.08	.11	-.77
Hours	.64	.20	2.34***	.64	.20	3.23***	.26	.18	1.50
Neuroticism	.15	.06	2.62**	.11	.06	1.79	.11	.06	1.81
Conscientiousness	.01	.06	.20	.01	.07	.02	-.01	.07	-.01
A. Work EE	.48	.03	15.22***	.48	.03	15.22***	.34	.03	11.00***
PSP				.05	.05	.87	.04	.05	.80
ECP				.05	.05		.05	.04	1.19
WR Perseverative Cognition				.04	.04	1.22	.41	.04	11.69***
Diff log likelihood	474.56***			5.18			128.69***		
Level 1 intercept variance	.31			0			.23		
Level 2 intercept variance	.66			.65			.71		

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

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Discussion

The current study was designed to add to existing literature by using a daily dairy design to examine the relationship between evaluative concerns perfectionism, work-related perseverative cognition and poor levels of psychological well-being. Previous perfectionism research was mainly in student populations and this study utilised a working population to test the generalizability of previous findings. In addition, by capturing levels of work-related perseverative cognition and well-being at the day-level, this study aimed to explore the state-level manifestations within the trait of perfectionism. The results confirmed the unique relationship between evaluative concerns perfectionism, work-related perseverative cognition and negative affect. Although work-related perseverative cognition was not consistently found to be a mediator in this relationship, it is suggested this is due to the rigorous design of the study, particularly the number of control variables entered into the models. These findings reinforce existing literature linking perfectionism and perseverative cognition and extend it to a working population at the day-level.

Perfectionism and well-being. In line with previous research establishing the link between perfectionism and psychological distress (e.g. Dunkley et al., 2000), this study found that evaluative concerns perfectionism significantly predicted levels of negative affect. This is particularly interesting because as shown in Table 2.3, levels of negative affect recorded at the end of the work period of the day were entered as control variables. Therefore, even taking into consideration how employees felt after the work part of their day, evaluative concerns perfectionism still predicted how they were likely to feel during the evening. As discussed in relation to hypothesis one earlier, the same

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effect was not found with levels of emotional exhaustion. The rigorous design of this study includes work characteristics as control variables and as emotional exhaustion is clearly associated with workplace demands, it is likely that these variables would be the strongest predictors (as can be seen in Table 2.4).

Perfectionism and work-related perseverative cognition. As can be seen from the results for hypothesis two, this study found evaluative concerns perfectionism significantly predicting work-related perseverative cognition. This is in line with existing research and extends previous findings to show that even when the levels of well-being measured at the end of the work part of the day are controlled for, evaluative concerns perfectionism still predicts levels of perseverative cognition in the evening. This is interesting and extends previous research as it highlights the unique contribution of thoughts about work during the evening on poor levels of well-being.

In turn, work-related perseverative cognition predicted levels of both negative affect and emotional exhaustion during the evening, even after controlling for the same measures of well-being taken at the end of the work day (see Tables 2.3 and 2.4). Additionally, work-related perseverative cognition predicted levels of well-being during the evening over and above work characteristics, the number of hours worked that evening and personality traits. This is in line with previous research linking work-related perseverative cognition with an increase in anxiety and cognitive intrusions about bothersome stressors (Butler et al., 1995; Nelson & Harvey, 2002).

In addition the present study extends existing research into the workplace at the day-level. This is important as it is suggested that daily recovery from work may be more important for protecting well-being than longer respites such

as vacations (Sonnentag, 2001, 2003). Perfectionism has previously been linked with poor levels of recovery (Flaxman et al., 2012), therefore, understanding the mechanisms of how this is happening at the day-level is of added importance. Also, this study suggests that work-related perseverative cognition influences daily levels of well-being over and above levels of work characteristics. This study extends previous literature by establishing the importance of daily recovery from work over and above work demands. Having established the link between evaluative concerns perfectionism, perseverative cognition and low levels of psychological well-being, this study aimed to explore whether perseverative cognition served as a mediator in this relationship.

Work-related perseverative cognition as a mediator in the relationship between evaluative concerns perfectionism and well-being. This study found mixed results for the role of work-related perseverative cognition as a mediator in the relationship between perfectionism and well-being. As shown in the results section, work-related perseverative cognition was not found to mediate the relationship between evaluative concerns perfectionism and negative affect but was found to mediate the relationship between evaluative concerns perfectionism and emotional exhaustion. As discussed with regard to the lack of a statistically significant relationship between evaluative concerns perfectionism and emotional exhaustion earlier, the rigour of the tested models is likely to influence the lack of significant results. Becker et al., (2016) suggest that if covariates are suspected of influencing the results, they should be removed and the analysis rerun. When the variable of after-work negative affect is removed from the model, perseverative cognition is significant as working as a mediator in the relationship between evaluative concerns perfectionism and before bed

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negative affect. In summary, although the mediation models provided mixed results, they did suggest that perseverative cognition has the potential to act as a mediator in the relationship between perfectionism and psychological well-being. This is in line with previous workplace research (e.g. Flaxman et al., 2012) and extends understanding by examining how perseverative cognition manifests at the day-level. As previously discussed, this is important as it is suggested daily recovery experiences may be more important for protecting well-being than traditional longer vacation experiences (Sonnentag, 2001, 2003). Work-related perseverative cognition can be seen to influence daily levels of psychological well-being for those with high levels of evaluative concerns perfectionism.

Strengths, limitations and directions for future research. Although the rigor of this study has affected the results achieved, it is a major strength of this piece of research. The inclusion of work characteristics as control variables is important in workplace research as these situational factors can be significant predictors of workplace stress and well-being (Bailien, De Cuyper & De Witte, 2011). Controlling for levels of well-being at the end of the work part of the day also added to the rigour of this study. These 'end of work day' well-being measurements allowed the specific effects of evening variables (number of hours worked that evening and levels of perseverative cognition) on levels of well-being during the evening part of the day to be explored. Future research could add measurement occasions throughout the evening using an experiential sampling method (Csikszentmihalyi & Hunter, 2003), which could capture momentary changes in levels of perseverative cognition and well-being. The use of daily diary questionnaires allowed this study to examine the manifestations of perfectionism at the day-level, however, self-report measures have been

criticised for their levels of participant bias in organizational psychology research (Donaldson & Grant-Vallone, 2002). Heart rate and heart rate variability are physiological markers of stress and are associated with daily levels of perseverative cognition (Brosschot, Van Dijk & Thayer, 2007). Future research examining perfectionism and perseverative cognition could include these physiological measurements to both compare with the self-report measures and provide objective variables.

This study also controlled for neuroticism and conscientiousness which are both personality traits that have been found in previous research to be highly correlated with both personal standards and evaluative concerns perfectionism (Stoeber, Otto & Dalbert, 2009). The present study was designed to explore perseverative cognition as a potential mechanism of evaluative concerns perfectionism, therefore it was important to ensure correlated personality traits were not affecting the outcomes.

A limitation of this piece of research was the use of a PROCESS mediation model (Hayes, 2013), rather than multilevel structural equation models (MSEM), which are the recommended method of mediation analyses for multilevel data (Preacher et al., 2011). The number of participants in this study was not sufficient to perform MSEM (Wolf, Harrington, Clark & Miller, 2013) and future research would benefit from greater participant numbers so this type of analysis would be possible.

Theoretical implications. This study was designed to explore the relationship between evaluative concerns perfectionism, work-related perseverative cognition and psychological well-being. The results showed clear links between perfectionism, work-related perseverative cognition and low levels

of psychological well-being. It was suggested earlier that goal discrepancy may function in the link between perfectionism and perseverative cognition (Smit, 2016). The cognitive avoidant theory proposes that we use perseverative cognition as an avoidant strategy; that is to avoid fully experiencing the stressors we are thinking about (Borkovec et al., 1998). Previous research around this theory has shown perseverative cognition leading to higher levels of anxiety and sleep disturbance. This study also shows work-related perseverative cognition predicting poor well-being and therefore may provide support for the cognitive avoidant theory and goal-discrepancy theory, particularly in work-related thoughts. Those with high levels of evaluative concerns perfectionism are likely to continue thinking about work after the workday has finished, perhaps due to the number of unfinished work goals (Smit, 2016). Perseverative cognition avoids fully engaging with the work stressor (a stressor which those with high levels of evaluative concerns perfectionism may find particularly threatening), therefore the cognitive avoidant theory can help to explain levels of work-related perseverative cognition in perfectionism workplace research.

Conclusion

Using a working sample, this study aimed to further existing research by exploring the levels of work-related perseverative cognition and well-being at the day-level as state level correlates of the dimensions of perfectionism. Specifically this study was designed to test whether work-related perseverative cognition functioned as a mediator in the relationship between evaluative concerns perfectionism and poor levels of well-being. Results were mixed as the mediation hypothesis was supported when the outcome was emotional exhaustion but not when it was negative affect. The design of this study was

rigourous and it is proposed this may be a reason for the mixed results. Results provided support for the cognitive avoidant theory and the role of goal discrepancy in the link between perfectionism and perseverative cognition. Further research using an experiential sampling method and heart rate variability measurements are suggested.

Chapter 4. School Teachers' Respite Experiences During the Christmas Vacation: The Role of Socially Prescribed Perfectionism and Work-Related Perseverative Cognition in Post-Respite Well-being

Abstract

Vacations provide an important opportunity for employees to recover from work demands. Previous research has found levels of maladaptive perfectionism can influence how effectively employees recover from work during respite. This study explored the relationship between socially prescribed perfectionism, work-related perseverative cognition and levels of well-being. A sample of 140 teachers from the U.K. and Canada took part in the eight week longitudinal study over the Christmas vacation period. Results revealed that socially prescribed perfectionism did not affect initial vacation effects but did influence the rate of fade-out of vacation effect upon the return to work. Levels of work-related perseverative cognition predicted well-being upon return to work but did not mediate the relationship between socially prescribed perfectionism and well-being. The findings support the theory that socially prescribed perfectionism is a personality vulnerability triggered by exposure to work-related stressors. The findings also suggest that work-related perseverative cognition impedes effective recovery.

Introduction

Vacations are important for employees to recover from work demands. Effective recovery during respites from work allows physiological and psychological reactions from work stressors to return to baseline levels, leaving employees refreshed for their return to work (Brosschot, Gerin & Thayer, 2006; Geurts & Sonnentag, 2006). However, thinking and worrying about work (work-related perseverative cognition) during these respites not only impedes recovery from taking place but extends work stressors into off-job time, resulting in poor recovery. Poor levels of recovery have been associated with exhaustion, anxiety and increases in heart rate and blood pressure (de Bloom, Kompier, Geurts, de Weerth, Taris & Sonnentag, 2006; Demerouti, Bakker, Geurts & Taris, 2009). Even when recovery has been effective, the positive effects gradually fade-out over time upon return to work, usually within the first few weeks (de Bloom, 2009; Fritz & Sonnentag, 2006). Respite research has previously identified levels of evaluative concerns perfectionism as a significant predictor of fade-out effects upon return to work (Flaxman, Ménard, Bond & Kinman, 2012). In the same study with UK academics, work-related perseverative cognition was also found to predict levels of well-being upon return to work. Socially prescribed perfectionism is persistently associated with poor levels of well-being (Hewitt & Flett, 1991), thus understanding the underlying mechanisms of this relationship is of particular interest to researchers.

Theoretical and empirical studies have suggested work-related perseverative cognition may serve as an important mechanism of socially prescribed perfectionism (SPP) (Harris, Pepper & Maack, 2008); thereby

potentially helping to explain why perfectionism is so persistently linked with low levels of psychological well-being. A study of school teachers found that levels of work-related perseverative cognition in the evening was related to cortisol secretion and sleep disturbance (Cropley, Rydstedt, Devereux & Middleton, 2013) indicating poor recovery. Weekend levels of work-related perseverative cognition have also been studied and were found to be significantly related to a lower heart rate variability (Vahle-Hinz, Bamberg, Dettmers, Friedrich & Keller, 2014), indicating poor recovery. Sluiter, Frings-Dresen, Meijman and Van der Beek (2000) made a distinction between different types of recovery, citing metarecovery being one hour to two days after work and macrorecovery being anything over two days after work. The evening and weekend research explored work-related perseverative cognition as part of metarecovery. Vacations (macrorecovery) are an important recovery opportunity as they offer the chance of both passive (direct release from job demands) and active (chance to engage in recovering activities) recovery mechanisms (de Bloom et al., 2009). Flaxman et al.'s (2012) study took place during the Easter respite and so was examining the role of work-related perseverative cognition in a macrorecovery timeframe.

The current study aims to further understanding of the role of work-related perseverative cognition in the relationship between socially prescribed perfectionism and poor well-being in the timeframe of macrorecovery. Christmas is traditionally a time when families and friends socialise and thereby could provide a powerful recovery opportunity in the absence of work. UK school teachers have approximately 2 weeks respite over the Christmas period and therefore provide an ideal sample within which to explore vacation effects. This

study aims to explore the relationship between socially prescribed perfectionism, work-related perseverative cognition and poor levels of well-being using the Christmas respite as a metarecovery opportunity. In addition, this study aims to further understanding as to whether levels of socially prescribed perfectionism affect the rate of vacation effect fade-out upon return to work. The following sections will explore the existing theoretical and empirical literature in the fields of respite recovery, perfectionism and work-related perseverative cognition and the methodological considerations for respite research.

Theoretical perspectives on respites from work and recovery.
Exposure to work demands places a strain on our psychological and physiological systems. These strain reactions are temporary if respites from work are taken to allow the body and mind to replenish and return to healthy levels of well-being (Guerts & Sonnentag, 2006). However, if the body is not allowed to recover from work demands during off-job time then the effects of work demands can spiral, leading to harmful psychological effects such as emotional exhaustion and chronic health impairment (Guerts & Sonnentag, 2006). Two major theories that can help explain how the recovery process work are: the conservation of resources theory (Hobfoll, 1989; Hobfoll & Shirom, 1993) and effort-recovery theory (Meijman & Mulder, 1998).

The conservation of resources theory (COR) is the idea that we are motivated to protect the resources that we have (conservation) and acquire new resources (acquisition). Resources can be objects, states, energy or other things that we value (Hobfoll, 1998). If an individual perceives these resources as being threatened or lost, they experience a stress response (Hobfoll, 1989). Vacations and shorter respites from work can give employees the opportunities to both

replenish lost resources and gain new resources. As such, vacation experiences and time away from work in itself can also be a potential key resource that employees may value (Halbesleben, Neveu, Paustian-Underdahl & Westman, 2014) and therefore strive to protect. The primacy of resource loss theory states that losing resources is more harmful than gaining resources is helpful (Halbesleben et al., 2014); therefore continually experiencing resource loss or threat in the workplace is unlikely to be balanced by equivalent gain. Workplace research has illustrated how continued resource loss can result in burnout, depression and physiological outcomes (Halbesleben et al., 2014). Given this, COR theory highlights not only how respites from work provide an opportunity to replenish lost resources and acquire new resources; but also how important it is to protect the potentially key energy resources of work respites and vacation experiences in themselves. Failure to replenish lost resources can lead to a 'spiral' of resource loss which can result in low levels of psychological and physiological well-being (Eden, 2001).

Another compatible recovery model is the effort-recovery model (Meijman & Mulder, 1998). This model suggests that when there is a work demand to meet, our bodies undergo short-term psychological and physiological reactions such as mental fatigue and increased heart-rate; these are known as load reactions. Under adaptive recovery conditions, during respites from work load reactions return to baseline levels, allowing the psychophysiological system to recover before work demands resume (Demerouti, Bakker, Geurts & Taris, 2009). Conversely, if an employee fails to recover during off-job time, they may return to work with residual load reactions. This can lead to compensatory effort being needed in order to meet new work demands. As more compensatory effort

is needed, load reactions increase and full recovery becomes even more unlikely. It is in these circumstances that short-term adaptive load reactions can develop into longer-term negative effects such as exhaustion and psychosomatic complaints (Guerts & Sonnentag, 2006).

These two recovery theories have underpinned existing respite research, which has consistently shown that health and well-being outcomes such as exhaustion and life satisfaction improve as a result of vacations from work; these are known as vacation effects (de Bloom, Kompier, Guerts, de Weerth, Taris & Sonnentag, 2009). Vacation effects are improvements in health and well-being due to a vacation from work; upon return to work these effects gradually fade out. These fade-out effects generally take place between two and four weeks after vacation (de Bloom et al, 2009) but there are factors that can affect how quickly this process occurs. Flaxman et al (2012) demonstrated how employees with higher levels of a maladaptive form of perfectionism experienced a greater rate of well-being deterioration or 'fade-out' upon returning to work.

Vacation effects and perfectionism. Once viewed as unidimensional, perfectionism has been conceptualised as multidimensional since the early 1990s (Frost, Marten, Lahart & Rosenblate, 1990; Hewitt & Flett, 1991). This distinction between an adaptive and a maladaptive form of perfectionism has allowed researchers to explore which perfectionistic tendencies relate to more adaptive or harmful outcomes. Socially prescribed perfectionism is a maladaptive form of the personality construct and has been associated with poor levels of psychological well-being such as depression, anxiety and work-related burnout (Dunkley & Blankstein, 2000; Stoeber & Damian, 2016). However,

individuals do not necessarily experience their perfectionistic tendencies equally across all areas of their lives. Researchers have shown that perfectionistic tendencies can manifest in different areas or domains of our lives (Stoeber & Stoeber, 2009). Within this domain research, the workplace has been identified as one of the main areas where individuals are likely to experience perfectionistic tendencies. This is perhaps explained by the goal-setting and achievement oriented nature of both perfectionism and the workplace itself. Socially prescribed perfectionism is associated with high goal-setting but also with maladaptive coping strategies which can often lead to goals being missed and resultant accompanying harsh self-evaluation (Dunkley, Zuroff & Blankstein, 2003; Hewitt, Flett & Ediger, 1996). Therefore the workplace may provide a particularly pernicious environment for those with high levels of evaluative concerns perfectionism. The diathesis-stress hypothesis suggests that socially prescribed perfectionism will interact with stressors leading to heightened reactivity and response (Dunkley et al., 2003). These findings from domain and goal-setting research suggest that socially prescribed perfectionism may manifest as a specific vulnerability in the workplace. The diathesis-stress hypothesis can aid understanding as to why differences in the rate of vacation effect fade out have been found in those with high levels of socially prescribed perfectionism.

In their study of UK academic staff, Flaxman et al. (2012) used the Easter respite period to explore how levels of maladaptive perfectionism can affect the rate at which respite effects fade-out upon return to work. Their results showed that those with higher levels of maladaptive perfectionism experienced a greater deterioration of well-being in the first weeks back at work after the respite. Interestingly, the levels of well-being during the Easter vacation experienced by

those with high levels of maladaptive perfectionism were comparable with non-perfectionists. This illustrates how the workplace can trigger the vulnerability of maladaptive perfectionism, resulting in a rapid decrease in well-being when in the workplace. The study by Flaxman et al. (2012) utilised a sample of UK academic staff during the Easter respite period, therefore the generalizability of the findings is unclear. In addition, the university calendar is such that the load of teaching responsibilities can lessen after the Easter vacation, which may affect the levels of well-being during and after the vacation.

Research with school teachers has shown positive relationships between a form of maladaptive perfectionism and levels of stress and burnout (Stoeber & Rennert, 2008). Additionally, recovery research has also used school teachers as a sample group when exploring the effect of leisure-time activities on individuals well-being (Sonnentag, 2001). The Christmas holidays are a uniform time when schools close for approximately two weeks and therefore provides an opportunity to measure levels of teachers' well-being before, during and after a period of respite. By utilising a different sample group over an alternative vacation period, this study aims to explore and add to the generalizability of existing research. Considering the existing recovery literature, the diathesis-stress hypothesis and previous research, this study will test the effect of socially prescribed perfectionism on the change in well-being experienced during the break and the rate of vacation effects fade-out upon return to work after the Christmas vacation.

Workplace well-being has been conceptualised differently in occupational health psychology literature. Work-related emotional exhaustion is

frequently examined in both recovery research (de Bloom et al., 2009) and research with teachers (van Horn, Schaufeli, Greenglass, Burke, 1997; Stoeber & Rennert, 2008). Fatigue is also a frequently examined outcome in recovery research as it is identified as a load reaction in recovery theories and research has linked poor recovery and elevated levels of fatigue (de Bloom et al., 2010; Sonnentag & Bayer, 2005). Fatigue and work-related emotional exhaustion will therefore be included in the present study as measure of well-being alongside negative affect which is consistently used as an outcome measure in the perfectionism literature (Downey & Chang, 2007; Dunkley et al., 2003; Flett, Blankstein & Hewitt, 2009). Given the theoretical and empirical literature reviewed, this study hypothesises that:

Hypothesis 1: Socially prescribed perfectionism will be unrelated to the change in the levels of well-being upon commencing the Christmas respite.

Hypothesis 2: Socially prescribed perfectionism will predict a higher fade-out rate of vacation effects upon return to work after the Christmas respite.

Socially prescribed perfectionism and the role of work-related perseverative cognition. Taking a break from work is important for our well-being, but being physically away from work is not enough, we need to mentally distance ourselves from work too. Psychological detachment is the concept of 'switching off from work', that is both physically and mentally disconnecting from work during off-job time (Sonnentag, 2012). It is this mental detachment that allows the recovery process to take place. Previous research has demonstrated that failing to psychologically detach from work during off-job time can lead to poor levels of well-being (Cropley, Dijk & Stanley, 2006; Sonnentag & Bayer, 2005; Sonnentag & Fritz, 2015). Mentally disconnecting

from work is a key tenet of recovery, therefore thinking about work during off-job time is a detrimental manifestation of poor recovery (Flaxman et al., 2012).

Perseverative cognition is a collective term for repetitive thinking about negative events and includes worry, rumination and any other type of thinking about past or future stressful events (Brosschot, Gerin & Thayer, 2006). Work-related perseverative cognition not only impedes adaptive recovery, it prolongs work stressors resulting in sustained activation of physiological and psychological stress reactions (Brosschot et al., 2006). This continual load on the psychophysiological system has been linked to cardiovascular, autonomic and endocrine nervous system activity which presents a pathway to long-term disease (Ottaviani et al., 2016).

Theory and research has illustrated how perseverative cognition can function as a mechanism of perfectionism, mediating the relationship between evaluative concerns perfectionism and poor levels of well-being (Dunkley et al., 2003; Flaxman et al., 2012; Flett, Hewitt, Blankstein & Gray, 1998; Stöber & Joormann, 2001).

There are several theories as to why those with high levels of perfectionistic tendencies are more likely to experience work-related perseverative cognition: perseverative cognition serves as an avoidant strategy, meta-beliefs about the perceived usefulness of perseverative cognition and the role of goal discrepancy as a catalyst for perseverative cognition. Work-related perseverative cognition not only impedes the recovery process and prolongs the stress response, it impedes adaptive cognitive processing of stressors. The content of perseverative thought is more verbal and less imagery and this results in the thoughts being less concrete (Borkovec, Ray & Stöber, 1998). Adaptive

coping requires being able to think about the stressor in concrete terms (Schönpflug, 1989) and therefore work-related perseverative cognition not only prolongs the stress response but impedes adaptive coping. Socially prescribed perfectionism is also associated with certain meta-beliefs about the usefulness of perseverative cognition. Those with high levels of socially prescribed perfectionism can believe that by thinking about past failures, they are more likely not to repeat the same mistakes again (Macedo, Marques & Pereira, 2014). Finally, non-achievement of goals has been suggested as one of the main reasons why perseverative cognition begins (Martin & Tesser, 1996). Socially prescribed perfectionism is characterised by high goal setting and harsh self-evaluation (Dunkley et al., 2003) and therefore presents a vulnerability to engage in work-related perseverative cognition due to goal discrepancy.

Perfectionism research has shown how perseverative cognition can serve as a mediator between socially prescribed perfectionism and negative health outcomes (Buhr & Dugas, 2006; Egan, Hattaway & Kane, 2014; Flaxman et al, 2012; Handley, Egan, Kane & Rees, 2014; Harris, Pepper & Maack, 2008; Short & Mazmanian, 2013). In their study of UK academics, Flaxman et al. (2012) found that levels of work-related perseverative cognition during the Easter respite period mediated the relationship between maladaptive perfectionism and negative health outcomes upon returning to work. Measuring levels of work-related perseverative cognition during the Christmas respite period with a different sample of employees will add to existing research and extend its generalizability. Additionally, Flaxman et al. (2012) did not measure socially prescribed perfectionism, therefore the current study will also add to understanding of this dimension of perfectionism in the workplace. Given the

existing research in this area, the current study aims to explore the mediating role of work-related perseverative cognition in the relationship between socially prescribed perfectionism and poor levels of well-being:

Hypothesis 3: Work-related perseverative cognition during the respite will mediate the relationship between socially prescribed perfectionism and well-being upon return to work.

Methodological considerations. Recovery research is complex due to the requirement of gaining detailed longitudinal data over a period of time when individuals are meant to be relaxing. As a result much respite research has suboptimal research designs (de Bloom et al., 2009). De Bloom et al. (2010) suggest five criteria for an effective respite study design: a proper pre-vacation baseline, an on-vacation measurement occasion, multiple post-vacation measurement occasions, minimalism and simple comparison and equal and exact timing of measurement for every participant.

The time just before vacation can be both stressful (DeFrank, Konopaske, & Ivancevich, 2000) and exciting and can therefore affect well-being measures taken just before the vacation starts. For this reason de Bloom et al. (2010) suggested that proper pre-vacation baseline measures be taken. To address this, the current study included an initial questionnaire within which baseline measures of work characteristics were recorded. In addition, the eight week longitudinal study design allowed week one to reflect a normal working week, two weeks before the end of the term. This allows these initial and first week measurements to be relatively unaffected by pre-vacation variations. Secondly, de Bloom et al. (2010) recommended an on-vacation measurement occasion. Early vacation studies missed measuring well-being during the vacation period

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perhaps due to the difficulties of obtaining measurements from participants during a relaxing time, indeed, some researchers described this task as "nightmarish" (Eden, 1990, p.182). By resuming data collection when participants are already back at work, fade-out effects are likely to have already set in, therefore the true extent of vacation fade-out may be missed. The current study will have two weekly on-vacation measurement occasions over the Christmas period. This will both allow initial vacation effects and subsequent fade-out effects to be explored. The eight week design of this study also allows for multiple post-vacation measurement occasions (four) which was highlighted as important for vacation research to explore the extent of the fade-out effects (de Bloom et al., 2010).

Further recommendations for optimum vacation study design were to be able to compare measurement occasions and to keep those occasions on an equal time scale (de Bloom et al., 2010). Vacation effects are when there is a change in well-being between the pre-vacation measurement and the on-vacation measurement and fade-out effects reflect the change between on-vacation well-being and post-vacation well-being. In order to methodically test these effects, the same well-being scales must be used at each measurement occasions. By utilising the same well-being scales over the eight weekly measurement occasions, both of these recommendations are met by the current study.

Method

The study took place over the 2014 Christmas holidays. The UK school system traditionally has a two week break over the Christmas and New Year period, every country in Europe including majority Islamist countries such as Turkey, has a least one day statutory off between December 15th and January 15th. Schools in the US and Canada share the two weeks annual Christmas vacation with the UK and the sample for this study includes teachers from the UK and Canada to increase the generalizability of results. In accordance with the recommendations for recovery research previously highlighted (de Bloom, 2009; Westman & Eden, 1997; Westman & Etzion, 2001), this study included two measurement occasions before the respite, two measurement occasions during respite and four measurement occasions post-respite.

Table 3.1 *Study Design Over Eight Weeks.*

Date	13th Dec	20th Dec	27th Dec	3rd Jan	10th Jan	17th Jan	24th Jan	31st Jan
Week N.	1	2	3	4	5	6	7	8
Activity	Work	Work	Respite	Respite	Work	Work	Work	Work

Participants and Procedure Participants were a combination of school teachers from the UK and from Canada. A total of 140 teachers volunteered to take part in the study from the UK. UK teachers were recruited via an email newsletter presented by the Teacher Support Network and from direct email adverts using a school contact database. Volunteers were sent nine paper booklets in the post. This included an initial questionnaire booklet containing demographics, personality measures and general levels of work characteristics (Appendix 4). The other eight booklets contained the weekly measures, one for each week (Appendices 5 and 6). Participants were asked to fill the booklets in on the Friday of each week. From the 140 volunteers, 90 returned their

completed booklets, a response rate of 64.29%. The Canadian participants used

an online survey package to record their measures. The final sample comprised

of 90 UK teachers and 50 Canadian teachers with an average age of 42 (*SD* =

9.77). The sample was predominantly female (84.8%) and 32.6% taught at

secondary level with 67.4% teaching at primary school level.

Measures.

Work characteristics. Work characteristics were measured in the initial

questionnaire (see appendix 4) using the Job Content Questionnaire (JCQ)

developed by Karasek et al., (1998). Work demands were measured with six

questions from the subscale of Psychological Job Demands (e.g. "My job

requires working very fast." and "My job requires long periods of intense

concentration on the task"). Work control was measured with three questions

from the subscale of Decision Authority (e.g. "My job allows me to make a lot of

decisions on my own"). Work support was measured with four items from the

subscale of Supervisor Social Support (e.g. "My immediate supervisor/manager

is helpful in getting the job done."). All subscales were rated on a four point

response scale ranging from 1 – strongly disagree to 4 – strongly agree.

Cronbach's alpha for work demands, control and support were .66, .72 and .86

respectively.

Personality variables. Neuroticism and Conscientiousness were

measured using the Emotional Stability and Conscientiousness subscales from

the Ten Item Personality Inventory (TIPI) (Gosling, Rentfrow & Swann Jr.,

2003). Each personality construct was measured using two items and responses

were rated on a seven point response scale ranging from 1 – disagree strongly to

7 – agree strongly (e.g. "I see myself as anxious, easily upset" to measure

neuroticism). Cronbach's alpha for neuroticism and conscientiousness were .64 and .48 respectively.

Control variables. In addition to work characteristics, neuroticism and conscientiousness; age, gender and the number of hours worked that week were also used as control variables.

Perfectionism. Perfectionism was measured in the initial booklet with two subscales from the brief scale of Hewitt and Flett (1991) as validated by Cox, Enns and Clara (2002). Self-oriented perfectionism was measured with five items (e.g. "One of my goals is to be perfect in everything I do". Socially prescribed perfectionism was also measured with five items (e.g. "People expect nothing less than perfection from me."). Items were rated using a scale from 1 (strongly disagree) to 7 (strongly agree). Cronbach's alpha for self-oriented perfectionism was .88 and .82 for socially prescribed perfectionism.

Emotional Exhaustion. Work-related emotional exhaustion was measured using five items adapted from the Maslach Burnout Inventory (Maslach, Jackson, & Leiter, 1996) (e.g. "I felt burned out from my work."). Participants were asked how they felt at the end of each week (see appendix 5). Items were adapted to reflect weekly timescale participants were asked to be reflecting upon e.g. "…thinking about this past week please indicate how much you agree or disagree with each of the following statements:". Cronbach's alpha ranged from .86 to .91.

Daily affect. The Positive and Negative Affect Scale (Watson, Clark, & Tellegen, 1988) was used to measure negative affect. The subscale consists of five negatively worded adjectives. Participants were asked at the end of each week to rate how they had been feeling over the past week using a five point

response scale ranging from 1 – very slightly or not at all to 5 – Extremely e.g. "Please indicate the degree to which you have experienced each of these feelings/emotions over the past week…Upset". Cronbach's alpha ranged from .78 to .91.

Fatigue. The Profile of Mood States (McNair, Lorr & Droppleman 1971; Zohar, Tzischinski & Epstein, 2003) was used to measure fatigue. Four adjectives were used (spent, exhausted, weary and fatigued) with participants being asked to reflect on how they had been feeling that week. Cronbach's alpha ranged from .76 to .95.

Work-related perseverative cognition. During the vacation weeks (weeks three and four, see appendix 6) participants were asked to indicate the degree to which they have had thoughts about work over the past week on a five-point scale ranging from 1-not at all to 5-a great deal (e.g. "Over the past week…I repeatedly thought about something that had upset me at work."). The scale contains five items and has previously been used in measuring work-related levels of perseverative cognition (Flaxman et al., 2012). The scores of perseverative cognition were summed over the vacation weeks and a mean score computed and used as the final variable. Cronbach's alpha was .92.

Results

  Preliminary Analysis. Zero-order correlations are presented in Table 3.2. Consistent with the literature, socially prescribed perfectionism was significantly correlated with work-related perseverative cognition during the respite ($r = .27$). Work-related perseverative cognition was also correlated with the mean score of all three well-being outcomes: fatigue, emotional exhaustion and negative affect. Table 3.3 shows the means and standard deviation of the variables that were measured across the eight weeks: hours worked, emotional exhaustion (EE), negative affect (NA) and fatigue. Weeks three and four were the Christmas vacation and are labelled R for respite. All three well-being outcomes are lower during the respite weeks and then gradually increase through weeks five-eight when the teachers were back at work, these results illustrate the vacation effect on well-being and subsequent fade-out.

Table 3.2

Means, Standard Deviations, and Correlations Between Study Measures at the Person-Level and Week-Level for Study 3.

Person-Level	Mean	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. Age	41.80	9.81													
2. Gender	.15	.36	-.10												
3. Neuroticism	7.20	3.14	-.02	-.10											
4. Conscientiousness	11.78	2.18	.21*	-.02	-.07										
5. SOP	24.44	6.58	-.26**	-.15	.19*	.14									
6. SPP	17.91	6.77	-.08	-.13	.20*	-.07	.56**								
7. Work Demands	15.88	1.82	-.07	-.12	-.07	.07	.22**	.40**							
8. Work Control	8.00	1.05	-.15	.02	-.03	.11	-.05	-.41**	-.19*						
9. Work Support	11.07	2.98	-.05	-.15	-.19*	.02	.07	-.16	-.11	.35**					
10. Hours Worked	36.88	10.00	-.13	-.05	.04	.04	.03	.13	.29**	-.03	-.12				
11. WR Perseverative Cognition†	10.37	4.33	-.10	-.02	.12	-.08	.15	.27**	.35**	-.25**	-.06	.22*			
12. Emotional Exhaustion†	18.90	4.68	-.07	-.09	.08	-.09	.29**	.50**	.50**	-.21*	-.20	.41**	.41**		
13. Negative Affect†	9.05	3.02	-.03	-.09	.42**	-.11	.20*	.38**	.26**	-.26**	-.18	.50**	.49**	.82**	
14. Fatigue†	13.12	3.66	.00	-.11	.03	-.05	.12	.32**	.51**	-.08	-.15	.28**	.37**	.82**	.46**

Week-Level	Mean	SD	1.	2.	3.	4.
1. Time point	4.50	2.29				
2. Hours worked ‡	0	20.22	.25**			
3. Emotional Exhaustion‡	0	4.79	-.08**	.47**		
4. Negative Affect‡	0	3.08	.06	.25**	.47**	
5. Fatigue‡	0	3.71	-.09**	.45**	.73**	.46**

Note. Person-level *N* = 140. Week-level *N* = 948-1120 observations from 140 participants.

† Observed person mean; ‡ Person-mean-centered score

* correlations are significant at p < .01

Table 3.3 *Means (and Standard Deviations) of Weekly Variables.*

Variable	Week1	Week2	Week3 (R)	Week4 (R)	Week5	Week6	Week7	Week8
Hours Worked	45.75 (14.91)	43.18 (14.86)	2.15 (4.26)	5.81 (7.35)	47.38 (13.25)	46.18 (14.23)	46.87 (16.23)	46.83 (16.28)
EE	21.62 (6.43)	20.68 (6.91)	15.68 (6.42)	12.93 (5.93)	17.29 (6.14)	18.68 (6.56)	18.86 (6.56)	19.36 (6.85)
NA	9.91 (4.22)	9.40 (3.88)	7.81 (3.18)	7.61 (3.38)	8.74 (3.88)	9.79 (5.01)	9.73 (4.98)	9.68 (4.72)
Fatigue	15.03 (4.40)	15.48 (4.69)	11.22 (4.50)	9.06 (3.97)	11.85 (5.20)	13.35 (5.23)	13.82 (5.17)	13.71 (5.20)

EE = Emotional Exhaustion; NA = Negative Affect; R = Respite

Due to the weekly longitudinal method and subsequent data structure, the data were analysed using multi level modelling and growth curve analysis in SPSS 24. Weeks (level one) were nested within persons (level two). Level two data was centred at the grand mean and level one data was centred at the person mean.

Socially prescribed perfectionism and vacation effects. Hypothesis one stated that socially prescribed perfectionism will not significantly predict a change in the levels of well-being upon commencing the Christmas respite. In order to test this, level of negative affect, fatigue and emotional exhaustion from weeks 1-4 were used as outcome measures, as can be seen in tables 3.4, 3.5 and 3.6 (all multilevel analyses tables can be found at the end of the results section).

Negative affect. Model 1 in Table 3.4 shows the effect of adding time and time to the model and shows a significantly improved model fit over the null model (Δ-2 x log = 61.08, $p < .001$). Time was a significant predictor ($\gamma = -1.09$, $SE = .39$, $t = -2.81$, $p < .01$) which suggests that levels of negative affect

changed significantly over the period of time measured in this analysis. In order to explore if the change is linear or a curve, a quadratic polynomial (time) was added to the model. After comparing the difference in log likelihoods between second and third-order polynomials, the second-order polynomial demonstrated the best fit for the data and was therefore included in the final models. Table 3.4 Model 1 shows time is not a significant predictor ($\gamma = .08$, $SE = .12$, $t = .68$, ns), suggesting the decrease in negative affect over time (weeks 1-4) is linear. Model 2 added control variables to the model and showed a significant improvement in model fit over model 1(Δ-2 x log $= 311.84$, $p < .001$). Personality characteristics closely associated with socially prescribed perfectionism were added into this control model: neuroticism, conscientiousness and self-oriented perfectionism. Neuroticism was the only control personality variable to be significant ($\gamma = .35$, $SE = .07$, $t = 4.86$, $p < .001$). Work characteristics (demands, control and support) were also added to the model at this point with work control negatively predicting ($\gamma = -.35$, $SE = .13$, $t = -2.68$, $p < .01$) levels of pre-respite and vacation negative affect. Number of hours worked during weeks 1-4 were also included in this model and were significant ($\gamma = .04$, $SE = .01$, $t = 4.40$, $p < .001$). Model 3 added socially prescribed perfectionism to the overall model and showed a significantly improved model fit over the previous control model (Δ -2 x log $= 20.37$, $p < .001$). Socially prescribed perfectionism did not significantly predicted negative affect in weeks 1-4 and the interaction term to examine whether socially prescribed perfectionism influenced the change of negative affect over time was also not significant, therefore providing support for hypothesis one.

Fatigue. Table 3.5 shows multilevel estimates for fatigue in weeks 1-4. The model was built in the same format as used for negative affect. Model 1 added time and time to the model and showed a significantly improved model fit over the null model (Δ-2 x log = 244.00, *p* < .001). In this model for fatigue, only time was significant (γ = -.61, *SE* = .13, *t* = -4.78, *p* < .001) indicating the decrease in fatigue over time was significant and non-linear, becoming slower over time. In Model 2 the control variables were added to the model in the same format as the previous table and showed a significantly improved overall model fit to the previous model (Δ-2 x log = 337.46, *p* < .001). No personality variables were significant. Work demands (γ = .53, *SE* = .10, *t* = 5.08 , *p* < .001) were significant in this model but work control and support were not. Hours worked was also significant (γ = .07, *SE* = .01, *t* = 7.19 , *p* < .001). Model 3 added socially prescribed perfectionism to the overall model and showed a significantly improved model fit (Δ-2 x log = 26.93, *p* < .001) with socially prescribed perfectionism significantly predicting fatigue during pre-vacation and on-vacation weeks (γ = .16, *SE* = .07, *t* = 2.44, *p* < .05). The SPP*time variable was non-significant indicating socially prescribed perfectionism did not affect the rate of change of fatigue in the weeks 1-4. Therefore this model provided further support for hypothesis one.

Emotional exhaustion. Table 3.6 provides multilevel estimates for levels of emotional exhaustion in the weeks pre-vacation and on-vacation (weeks 1-4). The model was built in the same format as previously used for negative affect and fatigue. Model 1 showed a significantly improved model fit over the null model (Δ-2 x log = 242.76, *p* < .001) with time and time being significant. Time significantly negatively predicted emotional exhaustion (γ = .41, *SE* =

.18, $t = -2.28$, $p < .05$) suggesting a non-linear reduction in emotional exhaustion over those weeks with the rate of change slowing over time. Model 2 added the control variables to the model and showed a significant improvement over Model 1 (Δ-2 x log = 603.80, $p < .001$). In this model, age, work demands, control, support and hours worked were all significant. Model 3 added socially prescribed perfectionism to the model and this significantly improved the model fit (Δ-2 x log = 28.13, $p < .001$). As seen with fatigue, socially prescribed perfectionism significantly predicted levels of emotional exhaustion ($\gamma = .19$, $SE = .09$, $t = 2.22$, $p < .05$) but did not interact with time to affect the rate of change of well-being, therefore hypothesis one was fully supported.

Socially prescribed perfectionism and fade-out effects. Hypothesis two stated that socially prescribed perfectionism will significantly predict a change in the levels of well-being upon returning to work after the Christmas respite. In order to test this, level of negative affect, fatigue and emotional exhaustion from weeks 4-8 were used as outcome measures, as can be seen in tables 3.7, 3.8 and 3.9 (all multilevel estimates tables can be found at the end of the results section).

Negative affect. Model 1 in Table 3.7 shows the effect of adding time and time to the model and shows a significantly improved model fit over the null model (Δ-2 x log = 72.09, $p < .001$). Time was a significant positive predictor ($\gamma = 1.54$, $SE = .33$, $t = 5.23$, $p < .001$) which suggests that levels of negative affect increased significantly over the period of time measured in this analysis. In order to explore if the change is linear or a curve, a quadratic polynomial (time) was added to the model. Table 3.7 Model 2 shows time is also a significant predictor ($\gamma = -.26$, $SE = .07$, $t = -3.72$, $p < .001$), suggesting the increase in negative affect

over time (weeks 4-8) is non-linear and slows down over time. As when testing the previous hypothesis, Model 2 added control variables to the model and showed a significant improvement in model fit over model 1(Δ-2 x log = 369.37, $p < .001$). Neuroticism was the only control personality variable to significantly positively predict levels of negative affect ($\gamma = .26$, $SE = .10$, $t = 2.66$, $p < .01$). Work characteristics (demands, control and support) were also added to the model at this point with both work demands and work control being positive and significant.

Model 3 added socially prescribed perfectionism to the overall model and showed a significantly improved model fit over the previous control model (Δ-2 x log = 27.67, $p < .001$). Socially prescribed perfectionism did not significantly predict negative affect in weeks 4-8, however, the interaction term to examine whether socially prescribed perfectionism increased the rate of change of negative affect over time was significant ($\gamma = .04$, $SE = .02$, $t = 2.30$, $p < .05$), providing support for hypothesis two.

Fatigue. Table 3.8 shows multilevel estimates for fatigue in weeks 4-8. The model was built in the same format as previous. Model 1 added time and time to the model and showed a significantly improved model fit over the null model (Δ-2 x log = 189.98, $p < .001$). In this model for fatigue, time and time were significant indicating the change in fatigue was significant and non-linear, becoming slower over time. In Model 2 the control variables were added to the model and showed a significantly improved overall model fit to the previous model (Δ-2 x log = 390.30, $p < .001$). No personality variables were significant. Work demands ($\gamma = .73$, $SE = .12$, $t = 6.01$, $p < .001$) and hours worked ($\gamma = .04$, $SE = .01$, $t = 3.00$, $p < .01$) were both significant .

Model 3 added socially prescribed perfectionism to the overall model and showed a significantly improved model fit (Δ-2 x log = 28.60, p < .001). Again, socially prescribed perfectionism was not significant but the interaction term SPP*Time was significant indicating socially prescribed perfectionism affected the rate of fade-out of vacation effects in the weeks 4-8 and supporting hypothesis two.

Emotional exhaustion. Table 3.9 provides multilevel estimates for levels of emotional exhaustion in the weeks pre-vacation and on-vacation (weeks 4-8). Model 1 showed a significantly improved model fit over the null model (Δ-2 x log = 186.61, p < .001) with time being positive and significant, suggesting an increase in levels of emotional exhaustion over time. Time significantly negatively predicted emotional exhaustion (γ = -.61, *SE* = .09, t = -6.71, p < .001) suggesting a non-linear change over those weeks with the rate of change slowing over time. Model 2 added the control variables to the model and showed a significant improvement over Model 1 (Δ-2 x log = 465.78, p < .001). In this model, age, self-oriented perfectionism , work demands, work control, work support and hours worked were all significant. Model 3 added socially prescribed perfectionism to the model and this significantly improved the model fit (Δ-2 x log = 27.54, p < .001). In the case of emotional exhaustion neither socially prescribed perfectionism nor the interaction term were significant, therefore hypothesis two was only partially supported.

The role of work-related perseverative cognition in post-respite well-being. Hypothesis three stated that work-related perseverative cognition during the respite will mediate the relationship between socially prescribed perfectionism and well-being upon return to work. In tables 3.7, 3.8 and 3.9,

work-related perseverative cognition was added in Model 4 and significantly predicted levels of well-being upon return to work in all three well-being outcomes. In response to this, PROCESS for SPSS 2.16.1 was used to test for mediation. Well-being outcome variables were measured at week five. Age, self-oriented perfectionism, number of hours work in the respite and levels of work demands, work control and work support were entered as control variables. Socially prescribed perfectionism was entered as the predictor variable and work-related perseverative cognition during the Christmas respite period as the mediating variable. No indirect effects of work-related perseverative cognition were found in the relationships between socially prescribed perfectionism and any of the outcome variables. Therefore, hypothesis three was not supported.

Table 3.4

Multilevel Estimates for Models predicting Negative Affect Before & During Vacation.

Variable	Model 1			Model 2			Model 3		
	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t
Intercept	10.06	.35	28.74***	9.40	.46	20.50***	9.43	.46	20.51***
Time	-1.09	.39	-2.81**	-.26	.45	-.58	-.26	.45	-.58
Time	.08	.12	.68	.04	.12	.30	.04	.13	.29
Age				.05	.02	2.42*	.05	.02	2.30*
Gender				.48	.63	.76	.57	.65	.88
Neuroticism				.35	.07	4.86***	.34	.07	4.80***
Conscientiousness				-.14	.10	-1.39	-.13	.10	-1.21
SOP				.06	.04	1.55	.04	.04	.85
Work Demands				.01	.08	.18	-.02	.09	-.20
Work Control				-.35	.13	-2.68**	-.30	.14	-2.11*
Work Support				-.06	.08	-.73	-.06	.08	-.77
Hours Worked				.04	.01	4.40***	.04	.01	4.42***
SPP							.04	.05	.76
SPP*Time							-.01	.02	-.04
Diff log likelihood	61.08***			311.84***			20.37***		
Level 1 intercept variance	.25			.06			.00		
Level 2 intercept variance	.57			.44			.44		

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

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Table 3.5

Multilevel Models Estimates for Models predicting Fatigue Before & During Vacation.

Variable	Model 1 Estimate	SE	t	Model 2 Estimate	SE	t	Model 3 Estimate	SE	t
Intercept	15.41	.43	36.10***	14.20	.55	25.96***	14.21	.54	26.28***
Time	-.39	.42	-.91	1.07	.47	2.27*	1.08	.47	2.29*
Time	-.61	.13	-4.78***	-.69	.13	-5.46***	-.70	.13	-5.52***
Age				.04	.03	1.40	.03	.03	1.14
Gender				-.28	.83	-.34	-.20	.84	-.24
Neuroticism				.15	.09	1.61	.14	.09	1.50
Conscientiousness				-.08	.14	-.57	-.03	.14	-.21
SOP				.01	.05	.01	-.06	.06	-1.06
Work Demands				.53	.10	5.08***	.46	.11	4.16***
Work Control				.07	.17	.38	.23	.18	1.23
Work Support				-.10	.10	-.99	-.10	.10	-1.01
Hours Worked				.07	.01	7.19***	.07	.01	7.10***
SPP							.16	.07	2.44*
SPP*Time							-.03	.02	-1.30
Diff log likelihood	244.00***			337.46***			26.93***		
Level 1 intercept variance	.61			.15			.00		
Level 2 intercept variance	.67			.58			.57		

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

Table 3.6

Multilevel Estimates for Models predicting Emotional Exhaustion Before & During Vacation.

Variable	Model 1			Model 2			Model 3		
	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t
Intercept	21.91	.60	39.37***	21.03	.72	29.07***	21.01	.72	29.16***
Time	-1.92	.58	-3.32***	-.37	.66	-.56	-.38	.67	-.56
Time	-.41	.18	-2.28*	-.48	.18	-2.62**	-.48	.18	-2.63**
Age				.10	.04	2.60**	.09	.04	2.28*
Gender				-.57	1.05	-.55	-.90	1.06	-.85
Neuroticism				.07	.12	.63	.05	.12	.43
Conscientiousness				-.21	.17	-1.25	-.13	.17	-.79
SOP				.10	.06	1.61	.01	.07	.12
Work Demands				.96	.13	7.20***	.86	.14	6.19***
Work Control				-.57	.22	-2.59**	-.38	.23	-1.63
Work Support				-.25	.13	-1.96*	-.24	.13	-1.85
Hours Worked				.08	.01	5.72***	.08	.01	5.64***
SPP							.19	.09	2.22*
SPP*Time							-.02	.03	-.67
Diff log likelihood	242.76***			388.80***			28.13***		
Level 1 intercept variance	.58			.09			.00		
Level 2 intercept variance	.68			.52			.51		

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

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Table 3.7

Multilevel Estimates for Models predicting Negative Affect After Returning To Work.

Variable	Model 1			Model 2			Model 3			Model 4		
	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t
Intercept	7.62	.33	22.88***	7.06	.59	11.96***	7.04	.59	11.95***	7.15	.57	12.63***
Time	1.54	.30	5.23***	1.58	.50	3.17**	1.64	.50	3.30***	1.70	.52	3.26***
Time	-.26	.07	-3.72***	-.25	.10	-2.47*	-.27	.10	-2.62**	-.28	.11	-2.59**
Age				.04	.03	1.20	.03	.03	.98	.04	.03	1.42
Gender				.85	.87	.98	.84	.89	.95	.31	.78	.40
Neuroticism				.26	.10	2.66**	.24	.10	2.53**	.24	.09	2.80**
Conscientiousness				-.16	.14	-1.11	-.12	.14	-.81	-.01	.13	-.07
SOP				.08	.05	1.61	.03	.06	.47	.01	.05	.12
Work Demands				.21	.11	1.97*	.14	.11	1.19	-.03	.10	-.26
Work Control				-.44	.18	-2.45*	-.32	.19	-1.69	-.20	.17	-1.18
Work Support				.13	.11	1.25	.13	.11	1.24	.12	.10	1.20
Hours Worked				-.01	.01	-.08	-.01	.01	-.21	-.01	.01	-.19
SPP							.06	.06	.99	.07	.05	1.24
SPP*Time							.04	.02	2.30*	.04	.02	2.49**
WR Perseverative Cognition										.31	.05	6.25***
Diff log likelihood	72.09***			369.37***			27.67***			145.25***		
Level 1 intercept variance	.22			.02			.00			-.01		
Level 2 intercept variance	.46			.41			.41			.26		

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

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Table 3.8
Multilevel Estimates for Models prediciting Fatigue After Returning To Work

Variable	Model 1			Model 2			Model 3			Model 4		
	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t
Intercept	9.09	.38	23.79***	9.90	.66	15.06***	9.89	.65	15.11***	10.02	.65	15.43***
Time	3.07	.30	10.11***	1.93	.51	3.75***	1.99	.51	3.88***	1.98	.54	3.69***
Time	-.49	.07	-6.92***	-.28	.11	-2.62**	-.29	.11	-2.73**	-.28	.11	-2.55**
Age				.06	.03	1.79	.06	.03	1.65	.06	.03	1.72
Gender				.32	.98	.32	.46	1.00	.46	.13	.95	.14
Neuroticism				.04	.11	.33	.02	.11	.22	-.01	.10	-.04
Conscientiousness				-.22	.16	-1.36	-.18	.16	-1.13	-.09	.15	-.57
SOP				.07	.06	1.16	.02	.07	.34	.01	.07	.14
Work Demands				.73	.12	6.01***	.66	.13	5.07***	.48	.13	3.83***
Work Control				-.15	.20	-.76	-.05	.21	-.22	.09	.20	.45
Work Support				.05	.12	.39	.04	.12	.36	.02	.12	.15
Hours Worked				.04	.01	3.00*	.04	.01	2.95**	.04	.01	2.97**
SPP							.04	.07	.52	.05	.07	.81
SPP*Time							.04	.02	2.08*	.04	.02	2.36**
WR Perseverative Cognition										.23	.06	3.88***
Diff log likelihood	189.98***			390.30***			28.60***			133.45***		
Level 1 intercept variance	.40			.01			.01			-.01		
Level 2 intercept variance	.57			.53			.53			.46		

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

Table 3.9

Multilevel Estimates for Models predicting Emotional Exhaustion After Returning To Work.

Variable	Model 1			Model 2			Model 3			Model 4		
	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t
Intercept	13.29	.51	26.12***	14.90	.79	18.91***	14.87	.79	18.93***	14.89	.75	19.85***
Time	3.90	.39	10.13***	1.68	.63	2.67**	1.73	.63	2.74**	1.74	.65	2.66**
Time	-.61	.09	-6.71***	-.19	.13	-1.46	-.20	.13	-1.54	-.20	.14	-1.48
Age				.08	.04	1.95*	.07	.04	1.63	.08	.04	2.13*
Gender				.85	1.19	.71	.67	1.21	.55	-.04	1.09	-.04
Neuroticism				-.08	.13	-.61	-.10	.13	-.76	-.14	.12	-1.14
Conscientiousness				-.23	.19	-1.20	-.17	.20	-.86	-.02	.18	-.11
SOP				.15	.07	2.22*	.07	.08	.91	.06	.07	.81
Work Demands				1.10	.15	7.46***	1.00	.16	6.40***	.78	.14	5.44***
Work Control				-.53	.25	-2.15*	-.37	.26	-1.43	-.27	.23	-1.16
Work Support				.01	.15	.04	.02	.15	.10	.02	.14	.15
Hours Worked				.07	.02	4.60***	.07	.02	4.58***	.07	.02	4.58***
SPP							.11	.08	1.36	.12	.07	1.58
SPP*Time							.02	.02	1.15	.03	.02	1.51
WR Perseverative Cognition										.36	.07	5.28***
Diff log likelihood	186.61***			465.78***			27.54***			151.21***		
Level 1 intercept variance	.37			.06			.01			-.01		
Level 2 intercept variance	.60			.47			.47			.32		

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

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Discussion

The present study added to existing research by exploring the roles of both personality and cognitive vulnerabilities in the potentially powerful recovery opportunity of the Christmas holiday period. In line with the hypotheses, those with higher levels of socially prescribed perfectionism experienced a similar vacation effect to those with lower levels. Conversely, upon return to work those with high levels of socially prescribed perfectionism experienced a quicker fade-out of vacation effects than those with lower levels. Levels of work-related perseverative cognition during the respite were found to predict levels of well-being upon return to work although it was not found to mediate the relationship between socially prescribed perfectionism and levels of well-being.

Perfectionism and vacation effects. This study demonstrated how the employees in this sample were initially unaffected by high levels of socially prescribed perfectionism during the vacation period. Comparable with previous research (Flaxman et al., 2012) perfectionism did not affect vacation effects, those with high levels of socially prescribed perfectionism equally enjoyed an increase in well-being during the Christmas vacation period. However, upon return to work those with high levels of socially prescribed perfectionism lost their vacation effects more rapidly. These current findings provide further support for the diathesis-stress hypothesis (Dunkley et al., 2003); socially prescribed perfectionism appears activated by stressors in the workplace and additionally is relatively inactive during respites from work. The current study extends previous research by both examining the Christmas vacation period as a macrorecovery opportunity and by testing whether previously seen patterns of

initial recovery and subsequent fade-out effects are generalizable across occupational groups. These results highlight the importance of adequate recovery opportunities especially for those with high-levels of socially prescribed perfectionism.

Work-related perseverative cognition as a mechanism of perfectionism. Contrary to the hypothesis, work-related cognition was not found to be a mediator in the relationship between socially prescribed perfectionism and levels of well-being. This perhaps can be attributed to the rigorous nature of the mediation model that was used. Becker et al. (2016) suggest that in the case of covariates that are suspected of influencing the results, they should be removed and model retested. Consequently, when the work characteristics variables were removed from the model, work-related perseverative cognition was a significant mediator in the relationships between socially prescribed perfectionism and all three well-being outcomes. The multi-level models also showed work-related perseverative cognition during the respite period significantly predicting levels of well-being upon return to work, even after controlling for work characteristics and personality variables.

These results support existing theory suggesting that work-related perseverative cognition is the antithesis of effective recovery. Not only does work-related perseverative cognition impede recovery, it also prolongs the work stressors resulting in sustained activation of the stress response which has been linked to the incidence of cardiovascular disease and poor physical, as well as psychological, well-being (Ottaviani et al., 2016). Although the mediation models were initially insignificant, subsequent less rigorous models have suggested the work-related perseverative cognition is a mechanism of

perfectionism. This, alongside previous findings from this study of the benefits

of vacation for those with high levels of socially prescribed perfectionism,

highlight the importance of not only respite from work but engaging in active

recovery during this time.

Strengths, limitations and directions for future research. A strength

of this study is the methodological rigour of its design. There were eight weekly

measurements incorporating baseline and multiple pre-vacation, on-vacation and

post-vacation data collection points. In addition, this is the first respite study

examining the Christmas holiday period as a recovery period. A further strength

is the utilisation of samples of teachers from two continents. These factors allow

existing research findings to be more generalizable, as well as initiating research

in this potentially powerful recovery period, shared by over 160 countries. The

use of growth models also allowed the rate of change over time to be explored,

and thus illustrated how vacation fade-out effects slow down over time, in

comparison to linear modelling which does not allow the rate of change to be

explored (Field, 2013).

Limitations of this study are the exclusive use of self-report measures and

the method of analysis used for the mediation models. Self-report measures have

been criticised in organisational psychology for their levels of participant bias

(Donaldson & Grant-Vallone, 2002). Future research could incorporate more

objective physiological markers of stress alongside self-report measures to both

add to the rigor of the design and explore the correlations between the two types

of measurement in an organisational setting. Heart rate variability has been

identified as both a physiological marker for stress and to be associated with

levels of work-related perseverative cognition and therefore would be an

appropriate and interesting addition to future research. The second limitation is the use of PROCESS for the mediation model, which did not allow for the full amount of post-vacation measurement to be examined. Future research would benefit from the use of multilevel structural equation modelling which would allow the mediating role of work-related perseverative cognition on the pattern of recovery for those with high levels of socially prescribed perfectionism to be explored.

Theoretical contributions. The current study set out to explore the role of work-related perseverative cognition in the relationship between socially prescribed perfectionism and poor levels of well-being including the Christmas vacation period as a macrorecovery opportunity. The findings are concurrent with those of Flaxman et al., (2012) in their Easter study which also found those with high levels of a maladaptive form of perfectionism shared the benefits of vacation effects only to have quicker fade-out effects upon the return to work. These findings support the diathesis-stress hypothesis, which states that maladaptive perfectionism (of which socially prescribed perfectionism is a type) interacts with stressors resulting in heightened reactivity (Dunkley et al., 2003).

Conservation of resources theory (Hobfoll, 1989) and the effort-recovery model (Meijman & Mulder, 1998) both help to explain why respites from work are so important for psychological well-being. The findings from this study show the benefit of vacation for employees by the significant drop in levels of emotional exhaustion and negative affect upon commencing the Christmas vacation, irrespective of levels of perfectionism. These results support the theories that vacations offer the opportunity to both protect and acquire new resources and allow levels of physiological stress reactions to return to baseline

levels. Although the results exploring the role of work-related perseverative cognition were mixed, the consequences of thinking about work during the Christmas vacation on levels of well-being upon return to work was clear. Theory suggests that work-related perseverative cognition not only prolongs the effects of work stressors but also impedes active coping (Borkovec, Ray & Stöber, 1998), which may result in the successful resolution of work-related concerns during the respite period. This theory is supported in the current study by the relationship between work-related perseverative cognition and the poor levels of well-being upon return to work.

Conclusion

This study aimed to further understanding of the role of work-related perseverative cognition in the relationship between socially prescribed perfectionism and poor well-being and was the first to utilise the Christmas vacation as the recovery timeframe. Socially prescribed perfectionism was found to give rise to quicker fade-out rates of vacation effects. Additionally, work-related perseverative cognition during the Christmas vacation was associated with poor levels of well-being upon return to work. The results made important contributions to the recovery and perfectionism literature and highlighted the importance of effective recovery opportunities for those with personality vulnerabilities.

Chapter 5. General Discussion

This thesis aimed to explore the mechanisms of perfectionism, specifically evaluative concerns perfectionism. The first aim of this thesis was to explore the mechanisms of perfectionism during the work part of the day. Although work has been identified as one of the most likely areas to experience perfectionistic tendencies (Stoeber & Stoeber, 2009), previous research had not specifically explored the work part of the day as a timeframe within which to investigate the strategies and behaviours used by those with high levels of evaluative concerns perfectionism. The diathesis-stress hypothesis suggests that perfectionism represents a vulnerability to achievement and goal-related stressors, as they are congruent with the perfectionistic style (Hewitt & Flett, 1993). Previous research suggests the mechanisms of stress appraisal and coping strategy could mediate the relationship between evaluative concerns perfectionism and poor well-being (Dunkley et al., 2003). Study one of this thesis found evaluative concerns perfectionism negatively related to well-being indicators at the end of the work-day. In addition, stress appraisal and coping strategy during the working part of the day mediated the relationship between evaluative concerns perfectionism and end of workday levels of well-being.

The second aim of this thesis was to explore the mechanisms of perfectionism across different parts of the day. Recovery theories suggest that psychologically detaching from work during the evening is important to recover from work stressors (Sonnentag & Fritz, 2015). Work-related perseverative cognition is the antithesis of psychological detachment and therefore represents poor detachment. Previous research has highlighted how work-related

perseverative cognition is related to high levels of stress biomarkers during the evening (Cropley, Rydstedt, Devereux & Middleton, 2013), furthermore low levels of psychological detachment from work in the evenings can predict levels of negative affect and fatigue (Sonnentag, Binnewies & Mojza, 2008). The second study of this thesis found that although work-related perseverative cognition positively predicted levels of both fatigue and emotional exhaustion during the evening, it only mediated the relationship between evaluative concerns perfectionism and emotional exhaustion. Therefore the role of work-related perseverative cognition as a mechanism of perfectionism during the evening part of the work-day was unclear.

The final aim of the thesis was to explore the vacation effects and subsequent fade-out effects of the Christmas vacation as a function of high levels of evaluative concerns perfectionism. Previous research found that levels of work-related perseverative cognition during the respite mediated the relationships between evaluative concerns perfectionism and well-being upon return to work (Flaxman et al., 2012). The present study aimed to replicate this mediation design in order to extend the current literature and increase the generalizability of findings. The study found that socially prescribed perfectionism (a form of evaluative concerns perfectionism) did not predict the rate of initial vacation effects on well-being but did predict the rate of fade-out effects in two out of the three outcomes upon return to work; with those with high levels of socially prescribed perfectionism experiencing a quicker loss of the beneficial well-being effects of vacation. Additionally, levels of work-related perseverative cognition during the Christmas vacation predicted levels of well-being upon return to work in all three well-being outcomes (fatigue, emotional

exhaustion and negative affect). The mediation analysis did not show work-related perseverative cognition as a mediator in the relationship between socially prescribed perfectionism and well-being upon return to work. The presence of significant fade-out effects of well-being for those with high levels of socially prescribed perfectionism lends some support to the diathesis-stress hypothesis. The results also supported previous research as to the detrimental effects of work-related perseverative cognition on well-being.

The following section will revisit the three studies that form this thesis and summarise the main findings. There will then be a discussion of the theoretical, methodological and practical implications of this programme of research, discussing the extent to which the mechanisms of perfectionism have been further understood in workplace research. The limitations of the research will then be presented, followed by suggestions for the direction of future research.

5.1 Summary of Results from Empirical Chapters

This thesis comprised of three studies:

1. A workplace study of perfectionism and daily well-being: the role of stress appraisal and coping strategies.

2. A workplace study of perfectionism and daily well-being: the role of work-related perseverative cognition

3. School teachers' respite experiences during the Christmas vacation: the role of evaluative concerns perfectionism and work-related perseverative cognition in post-respite well-being

The following sections will provide a summary of the key findings.

5.1.1 Study one: A workplace study of perfectionism and daily well-being: the role of stress appraisal and coping strategies. This study aimed to explore the mechanisms of perfectionism that are activated during the work-part of the day. Existing literature and empirical research suggested that stress appraisal and coping strategy can mediate the relationship between evaluative concerns perfectionism and poor levels of well-being. The results found that those with high levels of evaluative concerns perfectionism were more likely to experience high levels of event stress and avoidant coping. Additionally both event stress and levels of evaluative concerns perfectionism positively predicted levels of negative affect and emotional exhaustion measured immediately after work. However, avoidant coping did not predict levels of well-being. Mediational analyses suggested that avoidant coping mediated the relationship between evaluative concerns perfectionism and emotional exhaustion but it was not a significant mediator in the relationship between evaluative concerns perfectionism and negative affect. In comparison, event stress was found to mediate the relationship between evaluative concerns perfectionism and both emotional exhaustion and negative affect.

5.1.2 Study two: A workplace study of perfectionism and daily well-being: The role of work-related perseverative cognition. The second study of this thesis aimed to explore the mechanisms of perfectionism during the workday evening. The mediator proposed in this study was work-related perseverative cognition.

The results from this study found that evaluative concerns perfectionism significantly predicted levels of negative affect during the evening and levels of work-related perseverative cognition. Further analyses revealed that levels of

work-related perseverative cognition during the evening significantly positively predicted levels of negative affect and emotional exhaustion. The levels of the corresponding well-being variable measured at the end of the work-day were used as controls, therefore, work-related perseverative cognition can be viewed as an influential factor in the change in well-being during the evening. Mediational analyses suggested that work-related perseverative cognition was a significant mediator in the relationship between evaluative concerns perfectionism and emotional exhaustion but not negative affect.

5.1.3 Study three: School teachers' respite experiences during the Christmas vacation: The role of evaluative concerns perfectionism and work-related perseverative cognition in post-respite well-being. The final study of this thesis aimed to explore the vacation effect and subsequent fade-out effects of those with high levels of evaluative concerns perfectionism. The role of work-related perseverative cognition during the vacation period as a mediator in the relationship between evaluative concerns perfectionism (in the form of socially prescribed perfectionism) and levels of well-being upon return to work was also investigated. The analysis discovered that levels of socially prescribed perfectionism did not predict the rate of change in well-being when the participants started their vacation period. However, levels of socially prescribed perfectionism did significantly predict the rate at which the beneficial vacation effects on well-being faded out upon the teachers' return to work. Analysis of the levels of work-related perseverative cognition during the vacation period found that it significantly predicted levels of emotional exhaustion, fatigue and negative affect upon teachers' return to work but was not significant as a mediator in the

relationship between socially prescribed perfectionism and well-being upon return to work.

5.2 Theoretical Contributions

The programme of research in this thesis has made a number of theoretical contributions, namely in the areas of: perfectionism; perfectionism and recovery; stress as a mechanism of perfectionism; and the effects of avoidant processes in perfectionism. The following sections will discuss each of these areas in turn, showing the theoretical contribution of the three studies in this thesis.

5.2.1 Perfectionism. The development of two prominent models of perfectionism in the early 1990s by Frost (1990) and Hewitt and Flett (1991b) provided a multidimensional conceptualisation of perfectionism. It is these two prominent perfectionism scales that have been used in this thesis. With the exception of study three, the higher order dimensions of evaluative concerns perfectionism and personal standards perfectionism have been used as the measures of perfectionism.

5.2.1.1 Personal standards perfectionism. Previous research has provided mixed results as to whether personal standards perfectionism is adaptive, maladaptive or neutral. Although some studies have found personal standards perfectionism is associated with high levels of positive affect, life satisfaction and physical health (Sirois & Molnar, 2016), other studies have found associations with eating disorders, poor physical health and poor levels of psychological health following performance failures (Besser, Flett & Hewitt, 2004). The studies in this programme of research found that personal standards perfectionism did not predict any of the well-being outcomes. This was whilst

controlling for evaluative concerns perfectionism in line with Stoeber and Gaudreau's (2017) recommendations, thus, this thesis was examining residual personal standards perfectionism. Therefore, the results from this thesis support the notion of personal standards perfectionism being ambivalent in nature (Bieling, Israeli & Antony, 2004; Enns & Cox, 2002).

5.2.1.2 Evaluative concerns perfectionism. In contrast to personal standards perfectionism, research with evaluative concerns perfectionism is consistent and repeatedly associates this maladaptive form of perfectionism with poor physical health, greater levels of psychopathology and poorer levels of well-being (Chang, 2000; Chang et al., 2004; Dunkley et al., 2003; Molnar, Sadava, Flett & Colautti, 2012; Shafran & Mansell, 2001). All studies in this thesis supported this existing literature. In all three studies evaluative concerns perfectionism significantly predicted negative affect (in study three, socially prescribed perfectionism predicted the fade-out rate of negative affect), even after controlling for neuroticism, conscientiousness and job characteristics. This finding establishes perfectionism as an important personality dimension to be studied in workplace research, as its effects are still pernicious after controlling for neuroticism and conscientiousness, with which it is often correlated (Cox et al., 2002). The relationship between evaluative concerns perfectionism and negative affect is well documented (Dunkley et al., 2003; Frost, Heimberg, Holt, Mattia & Neubauer, 1993; Prud'homme et al., 2017) and this thesis extends existing research by using a workplace sample, highlighting the maladaptive nature of this personality trait in a working, non-clinical population.

5.2.2 Perfectionism and recovery effects. Study three treated the well-being outcome measures in a different way to the previous two studies. Two different

outcomes were formed for each well-being outcome measure: a before and during vacation outcome (to measure the vacation effects) and an after returning to work outcome (to measure the fade-out effects). These outcomes tested: 1) the recovery theories of the conservation of resources theory (Hobfoll, 1989) and the effort-recovery theory (Meijman & Mulder, 1998); 2) the diathesis-stress hypothesis (Hewitt et al., 1996). The results of study three concur with these recovery theories as all three well-being outcome measures (fatigue, negative affect and emotional exhaustion) decreased over the time of the final two weeks at work and two weeks of vacation (this can be seen in the negative value of Time in Model one of results tables four, five and six in study three). Interestingly, levels of socially prescribed perfectionism did not predict negative affect over the before and during vacation weeks but did predict levels of fatigue and emotional exhaustion. However, socially prescribed perfectionism did not interact with time over these weeks in any of the well-being outcomes. This suggests that those with high levels of socially prescribed perfectionism enjoyed a similar rate of decrease in levels of negative well-being over these pre and during vacation weeks as non-perfectionists. This provides support for the diathesis-stress hypothesis, as when workplace demands were lessened (during the final weeks of work and during vacation), the effects of socially prescribed perfectionism became less pernicious. In contrast, upon return to work the socially prescribed perfectionism vulnerability was triggered again.

Levels of well-being decreased when employees returned to work (as seen by the positive value of the time variable in model one in tables 3.7, 3.8 and 3.9 in study three). Interestingly, the rate of fade-out of the beneficial vacation effects was not the same for all employees. The variable SPP*Time measured whether

there was an interaction between socially prescribed perfectionism and time, in other words, did levels of socially prescribed perfectionism speed up or slow down the fade-out of beneficial vacation effects upon return to work? In two out of the three outcome variables, SPP*Time was significant and positive, suggesting that higher levels of socially prescribed perfectionism increased the speed of vacation fade-out effects. This would mean that those with high levels of socially prescribed perfectionism lose the beneficial vacation effects on well-being quicker upon their return to work. This pattern was found for both negative affect and fatigue but not for emotional exhaustion. As discussed previously, the high significance of job characteristics on work-related emotional exhaustion as an outcome may explain this lack of result.

The interaction between evaluative concerns perfectionism and rate of fade-out effects supports the diathesis-stress hypothesis as the effects of socially prescribed perfectionism appear to be triggered upon return to work. The results of this study also agree with previous research that found those with a maladaptive dimension of perfectionism can enjoy similar levels of well-being during vacation but experience a quicker loss of these benefits upon return to work (Flaxman et al., 2012). The vacation occasion in the study by Flaxman et al. (2012) was the Easter respite period, thereby the combined findings of both the Easter and Christmas studies are generalizable to other occupational groups and respite periods.

5.2.3 Stress as a mechanism of perfectionism. To further understanding as to why evaluative concerns perfectionism is so enduringly associated with poor well-being, it is important to consider the mechanisms of the relationship. In other words, what is it that those with high levels of evaluative concerns

perfectionism do that so consistently results in poor levels of psychological health? One mechanism that has been shown to be an important mediator in the relationship between perfectionism and well-being is stress (Dunkley et al., 2003).

The results from study one found that evaluative concerns perfectionism predicted levels of event stress appraisal. Additionally, event stress appraisal served as a mediator in the relationship between evaluative concerns perfectionism and both negative affect and emotional exhaustion. Both outcome measures and event stress appraisal were measured at the end of the work part of the day, therefore the results from this study suggest that event stress experienced during the work part of the day directly affects levels of well-being experienced at the end of the workday (as seen in models 3i in tables 1.5 and 1.6 in study one). Furthermore, this study shows event stress working as a mechanism of evaluative concerns perfectionism within the working part of the day.

These results extend existing research that found levels of perfectionism predict stress appraisals (Childs & Stoeber, 2012; Stoeber & Rennert, 2008), as study one shows stress appraisal working as a significant mediator in the relationship between evaluative concerns perfectionism and negative health outcomes. This study also extends previous research that found stress working as a mediator (Dunkley et al., 2003; Dunkley et al., 2014) but did not specifically measure event stress in the work part of the day. The results from this study seem to support Bolger and Zuckerman's (1995) theory of personality, specifically the 'exposure' part of their model, insofar as evaluative concerns perfectionism predicted levels of stress appraisal, thus highlighting the influence of personality in the stress process. This finding also provides supports for the CATS

psychobiological theory (Meurs & Perrewé, 2011) in particular the suggestion that the stress response occurs when there is perceived discrepancy between the desired and the actual situation. This discrepancy is likely to occur more frequently in those with high levels of evaluative concerns perfectionism therefore the results of study one appear to support this theory.

5.2.4 Avoidant processes as mechanisms of perfectionism. In addition to exploring stress as a mechanism of perfectionism, this programme of research also tested work-related perseverative cognition and coping (specifically avoidant coping) as potential mediators in the relationship between evaluative concerns perfectionism and poor levels of well-being. Both perseverative cognition and avoidant coping can be conceptualised as avoidant processes, as the process of perseverative cognition avoids active engagement with the stressor (Borkovec, Alcaine & Behar, 2004). Avoidant coping is characterised by disengagement behaviour, which can include giving up trying to reach a goal, daydreaming about something else and avoiding thinking about the stressor. Perfectionism research has found that both avoidant coping and perseverative cognition can act as mediators in the relationship between evaluative concerns perfectionism and levels of well-being (Dunkley et al., 2003; Flaxman et al., 2012; Flett, Hewitt, Blankstein & Gray, 1998; Stöber & Joormann, 2001).

Avoidant coping was tested in study one, where it was found to mediate the relationship between evaluative concerns and work-related emotional exhaustion. Both studies two and three tested perseverative cognition as a mechanism of perfectionism, with study two measuring work-related perseverative cognition in the evenings and study three during the Christmas vacation. Study two found evening levels of work-related perseverative cognition

mediated the relationship between evaluative concerns perfectionism and emotional exhaustion but not negative affect. Initial mediation analyses in study three found no significant mediational pathways but after work characteristics were removed as controls, work-related perseverative cognition during the vacation was a significant mediator in the relationship between evaluative concerns perfectionism and all three well-being outcomes: fatigue, negative affect and emotional exhaustion. Although the results were mixed, all three studies provide some support for avoidant processes acting as mechanisms of evaluative concerns perfectionism.

These results support theories suggesting that perseverative cognition prolongs the psychological effects of work stressors resulting in poor levels of well-being (Brosschot et al., 2006), as perseverative cognition is consistently associated with poor levels of well-being throughout this programme of research. Perseverative cognition is also presumed to be initiated by perceived threats to goal progress (Martin & Tesser, 1996). Evaluative concerns perfectionism can be characterised by the setting of high goals and subsequent avoidant behaviour leading to non-achievement of goals (Dunkley et al., 2006), therefore the significant mediational pathways between evaluative concerns perfectionism, work-related perseverative cognition and poor levels of well-being appear to support this theory. Previous research has highlighted the avoidant nature of the mechanisms of perfectionism (Dunkley et al., 2003; Flaxman et al., 2012; Flett et al., 2002; Flett et al., 2016) and the studies in this thesis appear to support this existing research and extend it with a working sample over various respite opportunities.

5.3 Methodological Contributions

In addition to the theoretical contributions already discussed, this programme of research has also made some methodological contributions to the study of perfectionism. These methodological contributions are in the areas of: utilising a working population; the use of daily diary methodology; and a comprehensive respite study over the Christmas vacation. The following sections will discuss each of these areas in turn.

5.3.1 Working population. The studies in this thesis are among the few in perfectionism research that uses a working population as a sample, as many studies use either clinical or student populations to study perfectionism (Dunkley et al, 2003; Flett, Blankstein, Hewitt & Koledin, 1992; Hewitt, Caelian, Chen & Flett, 2014; Sherry, Gralnick, Hewitt, Sherry & Flett, 2014). Work has been identified as the main area in which individuals are likely to experience perfectionistic tendencies (Stoeber & Stoeber, 2009), therefore in order to further understanding of perfectionism, research in the workplace is a necessity. The studies in this thesis add to previous research with working populations, which found the same mechanisms of perfectionism as important for understanding the relationship between evaluative concerns perfectionism and well-being (Flaxman et al., 2012; Stoeber & Rennert, 2008).

5.3.2 Daily diary methodology. Studies one and two of this thesis employed a multiple-occasion daily diary approach, examining potential mechanisms of perfectionism at the state-level. The daily diary design allowed this programme of research to explore the extent to which variability in stress appraisal, coping and perseverative cognition is due to either within-person situations or between-person trait level influences (Dunkley et al., 2003), adding to the structure- and process-integrated view of personality (Fleeson, 2001).

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Asking participants to record their levels of well-being and stress appraisal at the end of the work-day, focused attention on the work part of the day. Previous research had asked participants each night to reflect on a stressful event experienced during the day (Dunkley et al., 2003), which not only increases recall bias (Stone & Shiffman, 2002) but also allowed stressful events from the evening and other non-work parts of the day to be considered also. This study aimed to explore why evaluative concerns perfectionism is so problematic in the workplace and therefore the results extend previous research by gaining insight as to the maladaptive psychological processes experienced during the work part of the day.

5.3.3 Christmas respite design. Study three in this thesis was the first to use the Christmas vacation as a respite opportunity within which to explore work-related perseverative cognition as a recovery experience. Previous perfectionism research had studied respite experiences during the Easter vacation period and found perseverative cognition during the vacation mediated the relationship between evaluative concerns perfectionism and poor levels of well-being (Flaxman et al., 2012). Flaxman et al. (2012) looked at one aspect of evaluative concerns perfectionism, whereas, this Christmas study examined both components of the Hewitt and Flett model (1991b). The results from the Easter study (Flaxman et al., 2012) were similar to those seen in this Christmas study, thereby allowing a comprehensive view of the respite experiences of those with high levels of evaluative concerns perfectionism to be formed.

Much respite research has been criticised due to suboptimal designs (de Bloom et al., 2009) and five criteria have been suggested for an effective respite study design: a proper pre-vacation baseline, an on-vacation measurement

occasion, multiple post-vacation measurement occasions, minimalism and simple comparison and equal and exact timing of measurement for every participant. Study three of this thesis succeeded in meeting all five criteria for effective respite study design and therefore provides a solid design to extend existing research exploring the respite experiences of those with high levels of evaluative concerns perfectionism.

5.4 Practical Implications

This programme of research has highlighted the pernicious effects of evaluative concerns perfectionism. Additionally, the studies have explored the potential mechanisms that mediate the relationship between evaluative concerns perfectionism and poor levels of well-being. By furthering understanding as to the psychological processes associated with evaluative concerns perfectionism, the studies in this thesis provide an insight as to potential interventions that could help those with evaluative concerns perfectionism in the workplace. This section will suggest that adequate recovery opportunities twinned with effective recovery activities, mindfulness-based interventions and increasing awareness as to the potential pitfalls of perfectionism through coaching, can all help to address the persistent relationship between evaluative concerns perfectionism and levels of poor well-being in the workplace.

The current programme of research has highlighted the detrimental impact of poor recovery during both workday evenings and the Christmas respite period. The propensity of those with high levels of evaluative concerns perfectionism to engage in work-related perseverative cognition, provides an opportunity for interventions to encourage more beneficial recovery activities. Existing research has suggested that psychological detachment from work and

relaxing during the weekends can result in feelings of recovery upon return to work (Fritz & Sonnentag, 2005). Educating employees as to the most beneficial ways to spend their respite time has also been shown to increase levels of recovery-related self-efficacy; thereby allowing employees to actively take positive choices as to how to spend their work respite time (Hahn, Binnewies, Sonnentag & Mojza, 2011). This intervention has the potential to benefit all employees, negating the need for those with evaluative concerns perfectionism to feel singled out. In addition to social activities and relaxing generally, increasing levels of mindfulness has also been suggested as important for effective recovery.

Mindfulness-based interventions have been shown to be particularly beneficial for those with high levels of evaluative concerns perfectionism (Short & Mazmanian, 2013) and the results from this thesis would support the importance of such interventions for the well-being of this particular working group. Short and Mazmanian (2013) found that although worry and rumination mediated the relationship between evaluative concerns perfectionism and levels of poor well-being, this relationship was absent in those with high levels of mindfulness. Therefore it appears that mindfulness could provide a protective factor for those with high levels of evaluative concerns perfectionism. Furthermore, research trialling an online mindfulness programme created for the workplace, found those in the intervention group had significant decreases in perceived stress and increases in mindfulness, resilience and vigor (Aikens et al., 2014). In common with the recovery intervention, these studies suggest mindfulness-based intervention programmes offer benefits to all employees,

thereby negating the need to single out those with evaluative concerns for special attention.

The final practical contribution from this programme of research is to raise awareness in the workplace of the pernicious effect of evaluative concerns perfectionism. By raising awareness, managers can be more mindful of the potentially triggering nature of returning to work after a respite for those with high levels of evaluative concerns perfectionism. Managers may be able to ease employees with high levels of evaluative concerns perfectionism back into work after time off, to try and offset the rapid loss of beneficial vacation effects shown in study three and previous research (Flaxman et al., 2012). Raising general awareness as to the pernicious effects of evaluative concerns perfectionism may also allow employees to self-diagnose levels of perfectionism. Workplace awareness training could include suggestions of guided self-help books for those who think they may have high levels of evaluative concerns perfectionism. Research in this area suggests guided self-help can not only be successful in decreasing levels of perfectionism but also in reducing obsessive compulsive behaviours and depressive symptomology (Pleva & Wade, 2007). In addition, coaching has been highlighted as being particularly beneficial for leaders with high level of perfectionism. Ellam-Dyson and Palmer (2010) suggested rational coaching with executive leaders could raise their awareness of negative perfectionist beliefs. This increased level of awareness could allow the individual to challenge the unhelpful beliefs and replace them with more adaptive ones, thereby potentially preventing leadership derailment (Ellam-Dyson & Palmer, 2010).

5.5 Research Limitations

The studies of this thesis have extended existing literature but there were some research limitations too. There were three main research limitations: the chronology of the questionnaires particularly in study one; the method of mediation analyses; and the use of self-report measures across all studies. These limitations have already been discussed in the relevant chapters but will be explored again in this section in more detail. Arguably, all of the limitations discussed are at least a part consequence of conducting natural experiments with a working population. Consideration was given to questionnaire length given that participants were either completing them twice per day or during their vacation times and this also affected the frequency at which participants were asked to complete their measures (Galesic & Bosnjak, 2009). The demands of taking part in the studies, particularly for a working population may also have affected the number who agreed to take part, which in turn influenced the most appropriate analyses. The following will discuss each limitation in turn, starting with the frequency and timing of the questionnaires.

5.5.1 Chronology of the questionnaires. Studies one and two both employed a daily dairy methodology allowing both within and between participant differences to be explored. Nonetheless, there were limitations with the employment of this method of data collection. The wording in the after-work questionnaire booklet asked participants to think about their most bothersome or problematic event or issue of the day *so far.* Previous studies examining perfectionism and event stress have measured event stress in a questionnaire in the evening asking participants to reflect upon their most bothersome event of the day. For organisational psychology the current study was a significant improvement on this, asking participants at the end of the work part of the day to

reflect upon their day so far, but it is possible that participants may have recalled an event that happened before they arrived at work that morning or perhaps on a lunch break. Although in this circumstance stress appraisal and coping are still mechanisms used in the working part of the day, they may not have been used specifically in the workplace. Furthermore, by asking participants to reflect back upon a bothersome event may introduce recall bias (Bolger et al., 2002) thereby potentially missing any momentary changes in mood and behaviour at the time of the bothersome event. The same recall bias applies to the evening measures of perseverative cognition and well-being which were measured before bed and asked participants to reflect on how they had felt and their work-related thoughts that evening.

5.5.2 Method of mediational analyses. A second limitation of the studies in this thesis was the use of aggregated scores in the mediation analyses. Multilevel structural equation modeling (MSEM) is suggested as the preferred method of mediation analysis for multilevel data (Preacher, Zhang & Zyphur, 2011). The use of PROCESS for mediation analysis has meant that person-level fluctuations in participants' levels of perseverative cognition, coping, stress appraisal and well-being has been lost, which is a limitation given the data were collected at the day-level and on multiple occasions per participant. The presence of missing data in the dataset means that a greater sample size is needed to ensure statistical power, the lowest amount of participants required for a multilevel structural equation model testing a mediational pathway with 2% of missing data is suggested to be over 150 participants (Wolf et al., 2013). All studies had less than this amount of participants and therefore the PROCESS method of mediation using aggregated data seemed the most appropriate.

5.5.3 Common method variance. The final limitation of the studies in this thesis was the reliance on self-report measures and therefore potentially a common method variance problem, or monomethod bias (Spector, 2006). The use of self-report measures has been criticised for the levels of participant bias in organisational psychology research (Donaldson & Grant-Vallone, 2002). In their study of understanding self-report bias in organisational psychology research, Donaldson and Grant-Vallone (2002) suggest that participants are likely to under-report behaviours or emotions which they feel might be judged as inappropriate by researchers or other observers privy to their results and as a result under-reporting of negative and over-reporting of positive behaviours may occur. However, it is also suggested that this participant bias can depend on what area is being researched: for example Spector (1987) found little evidence of common method variance when exploring the relationships between working conditions and affect, an area comparable to the current thesis. Additionally, the results of Donaldson and Grant-Vallone's (2002) study suggest that self-report bias is not uniform across the constructs assessed in psychological research in organisational settings. Individual differences have also been shown to affect accuracy and bias in self-perception (John & Robins, 1994) and therefore may affect self-reports. Given that this thesis is focusing on individual differences, common method variance may present a problem. However, participants were advised that all responses were anonymous and the recruitment information was passed directly from the researcher to the participant therefore participants need not have been concerned that their supervisors or co-workers would be privy to their responses or even their participation.

The reliance on pen and paper surveys may also lead to inaccuracies as to when participants filled in their questionnaires. Studies have found suggested that as few as 11% of paper questionnaires are filled in at the correct time, compared to 94% of electronic questionnaires (Stone, Shiffman, Schwartz, Broderick & Hufford, 2003). Study one of this thesis required participants to complete their questionnaires as soon as they had finished work, therefore non-compliance in the timing of this task may have affected the interpretation of the results.

5.6 Directions for Future Research

The studies in this thesis both extend existing literature on perfectionism in the workplace and provide a platform for future research. Firstly this section will suggest future research in response to the limitations discussed in the previous section: the time at which participants were asked to complete their questionnaires, the statistical methodology of the mediation analysis and finally, the common method variance problem. This section will then propose future research based upon the findings of the studies in this thesis and the theoretical questions they have raised; namely differences between professional groups and the use of electronic data collection methods.

5.6.1 Chronology of questionnaires. Firstly, study one in this thesis asked participants to reflect on their most bothersome event of the day so far and then record their coping strategies and event stress in response to the recalled event. Although this question was asked at the end of the work part of the day and is therefore an improvement (for organisational psychology) on asking them to recall an event at the end of the day, there is still the possibility that the bothersome event did not take place in the workplace. Therefore, future research

could ask participants to consider a bothersome or stressful event that had taken place "whilst at work that day" which would therefore ensure that the researcher is focusing their attention on the mechanisms of perfectionism in the workplace. Although this method would be an improvement in terms of organisational psychology, there would still potentially be an issue of recall bias. An alternative method of data collection could be the experiential sampling method (Csikszentmihalyi & Hunter, 2003). This sampling method would ask participants to stop at certain times and record their behaviours or emotions of their experience in real time. By utilising this method, future research would be able to capture momentary changes in levels of stress appraisal, coping, perseverative cognition and well-being. By capturing these emotions and behaviours in the moment, the method is able not only to explore momentary states (thereby eliminating recall bias) but also can build up trait-like measures using the wealth of momentary responses. Future perfectionism research could benefit from using this method by building up a picture of the momentary state manifestations of the trait of perfectionism, consistent with the process and structure theoretical approach.

5.6.2 Mediational analyses methodology. The second limitation of these studies was the use of PROCESS mediation software instead of the more rigorous multilevel structural equation method (MSEM). For nested longitudinal data, MSEM is proposed to be the most appropriate method of mediation analysis (Preacher, Zyphur & Zhang, 2010). Unfortunately, the number of participants required to run a mediation analysis in MSEM and be confident with the level of statistical power was in excess of the numbers collected in these studies, especially given that the datasets contain missing values (Wolf et al.,

2013). Therefore, future research would benefit from greater participant numbers, which may be more achievable with an alternative method of data collection (as discussed later in this section).

5.6.3 Common method variance. The final limitation to be addressed in this future research section is that of common method variance due to the exclusive use of self-report measures throughout the studies in this thesis. The use of self-report measures has been previously criticised for the potential levels of participant bias and demand characteristics (Donaldson & Grant-Vallone, 2002). However, studies suggest that this bias is not uniform across constructs (Donaldson & Grant-Vallone, 2002) and indeed some studies find little evidence for common method variance (Spector, 1987). Future research would benefit from measuring physiological indicators of stress and well-being alongside self-report measures. This would not only reduce common method variance but would also provide the opportunity for correlations between self-report and physiological measures to be explored. Previous studies with school teachers have shown salivary cortisol levels are an indicator of chronic work stress induced by high levels of job strain (Steptoe, Cropley, Griffith & Kirschbaum, 2000). Heart rate variability has been identified as a physiological marker for stress and is associated with levels of work-related perseverative cognition (Brosschot, Van Dijk & Thayer, 2007). Therefore, future research utilising salivary cortisol levels and heart rate variability alongside self-report measures is proposed.

Problems of response bias and demand characteristics have already been discussed in this section with individual differences potentially affecting accuracy and bias in self-perception therefore affecting self-reports (John &

Robins, 1994). Evaluative concerns perfectionism is characterised by a maladaptive self-appraisal alongside feelings that delivering a performance that is anything less than perfect will lead to harsh evaluations from others (Dunkley, Blankstein, Masheb & Grilo, 2006). These characteristics of evaluative concerns perfectionism have the potential to influence self-report measures in two ways. Firstly, a maladaptive self-appraisal may result in underreporting positive behaviours or outcomes in self-report measures. Secondly, a fear of failing from the viewpoint of others' may lead to distortions in reporting how well an individual is coping with current workload for example. Previous research has found those with higher levels of narcissism self-reported their performance more positively than it was reported by their peers and fellow staff (John & Robins, 1994), results suggested this self-performance bias was influenced by individual differences in levels of narcissism. This study design allowed self-reports to be measured against those of peers, highlighting any significant differences thereby allowing the cause of such differences to be explored. Self-report questionnaires are very often utilised in perfectionism research and therefore future research containing self-report and peer-reports should explore whether perfectionism itself influences the responses.

5.6.4 Professional group differences. Another difference already discussed in this section is that of professional group. In this thesis, both studies one and two utilised the same participant sample, which comprised of employees from a range of sectors. In contrast, the sample of study three was solely comprised of school teachers; this also being the only study to find a significant relationship between maladaptive perfectionism and emotional exhaustion, in line with previous perfectionism research and teachers (Stoeber & Rennert,

2008). Studies have also explored perfectionism with other professional groups such as academics (Dunn, Whelton & Sharpe, 2006; Flaxman et al., 2012) and professional artists (Mor, Day, Flett & Hewitt, 1995) as well as a wealth of research exploring perfectionism and professional athletes (Crocker, Gaudreau, Mosewich & Klijajic, 2014; Hill, 2013; Stoeber, 2014). In all professional groups discussed, evaluative concerns perfectionism is associated with negative outcomes. However, there are group differences as to whether personal standards perfectionism leads to positive, neutral (Gotwals, Stoeber, Dunn & Stoll, 2012) or negative (Sherry, Hewitt, Sherry, Flett & Graham, 2010) outcomes. Therefore, a future perfectionism study utilising a standardised methodology exploring the differences in outcomes for a range of professional groups is proposed to further understand if there are professions where perfectionism is more pernicious.

 5.6.5 Method of data collection. A final suggestion for future research would be to explore different methods of data collection, termed 'paper or plastic' (Green, Rafaeli, Bolger, Shrout & Reis, 2006). Pen and paper questionnaires have been criticised for serious levels of compliance problems, particularly concerning retrospective reports (Ohly, Sonnentag, Niessen & Zapf, 2010). A study which used light-sensitive chips to record when a paper diary questionnaire was opened to be completed revealed that only 11% of paper entries were completed within the time designated to fill out the diary (Stone, Shiffman, Schwartz, Broderick & Hufford, 2002). However, paper and pen questionnaires ensure that all participants can take part regardless of computer literacy or internet access. Smartphone use is also linked with increased levels of burnout, work-home interference, sleep disturbance and lower levels of work engagement the following day (Derks & Bakker, 2012; Lanaj, Johnson &

Barnes, 2014). In addition, exposing participants to artificial light just before bed has the potential to impair sleep quality (Lemola, Perkinson-Gloor, Brand Dewald-Kaufmann & Grob, 2015). However, the increase in use of mobile smartphones and handheld computers offers new opportunities for daily diary collection (Ohly et al., 2010) and may potentially offer the chance of greater participation numbers.

In sum, future research should focus on the six areas discussed: by specifically asking participants to consider only the work part of their day will allow greater understanding of the mechanisms of perfectionism in the workplace; greater participant numbers will allow the use of more sophisticated mediation analysis tools in order to explore causal relationships between evaluative concerns perfectionism, coping, stress, perseverative cognition and well-being outcomes; collecting physiological markers of stress alongside self-report measures will reduce problems of common method variance; exploring the potential influence of evaluative concerns perfectionism in self-report bias will facilitate accurate interpretation of study responses; research exploring the influence of perfectionism on different professions will aid generalizability of perfectionism research and identify any vulnerable groups; and finally, the incorporation of electronic data collection may increase the accuracy in the recording of responses as well as potentially increase participant numbers.

5.7 Conclusion

This thesis has provided evidence for stress, coping and work-related perseverative cognition acting as potential mechanisms of evaluative concerns perfectionism. This body of research has extended existing perfectionism literature by employing a daily diary methodology in the workplace, allowing the

mechanisms of perfectionism active during the work part of the day and after work during the evening to be explored. In addition, this thesis has explored the experiences of those with high levels of evaluative concerns perfectionism before, during and after the Christmas vacation. Interestingly, levels of socially prescribed perfectionism did not predict initial vacation effects but did affect the fade-out of vacation effects upon return to work, in line with previous research (Flaxman et al., 2012), lending some indirect support to the diathesis-stress hypothesis (Hewitt & Flett, 1993). The effects of work-related perseverative cognition during the Christmas vacation was also explored and the results confirmed that thinking about work during respite affects well-being upon returning to work. The studies in this thesis had limitations including the influence of work characteristics on the results, as well as methodological and analysis considerations. Future research was suggested to address these issues and to further perfectionism theory in the areas of the workplace and differences between professional groups, building on the results of this thesis. Although the research in this thesis has limitations, it has successfully explored the mechanisms of employee perfectionism both at the daily level and within a respite design.

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Appendices

Appendix 1. Initial Participant Booklet, Studies One and Two.

INITIAL SURVEY

PLEASE COMPLETE THIS INITIAL SURVEY BEFORE COMPLETING YOUR DAILY SURVEYS IN THE OTHER TWO BOOKLETS

Participant Reference Number

CITY UNIVERSITY LONDON

SECTION 1: YOUR BACKGROUND DETAILS

This information is required for statistical purposes only. Please complete all of the sections below.

Your age: _____

Gender (please circle one option):   Male   Female

Marital Status (please circle one option):

Single	Married/ Partner
Widowed	Divorced/ Separated

Please circle one of the following options to indicate the **number** and **ages** of your **children**:

0 children	
1 child	____ years old
2 children	____ & ____ years old
3 or more children	____ , ____ , ____ , ____ , ____ years old

SECTION 2: YOUR WORK
The following items ask you about your job. Using the scale below, please indicate your answer to the right of each question.

1	2	3	4	5
Not at all	Just a little	Moderate amount	Quite a lot	A great deal

How often do you find yourself meeting the following problems in carrying out your job?

1. I do not have enough time to carry out my work.	
2. I cannot meet all the conflicting demands made on my time at work.	
3. I never finish work feeling I have completed everything I should.	
4. I am asked to do work without adequate resources to complete it.	
5. I cannot follow best practice in the time available.	
6. I am required to do basic tasks which prevent me completing more important ones.	

More questions about your job..........

1	2	3	4	5
Not at all	Just a little	Moderate amount	Quite a lot	A great deal

In your job, to what extent can you……

1. Determine the methods and procedures you use in your work?	
2. Choose what work you will carry out?	
3. Decide when to take a break?	
4. Vary how you do your work?	
5. Plan your own work?	
6. Carry out your work in the way you think best?	

1	2	3	4	5
Not at all	Just a little	Moderate amount	Quite a lot	A great deal

In your job, to what extent can you…..

1. Count on your colleagues to listen to you when you need to talk about problems at work?	
2. Count on your colleagues to back you up at work?	
3. Count on your colleagues to help you with a difficult task at work?	
4. Really count on your colleagues to help you in a crisis situation at work, even though they would have to go out of their way to do so?	

The following items relate to work and family. Please indicate how much each statement describes your own situation by using the scale below

1	2	3	4	5
Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

1. People see me as highly focused on my work	
2. I invest a large part of myself in my work	
3. People see me as highly focused on my family	
4. I invest a large part of myself in my family life	

SECTION 3: YOUR GOALS AND PERFORMANCE EXPECTATIONS

Listed below are a number of statements concerning personal characteristics and traits. Read each item and decide whether you agree or disagree and to what extent. If you strongly agree, circle 7. If you strongly disagree, circle 1. If you feel somewhere in between, circle one of the numbers between 1 and 7. If you feel neutral or undecided, the midpoint is 4.

1	2	3	4	5	6	7
Strongly disagree			Neutral			Strongly agree

1.	Anything I do that is less than excellent will be seen as poor work by those around me	
2.	One of my goals is to be perfect in everything I do	
3.	I strive to be as perfect as I can be	
4.	Although they may not show it, other people get very upset with me when I slip up	
5.	I feel that people are too demanding of me	
6.	I am perfectionistic in setting my goals	

Continued.....

1	2	3	4	5	6	7
Strongly disagree			Neutral			Strongly agree

7.	My family expects me to be perfect	
8.	I set very high standards for myself	
9.	People expect nothing less than perfection from me	
10.	I must always be successful at work	

Below you will find another set of statements about the goals and performance expectations you set for yourself. Please rate these statements on the following scale:

1	2	3	4	5
Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

1. If I fail at work, I am a failure as a person	
2. It takes me a long time to do something 'right'	
3. If someone does a task at work better than I, then I feel like I failed the whole task	
4. I have extremely high goals	
5. I hate being less than the best at things	
6. I usually have doubts about the simple everyday things I do	
7. If I do not do as well as other people, it means I am an inferior human being	
8. I expect higher performance in my daily tasks than most people	

Continued...

1	2	3	4	5
Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

9. The fewer mistakes I make, the more people will like me	
10. If I do not do well all the time, people will not respect me	
11. It is important to me that I be thoroughly competent in everything I do	
12. I set higher goals than most people	
13. I am very good at focusing my efforts on attaining a goal	
14. If I fail partly, it is as bad as being a complete failure	
15. Other people seem to accept lower standards from themselves than I do	
16. I should be upset if I make a mistake	

Continued...

1	2	3	4	5
Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

17. Even when I do something very carefully, I often feel that it is not quite right	
18. If I do not set the highest standards for myself, I am likely to end up a second-rate person	
19. I tend to get behind in my work because I repeat things over and over	
20. People will probably think less of me if I make a mistake	

SECTION 4: YOUR GENERAL CHARACTERISTICS

Below you will find a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who generally *does a thorough job?* As before, please use the following scale to indicate the extent to which you agree or disagree with each of statements below.

1	2	3	4	5
Strongly disagree	Disagree a little	Neither agree nor disagree	Agree a little	Strongly agree

I **generally** see myself as *someone who…*

1. does a thorough job	
2. is depressed, blue	
3. can be somewhat careless	
4. is relaxed, handles stress well	
5. can be tense	
6. tends to be disorganised	
7. worries a lot	

Continued...

1	2	3	4	5
Strongly disagree	Disagree a little	Neither agree nor disagree	Agree a little	Strongly agree

I **generally** see myself as *someone who…*

8. tends to be lazy	
9. is emotionally stable, not easily upset	
10. perseveres until the task is finished	
11. can be moody	
12. does things efficiently	
13. remains calm in tense situations	
14. makes plans and follows them through	
15. gets nervous easily	
16. is easily distracted	
17. is a reliable worker	

Thank you for completing the initial survey.
Your two daily survey booklets are enclosed.
One booklet is to be completed each day as soon as possible after you finish work.
The other booklet has surveys that are to be completed just before you go to bed.
Please start your daily surveys on a Monday and finish on a Friday.
If you have any questions about the surveys, please do not hesitate to email Sonja Carmichael at City University:

AFTER WORK SURVEYS

PLEASE COMPLETE THESE SURVEYS AS SOON POSSIBLE AFTER YOU HAVE FINISHED WORK EACH DAY THIS WEEK (Monday to Friday)

Participant Reference Number

CITY UNIVERSITY LONDON

- **Please complete your surveys <u>at the end of each workday, starting on a Monday after work.</u>**

- **Once you have completed your daily surveys from Monday to Friday, please return all your booklets in the envelope provided to Sonja Carmichael (City University).**

Many thanks again for your participation in this project

<u>**MONDAY AFTER WORK**</u>

What is today's date?	
What days have you worked this week?	
What time did you start work today?	
What time did you finish work today?	

Monday cont'd…

SECTION 1: HOW YOU HAVE FELT AT WORK TODAY

Below you will find a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word.

Please indicate how you have felt so far today – that is during the working part of your day. Use the following scale to record your answers next to every item.

1	2	3	4	5
Very slightly or not at all	A little	Moderately	Quite a bit	Extremely

Enthusiastic		Hostile	
Interested		Irritable	
Determined		Guilty	
Excited		Inspired	
Ashamed		Alert	
Nervous		Jittery	
Active		Strong	
Proud		Distressed	
Afraid		Upset	
Attentive		Scared	

Monday cont'd…
Still thinking about the working part of today, please indicate how much you have thought or felt the following:

0	1	2	3	4
Never	Almost Never	Sometimes	Fairly Often	Very Often

1. Today I felt unable to control the important things in my life	
2. Today I felt confident about my ability to handle my personal problems	
3. Today I felt things were going my way	
4. Today I felt that difficulties were piling up so high that I could not overcome them	

Monday cont'd…
Still thinking about the working part of today, please indicate how much you agree or disagree with each of the following statements:

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

1. I felt burned out from my work.	
2. I felt that I'm working too hard on my job.	
3. I felt frustrated by my job.	
4. I felt like I was 'at the end of my rope'.	
5. I felt emotionally drained from my work.	

Taking everything into consideration, how satisfied are you with your day Please circle:

0	1	2	3	4	5	6	7	8	9	10
Completely Dissatisfied										Completely Satisfied

Monday cont'd...

SECTION 2:

HOW YOU DEALT WITH PROBLEMS TODAY

We are interested in how people respond when they confront difficult or stressful events in their lives.

Please now **think about your most bothersome or problematic event or issue of the day so far.**

With this problem or bothersome event in mind, please answer the following items by circling the appropriate number:

How unpleasant was the bothersome event or issue to you?										
1 Not At All	2	3	4	5	6	7	8	9	10	11 Exceptionally

For how long were you bothered by this event or issue?										
1 A very brief amount of time	2	3	4	5	6	7	8	9	10	11 A very large amount of time

Monday cont'd…

How stressful was the event or issue for you?										
1 Not At All	2	3	4	5	6	7	8	9	10	11 Exceptionally

The next statements ask you to **indicate what you did today when you experienced your most bothersome or problematic event.** When rating each item, please indicate what you actually did today, rather than what 'most people' would have done:

1	2	3	4
I didn't do this at all	I did this a little bit	I did this a medium amount	I did this a lot

1. I daydreamed about things other than this	
2. I took action to try to make the situation better	
3. I got help and advice from other people	
4. I thought hard about what steps to take	

Monday cont'd…
indicating what you did today when you experienced your most bothersome or problematic event.

1	2	3	4
I didn't do this at all	I did this a little bit	I did this a medium amount	I did this a lot

5. I gave up attempting to cope	
6. I got comfort and understanding from someone	
7. I turned to substitute activities to take my mind off things	
8. I tried to come up with a strategy about what to do	
9. I gave up trying to deal with it	
10. I got emotional support from others	
11. I tried to get advice or help from other people about what to do	
12. I concentrated my efforts on doing something about the situation I was in	

Monday cont'd…
indicating what you did today when you experienced your most bothersome or problematic event.

1	2	3	4
I didn't do this at all	I did this a little bit	I did this a medium amount	I did this a lot

13. I thought the problem through in a systematic way	
14. My old feelings got in the way of solving current problems	
15. I got preoccupied thinking about the problem and overemphasized some parts of it	

16. I didn't sustain my actions long enough to really solve the problem	
17. I thought about ways I solved similar problems in the past	
18. I avoided even thinking about the problem	
19. I got in touch with my feelings to identify and work on the problem	
20. I acted too quickly, which made the problem worse	
21. I felt so frustrated that I just gave up going any work on the problem at all	

Thank you for completing your Monday end of work survey.
Please remember to complete your Monday evening survey just before going to bed tonight.

Appendix 3. Before Bed Questionnaire, Study Two.

EVENING SURVEYS
PLEASE COMPLETE THESE SURVEYS JUST BEFORE YOU GO TO
BED EACH DAY THIS WEEK
(Monday to Friday)

Participant Reference Number

CITY UNIVERSITY
LONDON

- **Please complete these evening surveys just before going to bed every day in the same working week (Monday through to Friday).**

- **Once you have completed your daily surveys from Monday to Friday, please return all your booklets in the envelope provided to Sonja Carmichael (City University).**

Many thanks again for your participation in this project

MONDAY EVENING

What is today's date?	
What time are you completing this survey?	
Approximately how long (if at all) did you spend on work-related activities this evening? (e.g., catching up with emails, speaking with work, or preparing work)	**Hours:** **Minutes:**

Monday cont'd…

SECTION 1: HOW YOU HAVE FELT THIS EVENING

Below you will find a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word.

Please indicate how you have felt this evening – that is during the latter part of today, since finishing work. Use the following scale to record your answers next to every item.

1	2	3	4	5
Very slightly or not at all	A little	Moderately	Quite a bit	Extremely

Enthusiastic		Hostile	
Interested		Irritable	
Determined		Guilty	
Excited		Inspired	
Ashamed		Alert	
Nervous		Jittery	
Active		Strong	
Proud		Distressed	
Afraid		Upset	
Attentive		Scared	

Monday cont'd…
Still thinking about your evening - the period since finishing work and now - please indicate how much you have thought or felt the following:

0	1	2	3	4
Never	Almost Never	Sometimes	Fairly Often	Very Often

5. Today I felt unable to control the important things in my life	
6. Today I felt confident about my ability to handle my personal problems	
7. Today I felt things were going my way	
8. Today I felt that difficulties were piling up so high that I could not	

overcome them	

Monday cont'd…
Still thinking about your evening - the period since finishing work and now -
please indicate how much you agree or disagree with each of the following
statements:

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

6. I felt burned out from my work.	
7. I felt that I'm working too hard on my job.	
8. I felt frustrated by my job.	
9. I felt like I was 'at the end of my rope'.	
10. I felt emotionally drained from my work.	

Taking everything into consideration, how satisfied are you with your
evening – the period since finishing work until now?
Please circle:

0	1	2	3	4	5	6	7	8	9	10
Completely Dissatisfied										Completely Satisfied

Monday cont'd…

SECTION 2

The next set of statements ask you to indicate **the degree to which you have**
had thoughts about work this evening – that is during the period since
finishing work until now. Please rate each statement using the following 5-point
scale:

1	2	3	4	5
Not at all	Just a little	Moderate amount	Quite a lot	A great deal

This evening, since finishing work...

1. I found myself dwelling on problems related to my work	
2. I was annoyed by thinking about work-related issues	
3. I found it easy to unwind after work	
4. I became fatigued by thinking about work-related issues	
5. I was troubled by work-related issues	
6. I tended to think of how I could improve my work-related	

performance	
7. I was concerned about mistakes I have made (or might make) at work	
8. I left work issues behind when I left work	
9. I found that thinking about work helped me to be creative	

Monday cont'd…

1	2	3	4	5
Not at all	Just a little	Moderate amount	Quite a lot	A great deal

This evening, since finishing work......

10. I found solutions to work-related problems	
11. I was able to switch off from work	
12. I was able to stop thinking about work-related issues	
13. My thoughts kept returning to a stressful situation at work	
14. I made myself switch off from work as soon as I left	
15. I thought about tasks which need to be done at work tomorrow	
16. I worried about things to do with work	
17. I became tense when I thought about work-related issues	
18. I repeatedly thought about a situation that had upset me at work	
19. I was irritated by work issues	
20. I found myself re-evaluating something I had done at work	

Thank you for completing your Monday evening survey.
Please remember to complete your Tuesday after work survey soon after

you finish work tomorrow.

Appendix 4. Initial Participant Booklet, Study 3.

INITIAL SURVEY

**PLEASE COMPLETE THIS INITIAL SURVEY BOOKLET JUST
BEFORE COMPLETING YOUR WEEKLY SURVEY BOOKLETS**

Participant Reference Number

CITY UNIVERSITY LONDON

SECTION 1: YOUR BACKGROUND DETAILS

This information is required for statistical purposes only. Please complete all of the sections below.

Your age: _____

Gender (please circle one option):   Male   Female

Marital Status (please circle one option):

Single	Married/ Partner
Widowed	Divorced/ Separated

Please circle one of the following options to indicate the **number** and **ages** of your **children**:

0 children	
1 child	____years old
2 children	____&____ years old
3 or more children	____,____,_____,_____,___ years old

How long have you been a teacher? (to the nearest year)_____

How long have you worked in your current school or institution? (to the nearest year)_____

Which level do you teach? (Please circle one or more of the following options):

- Primary school
- Secondary school
- Further Education College
- University

Which subjects do you teach_____

_____

Approximately how many hours do you work in a typical working week? (please include any overtime hours in your estimation)

_____

Do you work full-time or part-time? FT   PT

SECTION 2: YOUR WORK

The following items ask you about some general features of your job. Using the scale below, please indicate your level of agreement or disagreement by circling a number to the right of each statement. Sometimes none of the answers fits exactly. Please choose the answer that comes closest.

1	2	3	4
Strongly Disagree	Disagree	Agree	Strongly Agree

1. My job requires working very fast.	1	2	3	4
2. My immediate supervisor/ manager is helpful in getting the job done.	1	2	3	4
3. I have a lot of say about what happens on my job.	1	2	3	4
4. My immediate supervisor/ manager pays attention to what you are saying.	1	2	3	4
5. My job allows me to make a lot of decisions on my own.	1	2	3	4
6. I am not asked to do an excessive amount of work.	1	2	3	4

Section 2 cont'd…

1	2	3	4
Strongly Disagree	Disagree	Agree	Strongly Agree

7. I have enough time to get the job done.	1	2	3	4
8. I am free from conflicting demands that others make.	1	2	3	4
9. My job requires long periods of intense concentration on the task.	1	2	3	4
10. My immediate supervisor/ manager is concerned about the welfare of those under him/her.	1	2	3	4
11. My job requires working very hard.	1	2	3	4
12. On my job, I have little freedom to decide how I do my work.	1	2	3	4
13. My immediate supervisor/ manager is successful in getting people to work together.	1	2	3	4

The following items relate to your work and family. Please indicate how much each statement describes your own situation by using the scale below.

As before please circle one number to the right of each statement.

1	2	3	4	5
Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

5. People see me as highly focused on my work	1	2	3	4	5
6. I invest a large part of myself in my work	1	2	3	4	5
7. People see me as highly focused on my family	1	2	3	4	5
8. I invest a large part of myself in my family life	1	2	3	4	5

The following 9 statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, circle '0' (zero) to the right of the statement. If you have had this feeling, indicate how often you feel it by circling the number (from

0	1	2	3	4	5	6
Never	Almost Never	Rarely	Sometimes	Often	Very Often	Always

1 to 6) that best describes how frequently you feel that way.

1. At my work, I feel bursting with energy	0	1	2	3	4	5	6
2. I am proud of the work that I do.	0	1	2	3	4	5	6
3. I am enthusiastic about my job.	0	1	2	3	4	5	6
4. My job inspires me.	0	1	2	3	4	5	6
5. When I get up in the morning, I feel like going to work.	0	1	2	3	4	5	6

6. I feel happy when I am working intensely.	0	1	2	3	4	5	6
7. I am immersed in my work.	0	1	2	3	4	5	6
8. At my job, I feel strong and vigorous	0	1	2	3	4	5	6
9. I get carried away when I am working.	0	1	2	3	4	5	6

SECTION 3: YOUR GOALS AND PERFORMANCE EXPECTATIONS

Listed below are a number of statements concerning personal characteristics and traits. Read each item and decide whether you agree or disagree and to what extent. If you strongly agree, circle 7. If you strongly disagree, circle 1. If you feel somewhere in between, circle one of the numbers between 1 and 7. If you feel neutral or undecided, the midpoint is 4.

1	2	3	4	5	6	7
Strongly disagree			Neutral			Strongly agree

1. Anything I do that is less than excellent will be seen as poor work by those around me	1	2	3	4	5	6	7

2. One of my goals is to be perfect in everything I do.	1	2	3	4	5	6	7
3. I strive to be as perfect as I can be.	1	2	3	4	5	6	7
4. Although they may not show it, other people get very upset with me when I slip up.	1	2	3	4	5	6	7

1	2	3	4	5	6	7
Strongly disagree			Neutral			Strongly agree

5. I feel that people are too demanding of me.	1	2	3	4	5	6	7
6. I am perfectionistic in setting my goals.	1	2	3	4	5	6	7
7. My family expects me to be perfect.	1	2	3	4	5	6	7
8. I set very high standards for myself.	1	2	3	4	5	6	7
9. People expect nothing less than perfection from me.	1	2	3	4	5	6	7
10. I must always be successful at work.	1	2	3	4	5	6	7
11. I often feel frustrated because I can't meet my goals.	1	2	3	4	5	6	7
12. My best just never seems to be good enough for me.	1	2	3	4	5	6	7
13. I rarely live up to my high standards.	1	2	3	4	5	6	7

1	2	3	4	5	6	7
Strongly disagree			Neutral			Strongly agree

14. Doing my best never seems to be enough.	1	2	3	4	5	6	7
15. I am never satisfied with my accomplishments.	1	2	3	4	5	6	7

16. I often worry about not measuring up to my own expectations.	1	2	3	4	5	6	7
17. My performance rarely measures up to my standards.	1	2	3	4	5	6	7
18. I am not satisfied even when I know I have done my best.	1	2	3	4	5	6	7
19. I am seldom able to meet my own high standards for performance.	1	2	3	4	5	6	7

1	2	3	4	5	6	7
Strongly disagree			Neutral			Strongly agree

20. I am hardly ever satisfied with my performance.	1	2	3	4	5	6	7
21. I hardly ever feel that what I've done is good enough.	1	2	3	4	5	6	7
22. I often feel disappointment after completing a task because I know I could have done better.	1	2	3	4	5	6	7

Below you will find another set of statements about your goals and performance expectations. Please indicate how well each statement describes you.

Please rate these statements on the following scale:

1	2	3	4	5
Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

1. If I fail at work, I am a failure as a person	1	2	3	4	5
2. It takes me a long time to do something 'right'	1	2	3	4	5
3. If someone does a task at work better than I, then I feel like I failed the whole task	1	2	3	4	5
4. I have extremely high goals	1	2	3	4	5
5. I hate being less than the best at things	1	2	3	4	5

1	2	3	4	5
Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

	1	2	3	4	5
6. I usually have doubts about the simple everyday things I do	1	2	3	4	5
7. If I do not do as well as other people, it means I am an inferior human being	1	2	3	4	5
8. I expect higher performance in my daily tasks than most people	1	2	3	4	5
9. Even when I do something very carefully, I often feel that it is not quite right.	1	2	3	4	5
10. If I do not set the highest standards for myself, I am likely to end up a second-rate person.	1	2	3	4	5
11. I tend to get behind in my work because I repeat things over and over.	1	2	3	4	5
12. People will probably think less of me if I make a mistake	1	2	3	4	5

SECTION 4: YOUR GENERAL CHARACTERISTICS

Here are a number of personality traits that may or may not apply to you.

Please circle a number next to each statement to indicate the extent to which you agree or disagree with that statement.

You should rate the extent to which the pair
of traits applies to you, even if one characteristic applies more strongly than the other.

1	2	3	4	5	6	7
Disagree strongly	Disagree moderately	Disagree a little	Neither agree nor disagree	Agree a little	Agree moderately	Agree strongly

I see myself as....

	1	2	3	4	5	6	7
18. Extraverted, enthusiastic	1	2	3	4	5	6	7
19. Critical, quarrelsome	1	2	3	4	5	6	7
20. Dependable, self- disciplined	1	2	3	4	5	6	7

I see myself as....

	1	2	3	4	5	6	7
21. Anxious, easily upset	1	2	3	4	5	6	7

22. Open to new experiences, complex	1	2	3	4	5	6	7
23. Reserved, quiet	1	2	3	4	5	6	7
24. Sympathetic, warm	1	2	3	4	5	6	7
25. Disorganised, careless	1	2	3	4	5	6	7
26. Calm, emotionally stable	1	2	3	4	5	6	7
27. Conventional, uncreative	1	2	3	4	5	6	7

Thank you for completing the initial survey!
Your weekly survey booklets are enclosed.
Please complete your first weekly survey booklet on Friday 13th December 2013 (or as soon as possible on Saturday 14th December)
If you have any questions about the surveys, please do not hesitate to email Sonja Carmichael at City University:

Appendix 5. Week 1 Questionnaire Booklet, Study 3.

**WEEK 1 SURVEY
BOOKLET**

**PLEASE COMPLETE THIS SURVEY BOOKLET ON
FRIDAY 13th DECEMBER
(or as soon as possible
on Saturday 14th December)**

Participant Reference Number

SECTION 1: YOUR WORK

The first two questions ask about your work pattern over this past working week:

1. Approximately how many hours did you work over this past week?
    (include any overtime hours) _____

2. Please use the grid below to indicate the days you worked and didn't work over this past week.

Please circle the option that best describes what you did on each day of the past week.
(so, if you worked on that day, simply circle 'worked'):

Saturday (7th Dec)	Sunday (8th Dec)	Monday (9th Dec)	Tuesday (10th Dec)	Wednesday (11th Dec)	Thursday (12th Dec)	Friday (13th Dec)
Worked	Worked	Worked	Worked	Worked	Worked	Worked
Day off – holiday/ weekend	Day off – holiday/ weekend	Day off – holiday	Day off – holiday	Day off – holiday	Day off – holiday	Day off – holiday
Day off – sickness	Day off – sickness	Day off – sickness	Day off – sickness	Day off – sickness	Day off – sickness	Day off – sickness
Day off – other	Day off – other	Day off – other	Day off – other	Day off – other	Day off – other	Day off – other
(please briefly state reason):	(please briefly state reason):	(please briefly state reason):	(please briefly state reason):	(please briefly state reason):	(please briefly state reason):	(please briefly state reason):

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The questionnaire now asks about certain features of your work over the past week.

Use the scale below and indicate your answer by circling a number between 1 and 5 to the right of each question.

1	2	3	4	5
Not at all	Just a little	Moderate amount	Quite a lot	A great deal

Over this past week, how often did you find yourself meeting the following problems in carrying out your work?........

1. Not having enough time to carry out all your work.	1	2	3	4	5
2. Unable to meet all the conflicting demands made on your time at work.	1	2	3	4	5
3. Never finishing work feeling that you had completed everything you should.	1	2	3	4	5
4. Being unable to follow best practice in the time available.	1	2	3	4	5

Here are some more questions about your work. As before, please use the scale below and indicate your answer by circling a number between 1 and 5 to the right of each question.

1	2	3	4	5
Not at all	Just a little	Moderate amount	Quite a lot	A great deal

Over this past week, to what extent could you……

	1	2	3	4	5
1. Determine the methods and procedures you used in your work?	1	2	3	4	5
2. Carry out your work in the way you think best?	1	2	3	4	5
3. Vary how you do your work?	1	2	3	4	5
4. Plan your own work?	1	2	3	4	5

The next five questions ask you to rate the degree to which you have felt you could count on your colleagues to help you out at work over this past week. Please use the following scale for these questions.

1	2	3	4	5
Not at all	To a small extent	Neither great nor small extent	To a great extent	Completely

Over this past week, to what extent did you feel you could......

	1	2	3	4	5
1. Count on your colleagues to listen to you when you needed to talk about problems at work?	1	2	3	4	5
2. Count on your colleagues to back you up at work?	1	2	3	4	5
3. Count on your colleagues to help you with a difficult task at work?	1	2	3	4	5
4. Count on your immediate supervisor/ manager to help you with a difficult task at work?	1	2	3	4	5
5. Count on your immediate supervisor/ manager to listen to you when you needed to talk about problems at work?	1	2	3	4	5

The next statements assess the degree to which you have experienced some common **work-related feelings** over this past week.

Thinking about this past week, please indicate how much you agree or disagree with each of the 15 statements below:

Use the following scale, and circle one number to the right of every statement.

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

Over this past week......

	1	2	3	4	5	6
1. I felt burned out from my work.	1	2	3	4	5	6
2. I felt that I'm working too hard on my job.	1	2	3	4	5	6
3. I found the work that I do full of meaning and purpose.	1	2	3	4	5	6
4. I felt emotionally drained from my work.	1	2	3	4	5	6
5. I felt like I was 'at the end of my rope'.	1	2	3	4	5	6
6. When I got up each morning, I felt like going to work.	1	2	3	4	5	6
7. I doubted the significance of my work.	1	2	3	4	5	6
8. I felt happy while I was working intensely.	1	2	3	4	5	6
9. I felt proud of the work that I do.	1	2	3	4	5	6
10. I became less enthusiastic about my work.	1	2	3	4	5	6
11. I was immersed in my work.	1	2	3	4	5	6
12. I felt frustrated by my job.	1	2	3	4	5	6
13. I worried that my job is hardening me emotionally.	1	2	3	4	5	6
14. I became more cynical about whether my work contributes anything.	1	2	3	4	5	6
15. In my job, I felt very mentally resilient.	1	2	3	4	5	6

SECTION 2: HOW YOU HAVE FELT THIS WEEK

This second section of the questionnaire assesses how you have been feeling over this past week of your life. (Now we're not only interested in your *work-related* feelings, but how you've felt this past week across all areas of your life).

Below you will find a number of words that describe different feelings and emotions. Please indicate the degree to which you have experienced each of these feelings/ emotions over the past week.

Read each item and then <u>circle the appropriate answer to the right of each word</u>.

Use the following scale and please record an answer next to <u>every item</u>.

1	2	3	4	5
Very slightly or not at all	A little	Moderately	Quite a bit	Extremely

1. **Enthusiastic**	1	2	3	4	5
2. **Spent**	1	2	3	4	5
3. **Excited**	1	2	3	4	5
4. **Upset**	1	2	3	4	5
5. **Scared**	1	2	3	4	5
6. **Alert**	1	2	3	4	5
7. **Afraid**	1	2	3	4	5
8. **Distressed**	1	2	3	4	5
9. **Determined**	1	2	3	4	5
10. **Exhausted**	1	2	3	4	5
11. **Inspired**	1	2	3	4	5
12. **Weary**	1	2	3	4	5
13. **Nervous**	1	2	3	4	5

Below you will find another set of words that describe different feelings and emotions.

Please indicate how much of the time you have experienced each of these feelings/ emotions over the past week.

Use the following scale and please record an answer next to <u>every item</u>.

1	2	3	4	5	6
Never	Occasionally	Some of the time	Much of the time	Most of the time	All of the time

	1	2	3	4	5	6
1. **Anxious**	1	2	3	4	5	6
2. **Relaxed**	1	2	3	4	5	6
3. **Depressed**	1	2	3	4	5	6
4. **Pleased**	1	2	3	4	5	6
5. **Cheerful**	1	2	3	4	5	6
6. **Comfortable**	1	2	3	4	5	6
7. **Tense**	1	2	3	4	5	6
8. **Happy**	1	2	3	4	5	6
9. **Gloomy**	1	2	3	4	5	6
10. **Tired**	1	2	3	4	5	6
11. **Worried**	1	2	3	4	5	6
12. **At ease**	1	2	3	4	5	6
13. **Fatigued**	1	2	3	4	5	6
14. **Miserable**	1	2	3	4	5	6

Still thinking about this past week, please indicate how often you have thought or felt the following:

0	1	2	3	4
Never	Almost Never	Sometimes	Fairly Often	Very Often

Over this past week.......

1. I felt unable to control the important things in my life.	0	1	2	3	4
2. I felt confident about my ability to handle my personal problems.	0	1	2	3	4
3. I felt things were going my way.	0	1	2	3	4
4. I felt that difficulties were piling up so high that I could not overcome them.	0	1	2	3	4

Thank you for completing your week 1 survey booklet.

Please remember to fill in your next survey booklet on Friday 20th December, or very soon after.

**WEEK 3
CHRISTMAS WEEK SURVEY
BOOKLET**

**PLEASE COMPLETE THIS SURVEY BOOKLET ON
FRIDAY 27th DECEMBER
(or as soon as possible
on Saturday 28th December)
Participant Reference Number**

SECTION 1: YOUR EXPERIENCES DURING TIME OFF WORK

The first set of items in this booklet ask you to rate your level of satisfaction with the time you've had off work over this past week.

On a scale from 1 to 10 (with 1 being very dissatisfied and 10 very satisfied), **please rate how satisfied you feel with each of the following aspects of your time off work this past week.**

(So, if you felt very satisfied circle a 9 or 10. If you felt moderately satisfied, circle 5 or 6, and so on). Record your answer to the right of each question.

1	2	3	4	5	6	7	8	9	10
Very Dissatisfied									Very Satisfied

		1	2	3	4	5	6	7	8	9	10
1.	The amount of time you had off work?	1	2	3	4	5	6	7	8	9	10
2.	The way your plans worked out?	1	2	3	4	5	6	7	8	9	10
3.	The way you felt emotionally?	1	2	3	4	5	6	7	8	9	10
4.	The way you felt physically?	1	2	3	4	5	6	7	8	9	10
5.	The quality of your social interactions?	1	2	3	4	5	6	7	8	9	10
6.	The pace-of-life you experienced?	1	2	3	4	5	6	7	8	9	10
7.	Your opportunities for engaging in leisure	1	2	3	4	5	6	7	8	9	10

	activities?									
8.	The amount of fun you had?	1	2	3	4	5	6	7	8	9	10
9.	The amount of relaxation you had?	1	2	3	4	5	6	7	8	9	10
10.	Your opportunities to do the things you personally wanted to do?	1	2	3	4	5	6	7	8	9	10
11.	OVERALL, HOW SATISFIED DO YOU FEEL ABOUT THE TIME YOU'VE HAD OFF WORK THIS PAST WEEK?	1	2	3	4	5	6	7	8	9	10

Thinking about the days you've had off work this past week, how satisfied are you with…

Please circle the one option that best describes what you did on each day of the past week.

(so, if you were on holiday that day, simply circle 'Day-off - holiday'):

Saturday (21st	Sunday (22nd Dec)	Monday (23rd Dec)	Tuesday (24th Dec)	Wednesday (25th Dec)	Thursday (26th Dec)	Friday (27th Dec)
Worked	Worked	Worked	Worked	Worked	Worked	Worked
Day off – holiday/ weekend	Day off – holiday/ weekend	Day off – holiday	Day off – holiday	Day off – holiday	Day off – holiday	Day off – holiday
Day off – sickness	Day off – sickness	Day off – sickness	Day off – sickness	Day off – sickness	Day off – sickness	Day off – sickness
Day off – other (please briefly state reason):	Day off – other (please briefly state reason):	Day off – other (please briefly state reason):	Day off – other (please briefly state reason):	Day off – other (please briefly state reason):	Day off – other (please briefly state reason):	Day off – other (please briefly state reason):

Over this past week, approximately how many hours did you spend on work-related activities (e.g., actually working, checking work emails, preparing or finishing work, speaking to colleagues about work, etc)?

If you had time off work over the Christmas week, please use the boxes below to indicate your main activities and location on days off. Please tick all the boxes that apply:

	Please place a tick in this column if you did this	**For how many days over the past week did you do this?**
Stayed at my usual home		
Stayed at my usual home and had family or friends come to visit		
Stayed with or visited family or friends		
Went away on holiday (in the UK)		
Went away on holiday (abroad)		
Other main activities (please state):		

Whether you were working or not over this past week, we are interested in any <u>work-related thoughts</u> you've experienced.
Use the following five point scale to indicate the degree to which you had the types of thoughts listed below. Please circle one number to the right of every item.

1	**2**	**3**	**4**	**5**
Not at all	Just a little	Moderate amount	Quite a lot	A great deal

	1	2	3	4	5
1. I thought positively about my work performance.	1	2	3	4	5
2. I repeatedly thought about something that had upset me at work.	1	2	3	4	5

3. I worried about how I would deal with a work task or issue.	1	2	3	4	5
4. I reflected on things that have gone well for me in my job.	1	2	3	4	5
5. I worried about things I need to do at work.	1	2	3	4	5
6. My thoughts kept returning to a stressful situation at work.	1	2	3	4	5
7. I had constructive thoughts about a work project.	1	2	3	4	5
8. I worried about things to do with work.	1	2	3	4	5
9. I found myself dwelling on problems related to my work.	1	2	3	4	5
10. I was concerned about mistakes I have made (or might make) at work.	1	2	3	4	5
11. I had positive thoughts about my career.	1	2	3	4	5

Over the past week....

The next four items assess the degree to which you were able to "switch off" from work during your leisure time over this past week.
Use the following five point scale to indicate your level of agreement/ disagreement with each item.

1	2	3	4	5
Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

During my leisure time over this past week...

1. I forgot about work.	1	2	3	4	5
2. I got a break from the demands of work.	1	2	3	4	5
3. I distanced myself from my work.	1	2	3	4	5
4. I didn't think about work at all.	1	2	3	4	5

The next statements assess the degree to which you have experienced some common <u>work-related feelings </u>over this past week. (Please rate each of the statements to indicate your feelings about work *even if you were not actually working over this past week*).
Thinking about this past week, please indicate how much you agree or disagree with each of the statements below:

Use the following scale, and circle one number to the right of every statement.

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

Over this past week.....

	1	2	3	4	5	6
1. I felt burned out from my work.	1	2	3	4	5	6
2. I felt that I'm working too hard on my job.	1	2	3	4	5	6
3. I became less enthusiastic about my work.	1	2	3	4	5	6
4. I felt emotionally drained from my work.	1	2	3	4	5	6
5. I felt like I was 'at the end of my rope'.	1	2	3	4	5	6
6. I doubted the significance of my work.	1	2	3	4	5	6
7. I felt frustrated by my job.	1	2	3	4	5	6
8. I worried that my job is hardening me emotionally.	1	2	3	4	5	6
9. I became more cynical about whether my work contributes anything.	1	2	3	4	5	6

SECTION 2: HOW YOU HAVE FELT THIS WEEK

This second section of the questionnaire assesses how you have been feeling over this past week of your life. (Now we're not only interested in your *work-related* feelings, but how you've felt this past week across all areas of your life).

Below you will find a number of words that describe different feelings and emotions. Please indicate the degree to which you have experienced each of these feelings/ emotions over the past week.

Read each item and then circle the appropriate answer to the right of each word.

Use the following scale and please record an answer next to <u>every item</u>.

1	2	3	4	5
Very slightly or not at all	A little	Moderately	Quite a bit	Extremely

14. Enthusiastic	1	2	3	4	5
15. Spent	1	2	3	4	5
16. Excited	1	2	3	4	5
17. Upset	1	2	3	4	5
18. Scared	1	2	3	4	5
19. Alert	1	2	3	4	5
20. Afraid	1	2	3	4	5
21. Distressed	1	2	3	4	5
22. Determined	1	2	3	4	5
23. Exhausted	1	2	3	4	5
24. Inspired	1	2	3	4	5
25. Weary	1	2	3	4	5
26. Nervous	1	2	3	4	5

Below you will find another set of words that describe different feelings and emotions.

<u>Please indicate how much of the time you have experienced each of these feelings/ emotions over the past week.</u>

Use the following scale and please record an answer next to <u>every item</u>.

1	2	3	4	5	6
Never	Occasionally	Some of the time	Much of the time	Most of the time	All of the time

Over the past week, I have felt............

15. Anxious	1	2	3	4	5	6
16. Relaxed	1	2	3	4	5	6
17. Depressed	1	2	3	4	5	6
18. Pleased	1	2	3	4	5	6
19. Cheerful	1	2	3	4	5	6
20. Comfortable	1	2	3	4	5	6
21. Tense	1	2	3	4	5	6
22. Happy	1	2	3	4	5	6
23. Gloomy	1	2	3	4	5	6
24. Tired	1	2	3	4	5	6
25. Worried	1	2	3	4	5	6
26. At ease	1	2	3	4	5	6
27. Fatigued	1	2	3	4	5	6
28. Miserable	1	2	3	4	5	6

Still thinking about this past week, please indicate how often you have thought or felt the following:

0	1	2	3	4
Never	Almost Never	Sometimes	Fairly Often	Very Often

Over this past week.......

	0	1	2	3	4
5. I felt unable to control the important things in my life.	0	1	2	3	4
6. I felt confident about my ability to handle my personal problems.	0	1	2	3	4
7. I felt things were going my way.	0	1	2	3	4
8. I felt that difficulties were piling up so high that I could not overcome them.	0	1	2	3	4

The following questions ask you about your experiences <u>over this past week</u>. Please indicate your response to each item by circling the appropriate number between 1 and 7.

How **effective** did you feel when performing tasks over this past week? (please circle one number)

1	2	3	4	5	6	7
Not very effective						Very effective

How **competent** did you feel during this past week? (please circle one number)

1	2	3	4	5	6	7
Not very competent						Very competent

How much **freedom and choice** did you have over the things you did this past week?

1	2	3	4	5	6	7
Very little						A great deal

To what extent did you feel you were pursuing **your own goals** over this past week?

1	2	3	4	5	6	7
Very little						A great deal

To what extent did you feel **close and connected** to the people you were with this past week?

1	2	3	4	5	6	7
Very little						A great deal

To what extent did you feel **understood and appreciated** by others during this past week?

1	2	3	4	5	6	7
Very little						A great deal

Thank you for completing your week 3 survey booklet.

Please remember to fill in your next survey booklet on Friday 3rd January, or very soon after.