



Utrecht University
Work and Organizational Psychology

MASTERTHESIS

Pushing the limit:

The mediating role of burnout and work engagement in the relationship
between a job challenge and job hindrance and organizational outcomes

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This study focusses on the Job Challenge and Job Hindrance differentiation of the Job Demands-Resources model and their relationships with organizational outcomes. Workload was tested as a job challenge and perceived injustice as a job hindrance. The expected relationships with well-being (work engagement and burnout) were not fully supported. However, the expected two-fold character of a job challenge (both favorable and non-favorable outcomes) and the expected negative character of a job hindrance (only non-favorable outcomes) in relation to organizational outcomes were found. This means that the Job Challenge and Job Hindrance differentiation applies to organization well-being. Six mediated relationships were found, the strongest relationships concerned the ones between injustice and commitment, mediated by work engagement or burnout. Further research suggestions and practical implications are made and method and results are discussed.

De studie richt zich op de Job Challenge en Job Hindrance differentiatie van het Job Demands-Resources model, en de relatie van deze differentiatie met organisatie-uitkomsten. Werkdruk werd getest als Job Challenge en 'ervaren ongerechtigheid' als job hindrance. De verwachte relaties met welzijn (gemeten door bevlogenheid en burnout) werden niet volledig ondersteund. Echter, de tweeledige aard van de job challenge (dat zowel wenselijke als niet-wenselijke uitkomsten geeft) en het negatieve karakter van de job hindrance (alleen niet-wenselijke uitkomsten) werd gevonden in relatie tot organisatie-uitkomsten. Dit betekent dat de job challenge en job hindrance differentiatie van toepassing is op organisatie-uitkomsten. Er werden zes gemedieerde relaties gevonden, de sterkste relaties hadden betrekking op ervaren ongerechtigheid in relatie tot commitment, gemedieerd door bevlogenheid of burnout. Er worden aanbevelingen voor toekomstig onderzoek gedaan, praktische implicaties en methoden en resultaten worden besproken.

Keywords:

Job Demands-Resources, job challenges, job hindrance, workload, injustice, work engagement, burnout, intention to leave, commitment, in-role behavior, extra-role behavior.

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Introduction

Nowadays, operating within a highly changing environment has become a standard for organizations. Keeping employees engaged and energized has grown important. In Human Resource Management, much attention is focused on a positive work environment and aspects such as reward, recognition, support and fairness that bind the employee to the organization (Barney & Wright, 1997; Maslach & Leiter, 1997). However, in times of economic hardness, employers are trying to get the most out of the available resources, i.e., their employees, which in turn can have a negative impact on employees. Too much workload results in higher levels of burnout and turnover (Greenglass, Burke & More, 2003). Turnover costs are shocking; for example in the healthcare industry minimum turnover costs are 5% of the total annual year budget (Abbasi & Hollman, 2000; Leiter & Maslach, 2009; Waldman, Kelly, Aurora & Smith, 2004). The question then arises: where, or what is the limit between pushing hard enough to create a productive work environment, or pushing too hard and therewith negatively affect employee and organizational well-being? This issue was also researched by Cotton and Heart (2003) who found that the main predictor of distress in employees is not caused by individual factors, but is caused by organizational factors such as the presence of a positive or negative organizational climate.

The main focus so far in science has been on the negative side of demanding job aspects for both employees and organizations. Ample research framed within the Job Demands-Resources as suggested Demerouti, Bakker, Nachreiner & Schaufeli (2001) confirms the positive relationship between job demands and burnout. In other words, the more job demands, the higher levels of burnout (Demerouti et al., 2001). For example, Schaufeli and Bakker (2004) found in their multi-sample study a relationship between job demands and well-being: both high levels of job demands and a lack of job resources predicted burnout. Burnout is positively related to depression, turnover, and absenteeism, and negatively to job satisfaction and organizational commitment (Bakker, Demerouti & Verbeke, 2004).

Recent studies tried ticking another box with the same job demands: what if besides a negative effect of job demands, there might also be a positive effect of job demands in relationship to well-being and organizational outcomes? Van den Broeck, De Cuyper, De Witte, and Vansteenkiste (2011) suggested that within job demands, a distinction can be made between job hindrances and job challenges. A job hindrance in this case has the expected negative outcome on well-being, while job challenges have a two-sided effect. Besides the expected negative outcome, job challenges also trigger positive outcomes, and therefore not only potentially harm well-being but also have the potential to contribute positively to well-being. Evidence on this new differentiation within the Job Demands-Resources (JD-R) model is still limited, and even more important is that not all research on this new differentiation is consistent in its finding. Some research found the expected two-sided relationship of job challenges with work engagement and

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burnout. This concerns job challenges to have both favorable and non-favorable outcomes. Others found job challenges to only have the positive relationship with work engagement, while no relationship with burnout was found. This suggests the challenge might be a job resource.

This thesis will extend the ongoing line of research with linking a job challenge (workload) and a job hindrance (injustice) to organizational outcomes. We will also test the proposition using the full-scale burnout and work engagement constructs, instead of only one of the components of burnout or work engagement, as most previous research did. We will firstly examine the relationship between a job hindrance and a job challenge with work engagement, burnout and organizational outcomes, and secondly study the possible mediating role of well-being (i.e., work engagement and burnout) in this process.

Job Demands Resource Model

A broadly researched model that embraces Occupational Health and Human Resource Management, is the JD-R model, proposed by Demerouti et al. (2001). The model describes how different job characteristics (i.e., job demands and job resources) have an influence on well-being and organizational outcomes such as commitment and turnover rate. *Job resources* are described as the psychological, physiological, social, and organizational aspects that reduce workload, are effective in achieving goals and stimulate personal growth and development (Demerouti et al., 2001). Examples of job resources are autonomy, feedback, and task significance (Bakker & Demerouti, 2007). *Job demands* are the aspects that cost persistent effort and eventually lead to psychological and physiological damage because the effort that is needed in order to comply to the demands is greater than one's capacities (Hakanen, Schaufeli & Ahola, 2008). Examples of job demands are work pressure, unfavorable physical environments or emotionally demanding interactions with clients (Bakker & Demerouti, 2007). The model describes two independent processes with either job demands or job resources as the starting point.

The motivational process sets off when there is sufficient availability of job resources. When this is the case, the employee is much more likely to develop a state of work engagement. Work engagement is a positive affective state that for example is a strong indicator of organizational commitment, and can be defined as: '*a positive, fulfilling, work-related state of mind, characterized by vigor, dedication and absorption*' (Hakanen, Schaufeli & Ahola, 2008; Schaufeli, Martinez, Marques Pinto, Salanova & Bakker, 2002, p. 465). *Vigor* is a state known by energy and perseverance when facing difficulties. *Dedication* is defined as 'a sense of significance, enthusiasm, inspiration, pride, and challenge' (Hakanen, Schaufeli & Ahola, 2008, p.225), and *absorption* is a state of full concentration and attachment to work, somebody who is absorbed with work would feel engrossed, time passes by quickly; or popularly spoken: The employee gets fully absorbed by the job. An employee who feels engaged, reports positive personal and organizational outcomes (Hakanen, Schaufeli & Ahola, 2008).

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In the *health impairment process* job demands, or more specifically exhaustion – the antipode of vigor (one of the components of work engagement) – can lead to burnout. Schaufeli et al. (2002, p.71) defined burnout as ‘the erosion of engagement’, and a more extended definition is: ‘*a syndrome of emotional exhaustion, depersonalization and reduced personal accomplishment*’ (Maslach & Jackson, 1986, p.1). *Emotional exhaustion* refers to the feeling that all emotional capacities are being taken by the job situation, which causes fatigue or a lack of energy. *Depersonalization* can be defined as a cynical, negative and detached attitude in response to ones ‘stakeholders’. Stakeholders are the ones who rely on the employee, who might be patients, clients, managers, colleagues and so forth. The last, *reduced personal accomplishment*, refers to the belief that one is no longer effective in doing the job (Korunka, Tement, Zdrehus & Borza, 2010). The two main components of burnout are emotional exhaustion and depersonalization, because reduced personal accomplishment seems to be derived out of the other two components (Hakanen, Schaufeli & Ahola, 2008). Long term effects of this health-impairment process are negative organizational, psychological and physiological aspects.

Both processes have been widely researched, such as a three year cross-lagged study among Finnish dentists. The study provides evidence for the motivational as well as the health impairment process, and also found that job resources positively relate to work engagement, and negatively relate to burnout (Hakanen, Schaufeli & Ahola, 2008). This means that the more job resources one has, the more work engagement is stimulated, and levels of burnout decrease. The other way around, the more job demands one perceives, the more burnout is stimulated and levels of work engagement decrease (Van den Broeck et al. 2011). The two processes (motivational and health-impairing) were also confirmed in a study including Dutch employees of a telecom business. Job demands were found to be the main predictors of health-problems, and job resources predicted dedication and organizational commitment, which in turn is strongly related to bringing down levels of turnover (Bakker, Demerouti, Schaufeli, 2003).

Challenges and Hindrances

Recently, Van den Broeck et al. (2011) introduced a differentiation in *job demands*. According to their research, constructs that in previous research were categorized as job demands can be divided into *challenges and hindrance*. *Challenges* are concepts such as workload and time pressure that theoretically are demanding, but aren’t as bad as they look; they motivate because of their demanding nature. Although they do tax personal capacities, they also contribute to achieving work goals. Challenges can be defined as: “*Job demands that require energy but are nonetheless stimulating*” (Van den Broeck et al., 2011, p.736). This distinction is based on Selye’s (1982) theory about eustress and distress. Eustress creates challenges and feelings of fulfillment or achievement and therewith creates positive personal and organizational outcomes although eustress is still classified as ‘stress’. Eustress is interwoven with job challenges, and

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when this new combination (challenge-related stress) was researched, organizational outcomes such as job satisfaction and a negative relationship with job search were found. This means that people who feel positive stress and experience job satisfaction, have less interest in finding a new job. Job challenges were found to have a positive relationship with exhaustion and a positive relationship with well-being (Crawford, LePine & Rich, 2010). *Hindrances* are demanding concepts such as job insecurity and interpersonal conflicts (Van den Broeck et al., 2011). Hindrances can be seen as job demands the way we know them out of the Job Demands-Resources model; they harm well-being. A Job Hindrance can be defined as a “*Health-impairing job demand that hinder optimal functioning*” (Van den Broeck et al., 2011, p.736). Hindrances are interwoven with the counterpart of eustress: distress. Distress is caused because the demands exceed the personal capacities to overcome the demands (Cavanaugh, Boswell, Roehling, and Boudreau, 2000). Job hindrance has a positive relationship with burnout and a negative relationship with work engagement (Van den Broeck et al., 2011).

The proposed relationships between job challenges and hindrances on the one hand and vigor (component of work engagement) and emotional exhaustion (component of burnout) on the other hand have become more and more a subject of interest within scientific research (Pearsal, Ellis & Stein, 2009). It has for example been tested amongst a group of nurses (N= 199). Indeed they found a positive relationship between job challenge (i.e., quantitative workload) and vigor, and job challenge and exhaustion. Hindrance (office politics as an organizational stressor) was negatively related to vigor, and positively to exhaustion. The proposition was also tested amongst a group of non-teaching employees of a University (N = 497) and also confirmed the distinction of job hindrance and job challenges in relationship to vigor and exhaustion (Lin, Oi-ling, Kon, & Xin-Wen, 2009; Webster, Beehr & Love, 2011). In a study within a teaching environment, LePine, LePine, and Jackson (2004) confirmed the positive relationship between both job challenge (positive stress) and job hindrance (negative stress) and exhaustion with regard to learning performance. This explains that the differentiation focusses on the traditional job demands (which is called a job hindrance) and a reconsidered type of job demand (job challenge) which shows a new pattern of outcomes.

The aim of this research is to examine demanding job situations – caused by a highly uncertain and changing environment – to gain more insight in the effects of job situations on employee well-being and organizational outcomes (figure 1). And to examine the possible mediating role of well-being in the relationship between job demands (challenge or hindrance) and organizational outcomes. The organizational outcomes tested in this thesis are divided into cognitive, affective and behavioral measurements. This gives us a more complete view on the organizational outcomes because feeling well doesn't necessarily mean that somebody shows positive organizational behavior, or showing positive

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organizational behavior doesn't necessarily mean that somebody has positive beliefs regarding the organization.

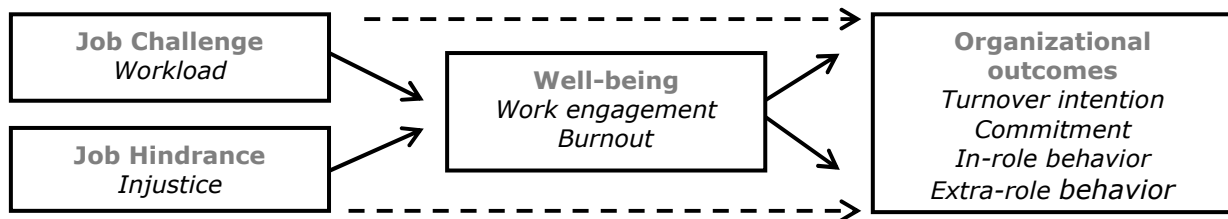


Figure 1: Conceptual model.

Workload and well-being

One of the job demands that affect employee well-being both negatively and positively, is workload (Lin, Oi-ling, Kan, Xin-Wen, 2009). Workload can be characterized as: “a mental construct that reflects the mental strain resulting from performing a task under specific environmental and operational conditions, coupled with the capability of the operator to respond to those demands” (Cain, 2007, p.3). Workload negatively relates to job satisfaction, organizational commitment and life satisfaction (De Cuyper & De Witte, 2006). It can be seen as a variable that strengthens the relationship between a job resource (professional skilled) and work engagement. The influence of workload as a construct alone is unclear, but when tested in combination with other job resources, workload brings down levels of work engagement (Hakanen, Bakker & Demerouti, 2005; Hakanen, Schaufeli & Ahola, 2008).

Also, recent findings on the job challenge and job hindrance differentiation, confirmed a two-sided effect for workload, in which employees that report workload, experience higher levels of vigor (one of the dimensions of work engagement) and higher levels of exhaustion (the antipode of vigor) at the same time (Lin et al., 2009). The same effects were found by Webster et al. (2011) in a sample of University employees (N=497). These inconsistent findings on the effects of workload triggers new questions: is workload really a job demand, or is it possibly a job resource that is negatively labeled? We will test workload as a job challenge, and as such, we expect that workload generates both negative and positive effects on employee well-being.

Hypothesis 1: Workload positively relates to work engagement (1a) and burnout (1b)

Injustice and well-being

Job characteristics that largely influence the working environment are for example reward, recognition and support. One particularly influential aspect is (un)fairness, because of its strong linkage with well-being (Maslach & Leiter, 1997). The belief of employees on whether a fair system is in place or not, largely

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influences employee performance and organization's productivity (Elovainio, Heponiemi, Sinervo & Magnavita, 2010). Perceived injustice entails the experience of an employee feeling the evaluation and compensation he received is lower than what he deserved. And: when the employee feels the procedure used to compensate and evaluate, is not fair (Folger, 1987). This discrepancy between desired and actual state causes friction. A recent review of evidence in organizational justice literature showed that the absence of justice relates to job dissatisfaction, retaliation, workplace aggression, lower work commitment, and turnover. In addition, the study showed a strong negative effect of injustice on employee health: employees that are exposed to organizational injustice experience more mental distress, psychiatric disorders, absence because of sickness, cardiovascular disease and even a higher risk of cardiovascular death (Elovainio et al., 2010). All in all, low perceived organizational justice is a risk for the health of employees and significantly contributes to levels of burnout which in itself causes negative outcomes such as job dissatisfaction and turnover (Elovainio, Kiviamaki & Vahtera, 2002; Moliner, Martinez-Tur, Peiro, Ramos & Cropanzano, 2005). As recent human resource movements preach: employees are interwoven with the organization in thriving a good business, and indeed, low perceived organizational justice also has a negative relationship with economic health in businesses, and decreases productivity in organizations (Schmitt & Dorval, 1999; Elovainio et al., 2010).

As mentioned before, injustice strongly contributes to levels of burnout, and also decreases levels of work engagement (Moliner, Martinez-Tur, Peiro, Ramos & Cropanzano, 2008). This means that injustice has the same characteristics as a job hindrance in relation to well-being. In testing injustice as a job hindrance, we aim to get more clarity about the (negative) relationship between injustice and well-being.

Hypothesis 2: Injustice negatively relates to work engagement (2a) and positively to burnout (2b)

Job challenge (workload) in relation to organizational outcomes

To extend previous research we will focus on measuring the relationship between job challenges and hindrances and organizational outcomes.

First, according to Cho, Johanson, and Guchait (2009), one of the strongest indicators of employees detaching themselves from the organization, is intention to leave. It is the last stadium of the cognitive detachment process that leads to actual leaving the organization (Aquino, Griffeth, Allen & Hom, 1997). Turnover is evidently a negative organizational outcome, for example because of high turnover costs (Abbasi & Hollman, 2000). Workload and its relationship with turnover has been tested widely. Employees who experience high levels of workload, report higher levels of exhaustion, and exhaustion brings down levels of job satisfaction. Low levels of job satisfaction account for more turnover intention within employees, and decreased levels of organizational commitment (Ahuja, Chadoba, George, Kacmar &

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McKnight, 2002). Workload also has a direct negative influence on exhaustion, and therewith contributes to higher levels of turnover intention (Leiter & Maslach, 2009).

The second organizational outcome measured in this thesis is affective in nature. Affective measurements focus on emotions and arousal, and in the case of organizational outcomes, focuses on the way an employee feels about his or her organization. A strong organizational affective measurement is affective organizational commitment. Affective organizational commitment can be defined as: “a positive affection toward the organization, reflected in a desire to see the organization succeed in its goals and a feeling of pride at being part of the organization” (Wright & Kehoe, 2008, p.8). The job challenge tested in this research (i.e., workload) negatively relates to organizational outcomes such as organizational commitment, job satisfaction and performance. Workload also strongly relates to exhaustion, and exhaustion in its place is related to low organizational commitment. Yet it also strongly relates to vigor, which positively relates with commitment and other favorable organizational outcomes. (De Cuyper & De Witte, 2006; Ahuja et al., 2002).

Finally, the last two organizational outcomes are behavioral in nature. In-role behavior and extra-role behavior are chosen as outcome variables because of their strong predictive value for employee performance (van Dyne & Le Pine, 1998). In-role and extra-role behavior are strongly intertwined (Somech & Drach-Sahavy, 2000). In-role behavior is the basis of regular and ongoing job performance, and is mostly characterized as the expected and required behavior of an employee towards the organization (Katz, 1964). Failing to reach the normal job goals means the employee is not performing his job as he should, according to his job description. This leads to negative consequences such as reprimands or eventually losing the job (Van Dyne & LePine, 1998). Extra-role behavior on the other hand is the work that is not specified in the job description, and is not mandatory. Hence, these extra activities are neither formally recognized nor punished for when not completed (Van Dyne & LePine, 1998). Research on in-role and extra-role behavior in relationship to workload and injustice is very scarce, even though it could bring important new insights into the job challenge and job hindrance differentiation. Workload in relationship to in-role and extra-role behavior leads us to the following beliefs: Since work engagement is ascribed to be an attitude that makes an employee fulfilling its normal tasks, we could assume that workload – which we propose to have a positive relationship with work engagement – also positively influences in-role behavior. Extra-role behavior however is a bit more complicated. The employee is already pushed to the limit by experiencing a job demand, although this demand also triggers positive outcomes. Because of the intertwined character of these constructs, we expect for extra-role behavior to also be positively influenced by workload. Based on the findings described above, we will test the following hypotheses:

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Hypothesis 3: workload negatively relates to intention to leave (3a) and positively to commitment (3b), in-role behavior (3c), and extra-role behavior (3d).

Job hindrance (injustice) in relation to organizational outcomes

Injustice was previously found to strongly predict turnover intentions (Aquino, 1997). Injustice is negatively affected by job satisfaction, the more job satisfaction (caused by injustice) an employee experiences, the higher levels of absenteeism and turnover (Dittrich & Carrel, 1979). Injustice negatively relates to positive organizational outcomes such as organizational commitment and job satisfaction (Leung, Zhu & Ge, 2009). Positive relations were found between justice and organizational commitment, however, not all types of injustice were significant (Leung, Wang & Smith, 2001). Injustice as a construct was firstly described as distributive injustice. Distributive justice focuses on the comparison of input and outcomes between peers. Later on, procedural justice was introduced, which has to do with the conformity to moral and ethical norms, the extent to what all eligible groups are included, consistency and accuracy of the processes that lead to a decision (Colquitt, Weson, Porter, Conlon, Yee & Ng, 2001). Previous studies showed that procedural injustice is negatively related to organizational commitment (Niehoff & Moorman, 1993). So, the more procedural injustice, the lower the level of organizational commitment. Therefore, this thesis will focus on the negative relationship between both distributive and procedural justice and organizational commitment.

Next, injustice is assumed to have a negative relationship with in-role and extra-role behavior. Specifically, extra-role behavior turned out to be very important in predicting employee performance during uncertain circumstances and unclear role expectations, insight on the role of job challenges and hindrances in relationship with performance is highly relevant in times of economic hardness. Findings on injustice itself are limited; however, there is some research on the presence of justice. Procedural justice has a positive effect on extra-role behavior and makes managers more creative and willing to go the extra mile (Chan-Kim & Mauborgne, 1996). We will measure both procedural and distributive injustice, and expect both to cause non-favorable organizational outcomes.

Hypothesis 4: injustice positively relates to intention to leave (4a) and negatively to commitment (4b) in-role behavior (4c) and extra-role behavior (4d).

Well-being and organizational outcomes

Work engagement and burnout are ought to have a mediating role in the relationship between job resources and organizational outcomes, and between job demands and organizational outcomes, respectively (Demerouti et al., 2001). There is ample empirical support for these mediation effects as

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proposed in the Job Demands-Resources model (e.g., Hakanen et al., 2006). Research on job hindrances and job challenges has so far mainly been focused on classifying job situations into the job hindrance and job challenge differentiation, and on the relationship of hindrances and challenges with well-being. Testing well-being as a mediator in this new differentiation in relationship with organizational outcomes, can bring us to new understandings, regarding why a possible relationships holds. Work engagement mediated the negative effect between job resources and intention to leave; in other words, work engagement explains the relationship of high levels of workload, and low levels of intention to leave (Schaufeli & Bakker, 2004). Work engagement has been proven to explain the relationship between job resources and organizational commitment (e.g., Hakanen et al., 2006; Hakanen et al., 2008). We will test the following hypotheses:

Hypothesis 5: Work engagement relates negatively to intention to leave (5a) and positively to commitment (5b), in-role behavior (5c), and extra-role behavior (5d).

Where work engagement accounts for reduced levels of intention to leave, burnout is the negative counterpart of this effect. Leiter and Maslach (2009) found that especially the exhaustion and personal inefficacy components of burnout were positively related to intention to leave. Hence, the higher the levels of burnout experienced by employees, the more likely they have the intention to leave the organization. This leads us to the following hypotheses:

Hypothesis 6: Burnout relates positively to intention to leave (6a) and negatively to commitment (6b), in-role behavior (6c), and extra-role behavior (6d).

Job challenges and hindrances are assumed to have relationships with both burnout and work engagement, and are assumed to have relationships with the organizational outcomes. Likewise we expect relationships between the well-being indicators and organizational outcomes. As the relationship between job characterizes (resources or demands) and outcomes is mediated within the JD-R model (Demeroutie et al., 2001), we want to explore if this accounts for the job challenge and job hindrance differentiation as well. More specifically, if we find relationships between job challenges or job hindrances and organizational outcomes, could it be well-being that maintains this relationship?

Hypothesis 7: burnout (7a) and work engagement (7b) mediate the relationship between workload as a job challenge and intention to leave, commitment, and in-role and extra-role behavior

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Hypothesis 8: burnout (8a) and work engagement (8b) mediate the relationship between injustice as a job hindrance and intention to leave, commitment, and in-role and extra-role behavior

Method

Participants

Data was conducted with an internet survey in a multinational Sportswear Company (N=153). Local Human Resource departments of Israel, the Netherlands and Poland were involved in inviting country office employees to participate in the survey. Participating in the survey was voluntary, to increase response rates, participants were eligible in winning Gift vouchers. Response rates per country varied between 61% and 77%, responses were processed anonymously.

Employees that were invited for the survey by the Dutch Human Resource Department were based in either the Netherlands, Dubai (United Arab Emirates), Sweden, Greece or Croatia. Employees invited by the Israeli Human Resource department were based in Israel or Greece, the Polish HR Department contacted only Polish employees for participating in the survey. More women (62,5%) than men (37,5%) participated. Mean age of respondents was 34,27 years, respondents worked for the company between 0 and 20 years. Most respondents (28.8%) worked for the company between 5-10 years. 94.4 % of participants worked fulltime, 5.6% worked part time. Calculations showed that mean overtime was 6.7 hours.

Measures

Workload was assessed using the QEEW (Questionnaire on the experience and assessment of work; Veldhoven & Meijman, 1994). The construct contained five questions. An example of a question is: 'Do you have to work extra hard in order to complete something?'. Questions were answered using a five-point Likert scale (1= never, - 5= always). The scale showed good reliability ($\alpha = .81$).

Perceived Injustice was assessed by measuring both the distributive (five items) and procedural (five items) justice constructs of the Organizational Justice scale (Niehoff & Moorman, 1993). One of the questions asked regarding distributive justice was: 'I feel that my job responsibilities are fair'. An example of the procedural justice scale is: 'all job decisions are applied consistently across all affected employees'. Respondents answered with a five-point Likert scale (1 = I strongly disagree, -5 = I strongly agree). Once data was collected, the scale was reversed in order to measure injustice, instead of justice. The scale showed good reliability (total $\alpha = .82$; *distributive justice* $\alpha = .76$; *procedural justice* $\alpha = .84$).

Work engagement was assessed using the Utrecht Work Engagement Scale (UWES; Schaufeli & Bakker, 2003). The scale consists of nine items, an example of an item is: 'My job inspires me'. Questions were answered using a seven-point Likert scale (0 = never, 6 = always). The scale showed good reliability ($\alpha = .86$).

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Burnout was assessed using the Utrechtse Burnout Scale (UBOS; Schaufeli & van Dierendock, 2000). The scale contains nine items, an example of an item is: 'I feel emotionally drained from my work'. The questions were answered using a seven-point Likert scale (0 = never, 6 = always). The scale showed good reliability ($\alpha = .86$).

Intention to leave was assessed using the QEEW (Questionnaire on the experience and assessment of work; Veldhoven & Meijman, 1994). The construct consisted of four items. An example of an item is: 'I sometimes think about seeking work outside this organization'. A five-point Likert scale was used (1 = (almost) never, -5 = (almost) always). The scale showed good reliability ($\alpha = .84$).

Commitment was assessed using the short version of the Affective Organizational Commitment scale of Meyer and Allen (1991). An example of one of the five items is: 'I feel like "a member of the family" in this organization'. A five-point Likert scale was used for answering (1 = I strongly disagree, -5 = I strongly agree). The scale showed good reliability ($\alpha = .85$).

In-role behavior was tested using a shortened version of four items of the 'Task Performance' scale (Goodman & Svyantek, 1999). An example of an item is: 'I achieve the objectives of my job' and questions were answered using a five-point Likert scale (1 = (almost) never, -5 = (almost) always). The scale showed very good reliability ($\alpha = .87$).

Extra-role behavior was assessed using a scale for Organizational Citizenship Behavior (Smith, Organ & Near, 1983). The scale consisted of three items such as: 'I help coworkers who have heavy workloads'. Questions were answered using a five-point Likert scale (1 = (almost) never, 5 = (almost) always). The scale showed good reliability ($\alpha = .79$).

Data analyses

To explore the data, descriptive analyses and scatterplots were executed. To test reliability of all scales, Cronbach's alpha's were calculated and correlation analyses between all constructs were executed. Factor analysis was performed to test whether the two scales of injustice needed to be merged into one construct, or should be tested separately.

Hypotheses were tested using statistical analysis provided by SPSS 16. Hypotheses 1-6 were tested using regression analyses. To test hypotheses 7 and 8, mediation analyses were conducted as suggested by Baron and Kenny (1986). This approach suggests three steps of regression analyses to test whether the relationship between the independent variable (X) and the outcome variable (Y), is a direct relationship or (partially) carried by a mediator (M). When the effect of the relation between X and Y decreases once M is added to the analysis, we can assume that the total effect can be partly subscribed to M, 'the mediator'. When the relationship between X and Y was significant, but when adding M, it wasn't significant anymore, we can speak of a full mediation. This means the effect between X and Y is fully carried by the mediator

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variable. A Sobel test was used to test whether the mediation effect was significant. Afterwards, calculations were used to test how much of the effect was mediated, and how much of the effect was still derived from the 'direct effect'. This was done by multiplying the B-value (unstandardized coefficient) of the regression analysis between independent and mediator, and mediator and outcome variable, and dividing this number by the B-value of the direct effect (relationship between independent and outcome variable). When testing the relation between M-Y, X was also added as a control variable.

Dummy variables were created for the categorical question: 'For how long have you been working at this company' which were used as control variables, together with the demographic variable Gender. Both variables were chosen because of assumptions within the sample organization.

In this present study, we test multiple independent 'predictor' variables. When testing the effect of one of the predictors on the outcome variable, the other predictor variables were also included in the analyses. This ensures that the effect of each of the independent predictors on the outcome variable is 'pure', instead of the possibility that the effect of the predictor variable on the outcome variable is maybe affected by the other predictors.

Results

Preliminary analyses

Exploratory scatter plots showed three outliers. Cooks Distance was calculated to determine if the outliers needed to be excluded from the sample. Outcomes showed that the Cook's Distance values for the were lower than the critical value, so the outliers did not have to be excluded from the analyses.

Table 1:
Cronbach's alpha (on the diagonal), correlations, means, and standard deviations of the research variables.

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	M	SD
Workload	(1)	<u>.81</u>									3.02	.76
	N											
Distributive Injustice	(2)	.51**	<u>.76</u>								2.55	.67
	N											
Procedural Injustice	(3)	.16	.31**	<u>.84</u>							2.49	.68
	N											
Work engagement	(4)	-.17*	.34**	-.27**	<u>.86</u>						3.95	.69
	N											
Burnout	(5)	.43**	.60**	.39**	-.56**	<u>.86</u>					1.45	.90
	N											
Intention to leave	(6)	.31**	.33**	.51**	-.26**	.47**	<u>.84</u>				1.80	.82
	N											
Commitment	(7)	.04	-.22**	-.33**	.54**	-.37**	-.17*	<u>.85</u>			3.99	.66
	N											
In-role behavior	(8)	-.02	-.04	-.04	.19*	-.18*	.07	.25**	<u>.87</u>		4.27	.67
	N											
Extra-role behavior	(9)	.17*	-.01	-.04	.11	.01	.08	.14	.25**	<u>.79</u>	2.70	.83
	N											

*. Correlation is significant at the 0.05 level (two tailed)

**. Correlation is significant at the 0.01 level (two tailed)

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The correlation matrix (*Table 1*) shows strengths and significance of the relationships between the study variables, as well as Cronbach's alpha per scale, means and standard deviations.

Noteworthy findings are the strong correlation between workload and distributive injustice (.51**), and workload and work engagement (.43**). Workload overall turns out to be a construct that is negatively correlated with employee and organization well-being. Distributive justice strongly correlates with burnout (.60**) and procedural justice and intention to leave strongly relate with .51**. The mediator variables – work engagement and burnout- strongly negatively relate (-.56**). This means when levels of work engagement go up, levels of burnout go down, or the other way around. As expected, work engagement negatively related to intention to leave, and burnout positively. Noteworthy are the strong relations of burnout with intention to leave (.47**), and work engagement with commitment (.54**). In-role and extra-role behavior significantly correlate, however, both did not have strong correlations with any of the other constructs.

Testing hypotheses

Table 2 shows results of the regression analyses.

Hypothesis 1 concerned the expected positive relation between workload and work engagement (a) and burnout (b). Regression analyses showed no significant relation between workload and work engagement ($\beta = .018$; NS), and a significant relation between workload and burnout ($\beta = .151$; $p = .04$). This means hypothesis 1 (a) was not confirmed, and 1 (b) was confirmed with the finding. The more workload an employee experiences, the higher levels of burnout he reports.

Hypothesis 2 concerned the expected negative relationship between Injustice and (a) work engagement and (b) burnout. Both distributive ($\beta = .300$; $p = .00$) and procedural injustice ($\beta = .176$; $p = .04$) are significantly related to work engagement. And both distributive justice ($\beta = .507$; $p = .00$) and procedural justice ($\beta = .218$; $p = .00$) have a significant relation with burnout. Meaning, both types of injustice have a significant effect which positively relates to burnout and thus increases levels of burnout, and negatively relates to work engagement, in other words, the more injustice employees experience, the more levels of work engagement decrease. Hypothesis 2 (a) and (b) are confirmed.

Hypothesis 3 concerned the expected negative relation of workload with intention to leave (a) and positive relationships with commitment (b), in-role behavior (c) and extra-role behavior (d). Workload significantly relates to intention to leave ($\beta = .198$; $p = .02$). This relations was expected to be negative, but turned out to be positive. Further, significant findings were found for commitment ($\beta = .179$; $p = .04$) and extra-role behavior ($\beta = .256$; $p = .01$). These findings were positive as expected. In-role behavior was the subject of a negative relation with workload, but did not turn out to be significant ($\beta = .003$; NS). These

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findings show that the more workload employees experience, the more intention to leave, organizational commitment and extra-role behavior they report, and show that hypothesis 3a, 3b, and 3d are confirmed.

Hypothesis 4 expected a positive relationship between injustice and intention to leave (a) and negative relationships with commitment (b), in-role behavior (c) and extra-role behavior (d). Distributive justice has a relative importance of $\beta = .11$ ($p = \text{NS}$) on intention to leave which was not significant, procedural justice did have the significant relationship with intention to leave ($\beta = .47$; $p = .00$). Distributive justice ($\beta = -.28$; $p = .00$), and procedural justice ($\beta = -.314$; $p = .00$) related negatively and significantly to commitment, which is as expected. No significant relationships were found for distributive and procedural injustice and in-role behavior ($\beta = -.51$, $p = .62$; $\beta = -.07$, $p = .46$). Also no significant relationships were found between distributive injustice and procedural injustice and extra-role behavior ($\beta = -.13$, $p = .23$; $\beta = -.05$, $p = .61$). This means hypothesis 4a was partially confirmed, only for procedural injustice, and 4b was fully confirmed. Overall we can conclude that procedural justice strongly contributes to levels of intention to leave employees report, and the more distributive and procedural justice (although the latter contributes stronger) employees report, the less commitment they feel regarding their organization.

Hypothesis 5 focused on the motivational process as suggested in the Job Demands-Resources model. Based on literature, we expected work engagement to negatively relate with intention to leave (a), and positively with commitment (b), in-role behavior (c) and extra-role behavior (d). Significant relationships were found between work engagement and commitment ($\beta = .47$, $p = .00$), and in-role behavior ($\beta = .18$, $p = .05$). These relationships were positive, as expected. Work engagement and intention to leave ($\beta = -.11$, $p = \text{NS}$) did negatively relate although not significant, the expected positive relationship between work engagement and extra-role behavior was not significant ($\beta = .12$, $p = \text{NS}$). Meaning, hypothesis 5b and 5d were confirmed.

Hypothesis 6 concerned the relationships of well-being and organizational outcomes within the health-impairment process. Burnout was expected to positively relate to intention to leave (a), and negatively relate with commitment (b), in-role behavior (c) and extra-role behavior (d). Indeed, burnout significantly positively related to intention to leave ($\beta = .31$; $p = .00$), and negatively to commitment ($\beta = -.27$; $p = .01$). Burnout relating to in-role behavior ($\beta = -.21$; $p = .07$) was found to be marginally significant. The expected negative effect of burnout on extra-role behavior turned out to be positively, although small and not significant ($\beta = .01$, $p = \text{NS}$). We can say the higher levels of burnout the more employees report intention to leave, and employee commitment and in-role behavior decrease, this confirms hypothesis 6a, 6b and 6c.

The mediation analysis of hypothesis 7 suggested a mediating role of work engagement (a) and burnout (b) in the relation between a job challenge (workload) and the outcome variables: intention to leave, commitment, in-role behavior and extra-role behavior. This mediating effect says the direct effect of injustice on the outcome variable, is indirect led by another variable. Baron & Kenny (1986) suggest three

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criteria before a mediation analysis can be executed. First, the relationship between independent and mediator variable must be significant in order to proceed with the mediation analysis. Workload only significantly related to burnout, thus, all work engagement mediation analysis are out of scope. Secondly, the independent variable must significantly relate with the dependent variable. Significant relationships were found between workload and intention to leave, commitment and extra-role behavior. Thirdly, variations within the mediator variable must significantly relate to variations in the dependent variable. For burnout, only intention to leave and commitment were significantly related. A Sobel test showed that the *relationship between workload and intention to leave, mediated by burnout*, was not significant ($z = 1.73$, $SE = .03$, $p = NS$). The *relationship between workload and commitment, mediated by burnout*, was marginally significant ($z = .1.73$; $SE = .03$; $p = .08$). Calculations showed that the indirect effect accounts for 32% of the total effect. We can conclude that hypothesis 7b was confirmed for a partial mediation of commitment.

The mediation analysis of hypothesis 8 suggests a mediating role of work engagement (a) and burnout (b) in the relationships of the job hindrance (injustice) with the organizational outcomes: intention to leave, commitment, in-role behavior and extra-role behavior. Before testing a possible mediated relationships, steps need to be taken in order to test if the relationship meets certain criteria (Baron & Kenny, 1986). At first, the relationship between independent variable and mediator must be significant. Both distributive and procedural injustice significantly relate with work engagement and burnout, thus, this criteria is fully met. Secondly, the relationship between independent and outcome variable must be significant. Significant relationships were found between procedural injustice and intention to leave, and both distributive and procedural injustice and commitment. The last step requires a significant relationship between mediator variables and outcome variables, this was found for work engagement and commitment, and for burnout and both intention to leave and commitment. A Sobel test showed that *the relationship of procedural injustice and intention to leave, mediated by burnout*, was significant. ($z = 2.31$, $SE = .03$, $p = .02$ calculated for a two-tailed 95% confidence interval). Calculations show that 12% percent of the effect is mediated. We can conclude there is a small partial mediation of burnout in the relationship between procedural injustice and intention to leave. *The relationship between distributive injustice and commitment, mediated by work engagement*, was significant ($z = -2.74$; $SE = .05$; $p = .00$). Calculation shows that 50% of the effect is cause by the indirect effect, so a strong partial mediation is present. *The relationship between procedural injustice and commitment, mediated by work engagement* is significant ($z = -1.96$; $Se = 0.04$; $p = .05$). Further calculations showed that the indirect effect accounts for 26% of the total effect. *The relationship between distributive injustice and commitment, mediated by burnout* was also partially mediated. A Sobel test showed that the indirect effect is significant ($z = -2.41$; $Se = .05$; $p = .01$). The indirect effect is 48% of the total effect. Lastly, *procedural injustice in relation to commitment, mediated by burnout*

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showed an indirect effect that significantly differs from zero ($z = -2.03$; $SE = .03$; $p = .04$), the indirect effect turned out to be a moderate (19%) section of the total effect.

Table 2

(Un)standardized coefficients, F (df) values, and p -values of all regression analyses

Hypothesis	Regression effects	F (11, 140)	B	β	R^2
1a	Workload – work engagement	2.43	.02	.02	.17
1b	Workload – burnout	11.84	.18	.09**	.50
2a	Distributive injustice – work engagement	2.43	-.31	-.30*	.17
2a	Procedural injustice – work engagement	2.43	-.18	-.18*	.17
2b	Distributive injustice – burnout	11.84	.68	.51**	.50
2b	Procedural injustice - burnout	11.84	.29	.22**	.50
3a	Workload – intention to leave	7.51	.21	.20*	.39
3b	Workload – commitment	4.45	.16	.18*	.27
3c	Workload – in-role behavior	1.58	.00	.00	.12
3d	Workload – extra-role behavior	0.77	.28	.26**	.06
4a	Distributive injustice – intention to leave	7.51	.13	.11	.39
4a	Procedural injustice – intention to leave	7.51	.56	.47**	.39
4b	Distributive injustice – commitment	4.45	-.28	-.28*	.27
4b	Procedural injustice – commitment	4.45	-.31	-.31**	.27
4c	Distributive injustice – in-role behavior	1.58	-.05	-.05	.12
4c	Procedural injustice – in-role behavior	1.58	-.06	-.06	.12
4d	Distributive injustice – extra-role behavior	0.77	-.16	-.13	.06
4d	Procedural injustice – extra-role behavior	0.77	-.06	-.05	.06
		F (12, 140)			
5a	Work engagement – intention to leave	7.09	-.13	-.11	.40
5b	Work engagement – commitment	8.99	.45	.47**	.46
5c	Work engagement – in-role behavior	1.80	.17	.18*	.14
5d	Work engagement – extra-role behavior	0.832	.14	.12	.07
6a	Burnout – intention to leave	8.26	.28	.31**	.44
6b	Burnout – commitment	4.81	-.20	-.28*	.31
6c	Burnout – in-role behavior	1.75	-.16	-.21	.14
6d	Burnout – extra-role behavior	0.70	.00	.01	.06

*. significant at the 0.05 level (two tailed)

**. significant at the 0.001 level (two tailed)

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Discussion

Conclusion

The goal of this research was to test the Job Challenge and Job Hindrance differentiation of the JD-R model in relation to employee and organizational well-being. We expected a job challenge (workload) to have both favorable and non-favorable outcomes on employee and organization well-being. This meant that for *employee well-being* a positive relationship with burnout as well as with work engagement was expected. For *organizational well-being*, workload was expected to negatively relate to intention to leave, and positively relate to commitment, in-role and extra-role behavior. For the job hindrance tested (injustice) we expected only non-favorable outcomes on employee and organization well-being. This meant that for *employee well-being* we expected injustice to negatively relate to work engagement, and positively relate to burnout. For *organizational well-being*, we expected injustice to positively relate to intention to leave, and to negatively relate to commitment, in-role and extra-role behavior. Factor analyses showed that the two types of injustice significantly differed. This gives us more insight on what type of injustice can be held accountable for certain effects and this distinction is also helpful in translating results into practical implications. We will further specify the outcomes when one type of injustice showed a different pattern of relationships than the other. We also expected employee well-being (work engagement and burnout) to mediate between either a job challenge or a job hindrance, and organizational outcomes (e.g., Demerouti et al., 2001; Hakanen et al. 2006). Results showed the following four conclusions

Firstly, employees who experienced more *workload*, only experienced higher levels of burnout. This means the expectations were not fully met because only non-favorable outcomes regarding employee well-being were found. The job hindrance tested in this thesis (*injustice*) showed that employees who perceive more injustice in the organization, tend to report more burnout and less work engagement. The job hindrance thus indeed causes non-favorable outcomes.

Secondly, the more *workload* employees experienced, the more they reported intentions to leave the organization, however, they also reported higher levels of commitment and extra-role behavior. This shows that workload indeed causes favorable *and* non-favorable outcomes. *Injustice* did also show the expected pattern of solely non-favorable organizational outcomes. Overall, for both distributive and procedural injustice, the more employees perceived the presence of injustice, a decrease in organizational commitment can be predicted. Besides that, the perception of procedural injustice in employees also accounts for more intention to leave.

Thirdly, the relationships between work engagement and burnout and the organizational outcomes were tested. *Work engagement* was expected to be accountable for favorable organizational outcomes, meaning, a negative relationship with intention to leave and positive relationships with commitment, in-

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role and extra-role behavior. Indeed, employees who were engaged showed more commitment and in-role behavior than employees who were less engaged, which is in line with the expectation of favorable organizational outcomes. For *burnout* the reversed pattern was expected, meaning the more burned out employees feel, the more negative depleting organizational consequences would be found. Indeed, the more burnout employees experienced, the more they felt like leaving the organization and their commitment towards the organization decreased.

Lastly, based on the above findings we tried to tell how or why the relationship between a job challenge or hindrance and organizational outcome holds. *Work engagement* was found to partially carry the effect of injustice on commitment. This means that part of the relationship can be ascribed to a direct effect. The direct effect predicts that when employees perceive injustice, levels of their commitment towards the organization decrease. The other part of the effect can be ascribed to the indirect effect. The indirect effect means that employees who perceive more injustice, will be less engaged, and these reduced levels of engagement cause less organizational commitment. *Burnout* partially carried the effect between injustice and commitment. Furthermore, burnout partially carried the effect of procedural injustice on intention to leave. For workload the only mediated relationship that was found was workload that caused more organizational commitment in employees, and burnout carried this effect.

Theoretical contribution

Although a two-sided effect for workload was expected, the only relationship found was a negative relationship between workload and burnout. Hakanen et al. (2005) also found workload to result in burnout in their research among Finnish dentists. They state that workload is negatively related to well-being when enough other job resources are available. When other job resources are scarce, workload becomes active as a job resource, and positively relates to employee well-being. This implies that in the current sample of participants, employees were enclosed by other job resources that influenced employee well-being. These 'other job resources' could suppress the favorable outcomes of workload in the present study.

Findings show that perceived injustice results in non-favorable outcomes for employee well-being. This finding is in line with the proposition that employee well-being is strongly predicted by organizational outcomes such as organizational climate, since in this case organizational circumstances aggressively influence work engagement and burnout (Cotton & Heart, 2003). Also, we earlier discussed that injustice is highly interwoven with *organizational well-being* (Schmitt & Dorfal, 1999). Current findings extend this statement with confirming that injustice is *also interwoven with employee well-being*. Moreover, these findings reinforce our attention on a possible mediating role of employee well-being in the relationship between job characteristics and organizational well-being.

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For workload in relationship with organizational outcomes, both favorable and non-favorable outcomes were expected. All expectations were confirmed except for in-role behavior. At first, finding three significant relationships proves that the characteristics of a job challenge also apply to organizational outcomes in this thesis. This contributes and extends to earlier findings where only the relationships with employee outcomes were tested. Nonetheless, the question arises on why in-role behavior was not predicted by workload. Firstly, our assumption was built on the fact that in-role behavior is predicted by work engagement, and that work engagement in its place is predicted by workload. Findings of this study show that workload does not predict work engagement, so our assumption fails to be met. Secondly, when an employee experiences high levels of workload this might imply that the workload exceeds the capacities to fulfill the requirements. In other words, the employee is not capable of managing the job when he feels overloaded with work tasks. (Houdmont, Leka & Sinclair, 2012). This however arises a new question, because why is it then that workload does positively relate to extra-role behavior? If the employee is not capable of managing the in-role tasks, how come he is nevertheless quite able to manage extra-role tasks? For injustice, non-favorable organizational outcomes were expected. Injustice predicted the diminution of commitment, also, the more procedural injustice an employee perceives, the more he reports intention to leave. However, this relationship was also expected for distributive injustice, but was not found. Colquitt et al. (2001) describe why procedural injustice might affect intention to leave more than distributive injustice. Because procedural injustice is a 'process' in which the employee can carefully consider, monitor and evaluate inequality within the organization. The decision to think about leaving the organization is very well-funded instead of an impulsive reaction on an unsatisfactory outcome, which would more likely be the case with distributive injustice (Colquitt et al., 2001). This well-funded reasoning of the employee corresponds with the cognitive detachment process which is called 'intention to leave' in which an employee becomes more certain about his assumptions (Aquino et al., 1997). Furthermore, injustice was expected to relate to in-role and extra-role behavior, but these relationships were not found within the obtained data. Both in-role and extra-role behavior did not turn out to be very strong concepts within this research. Relationships with other constructs were overall weak and mainly not significant. Both constructs were measured with shortened versions of the original constructs, this might have resulted in weak outcomes because of lower levels of predictive validity. We therefore consider these outcomes to be the result of the method.

Work engagement was expected to cause favorable organizational outcomes. This was indeed found because employees who were more engaged, showed more commitment and more in-role behavior. Besides these findings, we expected engaged employees to feel less intention to leave the organization, and to report higher levels of extra-role behavior. Babcock-Roberson and Strickland (2010) previously found that work engagement predicts both in-role *and* extra-role behavior since someone wants to

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‘absorb’ work *and* work related activities. The explanation for not finding these expectations might be found in what Halbesleben, Harvey and Bolino (2009) call the ‘work-family interference’. They propose that work engagement is called *work* engagement because it applies to job situations. When one is engaged at work, this doesn’t automatically mean that he is also engaged enough to participate in extra activities outside the work environment, because this would then require to invest personal, or ‘family’ time. So although the relationships are not as expected, we might find an explanation in the work-family interference.

Lastly, burnout caused more intention to leave and less commitment in employees. This at first leads us to the conclusion that burnout indeed causes non-favorable organizational outcomes. We expected that the effect of burnout would be that in-role and extra-role behavior would decrease. We already mentioned that one of the limitations of the study (in-role and extra-role behavior did not seem to be very strong constructs) has consequences on the results.

Limitations and further research

Three limitations became clear during this research. First of all, only one wave of data was collected. This means the results currently show if constructs are related *within one timeslot*, but no conclusions can be derived about relationships *over time*. One should keep this in mind when deriving conclusions from the results in this thesis, and further research could focus on measuring the constructs in multiple timeslots to see if one construct can predict another construct over time.

Secondly, cultures differ in defining injustice (Leung & Stephan, 2005). We also think cultures might differ in to what extent they evaluate certain types of injustice as hindering. It could be that culture determines whether certain behaviors are in, or outside the lines of social acceptance. This might have affected our data. Participants were asked whether certain examples of injustice were present in their working environment, but they didn’t have to report whether they perceived this injustice as hindering, which should be taken in careful consideration when interpreting the results. Future research on the effects of injustice on employee and organizational well-being could therefore for example include Hofstede’s Cultural Dimensions (Cummings & Worley, 2009.) This approach consists of five key values that describe cultures and how these cultures influence organizational customs: context orientation, power distance, uncertainty avoidance, achievement orientation and individualism. This would give more information on how to interpret results on perceived injustice.

Thirdly, one of the questions asked concerned the hours employees actual work compared to the hours they are contracted for. Results showed that a 100% of the employees worked more hours than what they were contracted for, to be more specific, mean overtime was 6.7 hours. It is not uncommon to see overtime as a results of workload (Wang, Harrison, Yu, Rempel & Ritz, 2010). Because high levels of

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workload imply that the employee experiences more work demands than capacities to manage these demands, thus, more time is needed to finish the work. This would then cause overtime. Future research could therefore focus on differences in reported levels of workload amongst employees, based on the overtime they report. In continuing this ongoing line of research, one should take in mind that reporting overtime might be a socially desirable answer.

We earlier discussed how some of the expected relationships were not found, and possible explanations for why these findings were not found. Out of these explanations, two recommendations for future research are noteworthy. The first recommendation concerns the finding that workload might be suppressed by other resource variables. We believe future research on exploring which job resources suppress workload might contribute to defining in what situations workload is harming well-being, and in what situations it actually contributes to well-being (Hakanen et al., 2005). Secondly, future research could include more extended constructs that measure in-role and extra-role behavior. This could give more insight in the relationship of a job challenge of job hindrance, or work engagement and burnout with in-role and extra-role behavior. Current findings suggest the constructs are not very strong, which influences the expected relationships. Measuring full constructs could eliminate this limitation.

Practical implications

Can you push the limit, in aiming for a healthier organization by exposing employees to more demanding job situations? Yes, you can, although you shouldn't. When workload triggers creativity and problem solving skills in employees, it results in both favorable and non-favorable organizational outcomes. This might seem like a positive turning point, but one should be warned for intentions to leave among employees, which is the strongest predictor of actually leaving the organization (Cho, Johanson & Guchait, 2009), which in place may result in excessive turnover costs (Waldman et al., 2004).

Injustice turned out to have a very destructive character when it comes to employee and organizational outcomes: non-favorable outcomes - burnout and intention to leave – increase. Favorable outcomes – organizational commitment, in-role behavior and extra-role behavior – decrease. Since injustice finds its roots in beliefs and internally conducted norms which do not directly translate into behavior, its grand influence might be underestimated (Aquino et al., 1997). Clarity about norms, procedures and decision-making could be first steps in aiming to bring levels of perceived injustice down. The goal should be to give employees a voice and manage expectations between parties. However, in the end it is the manager who is responsible for preventing for a discrepancy between agreed and actual states, by using transparent and equal processes and evaluations for all subordinates (Folger, 1987).

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Scientifically, this research contributes to extending our knowledge on the Job Challenges and Job Hindrance differentiation of the JD-R model. Finding results on organizational outcomes show that the proposed pattern does apply to organizational well-being. Also, we hope these research findings will shed a new light on the effect of demanding job situations on the well-being of employees and organizations. Given the fact that organizations nowadays have to operate in a highly changing and uncertain environment, the focus should be more than ever on maximizing employee and organizational potential in a healthy manner.

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Appendix 1 – Regression analyses

Table1

Regression independent variables to intention to leave

	Model 1 β	Model 2 β
<i>Block 1: Control variables</i>		
Gender	.28	.01
Working time	N.S.	N.S.
<i>Block 2: Independent variables</i>		
Workload		.198*
Distributive Injustice		.105
Procedural Injustice		.465**
R ²	.075	.388
F (11,140)	1.16	7.50

* significant at the 0.05 level (two tailed)

** significant at the 0.01 level (two tailed)

Table 2

Regression independent variables to commitment

	Model 1 β	Model 2 β
<i>Block 1: Control variables</i>		
Gender	.045	.035
Working time	N.S.	N.S.
<i>Block 2: Independent variables</i>		
Workload		.179*
Distributive Injustice		-.283**
Procedural Injustice		-.314**
R ²	.084	.274
F (11,140)	1.52	4.45

* significant at the 0.05 level (two tailed)

** significant at the 0.01 level (two tailed)

Table 3

Regression independent variables to in-role behavior

	Model 1 β	Model 2 β
<i>Block 1: Control variables</i>		
Gender	-.099	-.099
Working time	N.S.	N.S.
<i>Block 2: Independent variables</i>		
Workload		.003
Distributive Injustice		-.051
Procedural Injustice		-.066
R ²	.110	.118
F (11,140)	2.05	1.58

* significant at the 0.05 level (two tailed)

** significant at the 0.01 level (two tailed)

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Table 4

Regression independent variables to extra-role behavior

	Model 1	Model 2
	β	β
<i>Block 1: Control variables</i>		
Gender	-.041	-.059
Working time	N.S.	N.S.
<i>Block 2: Independent variables</i>		
Workload		.256*
Distributive Injustice		-.128
Procedural Injustice		-.047
R ²	.012	.061
F (11,140)	.209	.769

* significant at the 0.05 level (two tailed)

** significant at the 0.01 level (two tailed)

Table 5

Regression independent variables to work engagement

	Model 1	Model 2
	β	β
<i>Block 1: Control variables</i>		
Gender	.024	.024
Working time	N.S.	N.S.
<i>Block 2: Independent variables</i>		
Workload		.018
Distributive Injustice		-.300**
Procedural Injustice		-.176*
R ²	.032	.170
F (11,140)	.55	2.43

* significant at the 0.05 level (two tailed)

** significant at the 0.01 level (two tailed)

Table 6

Regression independent variables to burnout

	Model 1	Model 2
	β	β
<i>Block 1: Control variables</i>		
Gender	.021	.011
Working time	N.S.	N.S.
<i>Block 2: Independent variables</i>		
Workload		.151*
Distributive Injustice		.507**
Procedural Injustice		-.218**
R ²	.053	.500
F (11,140)	.94	11.84

* significant at the 0.05 level (two tailed)

** significant at the 0.01 level (two tailed)

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Table 7

Independent variables to intention to leave, mediated by burnout

	Model 1 β	Model 2 β
<i>Block 1: Control variables</i>		
Gender	.028	.005
Working time	N.S.	N.S.
<i>Block 2: Independent variables</i>		
Burnout		.305**
Workload		.152
Distributive Injustice		-.050
Procedural Injustice		.399**
R ²	.065	.435
F (12,140)	1.16	8.26

* significant at the 0.05 level (two tailed)

** significant at the 0.01 level (two tailed)

Table 8

Independent variables to commitment, mediated by burnout

	Model 1 β	Model 2 β
<i>Block 1: Control variables</i>		
Gender	.045	.038
Working time	N.S.	N.S.
<i>Block 2: Independent variables</i>		
Burnout		-.267*
Workload		.219*
Distributive Injustice		-.148
Procedural Injustice		-.256**
R ²	.084	.309
F (12,140)	1.52	4.82

* significant at the 0.05 level (two tailed)

** significant at the 0.01 level (two tailed)

Table 9

Independent variables to in-role behavior, mediated by burnout

	Model 1 β	Model 2 β
<i>Block 1: Control variables</i>		
Gender	-.099	-.097
Working time	N.S.	N.S.
<i>Block 2: Independent variables</i>		
Burnout		-.211
Workload		.035
Distributive Injustice		.056
Procedural Injustice		-.020
R ²	.110	.140
F (12, 140)	2.05	1.75

* significant at the 0.05 level (two tailed)

** significant at the 0.01 level (two tailed)

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Table 10

Independent variables to extra-role behavior, mediated by burnout

	Model 1	Model 2
	β	β
<i>Block 1: Control variables</i>		
Gender	-.041	-.059
Working time	N.S.	N.S.
<i>Block 2: Independent variables</i>		
Burnout		.009
Workload		.255*
Distributive Injustice		-.132
Procedural Injustice		-.049
R ²	.012	.061
F (12, 140)	.209	.700

* significant at the 0.05 level (two tailed)

** significant at the 0.01 level (two tailed)

Table 11

Independent variables to intention to leave, mediated by work engagement

	Model 1	Model 2
	β	β
<i>Block 1: Control variables</i>		
Gender	.028	.010
Working time	N.S.	N.S.
<i>Block 2: Independent variables</i>		
Work engagement		-.107
Workload		.200*
Distributive Injustice		.073
Procedural Injustice		.447**
R ²	.065	.398
F (12, 140)	1.16	7.09

* significant at the 0.05 level (two tailed)

** significant at the 0.01 level (two tailed)

Table 12

Independent variables to commitment mediated by work engagement

	Model 1	Model 2
	β	β
<i>Block 1: Control variables</i>		
Gender	.045	.024
Working time	N.S.	N.S.
<i>Block 2: Independent variables</i>		
Work engagement		.468**
Workload		.170*
Distributive Injustice		-.143
Procedural Injustice		-.232**
R ²	.084	.456
F (12, 140)	1.52	8.99

* significant at the 0.05 level (two tailed)

** significant at the 0.01 level (two tailed)

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Table 13

Independent variables to in-role behavior mediated by work engagement

	Model 1	Model 2
	β	β
<i>Block 1: Control variables</i>		
Gender	-.099	-.103
Working time	N.S.	N.S.
<i>Block 2: Independent variables</i>		
Work engagement		.175*
Workload		.00
Distributive Injustice		.002
Procedural Injustice		-.035
R ²	.110	.143
F (12, 140)	2.05	1.79

* significant at the 0.05 level (two tailed)

** significant at the 0.01 level (two tailed)

Table 14

Independent variables to extra-role behavior mediated by work engagement

	Model 1	Model 2
	β	β
<i>Block 1: Control variables</i>		
Gender	-.041	-.062
Working time	N.S.	N.S.
<i>Block 2: Independent variables</i>		
Work engagement		.114
Workload		.251*
Distributive Injustice		-.093
Procedural Injustice		-.027
R ²	.012	.072
F (12, 140)	.209	.832

* significant at the 0.05 level (two tailed)

** significant at the 0.01 level (two tailed)

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Appendix 2 – Syntax SPSS

Data

```
RECODE PERJ_1 PERJ_2 PERJ_3 PERJ_4 PERJ_5 (1=5) (2=4) (3=3) (4=2) (5=1).  
EXECUTE.
```

```
RECODE PROJ_1 PROJ_2 PROJ_3 PROJ_6 PROJ_5 (1=5) (2=4) (3=3) (4=2) (5=1).  
EXECUTE.
```

Preliminary analysis

```
COMPUTE Workload=MEAN(WL_1,WL_2,WL_3,WL_4,WL_5).  
EXECUTE.
```

```
COMPUTE PerceivedJustice=MEAN(PERJ_1,PERJ_2,PERJ_3,PERJ_4,PERJ_5).  
EXECUTE.
```

```
COMPUTE ProceduralJustice=MEAN(PROJ_1,PROJ_2,PROJ_3,PROJ_6,PROJ_5).  
EXECUTE.
```

```
COMPUTE WorkEngagement=MEAN(UWES_1,UWES_2, UWES_3, UWES_4, UWES_5, UWES_6,  
UWES_7, UWES_8, UWES_9).  
EXECUTE.
```

```
COMPUTE Burnout=MEAN(MBI_1, MBI_2, MBI_3, MBI_4, MBI_5, MBI_6, MBI_7, MBI_8, MBI_9).  
EXECUTE.
```

```
COMPUTE Intention_to_leave=MEAN(IL_1, IL_2, IL_3, IL_4).  
EXECUTE.
```

```
COMPUTE Commitment=MEAN(COM_1, COM_2, COM_3, COM_4, COM_5).  
EXECUTE.
```

```
COMPUTE In_role=MEAN(IR_1, IR_4, IR_7, IR_8).  
EXECUTE.
```

```
COMPUTE Extra_role=MEAN(OCB_1, OCB_2, OCB_3).  
EXECUTE.
```

```
COMPUTE overtime=Hours_actual - Hours_contracted.  
EXECUTE.
```

```
DESCRIPTIVES VARIABLES=overtime  
/STATISTICS=MEAN STDDEV MIN MAX.
```

```
FREQUENCIES VARIABLES=Gender Age Maritalstatus Nationality Workingtime Countrybased  
fulltimeparttime  
/ORDER=ANALYSIS.
```

```
DATASET ACTIVATE DataSet1.  
GRAPH  
/SCATTERPLOT(BIVAR)=Workload WITH Intention_to_leave  
/MISSING=LISTWISE.
```

```
GRAPH  
/SCATTERPLOT(BIVAR)=PerceivedJustice WITH Intention_to_leave  
/MISSING=LISTWISE.
```

```
GRAPH  
/SCATTERPLOT(BIVAR)=ProceduralJustice WITH Intention_to_leave  
/MISSING=LISTWISE.
```

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GRAPH
/SCATTERPLOT(BIVAR)=Workload WITH Burnout
/MISSING=LISTWISE.

GRAPH
/SCATTERPLOT(BIVAR)=PerceivedJustice WITH Burnout
/MISSING=LISTWISE.

GRAPH
/SCATTERPLOT(BIVAR)=ProceduralJustice WITH Burnout
/MISSING=LISTWISE.

GRAPH
/SCATTERPLOT(BIVAR)=Workload WITH WorkEngagement
/MISSING=LISTWISE.

GRAPH
/SCATTERPLOT(BIVAR)=PerceivedJustice WITH WorkEngagement
/MISSING=LISTWISE.

GRAPH
/SCATTERPLOT(BIVAR)=ProceduralJustice WITH WorkEngagement
/MISSING=LISTWISE.

GRAPH
/SCATTERPLOT(BIVAR)=Workload WITH Commitment
/MISSING=LISTWISE.

GRAPH
/SCATTERPLOT(BIVAR)=PerceivedJustice WITH Commitment
/MISSING=LISTWISE.

GRAPH
/SCATTERPLOT(BIVAR)=ProceduralJustice WITH Commitment
/MISSING=LISTWISE.

GRAPH
/SCATTERPLOT(BIVAR)=Workload WITH In_role
/MISSING=LISTWISE.

GRAPH
/SCATTERPLOT(BIVAR)=PerceivedJustice WITH In_role
/MISSING=LISTWISE.

GRAPH
/SCATTERPLOT(BIVAR)=ProceduralJustice WITH In_role
/MISSING=LISTWISE.

GRAPH
/SCATTERPLOT(BIVAR)=Workload WITH Extra_role
/MISSING=LISTWISE.

GRAPH
/SCATTERPLOT(BIVAR)=PerceivedJustice WITH Extra_role
/MISSING=LISTWISE.

GRAPH
/SCATTERPLOT(BIVAR)=ProceduralJustice WITH Extra_role
/MISSING=LISTWISE.

Factor analysis - Injustice

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```

FACTOR
/VARIABLES PERJ_1 PERJ_2 PERJ_3 PERJ_4 PERJ_5 PROJ_1 PROJ_2 PROJ_3 PROJ_6 PROJ_5
/MISSING LISTWISE
/ANALYSIS PERJ_1 PERJ_2 PERJ_3 PERJ_4 PERJ_5 PROJ_1 PROJ_2 PROJ_3 PROJ_6 PROJ_5
/PRINT INITIAL EXTRACTION ROTATION
/CRITERIA MINEIGEN(1) ITERATE(25)
/EXTRACTION ML
/CRITERIA ITERATE(25) DELTA(0)
/ROTATION OBLIMIN.

```

Reliability analysis

```

RELIABILITY
/VARIABLES=WL_1 WL_2 WL_3 WL_4 WL_5
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE
/SUMMARY=TOTAL MEANS.

```

```

RELIABILITY
/VARIABLES=PERJ_1 PERJ_2 PERJ_3 PERJ_4 PERJ_5
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE
/SUMMARY=TOTAL MEANS.

```

```

RELIABILITY
/VARIABLES=PROJ_1 PROJ_2 PROJ_3 PROJ_6 PROJ_5
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE
/SUMMARY=TOTAL MEANS.

```

```

RELIABILITY
/VARIABLES=UWES_1 UWES_2 UWES_3 UWES_4 UWES_5 UWES_6 UWES_7 UWES_8 UWES_9
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE
/SUMMARY=TOTAL MEANS.

```

```

RELIABILITY
/VARIABLES=MBI_1 MBI_2 MBI_3 MBI_4 MBI_5 MBI_6 MBI_7 MBI_8 MBI_9
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE
/SUMMARY=TOTAL MEANS.

```

```

RELIABILITY
/VARIABLES=IL_1 IL_2 IL_3 IL_4
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE
/SUMMARY=TOTAL MEANS.

```

```

RELIABILITY
/VARIABLES=COM_1 COM_2 COM_3 COM_4 COM_5
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE
/SUMMARY=TOTAL MEANS.

```

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```
RELIABILITY
/VARIABLES=IR_1 IR_4 IR_7 IR_8
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE
/SUMMARY=TOTAL MEANS.
```

```
RELIABILITY
/VARIABLES=OCB_1 OCB_2 OCB_3
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE
/SUMMARY=TOTAL MEANS.
```

Correlations

```
CORRELATIONS
/VARIABLES=Workload PerceivedJustice ProceduralJustice WorkEngagement Burnout
Intention_to_leave
Commitment In_role Extra_role
/PRINT=TWOTAIL NOSIG
/STATISTICS DESCRIPTIVES
/MISSING=PAIRWISE.
```

Dummy variables - controlvariables

```
RECODE Workingtime (1=1) (2=0) (3=0) (4=0) (5=0) (6=0) (7=0) (8=0) INTO dumeen.
EXECUTE.
```

```
RECODE Workingtime (1=0) (2=1) (3=0) (4=0) (5=0) (6=0) (7=0) (8=0) INTO dumtwee.
EXECUTE.
```

```
RECODE Workingtime (1=0) (2=0) (3=1) (4=0) (5=0) (6=0) (7=0) (8=0) INTO dumdrie.
VARIABLE LABELS twee_drie '2-3'.
EXECUTE.
```

```
RECODE Workingtime (1=0) (2=0) (3=0) (4=1) (5=0) (6=0) (7=0) (8=0) INTO dumvier.
VARIABLE LABELS drie_vier '3-4'.
EXECUTE.
```

```
RECODE Workingtime (1=0) (2=0) (3=0) (4=0) (5=1) (6=0) (7=0) (8=0) INTO dumvijf.
VARIABLE LABELS vier_vijf '4-5'.
EXECUTE.
```

```
RECODE Workingtime (1=0) (2=0) (3=0) (4=0) (5=0) (6=0) (7=0) (8=1) INTO dumzes.
VARIABLE LABELS tien_vijftien '10-15'.
EXECUTE.
```

```
RECODE Workingtime (1=0) (2=0) (3=0) (4=0) (5=0) (6=0) (7=1) (8=0) INTO dumzeven.
VARIABLE LABELS vijftien_twintig '15-20'.
EXECUTE.
```

```
RECODE Gender (2=0) (1=1) INTO Genderdum.
EXECUTE.
```

Testing hypotheses

```
REGRESSION
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
```

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```

/DEPENDENT WorkEngagement
/METHOD=ENTER Genderdum dumeen dumtwee dumdrie dumvier dumvijf dumzes dumzeven
/METHOD=ENTER Workload PerceivedInjustice ProceduralInjustice.

```

```

REGRESSION
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT Intention_to_leave
/METHOD=ENTER Genderdum dumeen dumtwee dumdrie dumvier dumvijf dumzes dumzeven
/METHOD=ENTER Workload PerceivedInjustice ProceduralInjustice.

```

```

REGRESSION
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT Commitment
/METHOD=ENTER Genderdum dumeen dumtwee dumdrie dumvier dumvijf dumzes dumzeven
/METHOD=ENTER Workload PerceivedInjustice ProceduralInjustice.

```

```

REGRESSION
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT In_role
/METHOD=ENTER Genderdum dumeen dumtwee dumdrie dumvier dumvijf dumzes dumzeven
/METHOD=ENTER Workload PerceivedInjustice ProceduralInjustice.

```

```

REGRESSION
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT Extra_role
/METHOD=ENTER Genderdum dumeen dumtwee dumdrie dumvier dumvijf dumzes dumzeven
/METHOD=ENTER Workload PerceivedInjustice ProceduralInjustice.

```

```

REGRESSION
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT Burnout
/METHOD=ENTER Genderdum dumeen dumtwee dumdrie dumvier dumvijf dumzes dumzeven
/METHOD=ENTER Workload PerceivedInjustice ProceduralInjustice.

```

```

REGRESSION
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT Intention_to_leave
/METHOD=ENTER Genderdum dumeen dumtwee dumdrie dumvier dumvijf dumzes dumzeven
/METHOD=ENTER Workload PerceivedInjustice ProceduralInjustice.

```

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Appendix 3 - Survey

	Code	Question	
Demographic	D1	Gender	1 = Male, 2 = Female
Demographic	D2	Age	Year of birth
Demographic	D3	Marital status	1 = Married/Registered Partnership, 2 = Single
Demographic	D4	Nationality	Country
Demographic	D5	Nike Country	Choice between participating countries
Demographic	D6	Years of Experience?	Months
Demographic	D7	How long have you been working at Nike? (in years)	1 = 1, 2 = 2, 3 = 3, 4 = 4, 5 = 5, 6 = 5-10, 7 = 10-15, 8 = 15 or more
Demographic	D9	Do you work fulltime or parttime?	1 = Fulltime, 2 = Parttime
Demographic	D10	How many hours do you officially work?	Hours per week
Demographic	D11	How many hours do you in fact work (including overwork)?	Hours per week
Workload	WL1	Do you have to work very fast?	1 = never, 2 = sometimes, 3 = regularly, 4 = often, 5 = always
Workload	WL2	Do you have too much work to do?	2 = never, 2 = sometimes, 3 = regularly, 4 = often, 5 = always
Workload	WL3	Do you have to work extra hard in orde to complete something?	3 = never, 2 = sometimes, 3 = regularly, 4 = often, 5 = always
Workload	WL4	Do you work under time pressure?	4 = never, 2 = sometimes, 3 = regularly, 4 = often, 5 = always
Workload	WL5	Do you find that you are behind work schedule in your work activities?	5 = never, 2 = sometimes, 3 = regularly, 4 = often, 5 = always
Perceived Justice	DisJ1	My work schedule is fair	1 = I strongly disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, 5 = strongly agree
Perceived Justice	DisJ2	I think that my level of pay is fair	1 = I strongly disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, 5 = strongly agree
Perceived Justice	DisJ3	I conside my work load to be quite fair	1 = I strongly disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, 5 = strongly agree
Perceived Justice	DisJ4	Overall, the rewards I receive here are quite fair	1 = I strongly disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, 5 = strongly agree
Perceived Justice	DisJ5	I feel that my job responsibilities are fair	1 = I strongly disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, 5 = strongly agree
Perceived Justice	ProJ1	Job decisions are made by the general manager in an unbiased manner	1 = I strongly disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, 5 = strongly agree
Perceived Justice	ProJ2	My general manager makes sure that all employees' concerns are heard before job decisions are made	1 = I strongly disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, 5 = strongly agree

Perceived Justice	ProJ3	To make job decisions, my general manager collects accurate and complete information	1 = I strongly disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, 5 = strongly agree
Perceived Justice	ProJ4	My general managers clarifies decisions and provides additional information when requested by employees	1 = I strongly disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, 5 = strongly agree
Perceived Justice	ProJ5	All job decisions are applied consistently across all affected employees	1 = I strongly disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, 5 = strongly agree
Perceived Justice	ProJ6	Employees are allowed to challenge or appeal job decisions made by the general manager	1 = I strongly disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, 5 = strongly agree
Work engagement	UWE S1	At my work, I feel bursting with energy	0 = never, 1 = A few times a year or less, 2 = Once a month or less, 3 = a few times a month or more, 4 = once a week, 5 = a few times a week, 6 = every day
Work engagement	UWE S2	At my job, I feel strong and vigorous	0 = never, 1 = A few times a year or less, 2 = Once a month or less, 3 = a few times a month or more, 4 = once a week, 5 = a few times a week, 6 = every day
Work engagement	UWE S3	I am enthusiastic about my job	0 = never, 1 = A few times a year or less, 2 = Once a month or less, 3 = a few times a month or more, 4 = once a week, 5 = a few times a week, 6 = every day
Work engagement	UWE S4	My job inspires me	0 = never, 1 = A few times a year or less, 2 = Once a month or less, 3 = a few times a month or more, 4 = once a week, 5 = a few times a week, 6 = every day
Work engagement	UWE S5	When I get up in the morning, I feel like going to work	0 = never, 1 = A few times a year or less, 2 = Once a month or less, 3 = a few times a month or more, 4 = once a week, 5 = a few times a week, 6 = every day
Work engagement	UWE S6	I feel happy when I am working intensely	0 = never, 1 = A few times a year or less, 2 = Once a month or less, 3 = a few times a month or more, 4 = once a week, 5 = a few times a week, 6 = every day
Work engagement	UWE S7	I am proud of the work that I do	0 = never, 1 = A few times a year or less, 2 = Once a month or less, 3 = a few times a month or more, 4 = once a week, 5 = a few times a week, 6 = every day
Work engagement	UWE S8	I am immersed in my work	0 = never, 1 = A few times a year or less, 2 = Once a month or less, 3 = a few times a month or more, 4 = once a week, 5 = a few times a week, 6 = every day
Work engagement	UWE S9	I get carried away when I'm working	0 = never, 1 = A few times a year or less, 2 = Once a month or less, 3 = a few times a month or more, 4 = once a week, 5 = a few times a week, 6 = every day
Burnout	BO1	I feel emotionally drained from my work	0 = never, 1 = very rarely, 2 = rarely, 3 = regularly, 4 = often, 5 = very often, 6 = always
Burnout	BO2	I doubt the significance of my work	1 = never, 1 = very rarely, 2 = rarely, 3 = regularly, 4 = often, 5 = very often, 6 = always
Burnout	BO3	Working all day is really a strain for me	2 = never, 1 = very rarely, 2 = rarely, 3 = regularly, 4 = often, 5 = very often, 6 = always
Burnout	BO4	I feel burned out from my work	3 = never, 1 = very rarely, 2 = rarely, 3 = regularly, 4 = often, 5 = very often, 6 = always
Burnout	BO5	I have become less interested in my work since I started this job	4 = never, 1 = very rarely, 2 = rarely, 3 = regularly, 4 = often, 5 = very often, 6 = always
Burnout	BO6	I have become less enthusiastic about my work	5 = never, 1 = very rarely, 2 = rarely, 3 = regularly, 4 = often, 5 = very often, 6 = always
Burnout	BO7	I feel used up at the end of the workday	6 = never, 1 = very rarely, 2 = rarely, 3 = regularly, 4 = often, 5 = very often, 6 = always
Burnout	BO8	I feel tired when I get up in the morning and have to face another day on the job	7 = never, 1 = very rarely, 2 = rarely, 3 = regularly, 4 = often, 5 = very often, 6 = always
Burnout	BO9	I have become more cynical about whether my work contributes anything	8 = never, 1 = very rarely, 2 = rarely, 3 = regularly, 4 = often, 5 = very often, 6 = always

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Intention to leave	IL1	I sometimes think about seeking work outside the organization	1 = (almost) never, 2 = sometimes, 3 = regularly, 4 = often, 5 = (almost) always
Intention to leave	IL2	I sometimes think about changing my job	1 = (almost) never, 2 = sometimes, 3 = regularly, 4 = often, 5 = (almost) always
Intention to leave	IL3	Next year, I plan to change jobs	1 = (almost) never, 2 = sometimes, 3 = regularly, 4 = often, 5 = (almost) always
Intention to leave	IL4	Next year, I plan to look for a job outside this organization	1 = (almost) never, 2 = sometimes, 3 = regularly, 4 = often, 5 = (almost) always
Commitment	C1	I feel as if the organization's problems are my own	1 = I strongly disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, 5 = strongly agree
Commitment	C2	I feel emotionally attached to this organization	1 = I strongly disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, 5 = strongly agree
Commitment	C3	This organization has a great deal of personal meaning for me	1 = I strongly disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, 5 = strongly agree
Commitment	C4	I feel a strong sense of belonging to this organization	1 = I strongly disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, 5 = strongly agree
Commitment	C5	I feel like a member of the family in this family	1 = I strongly disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, 5 = strongly agree
Extra-role	OCB 1	I help coworkers to be more productive	1 = (almost) never, 2 = sometimes, 3 = regularly, 4 = often, 5 = (almost) always
Extra-role	OCB 2	I help coworkers who have heavy workload	1 = (almost) never, 2 = sometimes, 3 = regularly, 4 = often, 5 = (almost) always
Extra-role	OCB 3	I help coworkers who have been absent	1 = (almost) never, 2 = sometimes, 3 = regularly, 4 = often, 5 = (almost) always
In role	IR1	I achieve the objectives of my job	1 = (almost) never, 2 = sometimes, 3 = regularly, 4 = often, 5 = (almost) always
In role	IR4	I fulfill all the requirements of my job	1 = (almost) never, 2 = sometimes, 3 = regularly, 4 = often, 5 = (almost) always
In role	IR7	I am competent in all areas of my job, I handle tasks with proficiency	1 = (almost) never, 2 = sometimes, 3 = regularly, 4 = often, 5 = (almost) always
In role	IR8	I perform well in my overall job by carrying out tasks as expected	1 = (almost) never, 2 = sometimes, 3 = regularly, 4 = often, 5 = (almost) always

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