

Moderators between work context and psychological health in a public service  
sector

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## Summary

### Moderators between work context and psychological health in a public service sector

**Keywords:** Emotional intelligence; self-efficacy; explanatory style; attributional style; job demands; job resources; work engagement; psychological well-being; public service context.

Work context has many consequences for the psychological outcomes of employees. These outcomes also have consequences for the employer through possible loss of productivity, impaired health of employees which may be associated with absenteeism and turnover intention, among others. The literature also shows that these outcomes are not always the same even under similar working conditions. Theorising in cognitive psychology indicates that the way in which an individual appraises a situation may be more important to psychological outcomes than the actual presence of a stressor. Recently, personal resources have been hypothesised to influence these individual differences. Few if any studies have explored such personal resources as moderators in the relationship between work context and psychological outcomes, especially in the South African public service context. Thus, the general aim of this study was to determine whether personal resources (emotional intelligence, self-efficacy and explanatory styles) are moderators in the relationship between work context (job demands and job resources) and psychological outcomes (psychological well-being and work engagement) in a sample of government employees.

A cross-sectional survey research design was implemented. Data were collected from 459 participants with the following measuring instruments, the Job-Demands Resources (JD-R) Scale, the Satisfaction with Life Scale (SWLS), the Affectometer-2 Short-form (AFM), the Utrecht Work Engagement Scale (UWES), the Emotional Intelligence Scale (EIS), the General Self-efficacy (GSE) scale, and the Explanatory Style (ES) Questionnaire. A demographic questionnaire was developed by the first author to

capture diverse information from the participants relating to gender, turnover intention, post level and so forth.

Analyses were conducted mainly in 2 steps. Firstly, multiple regression analyses were used to test the main effects of work context variables on psychological outcomes. Secondly, two-step hierarchical regression analyses were used to test whether personal resources (emotional intelligence, self-efficacy, and explanatory styles) moderated the relationship between work context variables and psychological outcomes. Before testing the moderation, all independent variables and moderator variables (dimensions of personal resources) were centred so as to exclude the possibility of any multicollinearity in the regression equation.

The results of the study, reported in three articles/manuscripts, showed significant main effects for work context and the personal resources as predictors of psychological outcomes. In the second place, the results also showed that the personal resources used in this study moderate the relationship between work context and psychological outcomes.

In the first article, it was concluded that emotional intelligence is of potential value, especially in the public sector that is focussed on optimal service delivery, and where emotional encounters are stock-in-trade. Emotional intelligence is a valuable personal resource to cultivate for establishing, developing, and maintaining positive outcomes in psychological well-being in the workplace. In the second article, it was concluded that as self-efficacy beliefs facilitate actions and behaviour taken by individuals, it is important that feedback and modelling could play an important role especially in service-oriented work contexts that may need self-regulation of emotions. In the third article, it was concluded that as attributional feedback can induce change in how individuals perceive their success or failure in a task, the role of explanatory styles in psychological outcomes could be cultivated through active feedback given to employees on their performance and possibilities of future growth in the organisation.

Overall it was concluded that a lack of job resources in the presence of high job demands will undermine psychological outcomes even in the presence of personal resources. Therefore, the consequences for health impairment and negative outcomes cannot be over-emphasised in a situation where job demands outstrip job resources. Employees in the public service require skills such as social and emotional competency,

self-efficacy and optimism as these are important tools in dealing with the public. Employees must have initiative, flexibility, motivation to achieve, empathy, self-esteem and confidence, self-control, and group management among fellow employees and the public that is served by them.

Although the limitations for this study are related to the fact that it was a cross-sectional research design and data was collected using self-reports, insights were gained about the role of personal resources in the relationship between work context and psychological outcomes. Based on all three articles, it was recommended that cross-lagged panel studies may be useful in further clarifying the role of personal resources in longitudinal studies about the relationship between job resources and psychological outcomes and possible upward spirals arising from facilitating these relationships. Aspects of such studies may also include a qualitative assessment of what participants perceive as job resources and personal resources and these help them to achieve their goals.

## Opsomming

**Moderators tussen werkskonteks en psigologiese welsyn in ‘n openbare diens-sektor.**

**Sleutelwoorde:** Emosionele intelligensie; self-effektiwiteit; verklaringstyl; attribusiestyl; werkvereistes; werksbronne; werksbetrokkenheid; psigologiese welsyn; openbare diens konteks.

Werkskonteks het baie gevolge vir die psigologiese uitkomst van werknemers. Hierdie uitkomst het ook gevolge vir die werkgewer deur moontlike verlies aan produktiwiteit en swak gesondheid van die werknemer wat verbind kan word met, onder andere, afwesighede en ook intensies van diensverlating. Volgens die literatuur is hierdie uitkomst nie altyd dieselfde nie, selfs onder dieselfde werkomstandighede. Teorieë in die kognitiewe psigologie dui aan dat die manier waarop ‘n persoon ‘n situasie beoordeel belangriker kan wees vir die psigologiese uitkomst as wat die werklike bestaan van ‘n stressor is. In resente tye word die hipotese gestel dat persoonlike bronne hierdie individuele verskille kan beïnvloed. Baie min, indien enige, studies het hierdie persoonlike bronne as moderators in die verband tussen werkskonteks en psigologiese uitkomst ondersoek, spesifiek in die Suid Afrikaanse openbare diens-sektor. Die doel van hierdie studie was dus om te bepaal of persoonlike bronne (emosionele intelligensie, self-effektiwiteit en verklaringstyl) moderators is in die verband tussen werkskonteks (werkvereistes en werksbronne) en psigologiese uitkomst (psigologiese welsyn en werksbetrokkenheid) in ‘n steekproef van regeringswerknemers.

‘n Dwarsdeursnit opname-ontwerp is gebruik. Data van 459 deelnemers is met behulp van die volgende meetinstrumente ingesamel: die *Job- Demand Resources (JDR) scale*; die *Satisfaction with Life Scale (SWLS)*; die *Affectometer 2 (short form) (AFM)*; die *Utrecht Work Engagement Scale (UWES)*; die *Emotional Intelligence Scale (EIS)*; die *General Self-efficacy (GSE) scale* en die *Explanatory Style (ES) Questionnaire*. ‘n Demografiese vraelys is deur die eerste outeur ontwikkel om inligting oor geslag, werkverlatingsintensie, ensomeer, in te samel.

Statistiese analises is in twee stappe gedoen. Eerstens is veelvuldige regressie-analises gedoen om die effek van werkskonteks-veranderlikes op psigologiese uitkomst te bepaal. Tweedens is twee-stap hiërargiese regressie-analises gebruik om te toets of persoonlike bronne (emosionele intelligensie, self-effektiwiteit en verklaringstyl) tussen werkskonteks-veranderlikes en psigologiese uitkomste modereer. Voor hierdie toetsing is alle onafhanklike veranderlikes en moderator-veranderlikes (dimensies van persoonlike bronne) gesentreer om so die moontlikheid van enige multi-kollineariteit in die regressievergelyking uit te skakel.

Uit die resultate, wat in drie manuskripte / artikels gerapporteer word, blyk daar beduidende hoofeffekte vir werkskonteks en persoonlike bronne as voorspellers van psigologiese uitkomste. Tweedens het die resultate getoon dat die persoonlike bronne wat in die studie gebruik is, modereer tussen werkskonteks en psigologiese uitkomste.

In die eerste artikel is die gevolgtrekking gemaak dat emosionele intelligensie waarde het, veral in die openbare sektor wat gefokus is op optimale dienslewering en waar emosionele interaksies dikwels voorkom. Emosionele intelligensie is 'n waardevolle persoonlike bron om te ontgin vir die vestiging, ontwikkeling en instandhouding van positiewe uitkomste vir psigologiese welsyn in die werkplek. Die tweede artikel toon aan dat, omdat self-effektiwiteitsoortuigings aksies en gedrag by mense fasiliteer, dit belangrik is dat terugvoer en modellering 'n belangrike rol in veral diens-georiënteerde werkskontekste wat self-regulering van emosies benodig, kan speel. In artikel drie word aangetoon dat attribusie-terugvoer mense kan aanmoedig om hulle ervarings van sukses of mislukking in 'n taak te verander. Die rol van verklaring- of attribusiestyl in psigologiese uitkomste kan dan ontwikkel word deur aan werknemers aktief terugvoer te gee oor die prestasies en moontlikhede van toekomstige groei in die organisasie.

Die globale gevolgtrekking is gemaak dat 'n tekort aan werksbronne in die teenwoordigheid van hoë werksvereistes, die psigologiese uitkomste, selfs as daar persoonlike bronne beskikbaar is, sal ondermyn. Die negatiewe gevolge vir gesondheid en ander psigologiese uitkomste kan nie oorbeklemtoon word in die situasie waar werksvereistes werksbronne oorskry nie. Werknemers in die openbare diens-sektor benodig vaardighede soos sosiale en emosionele bevoegdheids, omdat hierdie vaardighede belangrik is om met die publiek te kan werk. Werknemers moet inisiatief hê,



buigbaar wees, motivering hê om te presteer, oor empatie beskik, selfwaarde en –vertroue hê, oor selfbeheer beskik en die vermoë hê om groepe van hulle kollegas en ook die publiek wat deur hulle bedien word, te kan bestuur.

‘n Beperking van die studie is dat die data ingesamel is in ‘n dwarsdeursnit opname-ontwerp en met self-rapportering. Nogtans is insig verkry oor die rol van persoonlike bronne in die verband tussen werkskonteks en psigologiese uitkomst. Gebaseer op al drie artikels, is daar aanbeveel dat kruis-gevalideerde paneelstudies in die toekoms handig sou wees vir die verdere uitklaring van die rol van persoonlike bronne in longitudinale studies oor die verband tussen werksbronne en psigologiese uitkomst, asook die moontlike opwaartse spiraal wat uit die verbande gefasiliteer kan word. Sekere aspekte van sulke studies kan ook kwalitatiewe assessering van dit wat die deelnemers waarneem as werksvereistes en persoonlike bronne, insluit en dit sou hulle kon help om hulle doelwitte te bereik.

## Preface

- This thesis is presented in article format in terms of the North-West University's rule A.14.4.2 in tandem with rules A.13.7.3, A.13.7.4 and A.13.7.5.
- This thesis consists of three articles. They are:  
Article 1: Emotional Intelligence, Work, and Psychological Outcomes in a Public Service Context (accepted for publication in the *Journal of Psychology in Africa*). Article 2: Self-efficacy, Work, and Psychological Outcomes in a Public Service Context (accepted for publication in the *Journal of Psychology in Africa*) and Article 3: Explanatory Style, Work, and Psychological Outcomes in a Public Service Context (submitted to the *South African Journal of Industrial Psychology*).
- For ease of reference, the page numbering is in Roman numerals for the introductory section and consecutive numbering from the introduction to the end of the thesis. However, each individual article will be numbered from 1 on submission to a journal.
- The co-authors of these articles have submitted a letter consenting that the articles may be submitted for examination purposes in terms of Rule A.13.7.4.



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### LETTER OF PERMISSION

Permission is hereby granted that the first author S. Williams may submit the following 3 articles for the purposes of examination and obtaining a PhD degree in Psychology;

1. *Emotional Intelligence, Work, and Psychological Outcomes in a Public Service Context*
2. *Self-efficacy, Work, and Psychological Outcomes in a Public Service Context*
3. *Explanatory Style, Work, and Psychological Outcomes in a Public Service Context*

A handwritten signature in black ink that reads "M.P. Wissing".

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## Introduction

### Orientation and problem statement

Research has indicated that a large number of factors are related to psychological outcomes in the workplace (De Croon, Blonk, de Zwart, Frings-Dresen, & Boersen, 2002). These factors include but are not limited to job demands and resources (Bakker, Demerouti, & Schaufeli, 2003; Schaufeli & Bakker, 2004), organisational climate (Cotton & Hart, 2003), work-home interference (Cooper & Cartwright, 1994) emotional, physical and spiritual exhaustion (Maslach & Leiter, 1997), increased workloads, decreased job control, increased role conflict and role ambiguity (Whitaker, 1996), restructuring, downsizing and mergers (Schaufeli & Greenglass, 2001). Firth, Mellor, Moore, and Loquet (2004) believe that such factors trigger the chain of psychological states that lead to for example an individual's intention to resign from a job. Significant main effects are expected between characteristics of work context (viz., job demands and job resources) and psychological outcomes based on this body of evidence.

Available literature also acknowledges that individual differences exist in how employees respond to the foregoing prevailing conditions in the workplace (see Anderzén & Arentz, 2005; Brief & Weiss, 2002; Rothmann, 2003) especially in how they influence psychological outcomes. Some authors refer to the factors that contribute to these individual differences as personal resources which are predicted in this study to act as moderators. Personal resources are connected to resilience and assist individuals to deal with the demands of their environment successfully (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007) and influence psychological well-being by reducing the impact of demands (Prieto, Soria, Martínez, & Schaufeli, 2008). Linley and Joseph (2002) had also earlier suggested that the way in which an individual appraises a situation may be more important to psychological well-being than the actual presence of a stressor. Mäkikangas and Kinnunen (2003) concur with the former by suggesting that the perception of occupational circumstances as stressful depends to some extent on individual characteristics. Parkes (1994) contends that personal characteristics can moderate the relation between work context factors and negative outcomes through a good fit between

personal characteristics and work-environment characteristics that would result in favourable psychological consequences while a lack of fit would lead to negative consequences. Some evidence exists to show that personal resources play a meaningful role in the relationship between job resources and work engagement (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007).

Previous empirical studies have not specifically explored the possible moderating influence of personal resources in the relationship between work context and psychological outcomes – especially in a public work sector where person variables play such an important role. There is thus a lacuna in existing knowledge in this regard. Therefore, three personal resources, namely, emotional intelligence, self-efficacy and explanatory styles, will be explored in this study as possible moderators in the relationship between work context (job demands and job resources) and psychological outcomes (psychological well-being and work engagement) in a sample of government employees.

In this introductory section the focus of the study will be contextualized with reference to trends in previous research, overarching theoretical models, and main constructs / variables to be explored. The aim of this study will be explicated, and the structure of this thesis delineated.

### **Theoretical considerations linking work context and well-being**

Past efforts to understand the experiences of employees in various work contexts have used among others such models as the Job Characteristics Model (JCM) (Hackman & Oldman, 1980), Job Demand Control (JDC) (Karasek, 1979), and the Job Demand-Resources (JD-R) (Bakker, Demerouti, De Boer, & Schaufeli, 2003; Xanthopoulou et al., 2007). These models have attempted to explain factors associated with the relationship between job demands and burnout and job resources and engagement. The JD-R is used in this study based on its proposition that many different demands and resources may influence employee well-being (Xanthopoulou et al., 2007).

Bakker et al. (2003) proposed this model as a heuristic model of employee well-being to explain how motivation or involvement and health impairment may be produced

by working conditions. According to this model, *job demands* evoke an energy depletion process through characteristics of the job that evoke strain and exceed the employee's adaptive capability. Demerouti, Bakker, Nachreiner, and Schaufeli (2001) explain that high job demands (e.g., work overload, and emotional demands) may exhaust employee's mental and physical resources and may therefore lead to the depletion of energy (i.e., state of exhaustion) and to health problems. *Job resources* on the other hand induce a motivational process through reduction of job demands and the associated physiological and psychological costs. According to Boehm and Lyubomirsky (2008) a job with resources to support an employee is likely to enhance success because this makes the job more pleasant. Job resources are also functional in achieving work goals and they stimulate personal growth, learning, and development. The assumption made by this model is that irrespective of the work context, when certain job demands are high, and when job resources are low, negative occupational outcomes such as stress or burnout are possible. Although these specific negative outcomes are not tested in this study, it may be expected that when job demands are high and job resources are low, the level of psychological well-being and work engagement will be low.

Evidence exists to support that the JD-R model with dual processes predicts outcomes in the work context substantively for health and involvement of employees through energy depletion and motivation (Bakker, Demerouti, & Schaufeli, 2003). The association between job demands, exhaustion and burnout (Demerouti et al., 2001; Schaufeli & Bakker, 2004) and the association between job resources and work engagement (Schaufeli & Bakker, 2004), has also been empirically substantiated. In terms of the present study, job demands and job resources are conceptualised in line with the findings of Rothmann, Mostert, and Strydom (2006) as processes that occur within the same model albeit with different implications for psychological well-being and work engagement.

Some of the assumptions made in the foregoing JD-R model can be better understood in relation to the importance of resources for individuals working in different occupational contexts. The Conservation of Resources (COR) theory by Hobfoll (1989) states that the prime human motivation is to protect, maintain and accumulate resources that would help them cope with stress. Hobfoll (1989) categorises these resources as

follows: *objects* (e.g., shelter, transportation); *conditions* (e.g., full-time employment, marriage), *energies* (e.g., money, time, knowledge, insurance) and *personal characteristics* (e.g., mastering, self-esteem, self-efficacy). The latter resources are linked to personality traits and skills which assist people with managing stress and may be typical of the personal resources used in this study as possible moderators of the relationship between work context and psychological outcomes. Thus from an organisational perspective, the JD-R model, which is expanded to include personal resources as well as the conservation of resources model all work together to explain the importance of job demands and even more so job resources in establishing the psychological outcomes of employees in terms of psychological well-being and work engagement. Simply, the importance of resources suggests the possibility of interaction between work context and personal resources to predict psychological outcomes.

### **Work context and psychological outcomes**

Although the foregoing has attempted to theoretically and empirically demonstrate that work context can have both negative and positive consequences for employees (see Rothmann, 2003) only two positive outcomes, viz., psychological well-being and work engagement, receive attention in this study based on the study's psychofortological orientation. Various models have attempted to explain the relationship between workplace conditions and physical and mental health. The workplace domain can exert a profound influence on the way people view themselves and it also constitutes a crucial ingredient in the construction of their social identities (Stewart, Ward, & Purvis, 2004). Depending on the conditions and nature of work, the psychological outcomes of individuals can be enhanced, reduced, or remain unaffected by their work-related experiences. Nevertheless, the implications for psychological outcomes are important to consider especially as they have many implications for employees.

The Affective events theory (AET) proposed by Weiss and Cropanzano (1996) summarises how work contexts and their characteristics can influence individuals. Weiss and Cropanzano (1996) proposed that work context and its characteristics predispose the occurrence of certain work events that lead to specific emotions, which in turn shape

work attitudes and behaviours. Particularly, this proposition further suggests that affective reactions may have immediate influence on work actions and may influence work attitudes and cognitive-driven behaviours over time. However, it has been shown that differences exist in the particular cognitive and motivational strategies used by self-rated happy and unhappy people and that the strategies they use moderate the impact of the objective environment on well-being (Lyubomirsky, 2001). It is important to understand the dynamics of psychological outcomes in the workplace as this has implications for productivity of employees and future plans to support such productivity.

*Psychological well-being.* Different conceptualisations of psychological well-being are mentioned in the literature, e.g., eudaimonic and hedonic well-being (Ryan & Deci, 2001; Waterman, 1993). Keyes (1998) added social well-being to the category of eudaimonic well-being characteristics. The eudaimonic perspective focuses on meaning and self-realization and defines well-being in terms of optimal functioning whereas the hedonic perspective defines psychological well-being in terms of happiness, pleasure and pain avoidance. Social well-being is defined in terms of social coherence, social integration, social acceptance, social contribution, and social actualisation (Keyes, 1998). Psychological well-being in this study will be conceptualised and measured as a multidimensional, general psychological well-being factor that includes both eudaimonic and hedonic perspectives as identified by Wissing and Van Eeden (2002) comprising of positive affect, negative affect, and satisfaction with life. Overall, a person who is psychologically well can experience life as satisfying, hopeful, and meaningful, have meaningful relationships and also have the capacity to maintain a level of affective well-being in challenging times and accept support from others. Thus, facets such as satisfaction with life, and a preponderance of positive over negative affect are an important consideration (see also Cotton & Hart, 2003).

*Work engagement:* Work engagement is seen as a positive state in the workplace where individuals function optimally and are filled with energy, have vigour, are absorbed, dedicated and efficacious (Bakker & Schaufeli, 2008; Mauno, Kinnunen, & Ruokolainen, 2007). This implies that an employee who is engaged experiences lots of



energy, is involved in their work and feels a sense of efficacy. Rothmann and Storm (2003) and Maslach, Schaufeli, and Leiter (2001) found that engagement was predicted by active coping, the inverse of job demands, the inverse of avoidance, seeking emotional support, turning to religion and the inverse of lack of resources. The model of engagement as described by Maslach et al. (2001) consists of vigour, dedication and absorption. *Vigour* is described as having high energy levels, and being resilient, being willing to invest effort in one's job, being persistent and not easily fatigued or tired out. *Dedication* is described as being fully involved in one's work, together with feelings of significance, enthusiasm, pride and inspiration. *Absorption* is partly described as the ability to be fully immersed in one's work, in terms of time passing quickly without one realising it. On the other hand, absorption is also considered to be the inability to detach oneself from one's job. Although Rothmann and Storm (2003) found evidence for this 3-factor model of engagement with acceptable internal consistencies, Prieto et al. (2008) suggest that it is best to exclude absorption in analysis because it could be considered a result of engagement. Thus, in this study work engagement is conceptualised in terms of vigour and dedication only.

### **Personal resources associated with work**

*Emotional intelligence (EI)*: Salovey and Mayer (1990) who coined the term emotional intelligence describe it as a form of social intelligence that involves the individual's ability to monitor their own and others' feelings and emotions, to discriminate among them, and to use this information to guide their thinking and action. The relevance of this construct in the work context is supported by observations where individuals who scored high on emotional intelligence were better able to respond flexibly to changes in their social environments and build supportive social networks (Salovey, Bedell, Detweiler, & Mayer, 1999). The individual's access to their feelings, the labelling of those feelings and the expression of those feelings is part of the individual's intrapersonal capacity (cf. Brackett, Mayer, & Warner, 2004; Salovey & Mayer, 1990) that influences the individual's ability to cope effectively with environmental demands and pressures. Literature generally defines EI as either a trait or

an ability (Furnham & Petrides, 2003; Mikolajczak, Menil, & Luminet, 2007; Schutte, Malouff, Simunek, McKenley, & Hollander, 2002) where ability is measured using performance tests and trait EI is operationalised using self-reports. In this study, EI is defined in line with Schutte et al.'s (1998) conceptualisation based on their self-report 33-item scale that assesses the extent to which respondents characteristically identify, understand, harness, and regulate emotions in themselves and others.

From some of the literature, EI can be construed as a personal resource in as it increases employees' ability to navigate their work environment (Jordan, Ashkanasy, & Hartel, 2002; Xanthopoulou et al., 2007). Slaski and Cartwright (2003) note an earlier study of theirs where they found that individuals with high emotional intelligence scores experienced less stress, and had significantly better levels of health and well-being. However, other authors are of the opinion that the link between health behaviour, health status and EI has not been widely examined (Mikolajczak et al., 2007) nor its relationship to workplace psychological outcomes (Lopes, Grewal, Kadis, Gall, & Salovey, 2006). Thus, EI as personal resource receives attention in this study to test whether it moderates the relationship between work context and psychological outcomes.

*General self-efficacy (GSE):* Self-efficacy beliefs refer to individuals' convictions of their own capacity to handle difficult situations and to handle associated stumbling blocks and stress (Schwarzer & Jerusalem, 1995). Self-efficacy as conceptualized by Tipton and Worthington (1984) refers to the degree of generalized self-efficacy beliefs of an individual, i.e., a relatively enduring set of beliefs that one can cope effectively in a broad range of situations. The construct is based on Bandura's theory of self-efficacy which postulates that self-efficacy expectations determine what activities people engage in, how much effort they will expend and how long they will persevere in the face of adversity. Xanthopoulou et al. (2007) regard SE as a personal resource as it is seen to increase an individual's ability to exert control over their environment and impact it with greater success. SE is also shown to be a buffer for work stress and increases motivation (Heuven, Bakker, Schaufeli, & Huisman, 2006; Stetz, Stetz, & Bliese, 2006). There is also evidence to show that the relationship between job demands and coping is moderated by SE (Salanova, Grau, & Martinez, 2006). In a work context SE may be a moderating

factor between demands/resources on the one hand and psychological outcomes such as psychological well-being and engagement on the other hand. In this study the role of general self-efficacy (GSE) will be explored. It is noted in the literature that authors do not always indicate whether they are exploring general or task specific forms of self-efficacy, which may complicate the interpretation of findings. In this study however, SE is conceptualised as a general form of efficacy.

*Explanatory style (ES)*: Explanatory style is a cognitive personality variable and personal resource that can be used to assess how people explain or attribute positive or negative events which occur in their lives (Bunce & Peterson, 1997; Ferrie, Shipley, Newman, Stansfeld, & Marmot, 2005; Sanjuán, Pérez, Rueda, & Ruiz, 2008) and thus has wide application. A distinction is made in this study between optimism and pessimism. Optimism is seen as the tendency to explain positive events in terms of personal, permanent and global causes while negative events are explained in terms of external, temporary and situation-specific causes (Seligman, 1998). Pessimism is the opposite of optimism and it undermines the favourable impact of success and increases the likelihood that failures could be potentially destructive (see Youssef & Luthans, 2007). Chang and Sanna (2003) indicate that based on this conceptual definition of optimism and pessimism, it is not surprising that they have been found to moderate the relationship between stress and adjustment. However, high levels of optimism do not necessarily imply low levels of pessimism and vice versa. Proudfoot, Corr, Guest, and Dunn (2009) suggest that the consequences of the latter for the workplace could be absenteeism and turnover intention. In the case of employment and workplaces, it is possible that explanatory style is important. An employee with a more optimistic explanatory style is more likely to see negative events as externally caused, unstable and specific in character and is therefore more likely to have higher expectations of themselves and their jobs, be more willing to take the initiative, to take risks and to persist under adverse conditions. In terms of theory, an employee who explains negative events in an internal, stable and global way (a pessimistic style) will have lower expectations of themselves and their jobs and are thus more likely to become burnt out. The constructs 'attributional style' and 'explanatory style' will be used as synonyms for

purposes of this study. This study has demonstrated the importance of explanatory style in the public service context.

### **The South African public service context**

The work context of public servants in South Africa, who are the focus in this study, is underpinned by an ethos of a unified public service (cf. Department of Public Service and Administration [DPSA] Annual Report, 1999 – 2000), improved service delivery by public servants (cf. Public Service Management Framework), and improved access to Government services (cf. Batho Pele Campaign & Principles, DPSA website) based on a public service charter, aptly named Batho Pele (people first). Batho Pele is a customer-service oriented charter based on the following eight principles: consultation, service standards, access, courtesy, information, openness and transparency, redress, and value for money. It is a matter of common knowledge that prior to 1994, the South African service was fragmented and access to these services was based on race and ethnicity. A public service that is sensitive to the needs of citizens and has the capacity to meet these needs and apply effective policy implementation and service delivery is required. Although public sector employment seemingly provides greater security of tenure compared to the private sector, the activities surrounding transformation have influenced job security, and have also influenced a host of other factors including a variety of attitudes, behaviours, and concerns regarding continued employment (Albrecht & Travaglione, 2003). Job security in particular is a specific work characteristic that is associated with lower levels of work engagement (Leiter & Harvie, 1997; Rothbard, 2001) which is an important psychological outcome considered in this study.

### **Conclusion and possible contribution of study**

Previous research has shown that work contexts influence psychological outcomes (Demerouti et al., 2001; Fernet, Guay, & Senécal, 2004; Jackson, 2004), and that cognitive appraisal and especially personal resources, are important in the different outcomes for individuals in the workplace (cf. Cartwright & Cooper, 2004; Fitzgerald,

2002; Linley & Joseph, 2002). The role and dynamics of specific personal resources (emotional intelligence, self-efficacy and explanatory style) in the relationship between work context and psychological well-being are not yet known. Therefore the current study envisages contributing to this gap in knowledge and possibly point to directions for enhancement of service delivery in the public sector.

### **Aims of this study**

The aim of this study is to test the prediction of psychological outcomes by personal resources such as emotional intelligence, self-efficacy, and explanatory style and work context factors on the one hand, and whether these personal resources play a moderating role in the relationship between the work context of public servants and their psychological outcomes on the other hand. It is expected that personal resources and work context factors will significantly predict psychological outcomes. Secondly, it is expected that the interaction between personal resources and work context factors will differentially influence psychological outcomes.

### **Structure of thesis**

This thesis is presented in article format according to Regulation A.14.4.2 in line with rules A.13.7.3, A.13.7.4 and A.13.7.5 of the North-West University and comprises of three manuscripts presented consecutively together with guidelines for authors as applicable for the specific journal.

In section two the aim of the first study was to explore the role of emotional intelligence (EI), a personal resource, as a moderator between work context (job demands and job resources) and psychological outcomes (psychological well-being and work engagement). In section three the aim of the second study was to explore self-efficacy (SE), as a personal resource and moderator between work context (job demands and job resources) and psychological outcomes (psychological well-being and work engagement). Section four presents the third manuscript whose aim was to explore explanatory style (ES) as a personal resource and moderator in the relationship between work context (job

demands and job resources) and psychological outcomes (psychological well-being and work engagement).

In a final section (five) the main findings are summarised, implications indicated and some recommendations made for further research and practice.

**Section 2: Article 1**

**Emotional Intelligence, Work, and Psychological Outcomes in a Public Service  
Context**

**Accepted for publication in the**

**Journal of Psychology in Africa**

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The **Journal of Psychology in Africa** includes original articles, review articles, book reviews, commentaries, special issues, case analyses, reports, special announcements, etc. Contributions should attempt a synthesis of local and universal methodologies and applications. Specifically, manuscripts should:

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### Manuscript format

All pages must be numbered consecutively, including those containing the references, tables and figures. The typescript of manuscripts should be arranged as follows: **Title:** This should be brief, sufficiently informative for retrieval by automatic searching techniques and should contain important key-words (preferably <10 words).

**Author(s) and Address(es) of author(s):** The corresponding author must be indicated. The author's respective addresses where the work was done must be indicated. An e-mail



address, telephone number and fax number for the corresponding author must be provided.

**Abstract:** Articles and abstracts must be in English. Submission of abstracts translated to French, Portuguese and/or Spanish is encouraged. For data-based contributions, the abstract should be structured as follows: *Objective*—the primary purpose of the paper, *Method* – data source, subjects, design, measurements, data analysis, *Results* – key findings, and *Conclusions* – implications, future directions. For all other contributions (except editorials, letters and book reviews) the abstract must be a concise statement of the content of the paper. Abstracts must not exceed 120 words. It should summarize the information presented in the paper but should not include references.

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Sternberg, R. J. (2001, June). *Cultural approaches to intellectual and social competencies*. Paper presented at the Annual Convention of the American Psychological Society, Toronto, Canada.

Cook, D. A., & Wiley, C. Y. (2000). Psychotherapy with members of the African American churches and spiritual traditions. In P. S. Richards & A. E. Bergin (Ed.), *Handbook of psychotherapy and religiosity diversity* (pp. 369-396). Washington DC: American Psychological Association.

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## 2.2 Manuscript

### Emotional Intelligence, Work, and Psychological Outcomes in a Public Service Context

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### Abstract

This study examines the role of emotional intelligence in the relationship between work context (conceptualised as job demands and job resources) and psychological outcomes (conceptualised as engagement and psychological well-being) in a sample of public sector employees ( $N=459$ ). The Job Demands-Resources Scale (Rothmann et al., 2006), the Utrecht Work Engagement Scale (Schaufeli et al., 2002), the Satisfaction with Life Scale (Diener et al., 1985), the Affectometer 2 (Kammann & Flett, 1983), and the Emotional Intelligence Scale (Schutte et al., 1998) were implemented in a cross-sectional design. Regression analyses showed that emotional intelligence had main effects on psychological outcomes. Emotional intelligence also moderated the effects of work context factors on psychological outcomes. Emotional intelligence is a valuable personal resource to cultivate for facilitation of psychological well-being in the workplace.

**Keywords:** Emotional intelligence; job demands; job resources; work engagement; psychological well-being; public service context.

(Number of words in abstract = 128)

## Introduction

This article examines the possible effects of emotional intelligence (EI) and work context factors on psychological outcomes. Many authors agree that work context and its characteristics predispose the occurrence of certain work events that lead to specific emotions (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Heuven, Bakker, Schaufeli, & Huisman, 2006; Weiss & Cropanzano, 1996) which could lead to work engagement or burnout (Heuven et al., 2006) as psychological outcomes. Available evidence shows that psychological outcomes in the workplace can also be influenced by individual difference variables such as EI (Jordan, Ashkanasy, & Hartel, 2002) which may explain the differential influences of work context factors (Kammeyer-Mueller, Judge & Scott, 2009) on psychological outcomes. Research specifically on EI and workplace psychological outcomes is still scant (Austin, Saklofske, & Egan, 2005; Lopes, Grewal, Kadis, Gall, & Salovey, 2006) especially in research with EI as a moderator in the stressor-strain relationship (Day, Therrien, & Carroll, 2005; Kammeyer-Mueller et al., 2009). The consideration of EI as a moderator is particularly important as it is thought to help individuals to control their environment (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007) and thus contribute to their psychological well-being (Prieto, Soria, Martinez, & Schaufeli, 2008). The present study aims to test main effects for work context factors and EI on psychological outcomes and the interactive effects of work context factors and EI on psychological outcomes.

*Emotional intelligence in the work context:* There is as yet no single definition of EI. Some authors agree though that EI is distinguishable as trait or ability (Furnham & Pertrides, 2003; Mikolajczak, Menil, & Luminet, 2007; Schutte, Malouff, Simunek, McKenley, & Hollander, 2002). According to Salovey and Mayer (1990), EI consists of (i) the abilities to perceive one's own and others' emotions and to accurately express one's own emotions, (ii) facilitate thought and problem-solving through use of emotions, (iii) understand the causes of emotion and relationships between emotional experiences, and (iv) manage one's own and others' emotions. Salovey (2001) argued that individuals who are high in EI and capable of regulating and expressing their emotions should be

psychologically and physically healthier than individuals with low emotional intelligence. It has been shown that individuals varying in levels of trait EI use different emotional labour strategies with different outcomes for burnout and somatic complaints (Mikolajczak et al., 2007). Jordan et al. (2002) explain that EI incorporates a broad range of abilities and helps individuals manage their own emotion in the workplace.

Oginska-Bulik (2005) found that employees reporting a high EI perceived a lower level of occupational stress and suffered less from negative health consequences. Previously it was shown that people with high levels of EI experienced more career success, built stronger personal relationships, led more effectively, and enjoyed better health than those with low EI (Cooper, 1997). Individuals with high EI have been shown to be more likely to adopt reflection and appraisal, social, organisational and time management skills whereas those low in EI were more likely to be engaged in health-damaging behaviours (Pau, Croucher, Sohanpal, Muirhead, & Seymour, 2004) and they are likely to be more psychologically and physically healthier than individuals with low emotional intelligence (Salovey, 2001; Schutte et al., 2002).

Austin et al. (2005) argue that given the intrapersonal EI subcomponents related to emotion management, it seems reasonable to assume that high EI would be associated with better stress management and low levels of psychological distress. Bardzil and Slaski (2003) go as far as to suggest that EI captures many of the key competencies involved in creating and maintaining an appropriate climate for service in organizations, and may serve to reduce some of the emotional problems inherent in high levels of interpersonal interactions. Although the literature does not clearly indicate a clear moderation of EI between work context and psychological outcomes, Ciarrochi, Deane, and Anderson (2002) point out that some evidence exists to suggest that EI may buffer people from stress and lead to better adaptation. Typically a moderator such as EI changes the strength of the relationship between a predictor and a criterion variable (Frazier, Tix, & Barron, 2004). Conceivably, at different levels of EI the relationship between a predictor variable such as work context factors and a criterion variable such as psychological outcomes could be strongly or weakly related. This would show that the effect of work context factors on psychological outcomes differs across the levels of EI

thereby suggesting a significant interaction (Dawson & Richter, 2006). It is important to understand the antecedents of psychological outcomes and the specific role of EI.

*Psychological outcomes.* Psychological outcomes in the workplace have generally been classified in terms of pleasant/unpleasant emotions and arousal (Mäkikangas, Feldt, & Kinnunen, 2007). For the purposes of this study psychological outcomes are conceptualised and operationalised in terms of levels of psychological well-being and the degree of work engagement. The former is described in terms of satisfaction with life (Diener, Emmons, Larsen, & Griffin, 1985) and positive and negative affect based on the Affectometer scale by Kammann and Flett (1983). According to Cotton and Hart (2003), the structure of the well-being of employees includes both emotional and cognitive components. The emotional component is made up of positive and negative affect, whereas the cognitive component is made up of the employee's judgement about their levels of satisfaction with their work (Mäkikangas et al., 2007). Affect is a critical aspect of well-being in the work context (Van Horn, Taris, Schaufeli, & Schreurs, 2004) and it is possible that negative outcomes of work can also be caused by low levels of positive work experiences and low positive emotional states (Cotton & Hart, 2003).

Work engagement as the second psychological outcome is conceptualised as vigour, dedication and absorption in line with the Utrecht Work Engagement Scale (UWES) as developed by Schaufeli, Salanova, Gonzalez-Romá, and Bakker (2002). A few studies have used the two-factor model of work engagement as in this study (Gonzalez-Roma, Schaufeli, Bakker, & Lloret, 2006) where others could not replicate the three-factor structure (Shimazu et al., 2008). The two-factor structure will be used in this study. Work engagement is considered to be a multidimensional construct which has to do with a positive, fulfilling, work-related state of mind (Salanova & Schaufeli, 2008; Schaufeli et al., 2002). Vigour has to do with high energy levels, the willingness to invest effort in one's work, persistence in the face of difficulties and mental resilience while working. Dedication on the other hand, refers to involvement in one's work with enthusiasm, inspiration, pride and challenge. Rothmann and Storm (2003) and Maslach, Schaufeli, and Leiter (2001) for example, found that engagement was predicted by active coping, the inverse of job demands, the inverse of avoidance, seeking emotional support,

turning to religion and the inverse of lack of resources. Bakker and Demerouti (2007) indicate that because of their positive attitude and activity level, engaged employees create their own positive feedback in terms of appreciation, recognition, and success. Engagement is characterised by a high level of energy and strong identification with the work of the person concerned (Schaufeli & Bakker, 2001).

To support the validity of these constructs, facets of psychological well-being and dimensions of work engagement will be expected to correlate positively with measures of optimal functioning and negatively with measures of symptoms of distress. The theoretical model used in this study, namely, the Job Demands-Resources model will help contextualise this hypothesis as it heuristically explains the influence of work characteristics on psychological outcomes.

*The Job Demands-Resources (JD-R) model.* This model proposed by Demerouti et al. (2001) explains that work context factors such as high job demands (e.g., work overload, and emotional demands) may exhaust an employee's mental and physical resources and may therefore lead to the depletion of energy (i.e., state of exhaustion) and to health problems (e.g., burnout). Job resources on the other hand induce a motivational process through reduction of job demands and the associated physiological and psychological costs. Job resources are also functional in achieving work goals and they stimulate personal growth, learning, and development and may lead to engagement. Recently, this model has included personal resources such as emotional intelligence and others that conceptually include cognitive appraisal (Prieto et al., 2008). These personal resources could influence the role of work context factors like job demands and job resources on psychological outcomes (Xanthopoulou et al., 2007).

*Goals of the Study.* No research could be found on the role of EI between work context factors and psychological outcomes in a public service context in South Africa. The context of the present study will be the South African Public Service, which has been challenged to deliver quality service to all citizens of the country. Hitherto, the Department of Public Service and Administration has had to unify a fragmented and unstructured public service, through processes of transformation, restructuring and in some cases redeployment (PSCBC Resolution 7 of 2002). The literature also shows that EI may play a role in the psychological outcomes of an employee's experience of the



workplace (Bardzil & Slaski, 2003; Dulewicz & Higgs, 1998; Schutte et al., 2002) albeit with little or no literature indicating its specific role in such relationships. Employees also use different strategies to respond to these outcomes, such as active coping or experience depersonalisation, among others (Maslach et al., 2001; Rothmann & Storm, 2003; Schaufeli & Bakker, 2001). It has also been indicated that job demands and job resources influence different outcomes for employees in terms of burnout and work engagement (Schaufeli & Greenglass, 2001) but that personal resources such as EI may play a role in the relationship between these work context factors and psychological outcomes. It is thus hypothesised that:

- (i) Work context factors and EI will significantly predict psychological outcomes.
- (ii) The interaction between EI and work context factors will significantly predict psychological outcomes.

## **Method**

*Design and participants.* A cross-sectional survey research design was implemented. A convenience sample of 459 participants responded to the survey out of a targeted possible 1500 participants. Szelényi, Bryant, and Lindholm (2005) suggest that a response rate of 32% is acceptable in self-report surveys such as the present one. The sample response rate in this study could have been influenced by the length of the test battery sent to participants as it consisted of an excess of 250 items inclusive of all scales that formed part of a larger study. The participants were all North West Provincial Government employees with at least the qualifications of Matric (Standard 10 / Grade 12). The sample comprised of more females (59.5%) as compared to males (32.9%). More than half of the participants (56.7%) came from the age categories 25 through 44, whereas 5.9% were in the age group 18 to 24, 31.8% were in the age categories 45 through 55 and above. In terms of education, 35.9% of the participants had matriculation, 36.2% had some tertiary education in the form of a Bachelor's degree or diploma and 12.9% had a postgraduate degree. The majority of participants listed their category of employment as management (ranging from assistant director through deputy director to director and above: 50.7%)

whereas 42.9% of the employees could be considered operational. Few of the participants had been affected by restructuring in government (29.4%) as compared to 65.1% who had not been affected by restructuring. Only 21.6% have considered leaving government employment to seek employment elsewhere, as opposed to 72.5% who have not considered this question. Percentages may not add to 100% owing to missing data in some categories.

*Instruments.* A demographic questionnaire was compiled by the first author to capture demographic information such as age, gender, marital status, present job category, type of job performed and turnover intention.

The *Emotional Intelligence Scale* (EIS) (Schutte et al., 1998) was developed as a self-report measure of EI and appraises the following aspects: Optimism / mood regulation, appraisal of emotions, social skills and utilisation of emotions in self and others, and utilisation of emotions in solving problems. It consists of 33 items with response categories ranging from strongly agree to strongly disagree and rated on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Schutte et al. (1998) obtained an internal consistency coefficient of 0.90 for the scale. The Flesch-Kincaid analysis of the scale by Schutte, Malouff, Hall, Haggerty, Cooper, Golden, and Dornheim (1998) reveals that the scale has a typical reading level of 5<sup>th</sup> graders. Saklofske, Austin, and Minski (2003) report Cronbach alpha value of 0.89 on this scale in a sample of Canadian undergraduate university students. In a further study, Austin, Saklofske, Huang, and McKenny (2004) report that this scale provides a reliable and valid trait EI measure. An exploratory factor analysis in the present study yielded one factor explaining 29.76% of the variance after excluding items, 5, 28, 29 and 33 (characterized as non-verbal items). See Table 1 for the internal reliability index for this study.

*The Job Demands-Resources Scale* (JD-RS) (Rothmann, Mostert, & Strydom, 2006) consists of 48 items and was developed to assess job demands and job resources based on the following dimensions: pace and amount of work, mental load, emotional load, variety in work, opportunities to learn, independence in work, relationships with colleagues,

relationship with supervisor, ambiguities about work, information, participation, contact possibilities, remuneration and career possibilities. All the items were rated on a scale varying from 1 (*never*) to 4 (*always*). In a psychometric study of the JD-RS, Rothmann et al. (2006) found that this scale is valid and reliable for use in different organisations in South Africa. Rothmann et al. (2006) report the following reliabilities for the factors of the JD-RS: Growth Opportunities, ( $\alpha = 0.86$ ), Organisational Support ( $\alpha=0.92$ ), Advancement ( $\alpha = 0.83$ ), Overload ( $\alpha = 0.76$ ) and Job Insecurity ( $\alpha = 0.89$ ) in a stratified sample of 2717 employees from different sectors of employment. Similar to the study by Rothmann et al. (2006) job resources in this study is made up of Growth Opportunities, Organisational Support, and Advancement, whereas job demands is made up of Overload and Job Insecurity. Internal reliabilities for the present study are reported in Table 1.

The *Satisfaction with Life Scale* (SWLS) (Diener et al., 1985) is a 5-item scale that was developed to give an indication of a person's general satisfaction with life. A person's evaluation of his quality of life, according to his own criteria, is measured on a cognitive-judgmental level. The items were rated on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Diener et al. (1985) report a two month test-retest reliability index of 0.82, and a Cronbach alpha-reliability index of 0.87 in a sample of 176 undergraduate students. Pavot and Diener (1993, 2008) also attest to the good psychometric characteristics of this scale. Wissing, Wissing, du Toit, and Temane (2008) also found the SWLS reliable and valid for use in purposively selected samples of black and white participants

The *Affectometer-2 Short-form* (AFM) (Kammann & Flett, 1983) was developed to measure a general sense of well-being or general happiness. Psychological well-being is measured on an affective level by determining the balance between Positive and Negative Affect (Kammann & Flett, 1983). Two equivalent parts of the AFM exist: the 20-sentence item scale and the 20-adjective item scale. The 20-sentence item scale was used in the present research. Sub-scales measure Positive Affect (10 items) and Negative Affect (10 items). The more Positive Affect predominates over Negative Affect, the higher the overall level of well-being (Kammann & Flett, 1983). The items were rated on

a 5-point scale ranging from 1 (*not at all*) to 5 (*all the time*). These authors report Cronbach alpha-reliability indices of 0.88 to 0.93. In a sample of black and white South African adults, Wissing et al. (2008) also found evidence of the reliability of this scale.

The *Utrecht Work Engagement Scale* (UWES) (Schaufeli et al., 2002). The scale was used in this study to measure Work Engagement. The UWES comprises of 17 items and measures three dimensions, namely Vigour, Dedication, and Absorption. Items are rated on the basis of the frequency of occurrence, varying from 0 (*never*) to 6 (*everyday*). Naudé (2003) and Rothmann and Storm (2003) used confirmatory analysis to demonstrate the factorial validity of the UWES. Jackson (2004) reports the following internal reliabilities of the subscales: Vigour (0.71), Dedication (0.81), and Absorption (0.57) in a stratified sample of 1170 educators in the North West Province of South Africa. The Cronbach alpha for the two dimensions of work engagement used in this study, are also reported in Table 1.

*Procedure.* Firstly, the Director General of the North West Provincial Government (NWPG) was approached to solicit permission to conduct the study among NWPG employees. After permission had been granted to conduct the study, the first author approached Employee Assistance Programme (EAP) coordinators through the Provincial EAP forum. EAP Coordinators were trained in the administration of the questionnaires and the ethical implications of data collection, and they also oversaw the completion of the questionnaires by participants in the study. Questionnaires were dispatched by the EAP coordinators to a convenience sample of 1500 NWPG employees with at least a matriculation certificate in the respective departments. The participants gave informed consent to indicate their willingness to participate in the study by signing a return slip. The coordinators were asked monthly by the first author to remind respondents to submit completed questionnaires. All ethical guidelines in the treatment of human subjects in research were observed in all the steps of the study. Ethical approval was obtained from the Ethics Committee of the North-West University, Potchefstroom Campus (05K10). Following the data collection phase, data were cleansed and analysed.

*Statistical analysis.* The SPSS statistical package was used to conduct all the basic analyses (SPSS Inc., 2006). The descriptive statistics of all measures employed in the study were calculated, and consequently their means, standard deviations, and Cronbach alphas are reported. As the role of EI between work context factors and psychological outcomes was central to the study, the criterion validity of EI was tested and intercorrelations among measures of optimal psychological functioning are reported. The significance of the correlations is reported in terms of the practical significance of the correlation (Field, 2005).

Both main effects and interaction effects were tested in this study. Multiple regression analyses were calculated to test the main effects of work context variables (job demands and job resources) on psychological outcomes (psychological well-being and Work Engagement). The coefficient of determination ( $R^2$ ) is primarily reported as an indication of the amount of variance explained by the predictor variables in the criterion variables. The significant contribution made by the various dimensions is highlighted by referring to associated student t-values, their significance levels and standardised regression coefficients.

Secondly, hierarchical regression analyses were used to test whether EI moderated between work context variables and psychological outcomes. Dawson and Richter, (2006) and Preacher, Curran, and Bauer (2006) indicate that moderation is important in explaining and testing the interactive effects of two or more variables in predicting a dependent variable while controlling for associated main effects. In preparation for testing the main effects, all independent variables (viz., dimensions of job demands and job resources and EI) were centred so as to obviate any multicollinearity (Brambor, Clark, & Golder, 2006). This is achieved by computing the deviations of the scores of the independent variables from their means. Subsequently, hierarchical regression analyses were computed. In the first step all predictor variables in their interval form (i.e., all dimensions of job demands and job resources on the one hand and emotional intelligence on the other hand), followed by their interactions in the second step were entered into the regression equation.

A significant interaction term indicates that the effect of work context on either psychological well-being or Work Engagement differs across the levels of Emotional

Intelligence. Heuven et al. (2006) report the significance of standardised regression coefficients as evidence of moderation with the significance of the change in the coefficient of  $R^2$  determination ( $\Delta R^2$ ). Significant interactions will be graphically represented. Mitchell and Jolley (2007) indicate that in the case of the latter, if two lines are not parallel, an interaction could be present.

## Results

*Descriptive Statistics.* Descriptive statistics for all measures used in the study are reported in Table 1. The Cronbach alphas indicate that the internal consistency of the scales used in the study were above the recommended level of 0.70 by Clark and Watson (1995) except for one of the subscales of the UWES, namely Vigour. Table 1 shows however that on average, scores especially for Work Engagement (Vigour and Dedication), job demands (Overload and Insecurity), job resources (Organisational Support, Growth Opportunities and Advancement) are comparable to national norms (Rothmann & Jordaan, 2006).

(Insert Table 1 here)

Inspection of Table 2 indicates that Emotional Intelligence is practically significantly positively related to Satisfaction with Life (medium effect), Positive Affect (large effect), Vigour, and Dedication (both medium effects). Satisfaction with Life is practically significantly positively related to Positive Affect (medium effect). Positive Affect is practically significantly related to Negative Affect (negatively), Vigour and Dedication (positively) with all of them yielding medium effects. Vigour is practically significantly positively related to Dedication (large effect), Organisational Support and Growth Opportunities (last two both medium effects). Dedication is practically significantly positively related to Organisation Support (medium effect) and Growth Opportunities (large effect). Organisational Support is significantly positively related to Growth Opportunities (large effect) and Advancement (medium effect). The relationship between EI and job demands was not significant (see Table 2).

(Insert Table 2 here)

*Influence of work context on well-being.* Multiple regression analyses were conducted to test the degree of influence of work context factors on psychological well-being and Work Engagement as criterion or dependent variables.

*Satisfaction with Life, EI, Job Demands and Job Resources.* Job demands, job resources and Emotional Intelligence significantly predicted Satisfaction with Life,  $F(6,452) = 18.27, p < 0.01, R^2 = 0.20$ . Three variables made a statistically significant contribution to the regression model: Overload,  $\beta = -0.09, t = -2.02, p < 0.05$ , Job Insecurity,  $\beta = -0.15, t = -3.31, p < 0.01$ , and Emotional Intelligence,  $\beta = 0.42, t = 9.29, p < 0.01$ .

*Affect, EI, Job Demands and Job Resources.* Job demands, job resources and Emotional Intelligence significantly predicted Positive Affect,  $F(6,452) = 45.84, p < 0.01, R^2 = 0.38$ . Four variables made a statistically significant contribution to the regression model: Overload,  $\beta = -0.14, t = -3.60, p < 0.01$ , Job Insecurity,  $\beta = -0.08, t = -2.11, p < 0.01$ , Growth Opportunities,  $\beta = 0.09, t = 1.98, p < 0.05$ , and Emotional Intelligence,  $\beta = 0.58, t = 14.63, p < 0.01$ .

Job demands, job resources and Emotional Intelligence significantly predicted Negative Affect,  $F(6,452) = 11.95, p < 0.01, R^2 = 0.14$ . Five variables made a statistically significant contribution to the regression model: Overload,  $\beta = 0.13, t = 2.79, p < 0.01$ , Job Insecurity,  $\beta = 0.21, t = 4.50, p < 0.01$ , Growth Opportunities,  $\beta = -0.12, t = -2.06, p < 0.01$ , Advancement,  $\beta = 0.16, t = 4.01, p < 0.01$ , and Emotional Intelligence,  $\beta = -0.20, t = -4.30, p < 0.01$ .

*Work Engagement, EI, Job Demands and Job Resources.* Job demands, job resources and Emotional Intelligence significantly predicted Vigour,  $F(6,452) = 32.96, p < 0.01, R^2 = 0.30$ . Three variables made a statistically significant contribution to the regression model: Job Insecurity,  $\beta = 0.17, t = 3.99, p < 0.01$ , Growth Opportunities,  $\beta = 0.35, t = 6.92, p < 0.01$ , and Emotional Intelligence,  $\beta = 0.23, t = 5.45, p < 0.01$ .

Job resources and Emotional Intelligence significantly predicted Dedication,  $F(6,452) = 41.14, p < 0.01, R^2 = 0.35$ . Three variables made a statistically significant contribution to the regression model: Overload,  $\beta = -0.16, t = -3.93, p < 0.01$ , Job Insecurity,  $\beta = 0.12, t = 3.04, p < 0.01$ , and Emotional Intelligence,  $\beta = 0.27, t = 6.64, p < 0.01$ .

The results of the main effects indicate support for the hypothesis that work context and EI will significantly predict psychological outcomes.

*Moderation effects of EI.* The moderation of EI between job resources and job demands as (measured by the JD-R) and both psychological well-being (as defined by Positive Affect, Negative Affect and Satisfaction with Life) and Work Engagement (Vigour and Dedication) was tested with hierarchical regression procedures. In an attempt to test the possibility of any interaction effects, the centred predictors and moderators were entered first into the regression equation followed by their interactions in the second step to predict facets of psychological well-being and Work Engagement. The results of the hierarchical regressions are reported in tables 3 and 4.

Table 3 shows that the interaction terms among Growth Opportunities, Advancement, and Overload with EI as predictors of Negative Affect yielded a significant finding ( $F = 5.43, \Delta R^2 = 0.04, p < 0.05$ ). Although small, the significant interaction effects were plotted as indicated by Figures 1, 2 and 3.

(Insert Table 3 here)

(Insert Figure 1 here)

(Insert Figure 2 here)

(Insert Figure 3 here)

Figure 1 shows that at a low level of EI (compared with a high level), the relationship between low Growth Opportunities and Negative Affect was somewhat stronger. Figure 2 shows that at a low level of EI (compared with a high level), high Advancement was more strongly related to Negative Affect. Last, Figure 3 shows that at a low level of EI



(compared with a high level), high Overload showed a stronger association with low Satisfaction with Life.

Figure 4 shows that at a low level of EI (compared to a high level) Growth Opportunities was less strongly related to Dedication. Figure 5 shows that at a low level of EI (compared to a high level), Advancement was more negatively related to Dedication.

(Insert Table 4 here)

(Insert Figure 4 here)

(Insert Figure 5 here)

Figure 4 shows that at both levels of EI low Growth Opportunities were related to lower levels of dedication as opposed to higher levels of Growth Opportunities that were related to higher levels of Dedication. Figure 5 shows that at low levels of EI, low Advancement was related to low levels of Dedication.

The results show partial support for the hypothesis that the interaction between EI and work context factors will significantly predict psychological outcomes. The interactions were only significant for Negative Affect, Satisfaction with Life and Dedication.

## **Discussion**

The aim of the study was to test whether EI moderates between work context factors (job demands and job resources) and psychological outcomes (psychological well-being and work engagement). Overall, the results of the study showed significant main effects for job demands and job resources (as work context factors) and EI as predictors on psychological outcomes, and secondly that EI moderates the relationship between work context and psychological outcomes. In terms of the latter, the discussion will show that various combinations of interactions between work context factors and EI had different consequences for psychological outcomes.