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Dual pathways to burnout and engagement: The role of personal goal facilitation through work, self-discrepancy and emotions

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DUAL PATHWAYS TO BURNOUT AND ENGAGEMENT: THE ROLE OF PERSONAL GOAL FACILITATION THROUGH WORK, SELF-DISCREPANCY AND EMOTIONS

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Dual Pathways to Burnout and Engagement: The Role of Personal Goal Facilitation through Work, Self-Discrepancy and Emotions

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I hereby declare that this PhD dissertation is my original work and it has been written by me in its entirety. I have duly acknowledged all the sources of information which have been used in this dissertation.

This PhD dissertation has also not been submitted for any degree in any university previously.

Tang Bek Wuay
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According to the job-person fit framework, workplace burnout is often exacerbated by mismatches between the characteristics of the employee and the organization. Consistent with this view, past research has found that employees who perceive low personal goal facilitation through work (PGFW) report higher levels of burnout. However, personal goals were often assessed nomothetically, based on the assumption that individuals across occupational groups share similar personal goals they would like to achieve through work. The current research took an idiographic approach by examining if PGFW assessed based on individuals' uniquely defined personal goals would predict burnout and work engagement. In addition, the role of self-discrepancy and emotions were examined as possible mechanisms through which high PGFW may reduce burnout. Across two samples of general working adults (Study 1) and teachers (Study 2) in Singapore, we found that higher PGFW, based on uniquely defined personal goals, significantly predicted lower burnout and greater work engagement. Furthermore, we found that this relationship was consistently explained by perceptions of lower discrepancy between the ideal and actual self, and more positive emotions. In contrast, perceptions of discrepancy between the ought and actual self and negative emotions did not consistently explain this relationship. The current findings suggest that workplace interventions to reduce burnout and improve engagement could target increasing employees' sense of personal goal facilitation, particularly in ways that help them achieve

their ideal self. Other implications of the current research on the theory of burnout and work engagement will be discussed.

Keywords: burnout, engagement, goal facilitation, self-discrepancy, emotions

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Dedication

To my mother, Lau Moey Soon, for her undying support and love.

And to the silly woman from 2017, who just wanted to properly learn research.

Introduction

Assuming a standard 40-hour work week, full-time working adults spend about a quarter of their total time at work, and that could be a conservative estimate. Given that people spend so much time at work, work can contribute greatly to well-being, for better or for worse. People look to employment as a means to achieving meaning in life and personal development (Russell, 2008). Therefore, it is not surprising that employed individuals reported higher well-being than those who are unemployed (Luhmann et al., 2012; McKee-Ryan et al., 2005). At the same time, other lines of research illustrated a darker aspect of work, in which work demands can bring about poorer well-being. For example, overwhelming work responsibilities can hinder our capacity to fulfil our familial responsibilities, resulting in work-to-family conflict and negative personal outcomes (Boyar et al., 2003; Hall et al., 2010). This was supported by a meta-analysis of 261 effect sizes, which found that work-to-family conflict was associated with heightened stress, lower life satisfaction, and lower health (Amstad et al., 2011).

Specific to the workplace, employee well-being can be indicated by experiences of burnout and its close counterpart of work engagement. Burnout is defined as a negative psychological syndrome that arose in response to chronic stressors experienced at work (Maslach et al., 2001). The experience of burnout includes feelings of being emotionally exhausted, having detached and depersonalised relationships with clients and colleagues, and a reduced sense of personal accomplishment (Maslach & Jackson, 1981, 1984, 1986). Conversely, work engagement is a positive persistent state, consisting of vigour, dedication and absorption (Schaufeli et al., 2006). Engaged employees experience work as being fun, even though they may be also expending a lot of time and effort in their work (Schaufeli & Salanova, 2011).

A large body of work has examined how burnout and work engagement are linked to the degree of fit experienced at work. Past research has mainly explored the role of fit defined

as perceived mismatches between job demands and job resources (Bakker & Demerouti, 2007, 2017), or perceived misalignments between the characteristics of the individual and the organization (Cable & Edwards, 2004; Leiter & Maslach, 1999) These works tend to consider fit in ways that impact one's ability to carry out their jobs or individuals' alignment with the organization, regardless of personal goals. However, much less research has looked into fit that is personal goal-directed. This dissertation examined whether and how the perception of personal goal facilitation through work (PGFW) as defined by the individual would predict the key dimensions of burnout and work engagement.

This dissertation aims to achieve two key goals. First, it aims to extend the current understanding of job-person fit theories of burnout by focusing on the importance of personal goals pursuit in the course of work. Unlike existing works where participants assessed their levels of PGFW based on researcher-defined personal goals, the current research took an idiographic approach by asking participants to evaluate their levels of PGFW based on self-defined personal goals. Second, it aims to elucidate the psychological processes involved in how personal goal pursuits at work affect burnout and work engagement, focusing on the role of self-discrepancy and emotional states as serial mediators. We hypothesized that PGFW will predict the burnout dimensions of emotional exhaustion and depersonalisation, and all engagement dimensions through an affective pathway of perceived self-discrepancy, followed by positive and negative emotions elicited by the perceived discrepancy. On the other hand, we expected PGFW to be linked to the burnout dimension of reduced personal accomplishment and engagement dimensions through perceived self-discrepancy only, non-contingent on affect.

Burnout

The experience of burnout was first characterized by Maslach (1973, 1976) through qualitative analyses of interviews with professionals who were in human services (e.g. doctors, nurses, and social workers), whose main goal was to provide help to people in need. Based on

this initial work, researchers identified three dimensions in the experience of burnout: *Emotional exhaustion*—which describes the experience of feeling emotionally spent; *depersonalisation*—adopting an excessively detached or distanced response towards others; and *reduced personal accomplishment*—an evaluation that one is unable to meet the demands of the job (Maslach & Jackson, 1981, 1984, 1986). With further empirical work based on the original dimensions, the construct of burnout was extended to a broader range of professions (Schaufeli & Buunk, 2004). This resulted in the use of broader corresponding labels such as exhaustion, cynicism, and reduced professional efficacy (or sense of inadequacy) to describe burnout that occur in general work settings (Feldt et al., 2014; Maslach & Leiter, 2016).

The burnout dimensions can also be understood using the stress-strain-coping framework, in which emotional exhaustion is viewed as a symptom of strain resulting from stressors at work and depersonalisation as a coping strategy (Lee & Ashforth, 1990). Based on this framework, reduced personal accomplishment can then be considered as an outcome of the stress-strain-coping sequence (Lee & Ashforth, 1990). However, there have been disagreements on whether all these dimensions occur sequentially in this order, or if they could occur in parallel (Dierendonck et al., 2001; Leiter, 1993; Leiter & Maslach, 1988; Maslach et al., 2001). For example, while Leiter & Maslach (1988) had conceptualized burnout to progress from emotional exhaustion to depersonalisation to reduced personal accomplishment, another group of researchers proposed that burnout starts with depersonalisation, followed by reduced personal accomplishment to emotional exhaustion (Golembiewski & Munzenrider, 1988).

For emotional exhaustion and depersonalisation, their association in the development of burnout is relatively clear now. As highlighted earlier, most research has considered emotional exhaustion to be the first sign of burnout that is triggered by chronic stress at work and has conceptualized depersonalisation as a coping strategy that follows emotional exhaustion (Lee & Ashforth, 1993; Leiter & Maslach, 1988; Maslach et al., 2001; Schaufeli &

Buunk, 2004). This was supported by a meta-analysis consisting of 48 longitudinal studies, which found that the effect of emotional exhaustion on later depersonalisation was significantly larger than the effect of depersonalisation on later emotional exhaustion (Guthier et al., 2020). However, their associations with sense of personal accomplishment were less obvious. Other than conceptualizing reduced personal accomplishment as a downstream consequence of emotional exhaustion and/or depersonalisation (Lee & Ashforth, 1993; Leiter & Maslach, 1988), reduced personal accomplishment has also been proposed to occur in parallel with emotional exhaustion and depersonalisation, and have different predictors (Leiter, 1993; Maslach et al., 2001). In particular, reduced personal accomplishment was theorized to be closely associated with the lack of critical resources to complete one's work, while emotional exhaustion and depersonalisation would be associated with demanding work conditions such as work overload and conflicts (Leiter, 1993).

There could also be gender differences in the development of burnout. In a longitudinal study examining burnout among general practitioners, they found that the onset of burnout begins with emotional exhaustion for women, followed by depersonalisation and reduced personal accomplishment (Houkes et al., 2011). In comparison, the development of burnout for men appeared to be triggered by depersonalization, followed by emotional exhaustion. For men, personal accomplishment was not associated with both depersonalisation and emotional exhaustion.

Work Engagement

Work engagement was first conceptualized as a state opposite to burnout (Schaufeli et al., 2006; Schaufeli & Bakker, 2003; Seppälä et al., 2008). Following the conceptualisation of burnout, work engagement was theorized to also consist of three dimensions: vigour, dedication and absorption (Schaufeli et al., 2006). *Vigour* is characterized by high levels of

energy, mental resilience and persistence towards work. *Dedication* reflects high involvement in one's work and experiencing enthusiasm, meaning, inspiration and pride at work. *Absorption* refers to the feeling of being focused and engrossed at work. Conceptually and empirically, work engagement also overlap considerably with the higher order factor of job attitudes (r = .77), consisting of job satisfaction, affective commitment, and job involvement (Newman et al., 2010). While work engagement has often been conceptualized and examined as a state opposite to burnout (Schaufeli & Bakker, 2003; Schaufeli, et al., 2006; Seppälä et al., 2008), existing data suggested that only depersonalisation and dedication could be considered as representing low and high ends of the same dimension (Demerouti et al., 2010; Mäkikangas et al., 2012). Consequently, researchers cautioned that low burnout does not necessarily imply high engagement (Demerouti et al., 2010; Mäkikangas et al., 2012; Schaufeli & Salanova, 2011).

Antecedents of Burnout and Work Engagement

Research on the antecedents of burnout began with a focus on the distinct roles of individual and situational factors (Maslach et al., 2001). For individual factors, past research has examined demographic variables (e.g. gender; Maslach et al., 2001), personality traits (Patel et al., 2018; Swider & Zimmerman, 2010), and types of emotional regulation strategy used in occupations that required emotional labour (e.g., in social work or customer service work; Brotheridge & Grandey, 2002; Grandey, 2000). In terms of demographics, younger physicians and female physicians were consistently observed to have a higher likelihood of experiencing burnout as compared to older and male physicians (Patel et al., 2018). Other than demographics, a meta-analysis revealed that personality dimensions of neuroticism, extraversion, agreeableness, and conscientiousness had modest to moderate correlations with all dimensions of burnout (rs = -.38 to .52), with neuroticism showing the strongest association (Swider & Zimmerman, 2010).

For work engagement, the effect of demographic variables was mixed. In some studies, age and gender were also significant predictors, such that older people were more likely to report higher levels of vigour (Van den Broeck et al., 2008) and women were more likely to report higher absorption (Hyvönen et al., 2009). On the other hand, another study showed that demographic variables such as age, marital status and level of education did not predict work engagement (Koyuncu et al., 2006). In contrast to demographic variables, personality traits were more strongly associated with work engagement, with a meta-analysis suggesting that positive affectivity, proactive personality and conscientiousness were the strongest predictors (Young et al., 2018).

The way individuals respond to emotional demands at work also predicts burnout and work engagement. In regard to emotional regulation strategy, surface acting, in which the expressed emotion is not aligned with the experienced emotion, was positively associated with burnout (Brotheridge & Grandey, 2002; Brotheridge & Lee, 2002; Hülsheger & Schewe, 2011; Yagil, 2012). In contrast, individuals who aligned their internal experienced emotions with the required emotion by reappraising their emotions (i.e. deep acting) were more likely to report higher personal accomplishment (Brotheridge & Grandey, 2002) and work engagement (Yagil, 2012).

On the other hand, situational factors of burnout and work engagement have been studied in relation to job characteristics and the workplace context, with much of the research guided by the Job Demands and Resources (JD-R) theory (Bakker & Demerouti, 2017; Demerouti et al., 2001). Under the JD-R framework, job demands reflect aspects of the job that requires employees to exert either sustained physical or psychological effort, while job resources refer to aspects of the job that (a) help individuals to achieve their work goals, (b) reduce the associated physiological and psychological costs of attaining work goals, and (c) provide personal growth and development (Demerouti et al., 2001). According to the JD-R

theory, job demands and job resources were found to directly predict burnout and work engagement respectively (Bakker & Demerouti, 2017; Schaufeli & Bakker, 2004). Critically, the JD-R theory also postulated that job resources and other personal resources, such as optimism and self-efficacy, have interactive effects on burnout and work engagement (Bakker & Demerouti, 2017). Hence, even when job demands are high, individuals are likely to experience lower levels of burnout if job resources are also high (Bakker et al., 2005; Guthier et al., 2020). Similarly, research also found that the positive association between self-efficacy and work engagement was stronger when emotional job demands were high (Xanthopoulou et al., 2013).

Although the JD-R theory assumes that job demands are perceived similarly across individuals (Bakker & Demerouti, 2017), other research has found that individuals could differ in their appraisal of the same job demands, which predicted burnout differently. In a study by Webster, Beehr & Love (2011), non-teaching staff at university evaluated same job demands as both a challenge and a hindrance. Those who construed their experiences as challenges saw their work stressors as opportunities to achieve higher performance, whereas those who construed their experience as hindrance saw their work stressors as interfering with their personal goals and development. Consequently, the researchers found that the positive association between job demands and emotional exhaustion was mediated only by hindrance appraisals and not challenge appraisals (Webster et al., 2011). Similarly, qualitative research on personal role engagement also found that people were motivated by challenge demands to engage themselves wholeheartedly in their work because these demands provided a sense of purpose and achievement (Fletcher, 2017). These findings suggest that the influence of job demands on burnout can be contingent on individual appraisals of demands.

Outcomes Associated with Burnout and Work Engagement

When individuals experience burnout, they are more likely to experience psychological problems, such as anxiety, depression, alcohol dependence, lower levels of subjective well-being (Ahola, 2007; Greenglass & Burke, 1990; Hakanen & Schaufeli, 2012; Hillhouse et al., 2000; Peterson et al., 2008). They may also experience declines in physical health, such as body aches, poorer sleep quality, poorer memory, and increased risk for coronary heart disease (Ahola, 2007; Appels & Schouten, 1991; Kim et al., 2011; McKnight & Glass, 1995; Peterson et al., 2008). At the organizational level, burnout also negatively impacts on job attitudes and overall organizational performance. In a large-scale meta-analysis of 115 different studies, higher burnout was associated with higher absenteeism, turnover, and lower job performance (magnitude of multiple correlation between .23 to .36; Swider & Zimmerman, 2010). Another meta-analysis also found that burnout was associated with lower levels of customer satisfaction, organizational citizenship behaviors, and in-role performance ($r = -.19$ to $-.55$; Taris, 2006). Individuals who were burned out also demonstrated higher levels of counterproductive work behaviors, such as stealing, avoiding work, or engaging in harmful behaviors towards others (Liang & Hsieh, 2007; Smoktunowicz et al., 2015).

In contrast to the negative outcomes associated with burnout, work engagement was associated with a myriad of positive outcomes. At the personal level, higher work engagement was correlated with healthier cardiac autonomic activity (Seppälä et al., 2012), better mental health (Tisu et al., 2020) and increased levels of happiness, for both the employee themselves and their partners (Rodríguez-Muñoz et al., 2014). At work, engaged employees were also more likely to show higher job performance, both in-role and extra-role (Christian et al., 2011; Halbesleben, 2010; Halbesleben & Wheeler, 2008; Tisu et al., 2020; Xiong & Wen, 2020; Yalabik et al., 2013). In one study involving 587 employees from different industries (e.g. education, healthcare, banking and finance), work engagement at Time 1 predicted higher in-

role job performance two months later, and the findings were replicated across three sources of information: self-reported performance, supervisor-rated performance and co-worker rated performance (Halbesleben & Wheeler, 2008). Meta-analytic findings also revealed that work engagement was associated with greater organizational commitment and lower turnover intentions (Halbesleben, 2010). Given the negative and positive outcomes associated with burnout and work engagement respectively, a better understanding of predictors that result in burnout and work engagement is important to improve both employee well-being and organizational functioning.

Considering Person-Environment Fit in Predicting Burnout and Work Engagement

While past research on the antecedents of burnout and work engagement usually focused on either individual or situational factors, more emphasis has been given to the role of job-person fit (Maslach et al., 2001)—the degree to which employees experience mismatches in their expectations of the job to the actual job requirements set up by the organization (Leiter & Maslach, 1999). The key idea underlying the job-person fit perspective of burnout is that "the absolute level of an organizational problem is not the critical issue but the extent to which work demands are consistent with staff members' expectations of the job" (Leiter & Maslach, 1999, p. 473). In other words, burnout varies not as a function of job demands per se, but rather, whether the job demands are misaligned with employees' expectations. Therefore, the greater the misalignment or mismatch (i.e., low fit), the greater likelihood of burnout.

Within the burnout literature, mismatches between job demands and personal expectations have been theorized to occur in any of the six identified work domains, namely: workload, control, reward, community, fairness, and values (Leiter & Maslach, 1999). Mismatch in *workload* refers to having job demands that far exceed available resources. Mismatch in *control* refers to having either too little or too much control or responsibility over their work responsibilities. A mismatch in *rewards* can occur when monetary or intrinsic

rewards given do not commensurate the amount of contributions at work. Employees may also experience a mismatch in *community* when there is a lack of positive social connection and support at the workplace, as well as a mismatch in *fairness* when injustices are perceived in the workplace. Finally, a mismatch in *values* is experienced when the job requires the employee to engage in behaviours that are not aligned with their own values.

However, integrating with broader literature on person-environment fit, the aforementioned mismatches in work domains can be more parsimoniously categorized into complementary fit and supplementary fit (Cable & Edwards, 2004). *Complementary fit* refers to the match between demand and supply between organizations and individuals. Specifically, complementary fit can be considered in terms of the match between the job's demands and the abilities of the employee (i.e. demands-abilities fit), or the match between employees' needs and the rewards or resources that they receive for their work (i.e. needs-supplies fit; Cable & DeRue, 2002). On the other hand, *supplementary fit* depends on the similarities in characteristics between organizations and individuals, typically represented in terms of value congruence (e.g. whether the organization and individual both agree that honesty is important; Cable & Edwards, 2004) While the research on the six areas of worklife and person-environment fit come from distinct literature, there is overlap between the two. The clearest example would be the overlap between mismatch in values from the areas of worklife and supplementary fit. We can also consider mismatch in fairness as complementary fit as it represents the agreement between organization and individuals on what is considered fair. On the other hand, mismatches in other domains of work (i.e. workload, control, community, rewards) can be understood in terms of complementary fit. Specifically, mismatches in workload and control are similar to demands-abilities fit, and mismatches in community and rewards can constitute needs-supplies fit.

Overall, research shows that low complementary fit predicts greater burnout and less work engagement. In line with the JD-R theory, when individuals perceived that their abilities or skills were unable to match up with the demands of the job (i.e. low demands-abilities fit), they were more likely to experience higher levels of burnout (Brom et al., 2015; Diefendorff et al., 2016). Similarly, lower needs-supplies fit also predicted lower work engagement (Vogel et al., 2020) and higher levels of burnout (Travaglianti et al., 2016). As people primarily seek employment to gain access to the resources provided by the job/organization, Cable and DeRue (2002) reasoned that needs-supplies fit would be the most important type of fit from the employee's perspective and would be most predictive of job attitudes as compared to other types of fit. Supporting this view, when all three types of person-environment fit constructs were included in the same analysis, only needs-supplies fit was predictive of job satisfaction, career satisfaction and occupational commitment (Cable & DeRue, 2002).

Value congruence also appear to be particularly important in predicting burnout and engagement. Specifically, perceived low fit between individual and organizational values predicted higher levels of burnout (Brom et al., 2015; Dyląg et al., 2013; Kilroy et al., 2017; Leiter et al., 2009; Lindblom et al., 2006; Roczniewska et al., 2018; Siegall & McDonald, 2004; Tong et al., 2015; Veage et al., 2014). In one particular study, respondents who reported a mismatch in values were 35 times more likely to report high levels of burnout (i.e. above 75th percentile for exhaustion and for cynicism) as compared to those who have reported a match; Lindblom et al., 2006). Using a time-lagged design, Kilroy and colleagues (2017) also found that higher value congruence at Time 1 predicted lower exhaustion and depersonalisation scores three years later, which provided some evidence on the direction of causality. Similar findings had also been found for work engagement, in which higher value congruence predicted higher work engagement (Peng et al., 2014; Ünal & Turgut, 2015). Together, these

findings suggested that value congruence, or supplementary fit, is an important factor in determining workplace well-being.

There are two main approaches in assessing person-environment fit. The first approach involves the use of subjective measures such as the Areas of Worklife scale that was created by Leiter & Maslach (1999) and a similar scale by Cable & DeRue (2002). In these scales, employees to evaluate statements of match or mismatch with their organization. For example, for the needs-supplies scale, individuals rate their extent of agreement on statements such as "There is a good fit between what my job offers me and what I am looking for in a job" (Cable & DeRue, 2002). The second approach captures fit relatively more objectively by calculating discrepancy scores (Dyląg et al., 2013; Leiter et al., 2009). For instance, individuals would be asked to rate how important the values are to them and to their organization separately. Researchers would then subtract the organizational importance rating of a value from the personal importance rating of the same value, and take the mean of discrepancy scores for all values in the scale as an indicator of value mismatch (Dyląg et al., 2013).

PGFW as Predictor of Burnout and Engagement

PGFW is "the perception of the extent to which one's job facilitates the attainment of one's personal goals" (Doest et al., 2006, p. 192). Building on the person-environment fit perspective, the current dissertation aimed to investigate how perceptions of PGFW may affect burnout and work engagement by focusing on fit that is personal goal-directed. Given that the workplace is an important platform for individuals to attain their personal goals and develop themselves (Ward & King, 2017), several studies have found that psychological perceptions of having a job that can facilitate one's personal goals predicted lower emotional exhaustion (Doest et al., 2006; Pisanti et al., 2016), higher personal accomplishment (Doest et al., 2006) and higher work engagement (Pisanti et al., 2016). However, research has yet to operationalise

PGFW by considering the idiographic perspective nor explored the psychological mechanisms through which PGFW influences burnout and work engagement.

We propose that perceptions of PGFW would be informed by both person-organization fit, in terms of value congruence, and needs-supplies fit. Firstly, personal goals are closely related to one's personal values. Whereas values are abstract representations of beliefs that are important to an individual, personal goals are more concrete outcomes that individuals set to achieve, which can be value-driven (Rokeach, 1973; Schwartz, 1992). In making vocational decisions, people do consider if a job is likely to fulfil personal goals that are value-based (Elias et al., 2018). For instance, a person may in general value freedom and self-direction. In more specific and concrete terms, this can translate into developing a personal goal of exercising personal autonomy at work and seeking jobs that will fulfil or facilitate such a goal. Depending on whether the person's eventual job actually supports high or low autonomy, it may result in high or low PGFW, respectively. Accordingly, we reason that the level of PGFW is fundamentally based on perceived match between one's personal value-directed goal and whether the job or organization actually helps to fulfil the goal.

Secondly, PGFW also reflects needs-supplies fit, as it represents the degree to which the attainment or progress of employees' personal goals can be met by the resources or opportunities given by their job. While conventional measures of needs-supplies fit asks participants to broadly evaluate if their job offers that they want from a job (Cable & DeRue, 2002; Cao & Hamori, 2020; Vogel et al., 2020), the assessment of PGFW specifically directs individuals to evaluate needs-supplies fit in terms of the goals that are most important to them. As the attainment of personal goals has been strongly tied to well-being (Brunstein, 1993; Brunstein et al., 1999; Emmons, 2003; Harris et al., 2003), organizational rewards and resources that supports the attainment of important personal goals should be associated with higher burnout and lower engagement.

Being at the intersection between value congruence and needs-supplies has the advantage of capturing the bottom-line of what matters most to individuals. As noted by Cable and DeRue (2002), needs-supplies fit can be high even if person-organization fit is low. This suggests that employees can still be satisfied with their jobs because of the rewards associated with their jobs, even if they perceive a mismatch between themselves and the organizational values or climate. Similarly, the reverse can be true. Even if individuals strongly identify with the organization's values (e.g. to help low-income families to attain financial stability), there could be barriers or situational constraints that prevent them from fulfilling these values in reality. In this scenario, while person-organization fit may be high, there is low needs-supplies fit because of insufficient resources at work for employees to live out their values. Hence, in considering the facilitation of personal goals through work, individuals can provide a more holistic evaluation of how their jobs contribute to important personal goals.

To date, two studies have examined the effect of PGFW on burnout, specifically among healthcare professionals (Doest et al., 2006; Pisanti et al., 2016). Of which, work engagement was included as an outcome variable only in Pisanti et al. (2016). In these studies, PGFW was assessed by a scale that measured the extent of goal facilitation through work for nomothetic personal goals that are assumed to be universal across individuals (Doest et al., 2006, p. 219). The shared personal goals in the scale spanned across the domains of personal growth, physical well-being, social relationships and self-confidence. The items included "learning new things", "being healthy", "maintaining good social relationships". Burnout was assessed as the three dimensions of emotional exhaustion, depersonalisation, and personal accomplishment using the MBI - Human Services Survey (MBI-HSS). Findings from both studies revealed that among health care professionals (e.g., nurses), higher reports of PGFW were associated with lower levels of emotional exhaustion (*r*s = -.19 to -.44; Doest et al., 2006; Pisanti et al., 2016) and higher levels of personal accomplishment (rs = .19 to .41; Doest et al., 2006; Pisanti et al.,

2016), but was not significantly associated with depersonalisation (r = -.09; Pisanti et al., 2016). Higher PGFW was also associated with higher composite scores on work engagement (r = .44; Pisanti et al., 2016). These patterns remained even after controlling for job demands and resources.

While past research supported the basic associations between PGFW, burnout and work engagement (Doest et al., 2006; Pisanti et al., 2016), research in this area has yet to address several critical limitations. First, as both studies were focused on examining burnout among healthcare professionals, it is unclear if these patterns of findings would generalize to other professions. Second and relatedly, PGFW in both studies were assessed in specific domains of personal growth, physical well-being, social relationships and self-confidence, and reflect nomothetic personal goals that are assumed to be shared by all healthcare professionals. Although this assumption may be valid within a homogeneous group of healthcare professionals, it is less so when a broader and more diverse range of professions is considered. Even in within the same healthcare profession, as in these existing studies, there may be considerable variation in the relevance of these specified nomothetic goals. For example, while maintaining social relationships may be an important general goal, individuals may prioritize this goal to different degrees at work. Consequently, if these goals are not deemed important or of high priority to the individual when at work, poor facilitation of these goals through work may have a lesser impact on burnout and engagement as compared to goals that are personally important. Finally, the potential underlying mechanisms that articulate why low perceived PGFW should predict greater burnout has yet to be examined. There is also a similar gap in research on needs-supplies fit and values fit, where few research has examined *how* poor fit influences burnout or work engagement. Evidence for a specific mechanism will be important for extending the current understanding the job-person fit model of burnout, and highlighting

potential targets for intervention aimed at reducing workplace burnout due to low job-person fit.

Overall, the current dissertation aims to close these gaps in the existing literature. The first goal is to establish the basic association between PGFW, assessed as *idiographic* personal goals, and the dimensions of burnout across more diverse occupational groups. In contrast to nomothetic goals, idiographic goals are subjective goals that are unique and specific to the individual. For example, one social worker might identify "providing financial support for low-income families" as a personal goal, whereas another social worker might have a personal goal of "improving interpersonal communication and empathy for others". The idiographic approach allows respondents to consider important personal goals that constitute a broader personal meaning and value of their work to their lives. In other words, the use of idiographic personal goals allows individuals to consider their self-defined personal goals that are more important and meaningful for the individual. Using this different approach and as well as a sample of broader occupational types, we expect that PGFW correlate negatively with burnout and positively with work engagement, consistent with the job-person fit perspective of burnout. This leads to the first hypothesis of the current research:

H1: *Higher PGFW, assessed idiographically, will be associated with a) lower levels of emotional exhaustion, b) lower levels of depersonalisation, and c) higher levels of personal accomplishment.*

H2: *Higher PGFW, assessed idiographically, will be associated with higher levels of a) vigour, b) dedication, and c) absorption.*

Self-discrepancy as a Mediator of PGFW

The second goal of the current research proposal is to examine a potential mechanism through which PGFW may predict burnout and work engagement. According to Maslach and Leiter (2017), people who experience burnout have "lost a psychological connection to their

jobs that has implications on their motivation and identity" (*p*. 41). Similarly, Edwards (1992) has also theorised that stress at work is the result of discrepancy between perceptions and desired states in domains that are important to the individuals. Although psychologists have suggested that self-discrepancy may be an important determinant of organizational stress and burnout, few studies have tested this hypothesis empirically. Therefore, drawing on self-discrepancy theory, we examined if PGFW would elicit perceptions of discrepancies between individuals' ideal or ought selves and their actual selves, and subsequently influence the different dimensions of burnout and work engagement.

Self-discrepancy theory is based on the fundamental idea that individuals can hold multiple self-concepts, which can be categorized according to the domains of the self and standpoints of the self (Higgins, 1987). The domains of the self include the actual self, ought self and the ideal self. The *actual self* refers to the qualities that one currently possesses; the *ideal self* refers to the attributes that one should ideally possess; and *ought self* refers to the qualities that one should possess because of existing responsibilities or obligations. The presence of these attributes can be evaluated from two standpoints of the self, namely from one's own standpoint and from the standpoints of significant others (e.g. parents, close friends, romantic partners).

Self-discrepancy theory also posits that the inconsistencies that arose between the different self-concepts and the actual self would give rise to different negative emotional states (Higgins, 1987; Higgins et al., 1985). Four main types of self-discrepancies are considered in the theory: actual/own versus ideal/own, actual/own versus ideal/others, actual/own versus ought/own, and actual/own versus ought/others (Higgins, 1987; Higgins et al., 1985). Discrepancies between the actual and ideal selves reflect an absence of positive outcomes and are associated with dejection-related emotions (Higgins, 1987; Higgins et al., 1985). Specifically, discrepancy between actual/own and ideal/own should predict feelings of

dissatisfaction and disappointment, whereas discrepancy between actual/own and ideal/others should predict shame, embarrassment and feeling downcast. On the other hand, discrepancies between the actual self and the ought selves reflect the presence of negative outcomes and are associated with agitation-related emotions (Higgins, 1987; Higgins et al., 1985). While discrepancy between actual/own and ought/own should predict feelings of guilt, self-contempt and uneasiness, discrepancy between actual/own and ought/own others should predict fear, feeling threatened, and possibly resentment towards others. Regardless of the type of discrepancy, the intensity of the emotion would depend on the magnitude of self-discrepancy (Higgins, 1987; Higgins et al., 1985).

Self-discrepancy is usually assessed either by calculating the difference in the ratings between the actual self and the ideal or ought self, or by getting individuals to subjectively evaluate the extent of perceived similarity between their actual self and ideal or ought self. One example of the difference score approach is the Selves questionnaire (Higgins et al., 1985). In this questionnaire, participants would freely list up to 10 adjectives for each self domain and standpoints of the self. A thesaurus had to be used to code if the adjectives listed for each self-concept were synonyms (i.e. words that were similar in meaning) or antonyms (i.e. words that were opposite in meaning) of one another. Self-discrepancy would be computed by subtracting the number of synonyms from the number of antonyms between two self-concepts. Greater self-discrepancy was indicated by a higher positive score. On the other hand, one example of the latter approach where self-discrepancy is evaluated subjectively is the Integrated Self-Discrepancy Index (Hardin & Lakin, 2009). Similar to the Selves questionnaire, participants would list five adjectives to describe each of their self-concepts, although they could also choose to modify their list of adjectives using a list of 100 adjectives provided. Self-discrepancy would then be determined by participants' own ratings of how much each adjective

would describe their current self (i.e. 1 = *completely applies to me*, 5 = *doesn't apply to me at all*).

Consistent with our conceptualisation of PGFW, we reasoned that discrepancies between the domains of selves are essentially rooted in the ideas of match or fit—when the actual self does not match the ideal or ought self. Given that the workplace can be an important source of one's self-concept (J. L. Pierce et al., 1989), we hypothesized that mismatch signalled from PGFW (i.e. does my current job help me reach my personal goal?) will likely activate self-discrepancies (i.e. is my current self approaching my ideal or ought self through my job?). This leads to the second hypothesis of the current research:

H3: *Higher PGFW will be associated with lower perceived discrepancy between a) actual self and ideal self, and b) actual self and ought self.*

Dual Pathways to Burnout and Work Engagement

We theorize that PGFW would be associated with burnout dimensions via two pathways associated with self-discrepancy, either via self-discrepancy only (i.e. cognitive pathway), or sequentially mediated by both self-discrepancy and the emotions elicited by self-discrepancy (i.e. affective pathway). As past research tends to find that negative emotions (e.g., depression, stress) are more strongly linked to emotional exhaustion and depersonalisation than to reduced personal accomplishment (Leiter & Durup, 1994; Raedeke et al., 2013), we reasoned that the more affective dimensions of burnout would be indirectly associated with PGFW via an affective pathway. In other words, when low PGFW elicits higher self-discrepancy, this should elicit negative emotional states that increase emotional exhaustion and depersonalisation.

Although the self-discrepancy theory predicted that distinct types of emotions would be linked to each type of self-discrepancy, this was only observed in a handful of empirical studies (Barnett et al., 2017; Hardin & Lakin, 2009; Higgins et al., 1985; K. M. Pierce et al.,

1999). In contrast, most empirical findings have found that the different types of self-discrepancy predicted a range of negative emotions that did not always follow the dejection and agitation distinction (McDaniel & Grice, 2008; Ozgul et al., 2003; Tangney et al., 1998). In the most recent meta-analysis of 70 studies, Mason et al (2019) found that the self-discrepancy was associated with greater negative affect and lower positive affect in general, with no evidence that the type of self-discrepancy would differentially predict depression or anxiety. Based on this body of evidence, we expected that self-discrepancy would be more likely to be linked to general negative and positive emotional states rather than the specific subtypes of dejection or agitation emotions, regardless of the type of discrepancy.

On the other hand, personal accomplishment reflects one's cognitive evaluation of their ability to carry out the demands of their job, which is less affective in nature. Hence, just as self-discrepancies have also been shown to directly predict life satisfaction (Reich et al., 2013) and self-esteem (McDaniel & Grice, 2008; Moretti & Higgins, 1990; Renaud & McConnell, 2007), which are primarily cognitive evaluations, we expected that higher self-discrepancy elicited by PGFW would directly predict lower levels of personal accomplishment, without involving emotional states.

For work engagement dimensions, we hypothesized that PGFW would predict work engagement via both the affective and cognitive pathways as work engagement has been conceptualised as consisting of both affective and cognitive components (Schaufeli et al., 2002). For example, the dimension of dedication includes both the cognitive belief that one identifies with one's job, but also the affective experience of enthusiasm, inspiration and pride (Schaufeli et al., 2002). Consistent with this conceptualisation, engagement dimensions were correlated with both greater positive affect (Bledow et al., 2011; Ouweneel et al., 2012; Wang et al., 2017) and lower negative affect (Bledow et al., 2011). Hence, we hypothesized that the

indirect effect of PGFW on engagement dimensions will be mediated by self-discrepancy only, and sequentially via self-discrepancy and the emotions elicited by self-discrepancy.

Overview of Mediation Hypotheses

Taken together, we hypothesized the following for the affective pathways:

H4: *The association between higher PGFW and a) lower emotional exhaustion, b) lower depersonalisation, and c) higher work engagement dimensions will be mediated by lower self-discrepancy followed by lower negative affect.*

H5: *The association between higher PGFW and a) lower emotional exhaustion, b) lower depersonalisation and c) higher work engagement dimensions will be mediated by lower self-discrepancy followed by higher positive affect.*

We also hypothesized that the association between PGFW with personal accomplishment and work engagement dimensions will be mediated via the cognitive pathway of self-discrepancy only:

H6: *The association between higher PGFW, and a) higher personal accomplishment, and b) higher work engagement dimensions, will be mediated directly by lower self-discrepancy, and not by negative or positive affect.*

The Present Research

The primary goal of Study 1 was to test our proposed hypotheses using a correlational design. PGFW was assessed idiographically by asking participants to write down three personal goal and then evaluate the extent of PGFW for each goal. In addition, we also examined the novel mediating role of self-discrepancy in explaining the relationship between PGFW on one hand, and burnout and engagement on the other hand. As highlighted in the previous section, we postulated that PGFW would influence the more affective components of burnout (i.e. emotional exhaustion and depersonalisation) and work engagement dimensions through self-discrepancy, followed by either negative or positive affect. On the other hand, we

hypothesized that PGFW would influence the more cognitive aspect of burnout (i.e. reduced personal accomplishment) through self-discrepancy only. We also hypothesized that the effect of PGFW on work engagement can mediated by self-discrepancy alone. As Study 1 surveyed general working adults, we used exhaustion, cynicism and professional efficacy to refer to the respective burnout dimensions of emotional exhaustion, depersonalisation and personal accomplishment.

In Study 2, we aimed to replicate the findings of Study 1 and provide causal evidence for our hypothesized pathways in a sample of teachers in Singapore. To establish causality, we experimentally manipulated high and low perceptions of PGFW and self-affirmation to influence the process of self-discrepancy. To achieve greater experimental control, Study 2 focused on a more homogeneous occupational group of teachers.

Study 1: PGFW, Self-Discrepancy, Burnout and Work Engagement among General Working Adults

Method

Participants

Three hundred and sixty full-time working adults in Singapore were recruited through the Qualtrics Panel to participate in the survey online. The sample size was determined by power analyses for serial mediation, based on an alpha level of .05, power of .80 and assuming standardized coefficients of .2 for all paths. After removing participants with high fraud and duplicate scores, the final sample consisted of 345 participants (50% female), with an average age of 38.8 (SD = 9.94). 86% of the participants were Chinese, and 51% of them reported holding onto supervisory roles. 70% of our participants had attained a bachelor's or higher degree.

Procedure

Participants were informed that the study was about work experiences and job-related attitudes. After providing consent to participate in the study, participants answered the survey questions in the order of the measures that is presented below (i.e. PGFW, goal importance, self-discrepancy, negative and positive affect, burnout, work engagement). Demographic variables (e.g. age, gender) were measured at the end of the survey. Participants were debriefed about the objectives of the study after they completed the survey.

Key Measures

PGFW and goal importance. PGFW was assessed by asking participants to evaluate the extent to which their work facilitated the attainment of their personal goals. Participants were first asked to write down three important personal goals. For each goal, participants answered the question "To what extent can you achieve the goal of (goal) through your current work/job?" on a 5-point Likert scale (1 = *to a very limited extent*, 5 = *to a very great extent*). The question stem assessing for PGFW was adapted from Doest et al. (2006), and the goal in the parenthesis was replaced by the specific goals that were submitted by the participants. The responses were averaged across items. Higher scores reflect higher PGFW (M = 2.92, SD = 0.93, α = .69).

To facilitate further exploratory analyses, participants also assessed the importance of each personal goal on a Likert scale (1 = *not important at all*, 5 = *extremely important; M* = 4.12, *SD* = 0.64) and the relevance of the personal goal to their current job (i.e. yes or no).

Self-discrepancy. The measure of self-discrepancy was adapted from the Integrated Self-Discrepancy Index (Hardin & Lakin, 2009; Hardin & Larsen, 2014). Compared to the difference score approach using the Selves Questionnaire, this approach has the advantage of imposing lesser language demands on participants and eliminating the need for coding

adjectives (Hardin & Lakin, 2009). In the current research, self-discrepancy was assessed from the standpoint of the self. Participants were asked to list five attributes for their ideal self and ought self respectively, and then they rated the extent to which the attributes applied to them at present on a 5-point Likert scale (1 = *completely applies to me*, 5 = *doesn't apply to me at all*). Higher scores reflect higher ideal/actual self-discrepancy (M = 3.03, SD = 0.96, α = .87) and higher ought/actual self-discrepancy (M = 2.74, SD = 0.87, α = .85).

Negative and positive affect. We used items from the Positive and Negative Affect Schedule (PANAS; Watson et al., 1988) to measure negative and positive affect. Participants were asked to rate the extent that they generally feel the emotions on a five-point Likert scale (1 = *very slightly or not at all*, 5 = *very much*). The list of emotions assessed in the survey can be found in Appendix A. Higher scores represent higher negative affect (M = 3.07, SD = 0.88, α = .94) and positive affect (M = 2.32, SD = 0.84, α = .92) respectively.

Burnout. Burnout would be measured using MBI-GS (Maslach et al., 2017). All three components of burnout will be assessed: *exhaustion* (e.g." I feel emotionally drained from my work."), *cynicism* (e.g. "I doubt the significance of my job") and *professional efficacy* (e.g. "In my opinion, I am good at my job."). Participants rated the items on a 7-point scale based on the frequency of endorsing these job-related feelings (0 = *never*, 6 = *every day*). Scores were computed for each dimension by averaging the responses across the corresponding items. Higher scores for exhaustion (M = 3.07, SD = 1.63, α = .93) and cynicism (M = 3.09, SD = 1.54, α = .86), and lower scores for professional efficacy (M = 3.99, SD = 1.17, α = .84) represent a higher degree of burnout.

Work engagement. Work engagement will be measured using the vigour, dedication, and absorption subscales from the 9-item Utrecht Work Engagement Scale (UWES; Schaufeli et al., 2006). Examples of items from UWES include "At my work, I feel bursting with energy"

for *vigour (M* = 3.11, *SD* = 1.64, α = .88), "My job inspires me" for *dedication (M* = 3.40, *SD* = 1.77, α = .92) and "I feel happy when I am working intensely" for *absorption* (*M* = 3.52, *SD* = 1.54, α = .82). Participants rated the items on a 7-point scale based on the frequency of endorsing these job-related feelings (0 = *never*, 6 = *every day*). Scores were computed for each dimension by averaging the responses across the corresponding items. Higher scores reflect higher levels of work engagement (vigour, *M* = 3.11, *SD* = 1.64, α = .88; dedication, *M* = 3.40, *SD* = 1.77, α = .92; absorption, *M* = 3.52, *SD* = 1.54, α = .82). The scale can be found in Appendix B.

Analytic Strategy

In H1 and H2, we predicted that lower PGFW will be significantly associated with burnout dimensions (i.e. higher levels of exhaustion and cynicism, and lower levels of professional efficacy) and engagement dimensions (i.e. lower levels of vigour, dedication and absorption). To test these hypotheses, we conducted a regression analysis by regressing the burnout and engagement dimensions on PGFW, while controlling for age and gender.

In H3, we hypothesized that lower PGFW will be associated with greater perceived discrepancy between a) ideal self and actual self, and b) ought self and actual self. To test for H3, we regressed ideal/actual self-discrepancy and ought/actual self-discrepancy on PGFW.

To evaluate the proposed cognitive and affective pathways, we used Model 6 in R PROCESS Macro version 4.0 to test for serial mediation. In H4, we posited serial mediation hypotheses for the burnout dimensions of exhaustion and cynicism, and work engagement dimensions. Specifically, we expected the association between lower PGFW and a) higher exhaustion and b) higher cynicism and c) lower work engagement to be mediated by higher self-discrepancy followed by greater negative affect. We also explored positive affect as the

second mediator in the proposed serial mediations in H5a to H5c. The proposed affective pathway for exhaustion and cynicism is depicted in Figure 1.

On the other hand, we hypothesized in H6 that the association between PGFW and a) personal accomplishment, and b) work engagement dimensions mediated by self-discrepancy only. If H6 is supported, we should observe the direct effect of self-discrepancy on personal accomplishment and work engagement dimensions to be significant in the serial mediation models, regardless of whether negative or positive affect was included as the second mediator. As we hypothesized that professional efficacy would only be associated with PGFW via the cognitive pathway, the direct effect of negative and positive affect should be non-significant (see Figure 2). In comparison, as we expected both the cognitive and affective pathways to be significant for work engagement dimensions, we should observe significant direct effects from both self-discrepancy and negative/positive affect for work engagement dimensions (see Figure 3).

For all mediation hypotheses, we expected the indirect effects to be significant regardless of the type of self-discrepancy. All effects reported for the mediation analyses were based on 5000 bootstrapping samples.

Results

Descriptive Statistics

The means and standard deviations of all key variables are presented in Table 1. Zero-order correlations for all variables are presented in Table 2. Notably, we observed that exhaustion and depersonalisation were strongly correlated, $r(343) = .71$, $p < .001$. On the other hand, professional efficacy was not correlated with exhaustion, $r(343) = .10$, $p = .059$, and cynicism, $r(343) = .09$, $p = .080$. These patterns of associations are consistent with past research observations that professional efficacy is independent from exhaustion and cynicism.

Burnout

We hypothesized that higher PGFW would predict lower exhaustion and cynicism, and higher professional efficacy. As predicted, higher PGFW significantly predicted lower exhaustion (b = -0.46, SE = 0.09, p < .001, 95% CI = -0.60, -0.26), lower cynicism (b = -0.33, SE = 0.09, p < .001, 95% CI = -0.50, -0.16) and higher professional efficacy (b = 0.39, SE = 0.06, p < .001, 95% CI =0.26, 0.52) after controlling for age and gender. Therefore, H1a to H1c were supported.

Work Engagement

We also predicted higher PGFW would predict with higher work engagement. As expected, higher PGFW predicted higher vigour (b = 0.66, SE = 0.09, p < .001, 95% CI = 0.49, 0.83), higher dedication (b = 0.82, SE = 0.09, p < .001, 95% CI = 0.64, 1.00) and higher absorption (b = 0.56, SE = 0.08, p < .001, 95% CI = 0.40, 0.73) after controlling for age and gender. Hence, H2a to H2c were supported.

Self-Discrepancy

In H3, we hypothesized that PGFW would be negatively associated with a) ideal/actual self-discrepancy and b) ought/actual self-discrepancy. Our analyses revealed that higher PGFW was associated with lower ideal/actual self-discrepancy, b = -0.44, SE = 0.05, p < .001, 95% CI [-0.54, -0.34], and lower ought/actual self-discrepancy, b = -0.31, SE = 0.05, p <.001, 95% CI [-0.40, -0.22]. Therefore, H3a and H3b were supported.

Serial Mediations via Ideal/Actual Self-Discrepancy and Negative Affect

We first examined the indirect effects of PGFW on burnout and work engagement via ideal/actual self-discrepancy and negative affect. For exhaustion, the direct effect of PGFW was significant, b = -0.33, SE = 0.09, 95% CI [-0.50, -0.16]. Higher PGFW predicted lower exhaustion after controlling for ideal/actual self-discrepancy and negative affect. Higher

PGFW also significantly predicted lower ideal/actual self-discrepancy, *b* = -0.44, *SE*= 0.05, 95% *CI* [-0.54, -0.34], but was not associated with negative affect, *b* = -0.04, *SE* = 0.06, 95% *CI* [-0.15, 0.06]. In contrast, greater ideal/actual self-discrepancy predicted higher negative affect, *b* = 0.12, *SE* = 0.05, 95% *CI* [0.01, 0.23]. Consistent with our hypothesis, ideal/actual self-discrepancy did not directly predict exhaustion, *b* = 0.05, *SE* = 0.09, 95% *CI* [-0.13, 0.23]. Instead, higher levels of exhaustion was directly predicted by negative affect, *b* = 0.94, *SE* = 0.09, 95% *CI* [0.77, 1.10]. The indirect effect of PGFW on exhaustion via ideal/actual self-discrepancy and negative affect was significant, *b* = -0.05, *SE* = 0.02, 95% *CI* [-0.10, -0.01]. Similar findings were also observed for cynicism, which showed that PGFW was associated with cynicism via the affective pathway and not the cognitive pathway. Hence, H4a and H4b were supported when we used ideal/actual self-discrepancy and negative affect as serial mediators.

In comparison, for professional efficacy, we observed significant direct effects from both ideal/actual self-discrepancy *b* = -0.17, *SE* = 0.06, 95% *CI* [-0.29, -0.04] and negative affect *b* = -0.28, *SE* = 0.07, 95% *CI* [-0.42, -0.15]. Consequently, the effect of PGFW on professional efficacy was significantly mediated by both the affective and cognitive pathway. Hence, H6a was partially supported.

For work engagement dimensions, the direct effects of both ideal/actual self-discrepancy (*b*s = -0.51 to -0.23) and negative affect (*b*s = -0.34 to -0.21) were significant. The indirect effect of PGFW was observed to be mediated by both affective and cognitive pathways. Hence, both H4c and H6b were supported via ideal/actual self-discrepancy, when controlling for negative affect. The results of the serial mediations via ideal/actual self-discrepancy and negative affect can be found in Table 3.

Serial Mediations via Ought/Actual Self-Discrepancy and Negative Affect

We also examined the indirect effects of PGFW on burnout and engagement via ought/actual self-discrepancy and negative affect. For exhaustion, the direct effect of PGFW was significant, b = -0.37, SE = 0.08, 95% CI [-0.54, -0.21]. Higher PGFW predicted lower exhaustion, even after controlling for ought/actual self-discrepancy and negative affect. Higher PGFW also significantly predicted lower ideal/actual self-discrepancy, b = -0.31, SE = 0.05, 95% CI [-0.41, -0.21], but did not predict negative affect, b = -0.08, SE = 0.05, 95% CI [-0.19, 0.02]. Ought/actual self-discrepancy was not associated with both negative affect, b = 0.03, SE = 0.06, 95% CI [-0.08, 0.14] and exhaustion, b = -0.07, SE = 0.09, *95% CI* [-0.26, 0.11]. In contrast, the direct effect of negative affect on exhaustion was significant, b = 0.94, SE = 0.09, 95% CI [0.78, 1.11]. As the association between the mediators was non-significant, the indirect effect of PGFW via ought/actual self-discrepancy and negative affect was non-significant, b = -0.01, SE = 0.02, 95% CI [-0.04, 0.02]. Based on the results, both the cognitive and affective pathways for exhaustion were non-significant for exhaustion. A similar pattern of results was also observed for cynicism, professional efficacy, and absorption. Hence, H4a, H4b, and H6a were not supported when we used ought/actual self-discrepancy and negative affect as serial mediators. However, H6b was partially supported for the work engagement dimensions of vigour and dedication as the direct effects of ought/actual self-discrepancy to these dimensions were significant, as with the corresponding indirect effects via ought/actual self-discrepancy only. In other words, we observed that PGFW was associated with vigour and dedication via the cognitive pathway of ought/actual self-discrepancy when controlling for negative affect. The results of the serial mediations via ought/actual self-discrepancy and negative affect can be found in Table 4.

Serial Mediations via Ideal/Actual Self-Discrepancy and Positive Affect

There was no significant association between PGFW and exhaustion after controlling for both ideal/actual self-discrepancy and positive affect, *b* = -0.15, *SE* = 0.11, 95% *CI* [-0.37, 0.07]. Higher PGFW significantly predicted lower ideal/actual self-discrepancy, *b* = -0.44, *SE* = 0.05, 95% *CI* [-0.54, -0.34], and higher positive affect, *b* = 0.35, *SE* = 0.05, 95% *CI* [0.26, 0.44]. Lower ideal/actual self-discrepancy also predicted higher positive affect, *b* = -0.30, *SE* = 0.05, 95% *CI* [-0.39, -0.21] but did not predict exhaustion, *b* = -0.02, *SE* = 0.11, 95% *CI* [-0.23, 0.19]. On the other hand, higher positive affect significantly predicted lower exhaustion, *b* = -0.61, *SE* = 0.13, 95% *CI* [-0.86, -0.36]. The indirect effect of PGFW via ideal/actual self-discrepancy and positive affect was significant, *b* = -0.08, *SE* = 0.02, 95% *CI* [-0.14, -0.04]. As the direct effect of PGFW on exhaustion was non-significant after accounting for the indirect effect, ideal/ought self-discrepancy and positive affect fully mediated the effect of PGFW on exhaustion. Consistent with our hypothesis, ideal/actual self-discrepancy was not directly associated with exhaustion. A similar pattern of results was observed for cynicism, professional efficacy and all work engagement dimensions. Hence, H5a to H5c were supported, but H6a and H6b were not supported when we used ideal/actual self-discrepancy and positive affect as serial mediators. The results of the serial mediations via ideal/actual self-discrepancy and positive affect can be found in Table 5.

Serial Mediations via Ought/Actual Self-Discrepancy and Positive Affect

The direct effect of PGFW on exhaustion was non-significant after controlling for both ought/actual self-discrepancy and positive affect, *b* = -0.17, *SE* = 0.11, 95% *CI* [-0.40, 0.05]. Higher PGFW significantly predicted lower ideal/actual self-discrepancy, *b* = -0.31, *SE* = 0.05, 95% *CI* [-0.41, -0.21], and higher positive affect, *b* = 0.42, *SE* = 0.05, 95% *CI* [0.32, 0.50]. Lower ought/actual self-discrepancy also predicted higher positive affect, *b* = -0.23, *SE* = 0.05,

95% *CI* [-0.33, -0.12], but did not predict exhaustion, *b* = -0.20, *SE* = 0.11, 95% *CI* [-0.41, 0.01]. In contrast, higher positive affect significantly predicted lower exhaustion, *b* = -0.67, *SE* = 0.12, 95% *CI* [-0.91, -0.43]. The indirect effect of PGFW via ideal/ought self-discrepancy and positive affect was *b* = -0.05, *SE* = 0.02, 95% *CI* [-0.08, -0.02]. Hence, given that the direct effect of PGFW on exhaustion was non-significant after accounting for the indirect effect, ought/actual self-discrepancy and positive affect fully mediated the effect of PGFW on exhaustion. A similar pattern of findings was also observed for professional efficacy, vigour, dedication and absorption, in which there was no significant direct effect of ought/actual self-discrepancy on the outcome variable. Hence, H5a and H5c was supported but not for H6a and H6b. In other words, our results revealed that PGFW was associated with exhaustion, professional efficacy and the work engagement dimensions via the affective pathway of ought/actual self-discrepancy and positive affect, and not via the cognitive pathway.

Full mediation via ought/actual self-discrepancy and positive affect was also observed for cynicism. However, the direct effect of ought/actual self-discrepancy was significant, *b* = -0.20, *SE* = 0.10, 95% *CI* [-0.40, -0.02]. Hence, although H5b was supported, the association between PGFW with cynicism was significantly mediated through both the affective and cognitive pathways in this analysis. The results of the serial mediations via ought/actual self-discrepancy and positive affect can be found in Table 6.

Discussion

The goals of Study 1 were to examine if the idiographic approach to measuring PGFW will significantly predict burnout and work engagement, and if the data would support the proposed dual pathways to burnout. Consistent with our hypothesis, we observed that higher PGFW, when assessed idiographically, predicted lower burnout and higher work engagement in all dimensions. More importantly, we also found support for both the affective and cognitive

pathways. For the affective pathway, we proposed that greater PGFW would indirectly predict lower reports of exhaustion, cynicism and higher reports of all work engagement dimensions through both self-discrepancy and the negative and positive affect elicited by the self-discrepancy. Except for the serial mediation via ought/actual self-discrepancy and negative affect, the proposed affective pathway was significant for all burnout and work engagement dimensions. The findings suggest that ideal/actual self-discrepancy was a stronger mediator than ought/actual self-discrepancy.

In addition, the finding that both positive and negative affect sequentially mediated the influence of PGFW on all burnout and engagement dimensions suggests that the importance of affective processes in influencing both burnout and work engagement. Burnout was not only associated with greater negative affect, but was also associated with lower positive affect. Similarly, work engagement was associated with both lower negative affect and higher positive affect. As burnout and work engagement are closely associated, the consistent pattern of findings provided stronger confidence in the hypothesized roles of PGFW, self-discrepancy and emotions in the experience of burnout and engagement.

On the other hand, there was limited support for the hypothesis that the effect of PGFW on professional efficacy was mediated solely via the cognitive pathway. The cognitive pathway was only observed when ideal/actual self-discrepancy was the mediator while controlling for negative affect. The finding that ideal/actual self-discrepancy did not directly predict professional efficacy when controlling for positive affect suggests that the pure cognitive pathway was not supported. Additionally, the affective pathway from PGFW was also significant for professional efficacy, suggesting that emotions also contribute to variance in professional efficacy.

Similarly, we observed limited support for the cognitive pathway for work engagement dimensions (i.e. H6b). Although we observed that the direct effects of ideal/actual and ought/actual self-discrepancy was significant for most of the work engagement dimensions when controlling for negative affect, the direct effects were non-significant after controlling for positive affect. The pattern of findings suggests that the effect of self-discrepancy on work engagement dimensions was fully mediated by emotions. Again, this suggests the importance of emotions in mediating the effects of PGFW and self-discrepancy on work engagement.

As Study 1 uses a correlational design, we were unable to draw causal inferences about the effects of PGFW and self-discrepancy on burnout. Instead of the hypothesized direction of causality, it is also possible that individuals experience greater self-discrepancy and have lower perceptions of PGFW because they were experiencing burnout or low work engagement. Hence, to address this limitation, we adopted an experimental design in Study 2 to test our hypotheses.

Study 2: PGFW, Self-Affirmation, Burnout and Work Engagement among Teachers

Study 2 aimed to replicate the findings of Study 1 and provide causal evidence for our hypothesized pathways by experimentally manipulating high and low perceptions of PGFW and self-affirmation among teachers in Singapore. By getting participants to affirm important personal values, this serves to influence the process of self-discrepancy to provide support for its mediating role (i.e. moderation-of-process design or concurrent double randomization design; Pirlott & MacKinnon, 2016; Spencer et al., 2005). Consistent with research on self-affirmation theory (Cohen & Sherman, 2014; Sherman, 2013), we expected the affirmation manipulation to reduce the perception of threat in the low PGFW condition, thereby reducing the level Of self-discrepancy, as compared to those who were not affirmed. On the other hand,

as there is no threat in the high PGFW condition, we expected the self-discrepancy levels to be similarly low for participants in both self-affirmation conditions. Consequently, if self-discrepancy truly mediates the effect of PGFW on burnout and work engagement, we should observe a weaker effect of PGFW manipulation for those in the affirmation condition. In contrast, for those in the control conditions, the effect of PGFW manipulation should be stronger as the mediating process of self-discrepancy is not affected by self-affirmation.

Although burnout has been conceptualized as a long-term response to chronic stress (Maslach & Leiter, 2016), we expected our PGFW manipulation to influence short-term changes in burnout as individuals who experience chronic stress are especially reactive to acute stressors at any given moment (Epel et al., 2018). Therefore, we expected our experimental manipulation of PGFW to function as temporary inductions of acute stress, which would alter the short-term accessibility of the psychological processes involved in burnout and work engagement. To increase the likelihood of success for our manipulations, we also chose to conduct Study 2 on a sample of public school teachers in Singapore, as teachers are more likely to be stressed or experiencing burnout (Johnson et al., 2005). Furthermore, teachers in Singapore reported longer working hours as compared to the international average (Organisation for Economic Co-operation and Development, 2020), which suggests that they might face higher stress as compared to teachers from other countries. Recruiting a homogeneous occupational sample also serves as an additional experimental control in which our participants are engaged in a more similar nature of work compared to the participants from Study 1. Hence, we expected our experimental manipulations to successfully influence the process of self-discrepancy and subjective perceptions of burnout and engagement during the study.

Method

Participants

Two-hundred and thirty-five school teachers in Singapore were recruited via an initial convenient sampling through extensive personal contacts and snowball sampling based on the initial convenient sample recruited. Participants were compensated $25 for their time. Based on a power analysis using G*Power, 250 participants are needed to detect a small effect size f^2 of .05, in a cross-sectional multiple regression analysis with three predictors, at alpha-level of .05, and with at least 0.80 power. However, due to the difficulty in recruiting teachers for our survey, we were unable to achieve the target sample size.

Following data quality checks, the resulting sample of participants consisted of 228 participants (72% female), with an average age of 34.3 (*SD* = 5.54). 93% of the participants were Chinese, and 90% of our participants had attained a bachelor's or higher degree. On average, our participants reported that they have 8.93 years of teaching experience (*SD* = 4.85).

Procedure

The experiment used a 2 (PGFW: low or high) × 2 (self-affirmation: affirmation or control) factorial design. Participants were informed that the purpose of the study was to examine people's experiences and well-being at work. After obtaining their consent to participate in the study, participants proceeded to be exposed to the self-affirmation manipulation, followed by the PGFW manipulation. Our decision to introduce the self-affirmation manipulation first was guided by the existing recommendations on employing self-affirmation interventions. Specifically, the existing research has found that self-affirmation interventions tend to be more effective if individuals have not formed a defensive response towards the threat (Critcher et al., 2010). Because the PGFW manipulation, particularly in the low condition, can highlight threat to the self, we chose to have participants affirm themselves

before potentially forming a defensive response to the threat. Following the PGFW manipulation, we conducted a manipulation check to confirm if the PGFW manipulation has influenced participants' rating of PGFW. Subsequently, participants proceeded to answer questions on self-discrepancy, burnout, work engagement, positive and negative affect and demographic variables.

Self-affirmation manipulation. We adapted the self-affirmation manipulation from Cohen et al (2009). Participants were shown a list of 15 values and asked to rank order the two most important and least important values. Participants in the affirmation condition were asked to think of the times when their *most important* values were important to them and to list the top two reasons why their selected values were important to *them*. On the other hand, participants in the control condition were asked to think of the times when their *least important* values might be important to someone else and to list the top two reasons why these values might be important to *someone else*. The list of values can be found in Appendix C.

PGFW manipulation. Similar to Study 1, participants were instructed to write down three important personal goals and to reflect on their experiences at work. However, in the high PGFW condition, participants were asked to think of two instances in which they thought that their work has facilitated these personal goals, whereas in the low PGFW condition, participants were asked to provide two instances in which they thought that their work has hindered their personal goals (refer to Appendix D). As manipulation check, participants also answered the question "To what extent can you achieve your goal of [personal goal] through your current work/job?" (M = 2.95, SD = 0.82, α = .39) from a scale of 1 (*to a very limited extent*) to 5 (*to a very great extent*).

Dependent variables

Self-discrepancy. To examine if self-affirmation would affect self-discrepancy elicited by the PGFW manipulation, we measured self-discrepancy by using an adapted version of Inclusion of Other in the Self scale (Aron et al., 1992). Participants were shown seven diagrams of two circles, with each diagram showing higher extent of overlap than the preceding diagram (see Appendix E). Participants were informed that the circle on the left would represent their current actual self while the other circle on the right would represent their ideal self. Following the instructions, participants would then select the diagram that best represents how they think about their ideal self and actual self (1 = *no overlap*, 7 = *greatest overlap*). Ought/actual self-discrepancy was assessed by replacing "ideal self" with "ought self". The responses were reverse coded so that higher scores would represent higher self-discrepancy. The mean for ideal/actual self-discrepancy was 3.66 (*SD* = 1.24) while the mean for ought/actual self-discrepancy was 3.55 (*SD* = 1.48).

Burnout. Burnout was measured using the MBI-Educators Survey (MBI-ES; Maslach et al., 2017). However, instead of rating the frequency of experiencing burnout symptoms as in Study 1, participants rated the items on a 7-point scale based on how strongly they experience these job-related feelings (1 = *very mild, barely noticeable*, 7 = *very strong, major*). Higher scores for emotional exhaustion (*M* = 4.31, *SD* = 1.17, α = .92) and depersonalisation (*M* = 3.03, *SD* = 1.05, α = .68), and lower scores for personal accomplishment (*M* = 4.64, *SD* = 0.74, α = .77) represent a higher degree of burnout. Sample items from the scale can be found in Appendix F.

Work engagement. Work engagement was measured in the same way as Study 1, using the 9-item UWES. However, participants rated the items based on how strongly they have experienced the symptoms, using the same anchors as the ones for MBI-ES. Higher scores

reflect higher levels of engagement (i.e. vigour, M = 3.42, SD = 1.24, α = .88; dedication, M = 4.73, SD = 1.19, α = .69; and absorption, M = 4.31, SD = 1.08, α = .88).

Negative and positive affect. Negative and positive affect was measured using PANAS, as in Study 1. Higher scores represent higher reports of negative affect (M = 2.17, SD = 0.72, α = .88) and positive affect (M = 3.18, SD = 0.68, α = .90) respectively.

Analytic Strategy

The current study aims to provide causal evidence to support the mediating role of self-discrepancy in the association between PGFW, and burnout and work engagement. To check if our PGFW manipulation was successful, we first conducted a t-test to examine if there were significant between group differences in PGFW. We expected participants in the high PGFW condition to report higher PGFW than participants in the low PGFW condition.

We expected the effect of the PGFW manipulation on burnout and work engagement to be attenuated in the affirmation condition, as the effect of PGFW through self-discrepancy would be restricted by the manipulation. To test this assumption, we examined if there was a significant interaction effect between the conditions on self-discrepancy. We expected that the difference in reported self-discrepancy would be larger between PGFW conditions for those in the control condition as compared to those in the affirmation condition.

Most importantly, we examined if there was an interaction effect between PGFW conditions and self-affirmation conditions on our key outcome variables. For participants in the affirmation condition, we expected a smaller difference in burnout and work engagement levels across the PGFW conditions. In contrast, for participants in the control condition, the difference in reported burnout and engagement levels should be larger across the low and high PGFW conditions. To determine interaction effects on self-discrepancy, burnout and work engagement, we used between-subjects two-way ANOVA.

Examining affective pathway. In H4 and H5, we hypothesized that the association between PGFW and a) emotional exhaustion, b) depersonalisation, and c) work engagement dimensions would be sequentially mediated via both self-discrepancy and negative affect, or via self-discrepancy and positive affect respectively. If the manipulations were successful in influencing the key predictors and outcome variables, we would proceed to test for moderated mediation to examine H4 and H5. To this end, we would use Model 8 in R PROCESS Macro version 4.0 to test for moderated mediation (see Figure 4).

As mentioned earlier, for participants in the control condition, we expected those in the low PGFW condition to report higher levels of emotional exhaustion, depersonalisation and lower levels of work engagement as compared to participants who went through the high PGFW condition. Consistent with our hypothesis, this effect should be mediated by greater negative affect (or lower positive affect). We expected this mediation pathway to be significant only in the control condition. In the affirmation condition, the difference in levels of emotional exhaustion, depersonalisation and engagement dimensions between participants in the high PGFW and low PGFW conditions should be attenuated. As we expected the self-affirmation manipulation to reduce self-discrepancy for those in the low PGFW condition, the effect of PGFW on negative affect (or positive affect) was expected to be smaller or non-significant than those who were in the control condition.

Cognitive pathway for reduced personal accomplishment. On the other hand, we hypothesized in H6 that the association between PGFW and a) personal accomplishment and b) work engagement dimensions would be mediated by just self-discrepancy. For this hypothesis, we compared the effect of PGFW manipulation on a) personal accomplishment and b) work engagement dimensions between the self-affirmation conditions using a between-subject two-way ANOVA, while controlling for both positive and negative affect. Comparing

between participants in the control condition, we expected individuals in low PGFW condition to report lower levels of personal accomplishment and work engagement as compared to individuals in the high PGFW condition. However, in the affirmation condition, the difference in reported levels of personal accomplishment and work engagement dimensions between high PGFW and low PGFW conditions should be smaller or non-significant.

Results

Descriptive Statistics

The means and standard deviations of all key variables are presented in Table 7. Zero-order correlations for all variables are presented in Table 8. Similar to Study 1, emotional exhaustion and depersonalisation were moderately correlated, $r(343) = .39$, $p < .001$. We also found significant correlations between personal accomplishment and emotional exhaustion, $r(226) = -.22$, $p < .001$, and between personal accomplishment and depersonalisation, $r(226) = -.23$, $p < .001$. Contrary to Study 1, higher personal accomplishment correlated with lower emotional exhaustion and depersonalisation in Study 2. However, these correlations were weaker as compared to the correlation between emotional exhaustion and depersonalisation.

Manipulation check

We first examined if the manipulation of PGFW was successful. Using a t-test, participants in the high PGFW ($M = 2.93$, $SD = 0.85$) and low PGFW condition ($M = 2.96$, $SD = 0.80$) did not differ significantly in their ratings of PGFW, $t(226) = -0.24$, $p = .810$, *95% CI* [-0.24, 0.19]. We also checked if our PGFW and self-affirmation manipulations had interactive effects on PGFW. Using two-way ANOVA, we did not find any significant interaction between the effects of PGFW manipulation and self-affirmation on reported PGFW, $F(1, 224) = 1.40$, $p = .239$ (see Table 10). There was also no main effect of PGFW condition, $F(1, 224) = 0.05$,

p = .830, and self-affirmation, $F(1, 224) = 0.27$, p = .602, on reported PGFW. Hence, our manipulation of PGFW did not successfully influence perceptions of PGFW.

Self-discrepancy

We also examined for the effect of PGFW manipulation and self-affirmation on ideal/actual self-discrepancy using the two-way ANOVA. There was no significant interaction between the effects of PGFW manipulation and self-affirmation on ideal/actual self-discrepancy, $F(1, 224) = 1.25$, p = .264. There was also no main effect of PGFW manipulation, $F(1, 224) = 0.51$, p = .475, and self-affirmation, $F(1, 224) = 1.12$, p = .292, on ideal/actual self-discrepancy. The findings were similar for ought/actual self-discrepancy (see Table 9). Therefore, our manipulations did not influence self-discrepancy as expected.

Burnout

Although our experimental manipulations did not have any effect on reported PGFW and self-discrepancy, we checked if the manipulations had any effect on the outcome variables. Using two-way ANOVA, we found that the interaction between the effects of PGFW manipulation and self-affirmation on all burnout dimensions were non-significant (ps > .05). There was also no main effect of PGFW manipulation and self-affirmation manipulation on most burnout dimensions (ps > .05; see Table 10). The only exception was for emotional exhaustion. There was a significant main effect of PGFW manipulation on emotional exhaustion, $F(1, 224) = 4.62$, p = .033. Contrary to expectation, participants who were in the high PGFW condition reported higher emotional exhaustion (M = 4.48) than those who were in the low PGFW condition (M = 4.15).

Work Engagement

Similarly, results from two-way ANOVA indicated that our manipulations of PGFW and self-affirmation did not have any interaction or main effects on work engagement dimensions (*p*s > .05; see Table 10).

Moderated mediation

As the experimental manipulations did not influence any of the key variables, we did not proceed with the planned moderated mediation.

Discussion

Using an experimental design, Study 2 aimed to provide causal evidence for our mediation hypotheses. While we had expected our manipulation of PGFW and self-affirmation have interactive effects on ratings of burnout and engagement, we observed that our manipulations did not influence most of the key variables (i.e., reported PGFW, self-discrepancy, burnout and work engagement dimensions). The only exception was for emotional exhaustion, in which participants in the high PGFW condition reported higher emotional exhaustion than those who were in the low PGFW condition. Although this could represent a contradiction to the hypothesized effect of PGFW, we note that the PGFW manipulation did not have any effect on reported PGFW, and the reported PGFW correlated negatively with emotional exhaustion. Therefore, the main effect of the PGFW manipulation on emotional exhaustion is likely due to processes other than perceptions of PGFW itself. For example, participants in the high PGFW condition might have experienced higher emotional exhaustion at the thought of having to continue working the way they do to achieve their goals.

General Discussion

The current dissertation aims to fulfil two main goals: first, to replicate the findings of PGFW by using an idiographic measure of PGFW on a more diverse group of working adults;

second, to explain the effects of PGFW on burnout and work engagement through the mechanism of self-discrepancy (and emotions). The current dissertation also offers a novel perspective in positing that self-discrepancy elicited by PGFW is a central mechanism through which external contextual factors influence individuals' well-being at work. We tested the mediation hypotheses in two studies. In Study 1, we examined our mediation hypotheses on general working adults by using a correlational design. In Study 2, we followed up with an experimental design on a sample of school teachers. Both PGFW and self-affirmation were manipulated to provide causal evidence for the mediating role of self-discrepancy in the association between PGFW and burnout. While the experimental manipulations were unsuccessfully, our hypotheses were largely supported in Study 1.

Whereas past research on PGFW has been done on healthcare professionals using nomothetic personal goals (Doest et al., 2006; Pisanti et al., 2016), we found that our idiographic measure of PGFW significantly predicted burnout and work engagement among general working adults in Study 1. When PGFW was assessed to be high, participants reported lower burnout and higher work engagement. Comparing zero-order correlations of the idiographic PGFW in Study 1 and the correlations observed for the nomothetic PGFW in Pisanti et al (2016), we observed lower correlation coefficients for idiographic PGFW with the burnout dimensions. The observed correlations in Study 1 were -.25 and .31 for exhaustion and professional efficacy in the current dissertation, as compared to *r*s = -.44 and .41 for emotional exhaustion and personal accomplishment in Pisanti et al (2016). However, the idiographic measure of PGFW in the current dissertation correlated significantly with all burnout and engagement dimensions, including cynicism, while the nomothetic measure of PGFW did not predict depersonalisation in Pisanti et al. (2016). While the two studies cannot be directly comparable as Pisanti et al. (2016) conducted their study on nurses using MBI-HSS and we

used MBI-GS on general working adults in Study 1. The significant correlations between our idiographic PGFW with all burnout and work engagement dimensions is promising.

Nonetheless, we also acknowledge that further refinements to the measure is needed to increase predictive validity. For example, it was difficult to determine the reliability for our PGFW measure as it is the average ratings for three different idiosyncratic personal goals. In Study 2, the alpha for reported PGFW was .39. While Cronbach's alpha might not be the appropriate measure of reliability when participants rated PGFW for different personal goals, the low alpha still raised questions about the internal reliability of the measure. To allow for better assessment of reliability, future research can consider getting participants to assess their perceptions of PGFW based on their most important goal. Alternatively, future research can also include several items to assess subjective facilitation of either the most important personal goal, or of several important goals considered collectively. Both approaches will enable reliability scores for the scale to be evaluated easily and meaningfully.The findings in Study 1 also suggest that the experience of burnout and engagement were explained predominantly by affective processes associated with self-discrepancy. Specifically, we found significant indirect effects of PGFW on all burnout and engagement dimensions via the affective pathway of self-discrepancy and negative/positive affect. The only exception was the non-significant indirect effect via ought/actual self-discrepancy and negative affect, as the two mediators were not associated with each other. While we did not expect PGFW to influence professional efficacy via the affective pathway, the findings revealed that the experience of professional efficacy also involved emotional states like the other burnout dimensions. In comparison, our findings did not support the proposed cognitive pathways in Study 1 for both professional efficacy and work engagement dimensions. Although ideal/actual self-discrepancy directly predicted professional efficacy and the work engagement dimensions after controlling for negative affect, the direct effects were non-significant after controlling for positive affect. On the other hand,

ought/actual self-discrepancy did not directly predict professional efficacy and the work engagement dimensions in all the serial mediation analyses. Hence, the pattern of findings indicated that the influence of self-discrepancy can be fully explained by positive and negative affect. In other words, the pure cognitive pathway was not supported.

There are three potential explanations for the unsuccessful experimental manipulations in Study 2. Firstly, the participants in Study 2 might be distracted by other tasks when they were doing the survey. The average time taken was about 38 minutes (*SD* = 64 minutes)[1], while the median time taken was 22 minutes. In addition, although we expected participants to complete the survey within 45 minutes, 15% of all participants took more than 45 minutes to complete the survey, and 6% took more than 90 minutes. While removing these cases did not change the existing findings, we cannot rule out the possibility that participants might be distracted or multi-tasking when they do the survey. Therefore, further studies might benefit from having participants to complete the survey in a quiet lab environment. Secondly, our manipulations might have been inadequate in effecting the expected changes. Specifically, despite our effort to influence perceptions of PGFW through our manipulation, participants might find it difficult to think of ways that their work can truly help them to achieve their personal goals. For example, five participants in the high PGFW condition reported outrightly that their work either did not facilitate or hindered their goals. While the number is small, it suggests that even if teachers were able to provide ways in which their work can facilitate their goals, these might not be what they believe in. Thirdly, our participants might already have concrete ideas of how their jobs might facilitate or hinder their goals as they have already been teaching for an average of 9 years. Hence, their perceptions of PGFW might not be influenced as easily as compared to new teachers.

[1] One data point was removed as it was an extreme outlier. The recorded duration to complete the survey for the participant was 143 hours.

Comparing Study 1 and Study 2. Although we were unable to demonstrate any causal links in Study 2 because of the unsuccessful manipulations, we re-examined our hypothesis correlationally using participants' reported PGFW and self-discrepancy data, especially when ideal/actual self-discrepancy was used as the first mediator, instead of ought/actual self-discrepancy (refer to Appendix G). Consistent with Study 1, higher reported PGFW was associated with lower levels of burnout and higher work engagement for all dimensions. Higher reported PGFW also predicted lower levels of self-discrepancy, for both ideal/actual and ought/actual self-discrepancy. Across both studies, the serial mediation pathways via ideal/actual self-discrepancy and positive affect were consistently supported for all dimensions.

However, we also observed some discrepancies with Study 1 (see Table 11 for a comparison). Firstly, the serial mediations via both types of self-discrepancy and negative affect were non-significant for personal accomplishment, dedication, and absorption in Study 2 due to the non-significant direct effect from negative affect. In comparison, the findings from Study 1 were consistent across all dimensions. Secondly, the affective pathway via ought/actual self-discrepancy and positive affect was non-significant for all burnout and engagement dimensions in Study 2, even though it was significant in Study 1. This finding indicates that ought/actual self-discrepancy did not consistently predict negative and positive affect across studies.

As compared to ideal/actual self-discrepancy, the association between ought/actual self-discrepancy and emotions appeared to be weaker across both Study 1 and Study 2. This is consistent with past research on self-discrepancy. For example, findings from a meta-analysis showed that ideal/actual self-discrepancy was more strongly associated with depression and anxiety than ought/actual self-discrepancy (Mason et al., 2019). Another study also found that ideal/actual self-discrepancy was more predictive of specific emotional states (e.g. joy, joviality) as compared to ought/actual self-discrepancy (Barnett et al., 2017). The stronger

association between ideal/actual self-discrepancy with emotional states can be explained in part due to the different psychological processes elicited by the different types of self-discrepancy. For example, past research has shown that ideal/actual self-discrepancy was more predictive of rumination than ought/actual self-discrepancy, which was in turn associated with greater depression and anxiety symptoms (Dickson et al., 2019). On the other hand, ideal/actual self-discrepancy could also be associated more strongly with positive emotions as the attainment of ideal self is associated with the presence of positive outcomes (e.g. achieving aspirations; Higgins, 2012). In contrast, attainment of ought self can be conceptualised as the absence of negative outcomes (e.g. to prevent disappointment from others), and should be less associated with positive affect. Therefore, it stands to reason that ideal/actual self-discrepancy should show greater correlations with positive and negative affect as compared to ought/actual self-discrepancy.

Although it is theoretically meaningful to differentiate between ideal/actual and ought/actual self-discrepancy, we also note that the concept of ideal/actual self-discrepancy could be more salient for people, especially for those with more independent self-construals (i.e. conceptualisation of the self as separate and distinct from others; Markus & Kitayama, 1991, 2010). For independent people, the concept of ideal selves might be more relevant as they value self-expression and exerting their own individuality. In contrast, interdependent people place higher emphasis on fulfilling obligations towards others (Markus & Kitayama, 1991, 2010), and may think of their ought selves more frequently. Even so, there is a possibility that some individuals may consider their ought selves as who they ideally want to be. In the present research, we noted that some participants reported the same or similar attributes for both their ideal and ought selves. Consequently, there might be lower construct validity associated with ought/actual self-discrepancy, depending on how much people think about their ought selves and the extent to which they can differentiate between ideal and ought

selves.There were also discrepancies between Study 1 and 2 regarding the cognitive pathways. As opposed to Study 1, we observed that PGFW was indirectly associated with professional efficacy and work engagement dimensions via ideal/actual self-discrepancy, even after controlling for negative and positive affect independently. While the corresponding affective pathways consisting of ideal/actual self-discrepancy were also significant, the significant indirect effect for the cognitive pathways suggests that ideal/actual self-discrepancy is likely to have incremental predictive validity on professional efficacy and work engagement dimensions over associated emotional states. In contrast, in Study 1, the effects of both types of self-discrepancy on professional efficacy and work engagement were fully explained by negative affect and/or positive affect. However, noting that we had experimentally manipulated variables in Study 2, we could only conclude limited support for the pure cognitive pathway.

Nonetheless, we note that Studies 1 and 2 were methodologically heterogeneous. As such, the inconsistent observations across studies should be interpreted in the light of this issue. Firstly, the response options were different across the two studies. In Study 1, participants rated how frequently they have experienced the burnout and engagement symptoms while in Study 2, participants rated how intensely they have felt the symptoms. As compared to recalling intensity of emotions, several studies have shown that people were able to recall frequency of emotions more reliably (Diener et al., 2009; D. L. Thomas & Diener, 1990; O. Thomas et al., 2011). This is because the encoding of frequency information is more automatic than the encoding of intensity information (Diener et al., 2009; Hasher & Zacks, 1984). For example, Diener et al (2009) posited that people do not naturally assess the intensity of emotions that they experience, but they are more aware of whether they have felt an emotion. Therefore, the reported intensity of burnout and engagement symptoms in Study 2 might not be as valid as the reported frequency of these symptoms in Study 1. When reporting the intensity of symptoms, participants in Study 2 might have relied on other sources of information (e.g. job

satisfaction, recent work events) to determine their ratings. Consequently, the reported intensity of burnout symptoms might be more influenced by cognitive processes due to research artifact. Secondly, while we did not observe any differences across the experimental conditions, the manipulations could still have affected other processes that were not measured in our study. Hence, Study 1 and Study 2 might not be directly comparable.

Theoretical Implications

In summary, across both Study 1 and Study 2, the idiographic measure of PGFW consistently predicted burnout, work engagement and self-discrepancy. There were some support for the effect of PGFW to be mediated via the affective pathway of self-discrepancy and emotions, and the most consistent results were obtained when we used ideal/actual self-discrepancy and positive affect as mediators. Contrary to our hypotheses, professional efficacy/personal accomplishment was also predicted through the affective pathways. There were limited evidence to support the pure cognitive pathway from PGFW professional efficacy/personal accomplishment and work engagement dimensions. Taken together, we cannot eliminate the role of emotions in the experience of professional efficacy/personal accomplishment. However, as the affective pathways were more consistently significant for emotional exhaustion and depersonalisation, these dimensions may be more affectively-based as compared to the personal accomplishment.

Additionally, while most research has focused on the role of negative emotions with burnout dimensions (e.g., Leiter & Durup, 1994; Raedeke et al., 2013), our findings highlighted the importance of positive emotions in predicting burnout. In many of the serial mediations with positive affect as the second mediator, the direct effect of PGFW on burnout and work engagement dimensions were non-significant after including positive affect as a predictor. This suggests that the link between high PGFW and low burnout (or high engagement) can be fully explained by the higher positive affect associated with the lower self-discrepancies. While

organizations might focus their resources on reducing negative affect experienced at work, the current findings suggest that increasing positive emotional experiences at work is at least equally important. Our findings echo the call for research and interventions on clinical depression to increase emphasis on the regulation of positive emotions (Silton et al., 2020; Vanderlind et al., 2020).

One reason why positive emotions might be important in reducing burnout could be due to the broaden-and-build effect of positive emotions (Fredrickson, 1998). According to the broaden-and-build theory, experiencing positive emotions broadens one's thought-action repertoire, which is beneficial for building resources. Therefore, the experience of positive emotions can help to buffer against burnout by enabling one to problem-solve creatively and to build on available job resources. Higher positive affect measured at an earlier timepoint has also been shown to increase the perceived overlap between self and others and foster greater understanding of others (Waugh & Fredrickson, 2006). Although this has not been tested in an organizational setting, the findings suggest that experiencing positive emotions at work may also increase organizational identification or values congruence, both of which has been associated with lower burnout (e.g. Avanzi et al., 2015; Kilroy et al., 2017; Lindblom et al., 2006).

Contrary to the idea that burnout was a response to stress present in complex social relationships (Maslach, 1993), our findings suggest that burnout can also be caused by stress that exists within the individual. In other words, the source of emotional stress in burnout can also be triggered by internal processes related to self-discrepancy. This proposition aligns with a fundamental concept in psychotherapy that self-discrepancy is predictive of psychological maladjustment (Rogers, 1959). The current perspective shifts the emphasis on the external environment to the introspective processes involved in the experience of burnout and work engagement. By doing so, we suggest that self-evaluation processes that elicit self-discrepancy

may be at the crux of how burnout and work engagement develops. This novel perspective also suggests that burnout can exist in any context that elicit self-discrepancy, supporting the view that burnout could also occur in non-work contexts such as parenthood or caregiving (Bianchi et al., 2014; Kristensen et al., 2005; Pines & Aronson, 1988). This would also support the notion that the experience of burnout across professions and contexts could be more similar than different (Bianchi et al., 2014; Pines & Aronson, 1988).

Practical Implications

As burnout and work engagement are associated with job performance and organizational outcomes (Halbesleben, 2010; Swider & Zimmerman, 2010; Taris, 2006), our research has value in informing managers on how to better manage employees to mitigate the risk of low employee well-being. To reduce burnout and increase work engagement, our findings suggest that it is pertinent that managers take time to understand employees' personal goals and to frame the significance of one's tasks accordingly. In other words, simply helping employees to understand how their daily work or employment is in line with their personal goals could help to better employee well-being and its negative implications on turnover rates and job performance.

As ideal/actual self-discrepancy is a key process that mediates the association between PGFW and burnout, targeting the gap between one's actual and ideal self could also be effective in reducing burnout and increasing work engagement. For example, managers could provide positive feedback in a timely manner for employees who are performing well to improve their perception of their actual self. This could also help to maintain reciprocity between employee and organization, which has been theorized as an important protective factor against burnout (Meier, 1983; Schaufeli et al., 1996). On the other hand, managers can also help to reduce self-discrepancy in employees by setting and communicating realistic expectations to help to foster a more attainable ideal self for employees.

Limitations and Future Research

One limitation of the current research proposal is the lack of causal evidence for our proposed mechanisms. Based on the current findings, simple experimental manipulations might not be sufficient to influence people's perception of PGFW. Future research should look into enhancing the strength of the PGFW manipulation by asking participants to recall two *actual* instances in which their work has facilitated or hindered their personal goals and conduct pilot testing to assess if the manipulations were effective. Other than recruiting participants to do the experiment in lab settings or recruiting participants who are new to their jobs to increase the success rate of experimental manipulations, researchers can also consider other research designs to evaluate causal claims. For example, future research can consider using longitudinal research designs to examine how changes in PGFW and self-discrepancy over time could result in changes in emotional states, burnout and engagement. Researchers can also examine if psychological interventions that help individuals to reappraise their work situations and reduce self-discrepancy might be effective in increasing employee well-being.

Another limitation was the lack of consideration of how culture might moderate the influence on self-discrepancy on burnout and engagement. For example, individuals with interdependent self-construals may value their ought selves above their ideal selves and experience higher well-being when their ought selves are being actualised (Oishi & Diener, 2009). Similarly, the association between ought/actual self-discrepancy and burnout/engagement might be stronger among those with interdependent self-construals as compared to ideal/actual self-discrepancy. Although we speculated that there may be some overlap between the two types of self-construals in which people may perceive their ought selves as part of their ideal selves, more research is required to examine this hypothesis. The overlap between ought and ideal selves could be more likely among people who have been exposed to both independent and interdependent cultures and values.

Future research can also investigate the mixed findings in the current dissertation. For example, the direct effect of negative affect on personal accomplishment, dedication and absorption was non-significant in the teachers' sample. More research is needed to know if this finding can be replicated or generalized to other jobs associated with vocational calling. Findings in this line of research can provide us with better understanding on how we can buffer the effect of negative affect experienced at work on employee well-being.

Lastly, although our findings suggest that the facilitation of personal goals in general is helpful to improve employee well-being, we note that the current measure of PGFW did not differentiate between personal goals that are work-related and those that are non-work related. Given that organizations have limited resources and might not be able to facilitate all kinds of personal goals, future research can also examine if the psychological processes and outcomes differ between facilitation of work-related goals and non-work-related goals. If there is no difference in the outcomes, then organizations may feel free to target any type of personal goals that are important to their employees. In contrast, if the facilitation of a certain type of personal goal is more important for employee well-being (e.g. work-related goals), then more resources can be channelled towards facilitating these goals. Findings in this area of research can also help to refine the existing theory on how PGFW is associated with burnout and work engagement.

Conclusion

The current dissertation replicated the effect of PGFW using an idiographical approach. More importantly, the research contributes to the existing theory on burnout by testing two mechanisms through which PGFW could influence burnout and work engagement, an affective pathway via self-discrepancy and emotional states, and a cognitive pathway via self-discrepancy only. Across both studies, we consistently found that higher PGFW significantly predicted lower burnout and greater work engagement through perceptions of lower

discrepancy between the ideal and actual self, and more positive emotions. In contrast, perceptions of discrepancy between the ought and actual self and negative emotions did not always mediate this relationship. We also foundlimited support for cognitive pathway via self-discrepancy only. The current findings provided greater insight on the psychological mechanisms behind burnout and work engagement with practical implications on improving employee well-being.

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Appendix A

Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988)

1. Interested
2. Distressed
3. Excited
4. Upset
5. Strong
6. Guilty
7. Scared
8. Hostile
9. Enthusiastic
10. Proud
11. Irritable
12. Alert
13. Ashamed
14. Inspired
15. Nervous
16. Determined
17. Attentive
18. Jittery
19. Active
20. Afraid

Appendix B

Utrecht Work Engagement Scale (Schaufeli et al., 2006)

Vigour

1. At my work, I feel bursting with energy.
2. At my job, I feel strong and vigorous.
3. When I get up in the morning, I feel like going to work.

Dedication

1. I am enthusiastic about my job.
2. My job inspires me.
3. I am proud of the work that I do.

Absorption

1. I feel happy when I am working intensely.
2. I am immersed in my work.
3. I get carried away when I am working.

Appendix C

List of Values for Self-Affirmation Task

1. Athletic ability
2. Being good at art
3. Being smart
4. Creativity
5. Independence
6. Living in the moment
7. Membership in a social group (such as your community, racial group, or religious group)
8. Music
9. Politics
10. Relationships with friends or family
11. Religious values
12. Sense of humour
13. Knowledge
14. Financial wealth
15. Honesty/integrity

Appendix D

Instructions for Manipulation of PGFW in Study 2

People have different important personal goals that they would like to achieve. For this section, please list down three of your personal goals. The goals can be either work related or non-work related. These goals should be important in the long term and reflect what you would like to achieve in the next 1 to 5 years.

1.

2.

3.

[Low PGFW condition]

Please write down two ways in which your job makes it **harder** for you to achieve these goals.

1.

2.

[High PGFW condition]

Please write down two ways in which your job makes it **easier** for you to achieve these goals.

1.

2.

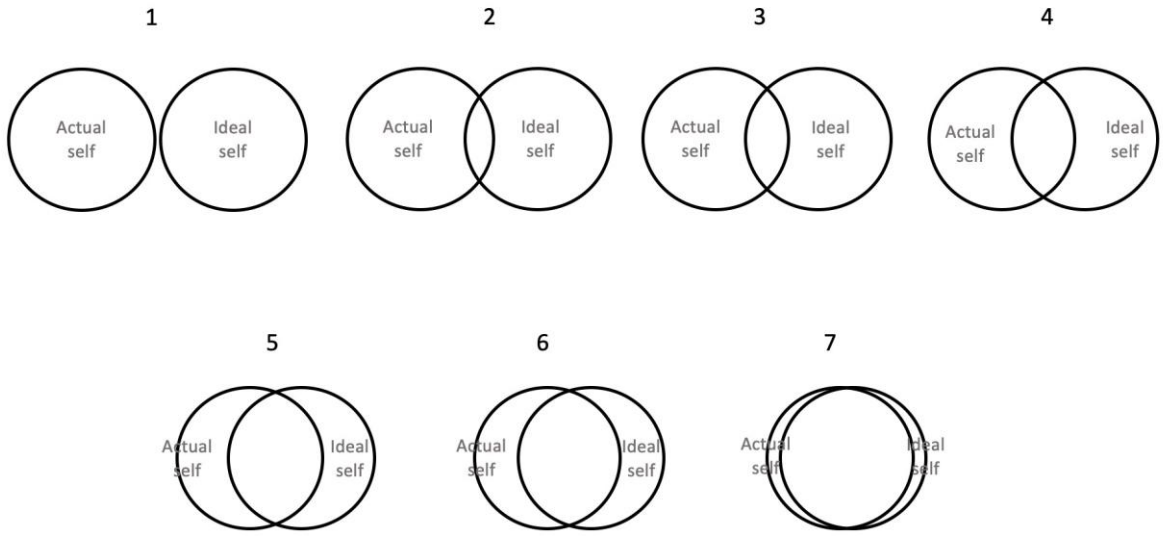
Appendix E

Self-Discrepancy Measure in Study 2

For the following question, we would like to ask you how you feel about your ideal self and your current actual self.

Your ideal self refers to the type of person whom you ideally want to be, whereas your actual self reflects the type of person whom you currently are.

Please refer to the diagram to indicate **the extent to which your actual self overlaps with your ideal self**.



Please indicate the number of the corresponding circle diagram (1 to 7) the relationship between your ideal self and your actual self.

Appendix F

Sample items from Maslach Burnout Inventory – Educators Survey (MBI-ES; Maslach et al., 2017)

Emotional exhaustion

1. I feel emotionally drained from my work.

Depersonalisation

1. I don't really care what happens to some students.

Personal accomplishment

1. I have accomplished many worthwhile things in this job.

Appendix G

Follow-up analyses for Study 2 using reported measures

As the manipulations for Study 2 were unsuccessful in influencing the key variables, we conducted mediation analyses using participants' responses on the manipulation check item and other variables. To do so, we used the same analytic strategy as Study 1.

Burnout

Higher reported PGFW significantly predicted lower emotional exhaustion (b = -0.40, SE = 0.09, p < .001, 95% CI = -0.58, -0.22), lower depersonalisation (b = -0.32, SE = 0.08, p < .001, 95% CI = -0.48, -0.15) and higher personal accomplishment (b = 0.27, SE = 0.06, p < .001, 95% CI =0.16, 0.38), even after controlling for age and gender. Therefore, H1a to H1c were supported using the reported PGFW.

Work engagement

Higher reported PGFW predicted higher vigour (b = 0.59, SE = 0.09, p < .001, 95% CI = 0.40, 0.77), higher dedication (b = 0.47, SE = 0.09, p < .001, 95% CI = 0.29, 0.65) and higher absorption (b = 0.44, SE = 0.08, p < .001, 95% CI = 0.28, 0.61), after controlling for age and gender. Therefore, H2a to H2c were supported using the reported PGFW.

Self-discrepancy

We observed that higher reported PGFW was negatively associated with lower ideal/actual self-discrepancy, b = -0.34, SE = 0.10, p < .001, 95% CI [-0.54, -0.15], and lower ought/actual self-discrepancy, b = -0.30, SE = 0.12, p <.001, 95% CI [-0.53, -0.06]. Therefore, H3a and H3b were supported by using the reported PGFW.

Serial Mediations via Ideal/Actual Self-Discrepancy and Negative Affect

For emotional exhaustion, the direct effect of reported PGFW was significant, *b* = -0.25, *SE* = 0.08, 95% *CI* [-0.43, -0.11]. Higher PGFW significantly predicted lower ideal/actual self-discrepancy, *b* = -0.34, *SE*= 0.10, 95% *CI* [-0.52, -0.14], but did not predict negative affect, *b* = -0.11, *SE* = 0.06, 95% *CI* [-0.22, 0.01]. In contrast, greater ideal/actual self-discrepancy significantly predicted higher negative affect, *b* = 0.14, *SE* = 0.05, 95% *CI* [0.05, 0.22]. Ideal/actual self-discrepancy did not directly predict emotional exhaustion, *b* = 0.08, *SE* = 0.05, 95% *CI* [-0.03, 0.17], but negative affect was positively associated with emotional exhaustion, *b* = 0.82, *SE* = 0.09, 95% *CI* [0.63, 1.00]. The indirect effect of reported PGFW on emotional exhaustion via ideal/actual self-discrepancy and negative affect was significant, *b* = -0.04, *SE* = 0.02, 95% *CI* [-0.08, -0.01]. The indirect effect for cynicism was also significant. Hence, H4a and H4b were supported using ideal/actual self-discrepancy as the first mediator.

In comparison, for professional efficacy, we observed significant direct effects from ideal/actual self-discrepancy *b* = -0.15, *SE* = 0.04, 95% *CI* [-0.22, -0.07] but not from negative affect, *b* = -0.07, *SE* = 0.07, 95% *CI* [-0.20, -0.06]. Consequently, the effect of PGFW on professional efficacy was only mediated by the cognitive pathway, *b* = 0.05, *SE* = 0.02, 95% *CI* [0.02, 0.09]. Hence, H6a was supported. The results of the serial mediations via ideal/actual self-discrepancy and negative affect can be found in Table 11 for burnout dimensions.

On the other hand, the indirect effects for engagement dimensions via ideal/actual self-discrepancy and negative affect were inconsistent. Significant indirect effect of reported PGFW through ideal/actual self-discrepancy and negative affect was only found for vigour (*b* = 0.01, *SE* = 0.01, 95% *CI* = 0.001, 0.03), but not for dedication (*b* = -0.002, *SE* = 0.01, 95% *CI* = -0.01, 0.01), and absorption (*b* = -0.003, *SE* = 0.01, 95% *CI* = -0.02, 0.01). For both dedication and absorption, the non-significant indirect effect was the result of a non-significant

direct effect from negative affect (*b*s = -0.003 to 0.04). Therefore, using ideal/actual self-discrepancy as the first mediator, H4c was supported only for the engagement dimension of vigour.

In comparison, the direct effects of ideal/actual self-discrepancy on the work engagement dimensions were all significant. The proposed cognitive pathway from PGFW via ideal/actual self-discrepancy was significant for all work engagement dimensions when controlling for negative affect. Hence, H6b was supported. The results of the serial mediations via ideal/actual self-discrepancy and negative affect can be found in Table 12 for engagement dimensions.

Serial Mediations via Ought/Actual Self-Discrepancy and Negative Affect

We also examined the indirect effects of reported PGFW on burnout and engagement via ought/actual self-discrepancy and negative affect. For emotional exhaustion, the direct effect of reported PGFW was significant, *b* = -0.26, *SE* = 0.08, 95% *CI* [-0.43, -0.11]. Higher reported PGFW significantly predicted lower ideal/actual self-discrepancy, *b* = -0.29, *SE* = 0.11, 95% *CI* [-0.50, -0.07], and lower negative affect, *b* = -0.12, *SE* = 0.06, 95% *CI* [-0.24, -0.01]. Lower ought/actual self-discrepancy also significantly predicted lower negative affect, *b* = 0.10, *SE* = 0.03, 95% *CI* [0.04, 0.16], but not did not predict emotional exhaustion, *b* = -0.06, *SE* = 0.05, *95% CI* [-0.03, 0.15]. The direct effect of negative affect on emotional exhaustion was significant, *b* = 0.82, *SE* = 0.10, 95% *CI* [0.62, 1.01]. The indirect effect of reported PGFW via ought/actual self-discrepancy and negative affect was significant, *b* = -0.02, *SE* = 0.01, 95% *CI* [-0.05, -0.004]. Hence, H4a was supported using ought/actual self-discrepancy as the first mediator.

The indirect effect of reported PGFW via ought/actual self-discrepancy and negative affect was also significant for cynicism and vigour, but for not personal accomplishment,

dedication and absorption. Upon examining the results, the non-significant serial mediation was primarily the result of a non-significant direct effect from negative affect to the outcome variable (*b*s = -0.09 to -0.01). Therefore, while H4b (i.e. serial mediation for cynicism) was supported, H4c was only supported for vigour and not the other engagement dimensions.

In contrast, the direct effect from ought/actual self-discrepancy in the serial mediation was significant for personal accomplishment, b = -0.08, SE = 0.03, 95% CI [-0.14, -0.01], and dedication, b = -0.11, SE = 0.06, 95% CI [-0.22, -0.002], after controlling for negative affect. However, the cognitive pathway (i.e. indirect effect) was only significant for personal accomplishment, b = 0.02, SE = 0.01, 95% CI [0.002, 0.05], but not for dedication, b = 0.03, SE = 0.02, 95% CI [-0.0001, 0.08]. Hence, only H6a was supported.

The results of the serial mediations via ought/actual self-discrepancy and negative affect can be found in Table 13 and 14 for burnout and work engagement dimensions respectively.

Serial Mediations via Ideal/Actual Self-Discrepancy and Positive Affect

For emotional exhaustion, the direct effect of reported PGFW was significant after controlling for both ideal/actual self-discrepancy and positive affect, b = -0.20, SE = 0.09, 95% CI [-0.38, -0.02]. Higher reported PGFW significantly predicted lower ideal/actual self-discrepancy, b = -0.34, SE = 0.10, 95% CI [-0.52, -0.14], and higher positive affect, b = 0.23, SE = 0.05, 95% CI [0.14, 0.33]. Lower ideal/actual self-discrepancy also predicted higher positive affect, b = -0.16, SE = 0.03, 95% CI [-0.22, -0.09], but did not predict exhaustion, b = 0.09, SE = 0.06, 95% CI [-0.02, 0.20]. In contrast, higher positive affect predicted lower emotional exhaustion, b = -0.61, SE = 0.11, 95% CI [-0.83, -0.38]. The indirect effect of reported PGFW via ideal/actual self-discrepancy and positive affect was significant, b = -0.03, SE = 0.01, 95% CI [-0.06, -0.01].

Serial mediations via ideal/actual self-discrepancy and positive affect were significant for all burnout and engagement dimensions. Furthermore, full serial mediations were observed for depersonalisation, personal accomplishment, and the work engagement dimension of dedication. Hence, H5a to H5c was supported with ideal/actual self-discrepancy as the first mediator.

Although the serial mediation was also significant for personal accomplishment, the cognitive pathway via ideal/actual self-discrepancy only was also significant, b = 0.03, SE = 0.01, 95% CI [0.001, 0.06]. Similarly, the cognitive pathways were also significant for all work engagement dimensions. Hence, H6a and H6b were supported. . The results of the serial mediations via ideal/actual self-discrepancy and positive affect can be found in Table 15 and Table 16 for burnout and engagement dimensions respectively.

Serial Mediations via Ought/Actual Self-Discrepancy and Positive Affect

For emotional exhaustion, the direct effect of reported PGFW was significant, b = -0.19, SE = 0.09, 95% CI [-0.37, -0.02]. Higher reported PGFW significantly predicted lower ideal/actual self-discrepancy, b = -0.29, SE = 0.11, 95% CI [-0.50, -0.07], and higher positive affect, b = 0.27, SE = 0.05, 95% CI [0.18, 0.37]. However, higher ought/actual self-discrepancy did not predict higher positive affect, b = -0.05, SE = 0.03, 95% CI [-0.11, 0.01], even though higher ought/actual self-discrepancy predicted higher exhaustion, b = 0.11, SE = 0.05, 95% CI [0.02, 0.21]. On the other hand, greater negative affect significantly predicted higher emotional exhaustion, b = -0.63, SE = 0.11, 95% CI [-0.85, -0.40]. As the association between the first and second mediator was non-significant, the indirect effect of reported PGFW via ideal/ought self-discrepancy and negative affect was also non-significant, b = -0.01, SE = 0.01, 95% CI [-0.03, 0.001]. The serial mediations were non-significant for all other burnout and engagement dimensions as ought/actual self-discrepancy was not associated with positive affect in all

analyses. Hence, H5a to H5c were not supported using ought/actual self-discrepancy as the first mediator.

In contrast, there were significant direct effects of ought/actual self-discrepancy on all burnout dimensions after controlling for positive affect. Consequently, the cognitive pathway was significant for personal accomplishment and the other two burnout dimensions. Hence, H6a was supported. However, similar findings were not observed for work engagement dimensions (i.e. H6b was not supported).

The results of the serial mediations via ought/actual self-discrepancy and positive affect can be found in Table 17 and 18 for burnout and engagement dimensions respectively.

Table 1

Descriptive Statistics for Study Variables in Study 1

Variable	*N*	*M*	*SD*	α
PGFW	345	2.92	0.93	.69
Average goal importance	345	4.12	0.64	.54
MBI-GS - Exhaustion scale	345	3.07	1.63	.93
MBI-GS - Cynicism scale	345	3.09	1.54	.86
MBI-GS - Professional efficacy scale	345	3.99	1.17	.84
UWES - Vigour scale	345	3.11	1.64	.88
UWES - Dedication scale	345	3.40	1.77	.92
UWES - Absorption scale	345	3.52	1.54	.82
Ideal/actual self-discrepancy	345	3.03	0.96	.87
Ought/actual self-discrepancy	344	2.74	0.87	.85
Negative affect	345	2.32	0.84	.92
Positive affect	345	3.07	0.88	.94

Table 2

Correlations between Study Variables in Study 1

Variable	1	2	3	4	5	6	7	8	9	10
1. PGFW	-									
2. Exhaustion	-.25***	-								
3. Cynicism	-.20***	.71***	-							
4. Professional efficacy	.31***	-.10	-.09	-						
5. Vigour	.38***	-.39***	-.39***	.54***	-					
6. Dedication	.43***	-.39***	-.41***	.53***	.80***	-				
7. Absorption	.34***	-.22***	-.23***	.51***	.73***	.69***	-			
8. Ideal/actual self-discrepancy	-.43***	.19***	.15**	-.27***	-.40***	-.42***	-.28***	-		
9. Ought/actual self-discrepancy	-.33***	.06	.05	-.19***	-.28***	-.32***	-.20***	.61***	-	
10. Positive affect	.51***	-.37***	-.37***	.53***	.69***	.74***	.58***	-.49***	-.37***	-
11. Negative affect	-.10	.51***	.52***	-.25***	-.24***	-.20***	-.16**	.16**	.06	-.08

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

Table 3

Results from Serial Mediation Analyses via Ideal/Actual Self-Discrepancy and Negative Affect

Pathway	*b*	*SE*	*95% CI*						
X (PGFW); M_1 (Ideal/actual self-discrepancy); M_2 (Negative affect)									
Effect of X on M_1 (Path a_1)	-0.44	0.05	[-0.54, -0.34]						
Effect of X on M_2 (Path a_2)	-0.04	0.06	[-0.15, 0.06]						
Effect of M_1 on M_2 (Path d_{21})	0.12	0.05	[0.01, 0.23]						
	Y (Exhaustion)			*Y* (Cynicism)			*Y* (Professional efficacy)		
	b	*SE*	*95% CI*	*b*	*SE*	*95% CI*	*b*	*SE*	*95% CI*
Direct Effect of X on Y (Path c')	-0.33	0.09	[-0.50, -0.16]	-0.25	0.09	[-0.42, -0.07]	0.29	0.07	[0.16, 0.41]
Direct Effect of M_1 on Y (Path b_1)	0.05	0.09	[-0.13, 0.23]	0.01	0.09	[-0.17, 0.19]	-0.17	0.06	[-0.29, -0.04]
Direct Effect of M_2 on Y (Path b_2)	0.94	0.09	[0.77, 1.10]	0.92	0.08	[0.76, 1.08]	-0.28	0.07	[-0.42, -0.15]
Total effect of X on Y	-0.44	0.09	[-0.62, -0.25]	-0.34	0.09	[-0.51, -0.16]	0.39	0.06	[0.26, 0.51]
Indirect effect of X on Y via M_1	-0.03	0.04	[-0.10, 0.06]	-0.003	0.04	[-0.08, 0.08]	0.07	0.03	[0.02, 0.14]
Indirect effect of X on Y via M_2	-0.04	0.05	[-0.14, 0.06]	-0.04	0.05	[-0.14, 0.06]	0.01	0.02	[-0.02, 0.05]
Indirect effect of X on Y via M_1 and M_2	-0.05	0.02	[-0.10, - 0.01]	-0.05	0.02	[-0.10, -0.01]	0.02	0.01	[0.002, 0.03]

Continued

	Y (Vigour)			*Y* (Dedication)			*Y* (Absorption)		
	b	*SE*	*95% CI*	*b*	*SE*	*95% CI*	*b*	*SE*	*95% CI*
Direct Effect of X on Y (Path c')	0.43	0.09	[0.25, 0.62]	0.57	0.10	[0.36, 0.77]	0.44	0.10	[0.24, 0.63]
Direct Effect of M_1 on Y (Path b_1)	-0.46	0.10	[-0.64, -0.26]	-0.51	0.11	[-0.72, -0.29]	-0.23	0.10	[-0.42, -0.04]
Direct Effect of M_2 on Y (Path b_2)	-0.34	0.10	[-0.55, -0.14]	-0.26	0.10	[-0.47, -0.07]	-0.21	0.09	[-0.40, -0.03]
Total effect of X on Y	0.67	0.09	[0.50, 0.84]	0.81	0.09	[0.63, 1.00]	0.56	0.08	[0.39, 0.72]
Indirect effect of X on Y via M_1	0.20	0.05	[0.11, 0.30]	0.22	0.06	[0.12, 0.34]	0.1	0.05	[0.02, 0.19]
Indirect effect of X on Y via M_2	0.01	0.02	[-0.03, 0.05]	0.01	0.02	[-0.02, 0.05]	0.01	0.01	[-0.02, 0.04]
Indirect effect of X on Y via M_1 and M_2	0.02	0.01	[0.002, 0.04]	0.01	0.01	[0.001, 0.04]	0.01	0.01	[0.0001, 0.03]

Table 4

Results from Serial Mediation Analyses via Ought/Actual Self-Discrepancy and Negative Affect

Pathway	*b*	*SE*	*95% CI*						
X (PGFW); M_1 (Ought/actual self-discrepancy); M_2 (Negative affect)									
Effect of X on M_1 (Path a_1)	-0.31	0.05	[-0.41, -0.21]						
Effect of X on M_2 (Path a_2)	-0.08	0.05	[-0.19, 0.02]						
Effect of M_1 on M_2 (Path d_{21})	0.03	0.06	[-0.08, 0.14]						
	Y (Exhaustion)			*Y* (Cynicism)			*Y* (Professional efficacy)		
	b	*SE*	*95% CI*	*b*	*SE*	*95% CI*	*b*	*SE*	*95% CI*
Direct Effect of X on Y (Path c')	-0.37	0.08	[-0.54, -0.21]	-0.27	0.08	[-0.43, -0.11]	0.32	0.06	[0.20, 0.44]
Direct Effect of M_1 on Y (Path b_1)	-0.07	0.09	[-0.26, 0.11]	-0.07	0.09	[-0.23, 0.10]	-0.13	0.07	[-0.27, 0.02]
Direct Effect of M_2 on Y (Path b_2)	0.94	0.09	[0.78, 1.11]	0.92	0.08	[0.76, 1.07]	-0.30	0.07	[-0.45, -0.17]
Total effect of X on Y	-0.44	0.09	[-0.62, -0.26]	-0.34	0.09	[-0.51, -0.16]	0.39	0.06	[0.26, 0.51]
Indirect effect of X on Y via M_1	0.02	0.03	[-0.04, 0.08]	0.02	0.03	[-0.03, 0.08]	0.04	0.02	[-0.01, 0.09]
Indirect effect of X on Y via M_2	-0.08	0.05	[-0.19, 0.02]	-0.08	0.05	[-0.18, 0.02]	0.03	0.02	[-0.01, 0.07]
Indirect effect of X on Y via M_1 and M_2	-0.01	0.02	[-0.04, 0.02]	-0.01	0.02	[-0.04, 0.02]	0.002	0.01	[-0.01, 0.02]

Continued

	Y (Vigour)			*Y* (Dedication)			*Y* (Absorption)		
	b	*SE*	*95% CI*	*b*	*SE*	*95% CI*	*b*	*SE*	*95% CI*
Direct Effect of X on Y (Path c')	0.54	0.09	[0.35, 0.72]	0.66	0.10	[0.46, 0.85]	0.48	0.09	[0.29, 0.67]
Direct Effect of M_1 on Y (Path b_1)	-0.31	0.10	[-0.51, -0.11]	-0.39	0.11	[-0.60, -0.18]	-0.17	0.10	[-0.38, 0.03]
Direct Effect of M_2 on Y (Path b_2)	-0.40	0.11	[-0.62, -0.19]	-0.33	0.11	[-0.55, -0.12]	-0.23	0.10	[-0.42, -0.05]
Total effect of X on Y	0.67	0.09	[0.50, 0.84]	0.82	0.09	[0.63, 1.00]	0.56	0.08	[0.39, 0.72]
Indirect effect of X on Y via M_1	0.10	0.04	[0.03, 0.18]	0.12	0.04	[0.05, 0.22]	0.05	0.03	[-0.01, 0.13]
Indirect effect of X on Y via M_2	0.03	0.02	[-0.01, 0.09]	0.03	0.02	[-0.01, 0.07]	0.02	0.02	[-0.01, 0.06]
Indirect effect of X on Y via M_1 and M_2	0.002	0.01	[-0.01, 0.02]	0.003	0.01	[-0.01, 0.02]	0.002	0.005	[-0.01, 0.01]

Table 5

Results from Serial Mediation Analyses via Ideal/Actual Self-Discrepancy and Positive Affect

Pathway	*b*	*SE*	*95% CI*						
X (PGFW); M_1 (Ideal/actual self-discrepancy); M_2 (Positive affect)									
Effect of X on M_1 (Path a_1)	-0.44	0.05	[-0.54, -0.34]						
Effect of X on M_2 (Path a_2)	0.35	0.05	[0.26, 0.44]						
Effect of M_1 on M_2 (Path d_{21})	-0.30	0.05	[-0.39, -0.21]						
	Y (Exhaustion)			*Y* (Cynicism)			*Y* (Professional efficacy)		
	b	*SE*	*95% CI*	*b*	*SE*	*95% CI*	*b*	*SE*	*95% CI*
Direct Effect of X on Y (Path c')	-0.15	0.11	[-0.37, 0.07]	-0.05	0.11	[-0.26, 0.16]	0.06	0.07	[-0.07, 0.18]
Direct Effect of M_1 on Y (Path b_1)	-0.02	0.11	[-0.23, 0.19]	-0.08	0.10	[-0.28, 0.11]	0.003	0.06	[-0.12, 0.12]
Direct Effect of M_2 on Y (Path b_2)	-0.61	0.13	[-0.86, -0.36]	-0.67	0.11	[-0.89, -0.45]	0.67	0.07	[0.52, 0.82]
Total effect of X on Y	-0.44	0.09	[-0.62, -0.26]	-0.34	0.09	[-0.51, -0.16]	0.39	0.06	[0.26, 0.51]
Indirect effect of X on Y via M_1	0.01	0.05	[-0.08, 0.10]	0.04	0.04	[-0.05, 0.13]	-0.001	0.03	[-0.05, 0.05]
Indirect effect of X on Y via M_2	-0.22	0.05	[-0.33, -0.12]	-0.24	0.05	[-0.35, -0.14]	0.24	0.04	[0.16, 0.32]
Indirect effect of X on Y via M_1 and M_2	-0.08	0.02	[-0.14, -0.04]	-0.09	0.02	[-0.14, -0.05]	0.09	0.02	[0.05, 0.13]

Continued

	Y (Vigour)			*Y* (Dedication)			*Y* (Absorption)		
	b	*SE*	*95% CI*	*b*	*SE*	*95% CI*	*b*	*SE*	*95% CI*
Direct Effect of X on Y (Path c')	0.02	0.09	[-0.15, 0.20]	0.09	0.09	[-0.08, 0.28]	0.10	0.10	[-0.09, 0.30]
Direct Effect of M_1 on Y (Path b_1)	-0.14	0.08	[-0.30, 0.03]	-0.13	0.09	[-0.3, 0.05]	0.04	0.08	[-0.13, 0.21]
Direct Effect of M_2 on Y (Path b_2)	1.20	0.09	[1.02, 1.38]	1.37	0.09	[1.2, 1.54]	0.98	0.10	[0.78, 1.17]
Total effect of X on Y	0.67	0.09	[0.50, 0.84]	0.81	0.09	[0.63, 1.00]	0.56	0.08	[0.39, 0.72]
Indirect effect of X on Y via M_1	0.06	0.04	[-0.01, 0.13]	0.06	0.04	[-0.02, 0.14]	-0.02	0.04	[-0.09, 0.06]
Indirect effect of X on Y via M_2	0.42	0.07	[0.30, 0.56]	0.48	0.07	[0.34, 0.63]	0.34	0.06	[0.23, 0.46]
Indirect effect of X on Y via M_1 and M_2	0.16	0.03	[0.10, 0.23]	0.18	0.04	[0.11, 0.26]	0.13	0.03	[0.08, 0.19]

Table 6

Results from Serial Mediation Analyses via Ought/Actual Self-Discrepancy and Positive Affect

Pathway	*b*	*SE*	*95% CI*						
X (PGFW); M_1 (Ought/actual self-discrepancy); M_2 (Positive affect)									
Effect of X on M_1 (Path a_1)	-0.31	0.05	[-0.41, -0.21]						
Effect of X on M_2 (Path a_2)	0.42	0.05	[0.32, 0.50]						
Effect of M_1 on M_2 (Path d_{21})	-0.23	0.05	[-0.33, -0.12]						
	Y (Exhaustion)			*Y* (Cynicism)			*Y* (Professional efficacy)		
	b	*SE*	*95% CI*	*b*	*SE*	*95% CI*	*b*	*SE*	*95% CI*
Direct Effect of X on Y (Path c')	-0.17	0.11	[-0.40, 0.05]	-0.05	0.11	[-0.26, 0.15]	0.06	0.07	[-0.06, 0.19]
Direct Effect of M_1 on Y (Path b_1)	-0.20	0.11	[-0.41, 0.01]	-0.20	0.10	[-0.40, -0.02]	0.02	0.06	[-0.11, 0.14]
Direct Effect of M_2 on Y (Path b_2)	-0.67	0.12	[-0.91, -0.43]	-0.71	0.11	[-0.93, -0.49]	0.67	0.07	[0.53, 0.81]
Total effect of X on Y	-0.44	0.09	[-0.62, -0.26]	-0.34	0.09	[-0.51, -0.16]	0.39	0.06	[0.26, 0.51]
Indirect effect of X on Y via M_1	0.06	0.03	[-0.004, 0.14]	0.06	0.03	[0.01, 0.13]	-0.01	-0.05	[-0.05, 0.03]
Indirect effect of X on Y via M_2	-0.28	0.06	[-0.40, -0.17]	-0.29	0.06	[-0.42, -0.19]	0.28	0.20	[0.20, 0.37]
Indirect effect of X on Y via M_1 and M_2	-0.05	0.02	[-0.08, -0.02]	-0.05	0.02	[-0.09, -0.02]	0.05	0.02	[0.02, 0.08]

Continued

	Y (Vigour)			*Y* (Dedication)			*Y* (Absorption)		
	b	*SE*	*95% CI*	*b*	*SE*	*95% CI*	*b*	*SE*	*95% CI*
Direct Effect of X on Y (Path c')	0.05	0.09	[-0.13, 0.24]	0.11	0.09	[-0.07, 0.29]	0.09	0.10	[-0.10, 0.28]
Direct Effect of M_1 on Y (Path b_1)	-0.04	0.09	[-0.21, 0.14]	-0.09	0.08	[-0.24, 0.07]	0.05	0.09	[-0.14, 0.22]
Direct Effect of M_2 on Y (Path b_2)	1.24	0.08	[1.08, 1.41]	1.39	0.08	[1.23, 1.55]	0.98	0.09	[0.80, 1.17]
Total effect of X on Y	0.67	0.09	[0.50, 0.84]	0.82	0.09	[0.63, 1.00]	0.56	0.08	[0.39, 0.72]
Indirect effect of X on Y via M_1	0.01	0.02	[-0.02, 0.04]	0.03	0.03	[-0.02, 0.08]	-0.01	0.03	[-0.07, 0.04]
Indirect effect of X on Y via M_2	0.30	0.04	[0.22, 0.37]	0.58	0.07	[0.44, 0.73]	0.41	0.06	[0.29, 0.53]
Indirect effect of X on Y via M_1 and M_2	0.05	0.02	[0.02, 0.08]	0.10	0.03	[0.05, 0.16]	0.07	0.02	[0.03, 0.12]

Table 7

Descriptive Statistics for Study Variables in Study 2

Variable	*N*	*M*	*SD*	α
Reported PGFW	228	2.95	0.82	.39
Average goal importance	228	4.28	0.53	.47
MBI-ES – Emotional exhaustion scale	228	4.31	1.17	.92
MBI-ES – Depersonalization scale	228	3.03	1.05	.68
MBI-ES – Personal accomplishment scale	228	4.64	0.74	.77
UWES – Vigour scale	227	3.42	1.24	.88
UWES – Dedication scale	228	4.73	1.19	.69
UWES – Absorption scale	227	4.31	1.08	.88
Ideal/actual self-discrepancy	228	3.66	1.24	-
Ought/actual self-discrepancy	228	3.55	1.48	-
Negative affect	228	2.17	0.72	.88
Positive affect	228	3.18	0.68	.90

Table 8

Correlations between Study Variables in Study 2

Variable	1	2	3	4	5	6	7	8	9	10
1. Reported PGFW	-									
2. Emotional exhaustion	-.28***	-								
3. Depersonalization	-.24***	.39***	-							
4. Personal accomplishment	.30***	-.21**	-.23**	-						
5. Vigour	.39***	-.51***	-.33***	.58***	-					
6. Dedication	.31***	-.38***	-.37***	.60***	.67***	-				
7. Absorption	.33***	-.20**	-.22***	.50***	.63***	.66***	-			
8. Ideal/actual self-discrepancy	-.22***	.25***	.18**	-.32***	-.37***	-.34***	-.36***	-		
9. Ought/actual self-discrepancy	-.16*	.23***	.20**	-.22***	-.21**	-.19**	-.15*	.54***	-	
10. Positive affect	.35***	-.44***	-.31***	.57***	.68***	.74***	.57***	-.35***	-.17**	-
11. Negative affect	-.18**	.55***	.31***	-.17**	-.28***	-.10	-.09	.26***	.24***	-.16*

$^{*}p < .05$. $^{**}p < .01$. ***. $p < .001$.

Table 9

Two-way ANOVA Results for Effects of Manipulations

Outcome variable	Independent variable	*df*	*MS*	*F*	*p*
Reported PGFW	PGFW condition (PGFW)	1	0.03	0.05	.830
	Self-affirmation condition (SA)	1	0.18	0.27	.602
	PGFW × SA	1	0.94	1.40	.239
	Residual error	224	0.68		
Ideal/actual self-discrepancy	PGFW condition (PGFW)	1	0.79	0.51	.475
	Self-affirmation condition (SA)	1	1.72	1.12	.292
	PGFW × SA	1	1.93	1.25	.264
	Residual error	224	1.54		
Ought/actual self-discrepancy	PGFW condition (PGFW)	1	3.10	1.43	.234
	Self-affirmation condition (SA)	1	3.50	1.61	.205
	PGFW × SA	1	3.23	1.49	.224
	Residual error	224	2.17		
Emotional exhaustion	PGFW condition (PGFW)	1	6.21	4.62	.033
	Self-affirmation condition (SA)	1	0.20	0.15	.702
	PGFW × SA	1	1.23	0.92	.340
	Residual error	224	1.34		
Depersonalization	PGFW condition (PGFW)	1	1.32	1.20	.275
	Self-affirmation condition (SA)	1	0.005	0.004	.947
	PGFW × SA	1	0.62	0.56	.455
	Residual error	224	1.10		
Personal accomplishment	PGFW condition (PGFW)	1	0.16	0.28	.595
	Self-affirmation condition (SA)	1	0.17	0.30	.582
	PGFW × SA	1	0.02	0.04	.835
	Residual error	224	0.55		

Continued

Outcome variable	Independent variable	*df*	*MS*	*F*	*p*
Vigour	PGFW condition (PGFW)	1	0.15	0.10	.753
	Self-affirmation condition (SA)	1	0.31	0.20	.657
	PGFW × SA	1	0.005	0.003	.956
	Residual error	223	1.56		
Dedication	PGFW condition (PGFW)	1	3.16	2.25	.135
	Self-affirmation condition (SA)	1	0.003	0.002	.966
	PGFW × SA	1	3.58	2.54	.112
	Residual error	224	1.41		
Absorption	PGFW condition (PGFW)	1	0.81	0.69	.405
	Self-affirmation condition (SA)	1	0.55	0.47	.492
	PGFW × SA	1	2.73	2.35	.126
	Residual error	223	1.16		

Table 10

Summary of Findings Relating to Burnout and Work Engagement in Study 1 and 2

Study	Type of self-discrepancy	Burnout dimensions			Work engagement dimensions			Remarks
		EE/EX	DP/CY	PA/PE	VI	DE	AB	
PGFW → burnout / engagement								
Study 1	-	✓	✓	✓	✓	✓	✓	H1 and H2 were supported.
Study 2	-	✓	✓	✓	✓	✓	✓	H1 and H2 were supported.
PGFW → self-discrepancy → negative affect → burnout / engagement								
Study 1	Ideal/actual	✓	✓	✓	✓	✓	✓	H4a to H4c were partially supported; ought/actual self-discrepancy was not associated with negative affect.
	Ought/actual	×	×	×	×	×	×	
Study 2	Ideal/actual	✓	✓	×	✓	×	×	H4a to H4c were partially supported; negative affect was not associated with PA, DE and AB.
	Ought/actual	✓	✓	×	✓	×	×	
PGFW → self-discrepancy → positive affect → burnout / engagement								
Study 1	Ideal/actual	✓	✓	✓	✓	✓	✓	H5a to H5c were supported.
	Ought/actual	✓	✓	✓	✓	✓	✓	
Study 2	Ideal/actual	✓	✓	✓	✓	✓	✓	H5a to H5c were partially supported; ought/actual self-discrepancy was not associated with negative affect.
	Ought/actual	×	×	×	×	×	×	

Study	Type of self-discrepancy	Burnout dimensions			Work engagement dimensions			Remarks
		EE/EX	DP/CY	PA/PE	VI	DE	AB	
PGFW → self-discrepancy → burnout / engagement								
Study 1 (control for negative affect)	Ideal/actual	×	×	✓	✓	✓	✓	H6a and H6b was not supported
	Ought/actual	×	×	×	✓	✓	×	
Study 1 (control for positive affect)	Ideal/actual	×	×	×	×	×	×	
	Ought/actual	×	✓	×	×	×	×	
Study 2 (control for negative affect)	Ideal/actual	×	×	✓	✓	✓	✓	H6a was supported. H6b was partially supported.
	Ought/actual	×	×	✓	×	×	×	
Study 2 (control for positive affect)	Ideal/actual	×	×	✓	✓	✓	✓	
	Ought/actual	✓	✓	✓	×	×	×	

Note. EE/EX = emotional exhaustion/ exhaustion; DP/CY = depersonalisation/ cynicism; PA/PE = personal accomplishment/ professional efficacy; VI = vigour; DE = dedication; AB = absorption. ✓ represents significant association or indirect effect, and × indicates non-significant finding.

Table 11

Results from Serial Mediation Analyses via Ideal/Actual Self-Discrepancy and Negative Affect for Burnout Dimensions

Pathway	*b*	*SE*	*95% CI*						
X (PGFW); M_1 (Ideal/actual self-discrepancy); M_2 (Negative affect)									
Effect of X on M_1 (Path a_1)	-0.34	0.10	[-0.52, -0.14]						
Effect of X on M_2 (Path a_2)	-0.11	0.06	[-0.22, 0.01]						
Effect of M_1 on M_2 (Path d_{21})	0.14	0.04	[0.05, 0.22]						
	Y (Emotional Exhaustion)			*Y* (Depersonalization)			*Y* (Personal accomplishment)		
	b	*SE*	*95% CI*	*b*	*SE*	*95% CI*	*b*	*SE*	*95% CI*
Direct Effect of X on Y (Path c')	-0.25	0.08	[-0.43, -0.11]	-0.23	0.10	[-0.43, -0.04]	0.21	0.06	[0.09, 0.33]
Direct Effect of M_1 on Y (Path b_1)	0.08	0.05	[-0.03, 0.17]	0.06	0.06	[-0.05, 0.17]	-0.15	0.04	[-0.22, -0.07]
Direct Effect of M_2 on Y (Path b_2)	0.82	0.09	[0.63, 1.00]	0.38	0.10	[0.19, 0.57]	-0.07	0.07	[-0.20, 0.06]
Total effect of X on Y	-0.40	0.09	[-0.58, -0.23]	-0.31	0.08	[-0.47, -0.15]	0.27	0.06	[0.16, 0.38]
Indirect effect of X on Y via M_1	-0.03	0.02	[-0.07, 0.01]	-0.02	0.02	[-0.07, 0.02]	0.05	0.02	[0.02, 0.09]
Indirect effect of X on Y via M_2	-0.09	0.05	[-0.18, 0.01]	-0.04	0.02	[-0.09, 0.004]	0.01	0.01	[-0.01, 0.03]
Indirect effect of X on Y via M_1 and M_2	-0.04	0.02	[-0.08, -0.01]	-0.02	0.01	[-0.04, -0.003]	0.003	0.004	[-0.003, 0.01]

Table 12

Results from Serial Mediation Analyses via Ideal/Actual Self-Discrepancy and Negative Affect for Engagement Dimensions

Pathway	*Y* (Vigour)			*Y* (Dedication)			*Y* (Absorption)		
	b	*SE*	*95% CI*	*b*	*SE*	*95% CI*	*b*	*SE*	*95% CI*
X (PGFW); M_1 (Ideal/actual self-discrepancy); M_2 (Negative affect)									
Effect of X on M_1 (Path a_1)	-0.33	0.10	[-0.52, -0.13]	-0.34	0.10	[-0.52, -0.14]	-0.33	0.10	[-0.52, -0.13]
Effect of X on M_2 (Path a_2)	-0.11	0.06	[-0.23, 0.01]	-0.11	0.06	[-0.22, 0.01]	-0.11	0.06	[-0.23, 0.01]
Effect of M_1 on M_2 (Path d_{21})	0.14	0.04	[0.05, 0.22]	0.14	0.04	[0.05, 0.22]	0.14	0.04	[0.05, 0.22]
Direct Effect of X on Y (Path c')	0.47	0.09	[0.30, 0.65]	0.37	0.10	[0.19, 0.56]	0.36	0.09	[0.20, 0.54]
Direct Effect of M_1 on Y (Path b_1)	-0.26	0.06	[-0.38, -0.14]	-0.28	0.06	[-0.40, -0.16]	-0.27	0.05	[-0.37, -0.17]
Direct Effect of M_2 on Y (Path b_2)	-0.28	0.10	[-0.47, -0.07]	0.04	0.10	[-0.16, 0.23]	0.07	0.10	[-0.13, 0.26]
Total effect of X on Y	0.60	0.09	[0.42, 0.78]	0.46	0.09	[0.28, 0.64]	0.44	0.08	[0.28, 0.61]
Indirect effect of X on Y via M_1	0.09	0.03	[0.03, 0.16]	0.10	0.04	[0.03, 0.17]	0.09	0.03	[0.03, 0.15]
Indirect effect of X on Y via M_2	0.03	0.02	[-0.004, 0.08]	-0.004	0.01	[-0.04, 0.02]	-0.01	0.01	[-0.04, 0.01]
Indirect effect of X on Y via M_1 and M_2	0.01	0.01	[0.001, 0.03]	-0.002	0.01	[-0.01, 0.01]	-0.003	0.01	[-0.02, 0.01]

Note. Path a_1, Path a_2 and Path d_{21} vary slightly across the three engagement dimensions due to missing data.

Table 13

Results from Serial Mediation Analyses via Ought/Actual Self-Discrepancy and Negative Affect for Burnout Dimensions

Pathway	*b*	*SE*	*95% CI*						
X (PGFW); M_1 (Ought/actual self-discrepancy); M_2 (Negative affect)									
Effect of X on M_1 (Path a_1)	-0.29	0.11	[-0.50, -0.07]						
Effect of X on M_2 (Path a_2)	-0.12	0.06	[-0.24, -0.01]						
Effect of M_1 on M_2 (Path d_{21})	0.10	0.03	[0.04, 0.16]						
	Y (Emotional Exhaustion)			*Y* (Depersonalization)			*Y* (Personal accomplishment)		
	b	*SE*	*95% CI*	*b*	*SE*	*95% CI*	*b*	*SE*	*95% CI*
Direct Effect of X on Y (Path c')	-0.26	0.08	[-0.43, -0.11]	-0.23	0.10	[-0.42, -0.05]	0.23	0.06	[0.12, 0.35]
Direct Effect of M_1 on Y (Path b_1)	0.06	0.05	[-0.03, 0.15]	0.08	0.04	[-0.0004, 0.16]	-0.08	0.03	[-0.14, -0.01]
Direct Effect of M_2 on Y (Path b_2)	0.82	0.10	[0.62, 1.01]	0.36	0.09	[0.19, 0.54]	-0.09	0.07	[-0.23, 0.03]
Total effect of X on Y	-0.40	0.09	[-0.58, -0.23]	-0.31	0.08	[-0.47, -0.15]	0.27	0.06	[0.16, 0.38]
Indirect effect of X on Y via M_1	-0.02	0.02	[-0.06, 0.01]	-0.02	0.02	[-0.06, 0.0004]	0.02	0.01	[0.002, 0.05]
Indirect effect of X on Y via M_2	-0.10	0.05	[-0.20, -0.004]	-0.05	0.02	[-0.09, -0.002]	0.01	0.01	[-0.005, 0.03]
Indirect effect of X on Y via M_1 and M_2	-0.02	0.01	[-0.05, -0.004]	-0.01	0.01	[-0.02, -0.002]	0.003	0.003	[-0.001, 0.01]

Table 14

Results from Serial Mediation Analyses via Ought/Actual Self-Discrepancy and Negative Affect for Engagement Dimensions

Pathway	*Y* (Vigour)			*Y* (Dedication)			*Y* (Absorption)		
	b	*SE*	*95% CI*	*b*	*SE*	*95% CI*	*b*	*SE*	*95% CI*
X (PGFW); *M1* (Ought/actual self-discrepancy); *M2* (Negative affect)									
Effect of X on M_1 (Path a_1)	-0.28	0.11	[-0.49, -0.06]	-0.29	0.11	[-0.50, -0.07]	-0.28	0.11	[-0.49, -0.06]
Effect of X on M_2 (Path a_2)	-0.13	0.06	[-0.24, -0.01]	-0.12	0.06	[-0.24, -0.01]	-0.13	0.06	[-0.24, -0.01]
Effect of M_1 on M_2 (Path d_{21})	0.10	0.03	[0.04, 0.16]	0.10	0.03	[0.04, 0.16]	0.10	0.03	[0.04, 0.16]
Direct Effect of X on Y (Path c')	0.52	0.10	[0.33, 0.71]	0.42	0.10	[0.24, 0.61]	0.42	0.09	[0.25, 0.60]
Direct Effect of M_1 on Y (Path b_1)	-0.10	0.05	[-0.20, 0.01]	-0.11	0.06	[-0.22, -0.002]	-0.07	0.04	[-0.16, 0.01]
Direct Effect of M_2 on Y (Path b_2)	-0.34	0.11	[-0.54, -0.12]	-0.03	0.11	[-0.23, 0.19]	-0.01	0.10	[-0.22, 0.19]
Total effect of X on Y	0.60	0.09	[0.42, 0.78]	0.46	0.09	[0.28, 0.64]	0.44	0.08	[0.28, 0.61]
Indirect effect of X on Y via M_1	0.03	0.02	[-0.002, 0.07]	0.03	0.02	[-0.0001, 0.08]	0.02	0.02	[-0.004, 0.06]
Indirect effect of X on Y via M_2	0.04	0.03	[0.001, 0.10]	0.00	0.01	[-0.03, 0.03]	0.001	0.01	[-0.03, 0.03]
Indirect effect of X on Y via M_1 and M_2	0.01	0.01	[0.001, 0.02]	0.001	0.003	[-0.01, 0.01]	0.0003	0.003	[-0.01, 0.01]

Note. Path a1, Path a2 and Path d21 vary slightly across the three engagement dimensions due to missing data.

Table 15

Results from Serial Mediation Analyses via Ideal/Actual Self-Discrepancy and Positive Affect for Burnout Dimensions

Pathway	*b*	*SE*	*95% CI*						
X (PGFW); M_1 (Ideal/actual self-discrepancy); M_2 (Positive affect)									
Effect of X on M_1 (Path a_1)	-0.34	0.10	[-0.52, -0.14]						
Effect of X on M_2 (Path a_2)	0.23	0.05	[0.14, 0.33]						
Effect of M_1 on M_2 (Path d_{21})	-0.16	0.03	[-0.22, -0.09]						
	Y (Emotional Exhaustion)			*Y* (Depersonalization)			*Y* (Personal accomplishment)		
	b	*SE*	*95% CI*	*b*	*SE*	*95% CI*	*b*	*SE*	*95% CI*
Direct Effect of X on Y (Path c')	-0.20	0.09	[-0.38, -0.02]	-0.19	0.10	[-0.40, 0.02]	0.09	0.06	[-0.02, 0.20]
Direct Effect of M_1 on Y (Path b_1)	0.09	0.06	[-0.02, 0.20]	0.05	0.05	[-0.05, 0.16]	-0.07	0.04	[-0.14, -0.004]
Direct Effect of M_2 on Y (Path b_2)	-0.61	0.11	[-0.83, -0.38]	-0.37	0.11	[-0.57, -0.14]	0.53	0.07	[0.40, 0.66]
Total effect of X on Y	-0.40	0.09	[-0.58, -0.23]	-0.31	0.08	[-0.47, -0.15]	0.27	0.06	[0.16, 0.38]
Indirect effect of X on Y via M_1	-0.03	0.02	[-0.08, 0.01]	-0.02	0.02	[-0.06, 0.02]	0.03	0.01	[0.001, 0.06]
Indirect effect of X on Y via M_2	-0.14	0.04	[-0.23, -0.07]	-0.09	0.03	[-0.16, -0.03]	0.12	0.03	[0.07, 0.19]
Indirect effect of X on Y via M_1 and M_2	-0.03	0.01	[-0.06, -0.01]	-0.02	0.01	[-0.04, -0.005]	0.03	0.01	[0.01, 0.05]

Table 16

Results from Serial Mediation Analyses via Ideal/Actual Self-Discrepancy and Positive Affect for Engagement Dimensions

Pathway	*Y* (Vigour)			*Y* (Dedication)			*Y* (Absorption)		
	b	*SE*	*95% CI*	*b*	*SE*	*95% CI*	*b*	*SE*	*95% CI*
X (PGFW); M_1 (Ideal/actual self-discrepancy); M_2 (Positive affect)									
Effect of X on M_1 (Path a_1)	-0.33	0.10	[-0.52, -0.13]	-0.34	0.10	[-0.52, -0.14]	-0.33	0.10	[-0.52, -0.13]
Effect of X on M_2 (Path a_2)	0.23	0.05	[0.13, 0.32]	0.23	0.05	[0.14, 0.33]	0.23	0.05	[0.13, 0.32]
Effect of M_1 on M_2 (Path d_{21})	-0.16	0.03	[-0.22, -0.09]	-0.16	0.03	[-0.22, -0.09]	-0.16	0.03	[-0.22, -0.09]
Direct Effect of X on Y (Path c')	0.26	0.08	[0.09, 0.43]	0.08	0.07	[-0.06, 0.23]	0.19	0.08	[0.03, 0.35]
Direct Effect of M_1 on Y (Path b_1)	-0.14	0.05	[-0.23, -0.04]	-0.08	0.04	[-0.17, -0.004]	-0.15	0.05	[-0.25, -0.05]
Direct Effect of M_2 on Y (Path b_2)	1.06	0.10	[0.88, 1.25]	1.21	0.09	[1.03, 1.39]	0.73	0.10	[0.54, 0.93]
Total effect of X on Y	0.60	0.09	[0.42, 0.78]	0.46	0.09	[0.28, 0.64]	0.44	0.08	[0.28, 0.61]
Indirect effect of X on Y via M_1	0.04	0.02	[0.01, 0.10]	0.03	0.02	[0.001, 0.07]	0.05	0.02	[0.01, 0.10]
Indirect effect of X on Y via M_2	0.24	0.06	[0.14, 0.36]	0.28	0.07	[0.16, 0.42]	0.17	0.04	[0.09, 0.26]
Indirect effect of X on Y via M_1 and M_2	0.05	0.02	[0.02, 0.10]	0.06	0.02	[0.02, 0.11]	0.04	0.01	[0.01, 0.07]

Note. Path a_1, Path a_2 and Path d_{21} vary slightly across the three engagement dimensions due to missing data.

Table 17

Results from Serial Mediation Analyses via Ought/Actual Self-Discrepancy and Positive Affect for Burnout Dimensions

Pathway	*b*	*SE*	*95% CI*						
X (PGFW); M_1 (Ought/actual self-discrepancy); M_2 (Positive affect)									
Effect of X on M_1 (Path a_1)	-0.29	0.11	[-0.5, -0.07]						
Effect of X on M_2 (Path a_2)	0.27	0.05	[0.18, 0.37]						
Effect of M_1 on M_2 (Path d_{21})	-0.05	0.03	[-0.11, 0.01]						
	Y (Emotional Exhaustion)			*Y* (Depersonalization)			*Y* (Personal accomplishment)		
	b	*SE*	*95% CI*	*b*	*SE*	*95% CI*	*b*	*SE*	*95% CI*
Direct Effect of X on Y (Path c')	-0.19	0.09	[-0.37, -0.02]	-0.18	0.10	[-0.38, 0.02]	0.09	0.06	[-0.02, 0.21]
Direct Effect of M_1 on Y (Path b_1)	0.11	0.05	[0.02, 0.21]	0.10	0.04	[0.02, 0.18]	-0.06	0.03	[-0.11, -0.004]
Direct Effect of M_2 on Y (Path b_2)	-0.63	0.11	[-0.85, -0.40]	-0.37	0.11	[-0.57, -0.15]	0.55	0.06	[0.43, 0.68]
Total effect of X on Y	-0.40	0.09	[-0.58, -0.23]	-0.31	0.08	[-0.47, -0.15]	0.27	0.06	[0.16, 0.38]
Indirect effect of X on Y via M_1	-0.03	0.02	[-0.08, -0.003]	-0.03	0.02	[-0.07, -0.002]	0.02	0.01	[0.0005, 0.04]
Indirect effect of X on Y via M_2	-0.17	0.05	[-0.27, -0.09]	-0.10	0.04	[-0.18, -0.04]	0.15	0.03	[0.09, 0.22]
Indirect effect of X on Y via M_1 and M_2	-0.01	0.01	[-0.03, 0.001]	-0.01	0.005	[-0.02, 0.001]	0.01	0.01	[-0.001, 0.02]

Table 18

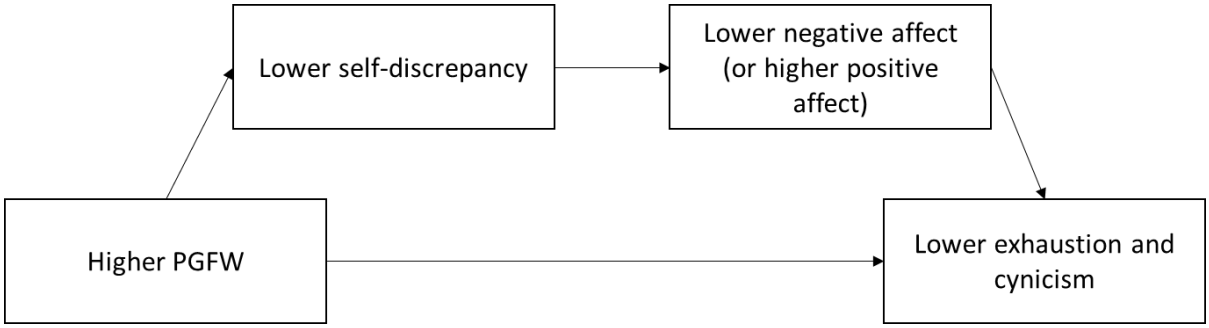
Results from Serial Mediation Analyses via Ought/Actual Self-Discrepancy and Positive Affect for Engagement Dimensions

Pathway	*Y* (Vigour)			*Y* (Dedication)			*Y* (Absorption)		
	b	*SE*	*95% CI*	*b*	*SE*	*95% CI*	*b*	*SE*	*95% CI*
X (PGFW); *M1* (Ought/actual self-discrepancy); *M2* (Positive affect)									
Effect of X on M_1 (Path a_1)	-0.28	0.11	[-0.49, -0.06]	-0.29	0.11	[-0.5, -0.07]	-0.28	0.11	[-0.49, -0.06]
Effect of X on M_2 (Path a_2)	0.26	0.05	[0.17, 0.36]	0.27	0.05	[0.18, 0.37]	0.26	0.05	[0.17, 0.36]
Effect of M_1 on M_2 (Path d_{21})	-0.05	0.03	[-0.11, 0.01]	-0.05	0.03	[-0.11, 0.01]	-0.05	0.03	[-0.11, 0.01]
Direct Effect of X on Y (Path c')	0.27	0.09	[0.10, 0.44]	0.08	0.07	[-0.06, 0.23]	0.21	0.08	[0.05, 0.37]
Direct Effect of M_1 on Y (Path b_1)	-0.07	0.04	[-0.15, 0.0003]	-0.05	0.04	[-0.12, 0.02]	-0.03	0.04	[-0.10, 0.04]
Direct Effect of M_2 on Y (Path b_2)	1.12	0.09	[0.94, 1.30]	1.24	0.08	[1.07, 1.41]	0.81	0.10	[0.62, 0.99]
Total effect of X on Y	0.60	0.09	[0.42, 0.78]	0.46	0.09	[0.28, 0.64]	0.44	0.08	[0.28, 0.61]
Indirect effect of X on Y via M_1	0.02	0.01	[-0.001, 0.05]	0.01	0.01	[-0.01, 0.04]	0.01	0.01	[-0.01, 0.03]
Indirect effect of X on Y via M_2	0.29	0.06	[0.18, 0.42]	0.34	0.07	[0.21, 0.48]	0.21	0.05	[0.12, 0.32]
Indirect effect of X on Y via M_1 and M_2	0.02	0.01	[-0.002, 0.05]	0.02	0.01	[-0.002, 0.05]	0.01	0.01	[-0.001, 0.03]

Note. Path a_1, Path a_2 and Path d_{21} vary slightly across the three engagement dimensions due to missing data.

Figure 1

Hypothesized Affective Pathways for Exhaustion and Cynicism



Note. Only hypothesized pathways were shown.

Figure 2

Hypothesized Cognitive Pathways for Professional Efficacy

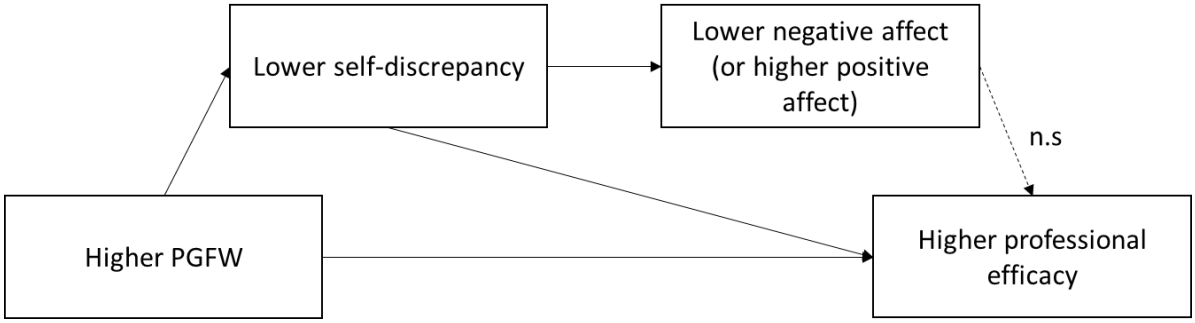


Figure 3

Hypothesized Affective-Cognitive Pathways for Work Engagement Dimensions

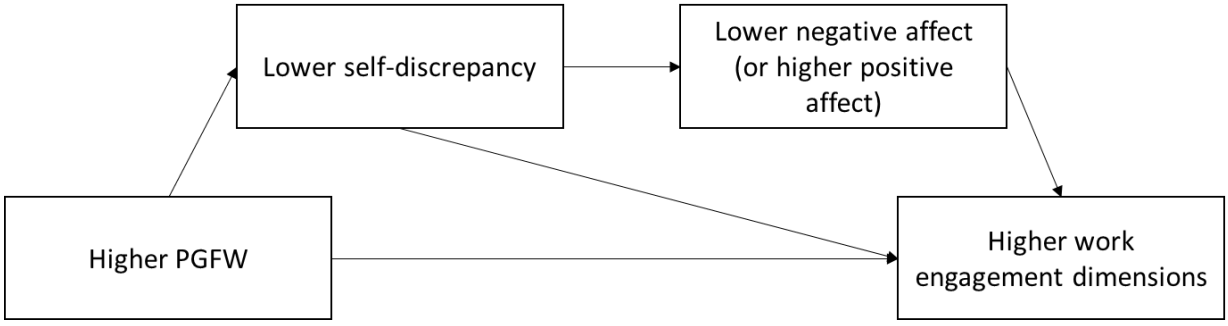


Figure 4

Conceptual Mediated Moderation Model for Study 2