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Academics' Experiences of a Respite From Work: Effects of Self-Critical Perfectionism and Perseverative Cognition on Post-Respite Well-Being

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Abstract

This longitudinal study examined relations between personality and cognitive vulnerabilities and the outcomes of a respite from work. A sample of 77 academic employees responded to week-level measures of affective well-being before, during, and on two occasions after an Easter respite. When academics were classified as being either high or low in a self-critical form of perfectionism (*doubts about actions*) a divergent pattern of respite to post-respite effects was revealed. Specifically, during the respite, the two groups of academics experienced similar levels of well-being. However, during post-respite working weeks, the more perfectionistic academics reported significantly higher levels of fatigue, emotional exhaustion, and anxiety. The greater deterioration in well-being experienced by perfectionist academics when first returning to work was mediated by their tendency for perseverative cognition (i.e., worry and rumination) about work during the respite itself. These findings support the view that the self-critical perfectionist vulnerability is activated by direct exposure to achievement-related stressors and manifested through perseverative modes of thinking.

Key words: perfectionism, recovery, well-being, burnout, worry, rumination

Academics' Experiences of a Respite From Work: Effects of Self-Critical Perfectionism and Perseverative Cognition on Post-Respite Well-Being

Ideally, respites from work, such as evenings, weekends, and vacations, should provide employees with the opportunity to recover from work demands and replenish personal resources. Without such recovery opportunities, the psychophysiological system may remain in a state of prolonged activation, which over time increases the risk of both psychological and physical ill-health (Brosschot, Gerin, & Thayer, 2006; Geurts & Sonnentag, 2006; McEwen, 1998; Sluiter, van der Beek, & Frings-Dresen, 1999). Having been neglected for many years, the nature and function of employees' respite experiences are now attracting burgeoning scholarly interest (Eden, 2001). Extant research suggests that vacation-length respites from work are associated with an increase in employee well-being that tends to fade out within the first few weeks of work resumption (de Bloom et al., 2009, 2010; Fritz & Sonnentag, 2006). In addition, the ability to recover during briefer respites, such as evenings and weekends, has been associated with enhanced well-being and job performance on subsequent work days (Cropley & Millward Purvis, 2003; Fritz & Sonnentag, 2005).

Despite recent advances in our understanding of employee recovery from a psychological perspective, some important issues remain underexplored. First, there has been little attention paid to personality variables that might influence a person's propensity to maintain any benefits accrued during time away from work. We propose that focusing on maladaptive personality dimensions (such as self-critical perfectionism) would help to identify those workers who gain fewer benefits from respites, and provide guidance on the types of intervention that might enhance leisure time experiences. A related issue concerns the nature of poor psychological detachment from work during leisure time. Researchers have tended to operationalize this construct as the degree to which employees think about work

during a respite period (e.g., Copley et al., 2006; Etzion, Eden, & Lapidot, 1998; Sonnentag & Fritz, 2007). However, some studies have demonstrated that reflecting positively about work during leisure time is *beneficial* for well-being (Binnewies, Sonnentag, & Mojza, 2009; Fritz & Sonnentag, 2005, 2006). Thus, narrowing the empirical focus to the type of work-related cognitions experienced by employees during respites should enhance our understanding of the psychological processes that impair recovery.

With these issues in mind, the present study extends previous research by investigating the effect of an Easter respite on the well-being of University academics. Our first aim was to explore whether academics exhibiting a particular form of self-critical perfectionism gain less durable well-being benefits from a respite. In particular, we test the notion that the perfectionism diathesis will be relatively dormant *during* a respite, only to become reactivated as soon as perfectionist individuals return to work. Our second aim was to investigate whether more perfectionistic individuals show a greater tendency for work-related worry and rumination (i.e., perseverative cognition) during their leisure time, and the degree to which this tendency functions as a mediator in the relation between perfectionism and post-respite well-being.

Theoretical Perspectives on Respites and Recovery

Employee respite and recovery research is primarily underpinned by two distinct yet compatible theoretical approaches: conservation of resources model (COR; Hobfoll, 1989; Hobfoll & Shirom, 1993) and the effort-recovery model (Meijman & Mulder, 1998). Hobfoll's COR model posits that people strive to retain, protect, and build various valued personal resources, including external assets, social support, energy levels, and perceptions of self-worth. Stress is elicited when such resources seem to be under threat, are actually lost, or fail to be enhanced after a period of perceived resource investment (Hobfoll, 1989). Some aspects of the work environment have the potential to threaten or deplete one's personal

resources. For example, employees working very long hours may face not only a depletion of physical and emotional resources, but also fewer opportunities to contact (and invest in) valued sources of social support outside of the workplace. Following this line of argument, respite periods take on particular importance as they represent the principal opportunity to replenish resources that have been depleted through work (Eden, 2001; Demerouti, Bakker, Geurts, & Taris, 2009; Fritz & Sonnentag, 2006; Sonnentag, 2001). Respites from work may also support the development of new resources that can be invested for further resource gain or used to offset the depletion of other resources (Davidson et al., 2010; Hobfoll, 1989). However, if resource replenishment fails to occur, the COR model posits that "spirals" of resource loss may develop, culminating in burnout and other chronic health complaints (Eden, 2001; Hobfoll & Shirom, 1993).

The effort-recovery model states that the mobilization of effort to meet work demands yields short-term psychological (e.g., mental fatigue) and physiological (e.g., increased heart rate, adrenaline secretion) reactions. These so-called "load reactions" are seen as initially adaptive and reversible. That is, under normal circumstances, load reactions will return to baseline levels during a brief respite from work demands, and so the psychophysiological system recovers in advance of the next working period (Demerouti et al., 2009). When a worker fails to recover, he or she may be exposed to subsequent work demands in a sub-optimal state, and additional compensatory effort will then be required to meet those demands; load reactions are then further increased and recovery becomes even more elusive. Under such circumstances, initially adaptive reactions may develop into negative load effects such as exhaustion, chronic tension, persistent sleep difficulties, and psychosomatic complaints (Geurts & Sonnentag, 2006; Meijman & Mulder, 1998).

These two theories have helped to identify particular aspects of impaired well-being that are likely to stem from poor recovery experiences. Consistent with both models, work-

related emotional exhaustion (a central feature of burnout) is one of the most frequently examined outcomes in respite research (de Bloom et al., 2009; Eden, 2001; Etzion, 2003; Westman & Etzion, 2001). Similarly, the above models highlight fatigue as a load reaction that will be maintained or exacerbated by inadequate respites from the exertions of work, and research has established relations between poorer respite experiences and elevated levels of worker fatigue (de Bloom et al., 2010; Demerouti et al., 2009; Sonnentag & Bayer, 2005). Accordingly, in the current study, we examine the effect of a respite on both of these theoretically informed indicators of impaired functioning. In addition, in line with our utilization of a prolonged activation model of the stress process (Brosschot et al., 2005), we include a measure of anxiety to reflect the "displeasurable arousal" dimension of affective well-being (cf. Mäkikangas, Feldt, & Kinnunen, 2007; Warr, 1990).

Self-Critical Perfectionism and Respite Effects

We propose that academics exhibiting a particular form of self-critical perfectionism will experience less sustained well-being benefits following a respite from work. Self-critical perfectionism is a personality attribute characterized by the setting of excessively high personal standards for performance, accompanied by an overly critical and rigid pattern of self-evaluation (Dunkley, Zuroff, & Blankstein, 2003; Frost, Marten, Lahart, & Rosenblate, 1990). Self-critical perfectionists tend to experience excessive concerns about making mistakes and a vague sense of doubt about the quality of their actions and decisions. Such individuals are principally *achievement-oriented*, in that they are most emotionally reactive to stressors that imply failure and have a heightened sensitivity to perceived criticism from others regarding their performance (Dunkley et al., 2003; Hewitt, Flett, & Ediger, 1996). This type of perfectionism has been related to a wide range of psychopathology, including depression, anxiety, eating disorders, phobias, and obsessive-compulsive disorder, as well as a general tendency to experience higher daily levels of negative affect (Dunkley et al., 2003;

Shafran & Mansell, 2001). Also, there is empirical support for the hypothesis that self-critical perfectionists experience elevated distress when in contact with stressors that are congruent with their achievement-related vulnerability (referred to as the "congruency hypothesis"; Dunkley et al., 2003).

Although perfectionism research tends to focus on student and clinical populations, a small number of studies have investigated perfectionism in the workplace. For example, Magnusson, Nias, and White (2006) found positive relations between doubts about actions (a core component of self-critical perfectionism) and state and trait levels of mental fatigue among a sample of nurses. Similarly, Mitchelson and Burns (1998) found a link between perfectionist beliefs and burnout among working mothers. Consistent with the congruency hypothesis, perfectionist beliefs were more strongly endorsed in relation to work (where achievement-related stressors are presumably more salient) than in relation to home. Dunn, Whelton, and Sharpe (2006) suggest that University academics represent an appropriate professional group for the study of perfectionism. Working in academia involves striving for the highest standards, as well as the requirement to respond to criticism from peers and students. Such work characteristics may function to elicit higher distress in those academics who exhibit self-critical perfectionist tendencies. In support of this view, Dunn et al. found a strong association between self-critical perfectionism and academics' distress.

In the present study, we examine the relation between a core component of self-critical perfectionism - doubts about actions (Frost et al., 1990) - and academics' well-being. Doubts about actions captures the "compulsive" aspect of self-critical perfectionism, in that individuals who possess this vulnerability repeatedly check tasks and actions to ensure that things are "just right" and that no mistakes have been made. Such tendencies are likely to place perfectionist individuals under additional time pressure, and have been linked to elevated psychological strain, fatigue, and procrastination (Dunn et al., 2006; Frost et al.,

1990; Magnusson et al., 1996). On this basis, we anticipate that academics exhibiting this personality vulnerability will generally experience poorer well-being.

However, the congruency hypothesis posits that self-critical perfectionists will mainly show a heightened reactivity when confronted with achievement-related stressors. Assuming that such stressors are most prevalent during working weeks, then any differences in well-being between perfectionist and nonperfectionist academics should be reduced (perhaps even eliminated) during a respite from work (cf. Mitchelson & Burns, 1998). In other words, during the respite, the perfectionist's vulnerability for achievement-related stress is less likely to become activated. By extension, a perfectionistic academic's vulnerability may be triggered as soon as he or she returns to work after a respite, resulting in rapid (if not immediate) fade out of any well-being resources obtained during the respite itself. In contrast, an academic who does not possess this vulnerability may experience more prolonged benefits from the respite, even after returning to work. We test these propositions in the present study by assessing differences in post-respite well-being between groups of academics classified as either high or low in doubts about action perfectionism, after controlling for any differences in well-being between the two groups during the respite.

Hypothesis 1: Compared to nonperfectionist academics, perfectionistic academics will experience significantly poorer well-being when returning to work after a respite, after adjusting for levels of well-being experienced during the respite.

Perseverative Cognition About Work During the Respite: A Potential Mediator of the Effect of Perfectionism on Post-Respite Well-Being

Theoretical and empirical work in the perfectionism literature suggests that *perseverative cognition* may function as an important mediating variable in the relationship between self-critical forms of perfectionism and impaired mental health (e.g., Flett, Hewitt, Blankstein, & Gray, 1998; Harris, Pepper, & Maack, 2008; O'Connor, O'Connor, &

Marshall, 2007; Stöber & Joormann, 2001). Brosschot et al. (2006) define perseverative cognition as the "repeated or chronic activation of the cognitive representation of one or more psychological stressors" (p.114). The most common manifestations of perseverative cognition are *worry* and *rumination*, which are considered distinct yet related processes. Worry has been defined as an often ineffective form of mental problem-solving primarily aimed at avoiding future aversive events (Borkovec, Ray, & Stöber, 1998; Davey, 1994; Roelofs, Huibers, Peeters, Arntz, & van Os, 2008). There are various definitions of rumination, the broadest of which refers to thoughts focused on a perceived failure to progress towards one's goals that recur in the absence of immediate environmental demands requiring those thoughts (Martin & Tesser, 1996; Thomsen, 2006). A simpler view of the distinction between these cognitive processes is that worry involves anticipation of negative future outcomes whereas rumination tends to dwell on the past (Roger & Najarian, 1989; Thomsen, 2006; Trapnell & Campbell, 1999). Despite these distinctions, worry and rumination share important features. They tend to co-occur within the same individuals, they both involve repetitive, aversive, and often intrusive thought patterns, and cognitive content is focused on a perceived problem or stressor (Brosschot et al., 2006; Thomsen, 2006).

Perseverative cognition is viewed as particularly detrimental to both psychological and physical health because it prolongs psychosocial (e.g., work) stressors in representational form, leading to sustained activation of stress-related physiological and emotional response systems (Brosschot et al., 2006). Hence, an individual may worry about how to deal with a forthcoming stressor, and then ruminate long after the event about how she or he handled the situation. In this way, the stressor's psychological and physiological impacts are considerably prolonged and recovery is impaired.

There is compelling evidence to suggest that perfectionist individuals are especially prone to experience a higher frequency of worry and rumination, and that such perseverative

forms of cognition mediate the relationship between perfectionism and negative affect. For example, researchers have demonstrated that perfectionistic individuals experience a higher frequency of automatic thoughts centered on perceived errors or mistakes and achieving superior standards of performance, and such cognitions have been found to capture variance in stress-related outcomes beyond that explained by trait measures of perfectionism (Flett, Hewitt, Blankstein, & Gray, 1998; Frost et al., 1997). Similarly, rumination has been identified as a mechanism in the well-established relationship between perfectionism and depressive symptoms (Harris et al., 2008; O'Connor, O'Connor, & Marshall, 2007). Additional research has found self-critical forms of perfectionism to be positively associated with a higher frequency of worrying about a wide range of life issues (Santanello & Gardner, 2007; Stöber & Joormann, 2001).

A unique contribution of the current study is to investigate the role of *work-related* worry and rumination during a respite. Because of its unique potential to prolong the impact of work-related stressors, we believe that perseverative cognition represents a specific, and particularly detrimental, manifestation of poor psychological detachment from work during leisure time – a phenomenon that has received attention from researchers interested in employee recovery processes (e.g., Cropley et al., 2006; Sonnentag & Bayer, 2005; Sonnentag & Fritz, 2007). Sonnentag and her colleagues developed the concept of psychological detachment to highlight the role of (not) thinking about work during leisure time, and validated a brief measure of this important recovery experience (Sonnentag & Fritz, 2007). Their detachment construct captures the tendency to distance oneself from work demands during a respite (e.g., "I get a break from the demands of work"), as well as a cessation of work-related thinking (e.g., "I forget about work"). Research has consistently demonstrated that failing to psychologically detach from work during respite periods can be

detrimental for subsequent well-being (e.g., Cropley et al., 2006; Etzion et al., 1998; Sonnentag & Bayer, 2005).

Sonnentag and Fritz (2007) proposed that future research would benefit by focusing in greater detail on the type of work-related thoughts being experienced by employees during respites from work. Their recommendation stems in part from studies indicating that thinking positively about work during a respite is beneficial for well-being (Fritz & Sonnentag, 2005). Similarly, Sonnentag and Bayer (2005) found that the relationship between poor detachment during the evening and fatigue was stronger on work days with higher time pressure. On highly pressured work days, poorer detachment was presumed to take the form of stress-related cognition, which was in turn associated with greater fatigue. Such findings imply that thinking about work during one's leisure time is not *in itself* an experience that is harmful to well-being and recovery. Rather, the tone and perseverative nature of the work-related cognitions being experienced are likely to be crucial.

We test these propositions in the current study by first assessing whether perseverative cognition about work during a respite would explain unique variance in post-respite well-being above and beyond psychological detachment from work and other potentially important respite experiences. Moreover, given that perseverative cognition is viewed as a common manifestation of self-critical perfectionism, we examine the extent to which a greater tendency for worry and rumination about work during leisure time mediates the link between perfectionism and academics' post-respite well-being (this mediation model is illustrated in Figure 1). Hence,

Hypothesis 2: Worry and rumination about work during a respite will be related to poorer post-respite well-being after controlling for psychological detachment from work during the respite, respite length, hours worked during the respite, and well-being during the respite.

Hypothesis 3: Post-respite differences in well-being between perfectionist and nonperfectionist academics will be mediated by perfectionist academics' greater propensity for work-related worry and rumination during the respite.

Method

Easter Respite Design

The study was designed to coincide with the 2008 Easter holiday in the United Kingdom. We chose this respite period for the following reasons. First, for UK academics, Easter offers a four-day "bank holiday" weekend, provides a two week break in the formal teaching schedule for staff and students, and (at least for some academics) marks the end of a busy teaching term. Second, Easter is celebrated with public holidays on several continents, potentially increasing the generalizability of study findings. Third, we anticipated a degree of variability in the length of respite taken by academics during this period, with some academics likely to take an extended weekend (e.g., 3 or 4 days) and others taking a one- or two-week vacation. Our intention was to use this variation to compare (and then statistically control for) the influence of different respite lengths on post-respite outcomes (cf. Eden, 2001; Etzion, 2003; Fritz & Sonnentag, 2006; Westman & Eden, 1997).

It has been recommended that respite studies routinely include measures of well-being during the respite period itself (de Bloom et al., 2009). This methodological approach is consistent with one of the fundamental principles of the respite research design – that employee well-being is compared when job stressors are intermittently turned "off" and "on" again (Eden, 2001). In addition, there have been calls for respite researchers to include more than one post-respite measurement occasion to reveal the rate of fade out of respite effects when employees return to work (de Bloom et al., 2009, 2010; Westman & Eden, 1997; Westman & Etzion, 2001). In line with these recommendations, our study incorporates four measurement occasions, with participants providing week-level reports of well-being before,

during, and on two occasions after the four-day Easter weekend (with measurement spread over a two-month period in total). Pre-respite (Time 1) survey booklets were completed either one or two working weeks prior to the Easter weekend. The Time 2 measurement occasion was timed to assess well-being during the Easter respite. Specifically, participants indicated their well-being over the past week, which on this occasion included the four-day Easter weekend. The third survey (Time 3) was designed to capture short-term after-effects of the respite. This assessment occurred during either the first or second full week back at work. The final measurement (Time 4) occurred in either the fourth or fifth full working week after the Easter weekend, and was designed to capture more prolonged after-effects of the respite. The primary aim of the present study was to examine predictors of change in well-being experienced by academic workers as they returned to work after the respite (i.e., at Time 3 and Time 4).

Participants and Procedure

Participants were academic employees of two Universities in the United Kingdom. A total of 158 academics volunteered for the study and received the first of two postal survey packs. To be included in the present study, participants were required to have (a) returned an initial questionnaire and surveys at each of the four measurement occasions, and (b) worked on a majority of days during the weeks in which post-respite surveys were completed. A total of 111 academics returned the first survey pack, which contained the initial questionnaire along with Time 1, Time 2, and Time 3 surveys. Eleven of these respondents were subsequently excluded because they did not work (or worked only a minority of days) during the week of Time 3. Of the remaining 100 participants, 77 went on to return all surveys at Time 4 (which were sent in a follow-up pack) and also met the requirement of working the majority of days during the week of survey completion. We found no differences in well-being at any of the time points between participants who failed to complete measures and

those who provided a complete set of data. The final sample was predominantly female (64%), and average age was 46 (*SD* = 10); 51% of participants had children. Reflecting the career structure of British Universities, job titles included lecturer (17%), senior (or principal) lecturer (48%), professor (9%), researcher (including research fellow, research director, research associate, and research assistant; 17%); and dean/ associate dean (3%). Most participants (81%) worked for their University on a full-time basis. Average tenure with current institution was 9 years (*SD* = 7.4).

We computed length of respite from (a) number of days participants reported working in the weeks immediately prior to and immediately following the Easter weekend, and (b) number of hours worked over the Easter weekend. On this basis, 32% of participants (*n* = 25) took a weekend-length respite from work, 47% (*n* = 36) took an extended weekend (i.e., 3 or 4 days), and 21% (*n* = 16) took a one- or two-week vacation.

Participants were recruited using a flyer that was circulated via academic staff email lists at the two participating Universities. Those interested in participating in the study were asked to reply to a dedicated project email address providing a home or work postal address. The front page of each survey booklet provided brief and precise instructions on when surveys were to be completed. For example, the instruction on the front cover of the Time 2 (during respite) survey booklet stated, "To be completed between the 25th and 28th March". Reminder emails were sent just before the Easter weekend, and again soon after the Easter weekend. Time 4 survey booklets were sent to participants in the post to arrive after the Time 3 measures had been completed. A final reminder email was sent just prior to the dates specified for Time 4 survey completion. At all times, participants were assured of confidentiality, and a reference number system was used on survey booklets to protect anonymity.

Measures

Emotional exhaustion. This central feature of work-related burnout was measured with five items adapted from the exhaustion subscale of the Maslach Burnout Inventory (MBI-GS; Schaufeli, Leiter, Maslach, & Jackson, 1996). Items were adapted to assess work-induced exhaustion over the past week (e.g., "I have felt emotionally drained from my work"). Responses were given on a six-point scale ranging from 1 (*strongly disagree)* to 6 (*strongly agree)*. Cronbach's alphas at each of the four measurement occasions were .90, .89, .90, and .89.

Anxiety and *fatigue.* These two indicators of impaired functioning were assessed with items from Warr's (1990) affective well-being scales (see also Daniels et al., 1997). There has been some debate about the factor structure of this widely used measure (Mäkikangas et al., 2007). As a result, we submitted the appropriate 12 items to confirmatory factor analysis (using Time 1 data), comparing the relative fit of three different factor structures. Consistent with Mäkikangas et al. (2007), we found that a four-factor model best represented, and provided an adequate fit to, the data.[1] The four factors were: anxiety, fatigue, comfort, and vigor. In the present study, we used only the anxiety and fatigue items. The specific anxiety items were "anxious", "worried", and "tense", and the fatigue items were "fatigued", "lifeless", and "tired". Participants rated how much of the time they had felt each of these affective states over the past week using a response scale that ranged from 0 (*never*) to 5 (*all of the time*); higher scores indicated greater levels of anxiety and fatigue. At each measurement occasion, Cronbach's alphas were .89, .89, .93, and .91 for the anxiety scale, and .86, .86, .86, and .87 for the fatigue scale.

Self-critical perfectionism. Self-critical perfectionism was measured in the initial questionnaire using the doubts about actions subscale of Frost's Multidimensional Perfectionism Scale (MPS-DA; Frost et al., 1990). A tendency to doubt the quality of one's actions is considered an important indicator of self-critical perfectionism, and higher scores

on the MPS-DA have been consistently linked to elevated levels of negative affect (e.g., Dunkley, Blankstein, Halsall, Williams, & Winkworth, 2000; Dunkley et al., 2003; Dunn et al., 2006; Frost et al., 1990). The MPS-DA consists of four items that assess feelings of uncertainty regarding the quality of everyday actions, and a vague sense that tasks have not been satisfactorily completed ("Even when I do something carefully, I often feel that it is not quite right"; "I usually have doubts about the simple everyday things I do"; I tend to get behind in my work because I repeat things over and over"; and, "It takes me a long time to do something "right""). Items were rated on a six-point scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). Cronbach's alpha for the MPS-DA was .65.

Psychological detachment from work and perseverative cognition during the respite. We measured detachment from work during the respite with the psychological detachment subscale from the recovery experience questionnaire (REQ-PD; Sonnentag & Fritz, 2007). As noted earlier, this well-validated four item scale assesses an individual's sense of being away from work during a respite (e.g., "I got a break from the demands of work"), as well as mental disengagement from work (e.g., "I forgot about work"). Participants were asked to indicate their level of detachment during the Easter bank holiday weekend. In the present study, we assessed degree of detachment with a response scale that ranged from 1 (*not at all*) through to 5 (*a great deal*). Cronbach's alpha was .88.

To assess perseverative cognition about work during the respite, we developed a measure of work-related worry and rumination with five items that were adapted from four well-established maladaptive cognition scales: the rumination-reflection questionnaire (RRQ-rumination; Trapnell & Campbell, 1999); the emotion control questionnaire (ECQ-rehearsal; Roger & Najarian, 1989); the worry domains questionnaire (WDQ; Tallis, Eysenck, & Mathews, 1992); and, the perfectionism cognitions inventory (PCI; Flett, Hewitt, Blankstein, & Gray, 1998). Our aim was to ensure that scale items reflected the following distinctive

features of perseverative cognition: cognitive content that focused explicitly on (work-related) stressors or problems; a degree of repetitive and uncontrollable thinking; and a focus on potentially negative outcomes occurring in the past and/or future (cf. Brosschot et al., 2005; Thomsen, 2006). Accordingly, the final scale included the following items: "My thoughts kept returning to a stressful situation at work" (adapted from the RRQ); "I worried about things to do with work" (adapted from the WDQ); "I found myself dwelling on problems related to my work" (adapted from the ECQ); I repeatedly thought about a situation that had upset me at work" (adapted from the ECQ); and, "I was concerned about mistakes I have made (or might make) at work" (adapted from the PCI). The instructions and response scale were the same as for the detachment scale described above. Cronbach's alpha was .86.

To ensure that psychological detachment from work and perseverative cognition are sufficiently distinct constructs, we analyzed all nine items using principal axis factoring with oblique (direct oblimin) rotation (for this analysis we utilized data from the initial sample of 111 participants who completed these scales). As predicted, items loaded onto two factors. The first factor represented the four detachment items from the REQ, and explained 45% of total variance. The second factor represented work-related worry and rumination and explained 17% of variance. All item loadings exceeded .50.

Control variables. Age and job role were controlled in the first step of the hierarchical regression analyses reported below. We created two dummy job role variables (lecturer and researcher) with senior University staff serving as the reference category (two participants who did not indicate job title were also included in the reference category). In addition, we controlled for length of the respite period (weekend, extended weekend, or vacation) and number of hours that participants reported working during the respite.

Results

Preliminary Analysis

Zero-order correlations and descriptive statistics are displayed in Table 1. The pattern of correlations provides initial support for the congruency hypothesis (hypothesis 1), in that relations between perfectionism and the three well-being outcomes were weaker during the respite (when achievement-related stressors were presumably less salient) compared to working weeks. Consistent with our mediation hypothesis, perfectionism was positively related to worry and rumination about work during the respite (r = .29), but was not significantly associated with detachment from work, hours worked during the respite, or respite length. The moderate correlation (r = -.46) between detachment and work-related worry and rumination further supports investigating these recovery experiences as related but distinct constructs. We found no significant differences in well-being during or after the respite between weekend, extended weekend, and vacation-length respites (cf. Etzion, 2003; Fritz & Sonnentag, 2006).

Hypothesis 1

The congruency hypothesis predicted differences in post-respite well-being between perfectionist and nonperfectionist academics. To help reveal the predicted divergent pattern of respite to post-respite effects, we classified our sample of academics as either perfectionist (high-p - those scoring above the median on the doubts about actions scale; n = 35) or nonperfectionist (low-p - those scoring below the median; n = 29). Well-being means for the two groups of academics are reported in Table 2 and illustrated in Figures 2 to 4.[2]

We performed a series of hierarchical regression analyses to examine the effect of perfectionism on well-being at Time 3 and Time 4, after controlling for well-being during the respite (i.e., at Time 2). In the first step of each model we controlled for age and job role (dummy coded). In step 2, we entered respite length, hours worked during the respite, and well-being during the respite. In the final step we entered our dichotomous perfectionism variable. Results are presented in Table 3. In accordance with hypothesis 1, perfectionistic

academics reported significantly higher exhaustion (β = .25) and fatigue (β = .34) at Time 3 and significantly higher anxiety (β = .34) and fatigue (β = .45) at Time 4. By controlling for well-being *during* the respite, these models indicate a greater deterioration in well-being between the respite and post-respite working weeks among the perfectionist academic group.

Hypothesis 2

Prior to testing our mediation hypothesis we examined the degree to which worry and rumination about work during the respite predicted post-respite well-being beyond a range of other respite experiences. In these analyses, we focused on outcomes measured at Time 3 on the basis that respite experiences, such as mood repair and detachment from work, tend to affect employees' well-being when first returning to work (Fritz & Sonnentag, 2005; Kühnel, Sonnentag, & Westman, 2009). Three hierarchical regression models were constructed (one for each outcome variable). In step 1, we controlled for age and job role. In step 2, we entered the following respite variables: length of respite, hours worked during the respite, psychological detachment from work during the respite, and the relevant aspect of well-being (i.e., exhaustion, anxiety, or fatigue) measured during the respite (i.e., at Time 2). In the third and final step we entered work-related worry and rumination during the respite.

Results are summarized in Table 4. Of the respite experiences entered in step 2, only well-being during the respite explained unique variance in post-respite well-being. The findings of step 3 provide some support for the assertion that perseverative cognition functions as a particularly detrimental manifestation of poor detachment from work. Specifically, academics who reported greater work-related worry and rumination during the respite showed elevated emotional exhaustion (β = .33) and anxiety (β = .48) at Time 3, explaining an additional 5% and 10% of outcome variance beyond that explained by the earlier predictors. Worry and rumination also explained an additional 2% of variance in post-respite fatigue, although this effect failed to reach statistical significance in our relatively

small sample (β = .21). Taken together, these results indicate an acceptable degree of incremental validity for work-related perseverative cognition beyond various other respite experiences.

Hypothesis 3

Our final goal was to examine whether perseverative cognition about work during the respite would mediate the post-respite differences in well-being found between the perfectionist and nonperfectionist academics (see Figure 1). To this end, we employed the bootstrapped mediation tests recommended by Preacher and Hayes (2008). In these analyses, we again restricted our focus to well-being outcomes captured at Time 3, and continued to control for age, job role, length of respite, hours worked during the respite, and well-being during the respite. We applied Preacher and Hayes' (2008) procedure to request 3000 bootstrap resamples from the obtained data, along with 95% bias-corrected and accelerated confidence intervals (BCa CIs). This analytic approach is considered more accurate than traditional product-of-coefficients tests of mediation (e.g., the Sobel test), particularly for small or moderate sample sizes (Shrout & Bolger, 2002). A statistically significant indirect (i.e., mediation) effect is indicated when the upper and lower bound of the corrected CIs do not contain zero.

As summarized in Table 5, the mediation tests provided an encouraging degree of support for hypothesis 3. Specifically, the bootstrapped confidence intervals confirmed the presence of statistically significant indirect effects of perfectionism on respite to post-respite change in exhaustion, anxiety, and fatigue via worry and rumination during the respite.
To provide an approximate estimate of the magnitude of these indirect effects, we followed the procedure described by Fairchild, MacKinnon, Taborga, and Taylor (2009) for generating R^2 effect size measures in simple mediation models. This approach estimates the portion of observed variance in an outcome variable that is *uniquely* explained by the mediated effect.

We applied Fairchild et al.'s macro to partition variance explained in each of our three well-being outcomes measured at Time 3. Results indicated that 28% of variance in Time 3 emotional exhaustion was explained by the model that included perfectionism and perseverative cognition, approximately 11% of which was due to the mediated effect. Similarly, 41% of variance in Time 3 anxiety was explained by the model as whole, 10% of which was due to the mediated effect. Finally, out of 17% of variance explained in Time 3 fatigue, 12% was uniquely attributable to the mediated effect.

Discussion

The current study extends existing research by investigating the role of personality and cognitive vulnerabilities in the transition between a respite and return to work. Results were broadly consistent with hypotheses. Academics exhibiting a self-critical form of perfectionism (i.e., doubts about actions) were found to experience poorer well-being when returning to work after the Easter respite. The divergent pattern of post-respite well-being found between perfectionist and nonperfectionist academics was mediated by the perfectionists' greater tendency to worry and ruminate about work during the respite.

The Role of Self-Critical Perfectionism in the Transition Between a Respite and Return to Work

Our results indicated less durable respite benefits among more perfectionistic academics. Interestingly, our perfectionist group of academics experienced a similar level of well-being to nonperfectionists during the respite itself, followed by a rapid fade out of respite effects upon returning to work. This pattern of findings appears consistent with the congruency hypothesis, which has received attention in the perfectionism literature (e.g., Dunkley et al., 2003; Hewitt et al., 1996). To elaborate, our results support the view that the perfectionists' vulnerability was activated during post-respite working weeks as a result of direct exposure to achievement-related stressors. The same diathesis was relatively

"dormant" during the respite, presumably because perfectionist academics experience less pressure during their leisure time to check every action and decision out of a fear of falling short of unrealistic performance standards (cf. Mitchelson & Burns, 1998). Thus, respites from work may offer perfectionist workers a rare opportunity to experience a level of well-being closer to that experienced by nonperfectionists. It remains to be seen whether these results would generalize to other occupational groups. As noted earlier, academic work has a number of features that may trigger the perfectionist's achievement-oriented vulnerability (Dunn et al., 2006; Kinman, Jones, & Kinman, 2006). Nonetheless, our results suggest that respites from work offer a promising context for investigating the impact of maladaptive personality dimensions.

The Mediating Role of Work-Related Perseverative Cognition During the Respite

As predicted, worry and rumination about work during the respite significantly mediated the post-respite differences in well-being between perfectionist and nonperfectionist academics. These findings are consistent with the view that worry and rumination are primary cognitive-level manifestations of self-critical perfectionism (Kobori & Tanno, 2005).

At first glance, it might appear counterintuitive that perfectionist academics reported a higher frequency of perseverative cognition during the respite while also experiencing a level of well-being that was equivalent to that experienced by nonperfectionists (who did not show the same propensity for worry and rumination). One theoretical explanation for this finding posits that perseverative cognition serves an *avoidant* function by suppressing (or offering distraction from) uncomfortable somatic reactions and aversive imagery (Borkovec, 1994; Fresco, Frankel, Mennin, Turk, & Heimberg, 2002; Santonello & Gardner, 2006). Unfortunately, any initial "blunting" of undesirable affective experiences caused by worry/ rumination is seen as maladaptive over the longer term because it inhibits emotional processing and prevents the deployment of potentially more adaptive coping strategies

(Borkovec, 1994; Fresco et al., 2002). From this perspective, worry and rumination during the respite may have provided perefectionist academics with some semblance of control over uncertain work-related outcomes, and over the unpleasant emotions associated with the possibility of falling short of their stringent performance standards. However, this form of cognitive preoccupation with work is likely to hinder recovery processes, contributing to impaired well-being when resuming work after the respite.

Our results also suggest that perseverative cognition can be viewed as a specific form of poor psychological detachment from work during leisure time. It is notable that work-related worry and rumination during the respite predicted post-respite well-being above and beyond a range of other variables, including well-being during the respite, length of respite, and psychological detachment from work. These findings lend support to the view of Sonnentag and others - that thinking about work during leisure time may not be a problem per se (e.g., Sonnentag & Bayer, 2005; Sonnentag & Fritz, 2007; also see Cropley et al., 2006). Rather, the type of work-related cognitions being experienced appears to be the critical factor.

Previous attempts to examine this issue may not have explicitly captured the distinctive features of perseverative cognition. Cropley and his colleagues captured an important aspect of this cognitive vulnerability by asking teachers to indicate time spent thinking about work during a weekday evening, and also whether those thoughts were "repetitive/recurring" (Cropley et al., 2006; see also Cropley & Millward Purvis, 2003). However, they did not assess whether cognitive content was focused on stressors or problems (hence, it could be argued that some of their participants were reporting neutral or even constructive thoughts about work). Similarly, Fritz and Sonnentag (2006) found that negative reflection about work during a vacation was related to poorer post-vacation well-being. Their measure examined employees' reflections about undesirable aspects of the job (e.g., "I

realized what I did not like about my job"), but was not designed to assess worry or ruminative processes.

There are compelling reasons for focusing more explicitly on perseverative cognition in employee respite research. First, the harmful impact of perseverative cognition goes beyond employees' psychological health. A large body of research has established that the tendency to worry and ruminate is associated with an increased risk of cardiovascular disease (see Brosschot et al., 2006 for a review). Second, focusing on perseverative cognition ensures that the employee recovery literature is closely aligned with the prolonged activation view of the stress process, which identifies worry and rumination as the primary cognitive mediators between psychosocial stressors and somatic disease (Brosschot et al., 2005; Geurts Sonnentag, 2006). Third, identifying employees who worry and ruminate about work during respites will ensure that they are more clearly distinguished from employees who think about work during leisure time in a more neutral or even constructive way, which is unlikely to have the same detrimental impact on physical and mental health (cf. Fritz & Sonnentag, 2005).

Strengths, Limitations, and Future Research

Strengths of the present study include the use of a longitudinal respite design, a unique examination of the role of perfectionism in the transition between leisure and work time, and the development of a promising new scale designed to assess work-related perseverative cognition during a respite. A number of study limitations should also be considered. We relied exclusively on self-report measures and this may have inflated observed relationships. Future respite studies would therefore benefit from alternative data collection approaches, such as spousal ratings of employees' cognitive preoccupation with work, and physiological indicators of stress and recovery (Cropley et al., 2006; Sonnentag, Kuttler, & Fritz, 2010).

A second limitation is that we focused on just one aspect of self-critical perfectionism (i.e., doubts about actions), and the four-item MPS-DA subscale exhibited an unexpectedly low level of internal consistency ($\alpha = .65$). Moreover, it is important to acknowledge that the divergent pattern of post-respite effects was only revealed by taking an arbitrary median split of academics' scores on this measure. Future respite research might address this measurement limitation by incorporating other dimensions of both maladaptive (e.g., concern over making mistakes) and more adaptive (e.g., high personal standards without excessive self-doubt) forms of perfectionism (see Dunkley et al., 2003; Frost et al., 1990). Researchers might also investigate the extent to which perfectionism influences workers' experiences of briefer respite periods (e.g., evenings) as well as more substantial periods away from normal work demands (e.g., sabbaticals or summer vacations; cf. Davidson et al., 2010).

A further limitation stems from our relatively small and (on average) psychologically healthy sample of academics. It would be useful for future research to examine respite to post-respite transitions among subgroups of employees showing what might be regarded as extreme or "clinical" levels of perfectionism. It is conceivable that such individuals would gain fewer well-being benefits during respite periods, and perhaps experience an even more marked reduction in well-being when resuming work. Finally, our measure of work-related worry and rumination during the respite was developed specifically for the present study, and this is the first demonstration of its reliability and validity. As scale items were informed by established measures of worry and rumination, we feel confident they capture the distinctive features of perseverative cognition. Importantly, the scale showed an encouraging degree of incremental validity beyond a range of other respite experiences.

Implications for Intervention

Our findings suggest that it may prove useful to tailor respite-oriented interventions and guidance to academics (and perhaps employees more generally) who are prone to

maladaptive forms of perfectionism and perseverative cognition about work. Workers with a tendency for worry and rumination could be encouraged to identify and pursue more active or absorbing leisure time activities that provide a focus for attention beyond repetitive cognitive content. Hahn, Binnewies, Sonnentag and Mojza (2011) recently developed a brief worksite training program that has been shown to improve various recovery experiences (including psychological detachment from work during leisure time). Perfectionist beliefs are often considered difficult to change, but cognitive-behavior therapy (CBT) interventions have been recommended for their ability to enhance perfectionists' coping resources (e.g., by reducing avoidance behavior and cultivating adaptive coping skills; Dunkley et al., 2000). More recent developments in the theory and practice of CBT suggest that mindfulness-based training can reduce the detrimental impact of both perfectionism and perseverative cognition on well-being and behavior (e.g., Baer, 2006; Delgado et al., 2010; Hayes, Follette, & Linehan, 2004; Santanello & Gardner, 2006). Such skill-based programs can be offered to all employees within an organization, thus reducing ethical concerns associated with screening employees for these personality and cognitive vulnerabilities.

Conclusion

Despite the growing interest in employees' respite and recovery experiences, we know relatively little about the individual characteristics most likely to influence the outcomes of respites from work. This research makes an important contribution by showing that perfectionist individuals can experience less durable well-being benefits following a respite from work. Our study also highlights perseverative cognition as a particularly detrimental form of poor psychological detachment from work during leisure time. It is hoped that the findings of this study encourage other researchers to explore individual differences in the propensity to gain and sustain well-being resources from non-work time.

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Footnotes

1. Please contact the corresponding author for these confirmatory factor analysis findings.
2. MANOVA revealed an overall group by time effect across all three well-being outcomes: $F(9, 54) = 2.51$, $p < .05$. The high-p academic group had higher levels of pre-respite exhaustion, anxiety, and fatigue. However, only the between-group effect for anxiety was statistically significant at Time 1. When viewed in the context of the Time 3 and Time 4 (i.e., post-respite) between-group differences, this finding suggests that well-being levels were already converging as academics approached the Easter break. This interpretation concurs with the findings of a study by Areni (2008), who found that the shift from work to free time is not sudden but instead happens over a period of time. Hence, participants in this study may have already entered what Areni refers to as the "psychological transition period" between work and the respite.

Table 1

Means, Standard Deviations, and Zero-Order Correlations

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Age	46.05	10.09	-																	
2. Gender	1.36	.48	.14	-																
3. Respite length	1.70	.80	.08	-.22	-															
4. Perfectionism T1	2.65	.83	-.25	-.05	-.01	-														
5. Hours worked T2	6.83	7.03	.05	.11	-.52	.07	-													
6. Detachment T2	3.85	2.05	-.17	-.06	.45	-.10	-.68	-												
7. Worry/ rum T2	1.00	.84	.13	-.01	.13	.29	.10	-.46	-											
8. Exhaustion T1	3.06	1.11	-.03	-.09	-.05	.32	.06	-.22	.50	-										
9. Exhaustion T2	2.43	1.00	.10	-.05	-.09	.18	.22	-.51	.63	.70	-									
10. Exhaustion T3	2.64	.96	-.02	.01	-.17	.30	.12	-.34	.58	.69	.64	-								
11. Exhaustion T4	2.51	1.00	.09	.02	-.09	.22	.05	-.32	.49	.66	.63	.66	-							
12. Anxiety T1	1.77	.94	-.02	-.17	-.07	.34	.10	-.17	.47	.69	.46	.49	.46	-						
13. Anxiety T2	1.34	.89	.04	-.20	-.04	.23	.09	-.25	.65	.52	.55	.43	.31	.56	-					
14. Anxiety T3	1.60	1.03	-.07	-.01	-.10	.28	.07	-.25	.63	.54	.45	.71	.47	.54	.58	-				
15. Anxiety T4	1.56	1.04	-.08	-.10	.01	.40	-.02	-.06	.40	.44	.25	.41	.49	.52	.35	.56	-			
16. Fatigue T1	1.70	1.07	-.02	-.15	.00	.28	.19	-.20	.34	.62	.52	.42	.32	.67	.42	.41	.41	-		
17. Fatigue T2	1.38	.93	.03	-.12	.02	.06	.15	-.30	.55	.47	.63	.39	.28	.39	.61	.40	.22	.51	-	
18. Fatigue T3	1.51	1.02	-.10	.08	-.13	.28	.14	-.29	.43	.45	.43	.66	.37	.38	.33	.68	.35	.52	.49	-
19. Fatigue T4	1.38	1.06	-.14	-.08	-.10	.40	.12	-.27	.38	.46	.39	.47	.50	.42	.35	.50	.63	.58	.39	.64

Note. $N = 77$. T1 = Time 1 (pre-respite); T2 = Time 2 (during respite); T3 = Time 3 (post-respite 1); T4 = Time 4 (post-respite 2).

Gender 1 = female, 2 = male. Respite length = weekend, extended weekend, or vacation. Detachment = psychological detachment from work. Worry/ rum = worry and rumination. Coefficients ≥ .23 significant at $p < .05$. Coefficients ≥ .29 significant at $p < .01$. Coefficients ≥ .39 significant at $p < .001$.

Table 2

Well-Being Means (and Standard Deviations) at Each Measurement Occasion as a Function of Perfectionism

		Measurement occasion			
		Time 1	Time 2	Time 3	Time 4
Exhaustion					
	Low-p	2.80 (1.19)	2.47 (1.06)	2.39 (.91)	2.33 (.91)
	High-p	3.24 (1.11)	2.44 (1.07)	2.87 (1.05)	2.68 (1.15)
Anxiety					
	Low-p	1.45 (.86)	1.24 (.88)	1.30 (.89)	1.15 (1.05)
	High-p	2.02 (1.00)	1.46 (.95)	1.89 (1.08)	1.95 (1.05)
Fatigue					
	Low-p	1.53 (.90)	1.44 (.99)	1.17 (.74)	.91 (.52)
	High-p	1.90 (1.23)	1.36 (.98)	1.83 (1.21)	1.82 (1.23)

Note. Low-p/ high-p = low/ high perfectionism. Low-p n = 29; High-p n = 35. Means computed prior to adjustment for covariates.

Table 3

Hierarchical Regression Models Examining Effect of Perfectionism on Post-Respite Well-Being

	Exhaustion (T3)		Anxiety (T3)		Fatigue (T3)		Exhaustion (T4)		Anxiety (T4)		Fatigue (T4)	
Variable	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2
Step 1:		.06		.02		.06		.07		.03		.04
Age	-.07		-.12		-.16		.00		-.13		-.19	
Job role 1	-.11		-.15		-.25		-.02		.11		-.10	
Job role 2	-.31		-.17		-.29		-.28		-.03		-.22	
Step 2:		.44***		.32***		.22**		.40***		.13*		.17**
Respite length	-.20		-.04		-.15		-.21		.01		-.12	
Hours worked T2	-.16		.01		-.03		-.21		.02		.03	
Well-being T2	.71***		.59***		.50***		.68***		.37**		.44**	
Step 3:		.05*		.04		.09**		.02		.09**		.15***
Perfectionism T1 (high-p/low-p)	.25*		.23		.34**		.17		.34**		.45***	

Note. $N = 64$ (low-p $n = 29$; high-p $n = 35$). T1 = Time 1 (pre-respite); T2 = Time 2 (during respite); T3 = Time 3 (post-respite 1); T4 = Time 4 (post-respite 2). Job role 1 = lecturer dummy variable; Job role 2 = researcher dummy variable (senior University staff served as reference category).

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

Table 4

Hierarchical Regression Models Examining Incremental Validity of Perseverative Cognition Beyond Other Respite Experiences

	Exhaustion (T3)		Anxiety (T3)		Fatigue (T3)	
Variable	β	ΔR^2	β	ΔR^2	β	ΔR^2
Step 1:		.05		.03		.05
Age	-.09		-.13		-.17	
Job role 1	-.06		-.14		-.21	
Job role 2	-.26		-.22		-.24	
Step 2:		.39***		.34***		.24***
Respite length	-.16		-.03		-.08	
Hours worked T2	-.13		.02		-.10	
Detachment T2	-.04		.06		-.21	
Well-being T2	.64***		.29*		.44***	
Step 3:		.05**		.10**		.02

Worry and rumination T2	.33**	.48**	.21

Note. $N = 77$. T2 = Time 2 (during respite); T3 = Time 3 (post-respite 1).

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

Table 5.

Bootstrapped Mediation Analyses

	Exhaustion (T3)		Anxiety (T3)		Fatigue (T3)	
Indirect effect	Est.	SE	Est.	SE	Est.	SE
High-p/low-p (T1) → worry/rumination (T2) → well-being (T3)	.15	.09	.23	.13	.16	.11
	Lower	Upper	Lower	Upper	Lower	Upper
BCa 95% CI	.03	.38	.02	.56	.02	.48

Note. T1 = Time 1 (pre-respite); T2 = Time 2 (during respite); T3 = Time 3 (post-respite 1).

Est. = bootstrapped estimate; SE = standard error. BCa 95% CI = bias corrected and accelerated confidence interval. Age, job role, respite length, hours worked during respite, and Time 2 (during respite) well-being were entered as covariates.

Figure Captions

Figure 1. Model illustrating hypothesized indirect effect of perfectionism on post-respite well-being via perseverative cognition about work during the respite (hypothesis 3)

Figure 2. Mean exahustion across measurement occasions among high and low perfectionists

Figure 3. Mean anxiety across measurement occasions among high and low perfectionists

Figure 4. Mean fatigue across measurement occasions among high and low perfectionists

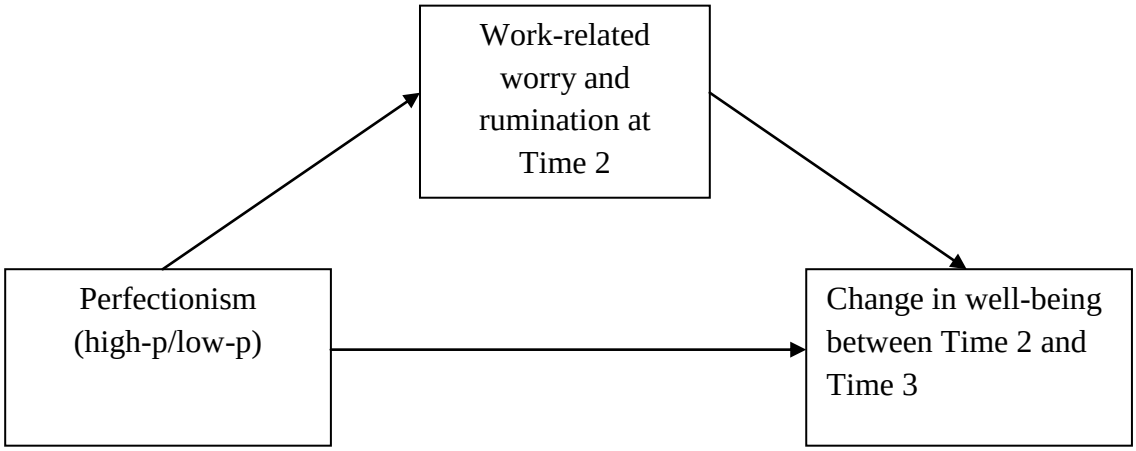


Figure 1. Model illustrating hypothesized indirect effect of perfectionism on post-respite well-being via perseverative cognition about work during the respite (hypothesis 3)

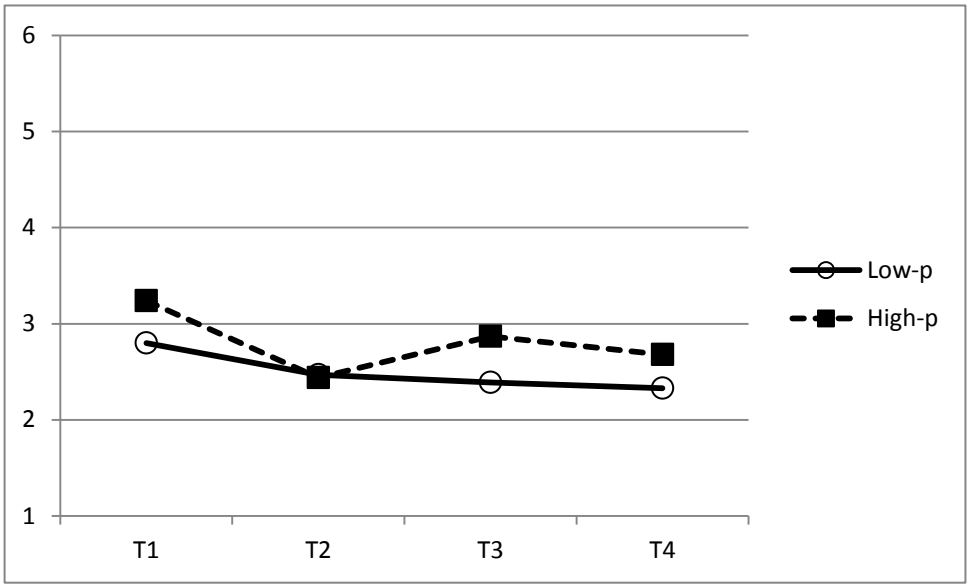


Figure 2. Mean exahustion across measurement occasions among high and low perfectionists

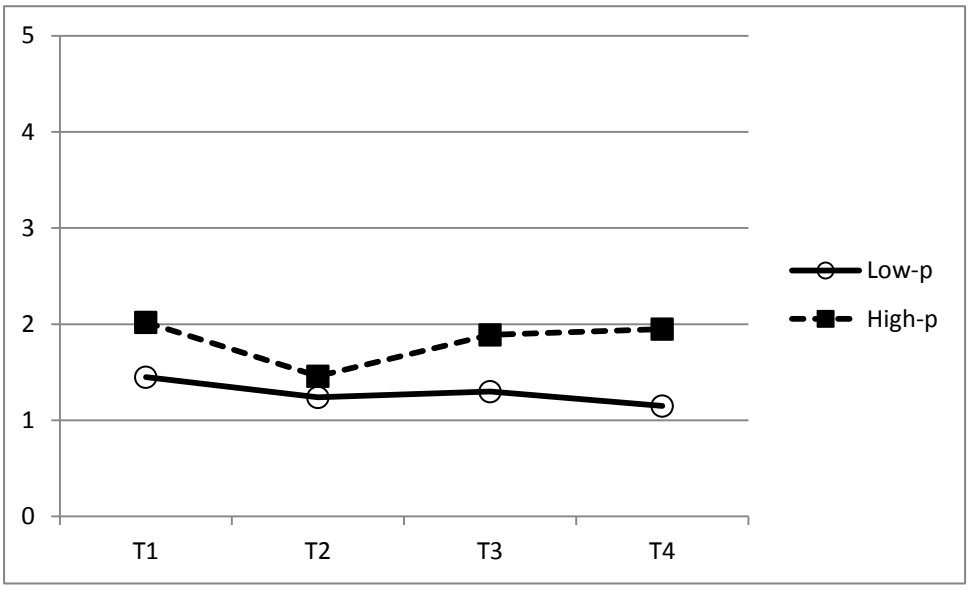


Figure 3. Mean anxiety across measurement occasions among high and low perfectionists

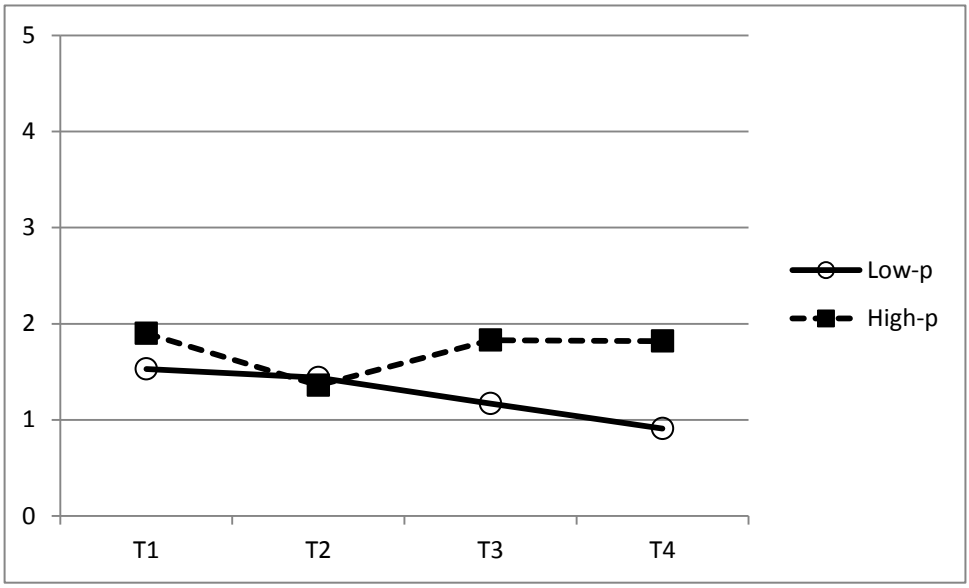


Figure 4. Mean fatigue across measurement occasions among high and low perfectionists