

Self-efficacy, Work, and Psychological Outcomes in a Public Service Context

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The study examined the prediction of psychological outcomes (conceptualized as psychological well-being and engagement) by general self-efficacy (GSE) and work context (conceptualized as job demands and job resources). The role of GSE as a moderator between work context and psychological outcomes was also examined in a cross-sectional survey of a sample of public sector employees ($N = 459$: males = 151, females = 273, and age ranging between 25 and 55). Multiple regression analyses showed that job demands and resources and GSE significantly predict both psychological well-being (positive affect, negative affect and satisfaction with life) and engagement (vigour and dedication). GSE moderated the relationship between work context and psychological outcomes. Work contexts characterised by a preponderance of job resources appear to facilitate both satisfaction with life and dedication.

Keywords: self-efficacy, job demands, job resources, engagement, psychological well-being, public service context

The goal of this study was to examine the possible role of general self-efficacy (GSE), as a personal resource, in the relationship between work context (conceptualised as job demands and job resources) and psychological outcomes (conceptualised as psychological well-being and work engagement). Some studies (Schwarzer & Hallum, 2008; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007) used the conceptualisation of general self-efficacy as a broad and stable sense of personal competence and refer to it generically as self-efficacy (SE) and this approach is also used in this study. Stetz, Stetz, and Bliese (2006) were of the view that SE was a personal moderator. They also suggested that much less attention has been devoted to the effects of such moderators on the stressor-strain relationship as typical of many work contexts. SE refers to an individual's capability to handle new and difficult tasks in a variety of different domains (Bandura, 1997; Schwarzer & Jerusalem, 1993). Siu, Lu, and Spector (2007) surmised that SE is capable of influencing the relationship between antecedents and outcomes and should be given more attention as it can affect an individual's ability to exercise control over a situation.

Previous research has shown that when self-perceptions such as SE are positive, the experience of negative work conditions is less detrimental (Perrewé et al., 2002) especially in prototypically individualist work contexts (Nauta, Liu, & Li, 2008). Few studies have considered the role of SE in the occupational stress process (Grau, Salanova, & Peiró, 2001) especially in a typically non-western and non-individualist context. Although it has been indicated that SE may buffer against stress

regardless of cultural context (Nauta et al., 2008), its role in the relationship between work context and psychological outcomes has not been explored such as in the present study. This study examined main effects of SE and work context on psychological outcomes and the possible interactive effects between SE and work context in predicting psychological outcomes.

Role of SE in Occupational Stress

Successful coping with the demands of the workplace on employees seems to depend on the relationship between coping methods, the nature of the stressor, and beliefs about one's capabilities to meet situational demands and successfully carry out a given course of action (Karademas; 2007; Perrewé et al. 2002; Stetz et al., 2006). Personal beliefs of the individual's capacity to respond to stressful situations seem particularly important for explaining the individual's experience of that stressful situation. To explain the effects of low SE on problem centred coping, Schwarzer, Boehmer, Luszczynska, Mohamed, and Knoll (2005) argued that SE contributes to the judgment concerning the extent to which the individual could control the outcome of a situation which in turn influences the coping strategies adopted as a response to the situation.

Perceptions of Threat and the Role of Self-regulation

Jerusalem and Schwarzer (1992) proposed that individuals with low general SE were prone to self-doubts, threat appraisals, and perceptions of coping deficiencies when confronted with high work demands. According to Siu et al. (2007) those

high in SE are more likely to believe that they can maintain high levels of job performance despite the presence of challenging job-related stressors. Perrewé et al. (2002) cited evidence to show that SE plays a role in improving employees' response to change, accepting negative feedback and persisting longer on tasks even in the face of adversity. This study explored the role of SE in the relationship between work context and psychological outcomes.

Self-regulation is a mechanism through which SE may help individuals to cope with stressful situations (Bandura, 2005). For example, high SE is related to the regulation of the stress process, to higher self-esteem, better well-being, better physical condition, optimal adaptation to and recovery from acute and chronic diseases (Bisschop, Knegsman, Beekman, & Deeg, 2004) whereas low SE is related to symptoms of anxiety and depression (Karademas, 2007). SE as a self-referent process allows people to function as self-regulating agents who actively negotiate with the social world and thus exert extended control over personal experiences (Luszczynska, Gutiérrez-Dona, & Schwarzer, 2005). Efficacy expectations may also influence the amount of effort people will expend on and how long they will persist in the face of obstacles and failure (Smith, Kass, Rotunda, & Schneider, 2006). It can be surmised that SE may work as an incentive to undertake various tasks or to persevere when difficulties or failure become probable. The focus of this study is on Generalized Self-efficacy (GSE) in the context of individuals' beliefs in their ability to be successful in a wide variety of situations (Xanthopoulou et al., 2007). Particularly, we examine the influence of work context factors (as presented in the Job Demands-Resources model) on psychological outcomes, especially through SE, is important.

Job Characteristics and Psychological Outcomes

The Job Demands-Resources model (JD-R: Demerouti, Bakker, Nachreiner, & Schaufeli, 2001) classify job characteristics as comprising of job demands and job resources. Job characteristics, may lead to burnout or work engagement (Bakker, Demerouti, De Boer, & Schaufeli, 2003; Bakker & Demerouti, 2007; Demerouti et al., 2001). In this study, we focus on the positive attributes of human functioning as conceptualised in Psychofortology (the study of human strengths: Wissing & van Eeden, 2002), namely work engagement.

According to the JD-R, SE as a personal resource plays a moderating or mediating role between work context and psychological outcomes (Xanthopoulou et al., 2007). Prieto, Soria, Martinez, and Schaufeli (2008) regarded personal resources as part of the self that are linked to resilience or the ability to control and be successful in the individual's environment. Based on this conceptualization of personal resources, it is possible to hypothesise that SE may alter the relationship between work context factors and psychological outcomes as it is suggested in the literature that SE helps individuals to cope in various situations. Thus, the interaction between work context factors and SE may differentially influence psychological outcomes.

Psychological outcomes of employees include the continuum of burnout to work engagement (Maslach, Schaufeli, & Leiter, 2001) and psychological well-being (Maslach, Schaufeli, & Leiter, 2001; Weiss & Cropanzano, 1996). These in turn are influenced by cognitive attitudes, and personality traits salient to job characteristics (Youssef & Luthans, 2007). Two psychological outcomes (psychological well-being and work engagement) were evaluated in this study using a model not previously applied in a study on the South African public service.

Psychological well-being comprises of both cognitive and affective elements (Myers, Luecht, & Sweeney, 2004; Wissing & Van Eeden, 2002). Psychological well-being can be measured in terms of both positive and negative affect (Kammann & Flett, 1983) and satisfaction with life (Diener, Emmons, Larsen, & Griffin, 1985). Although psychological well-being would be influenced by job characteristics, we hypothesized that personal resources (SE in this study) would influence this relationship. Evidence exists to suggest that self-rated happy and unhappy people differ systematically in the particular cognitive and motivational strategies they use and that these strategies moderate the impact of the objective environment on well-being (Lyubomirsky, 2001).

Work engagement refers to vigour, dedication and absorption in various work activities (Schaufeli, Martinez, Pinto, Salanova, & Bakker, 2002). It has a positive, fulfilling, quality on the individual (Prieto et al., 2008). Work engagement arises from an employee's involvement with their tasks, being alert and emotionally connected to others in their work situation (Olivier & Rothmann, 2007).

Goals of the Study

A high level of SE appears to act as a protective buffer in adverse conditions such as in the work context and may potentially lead to various psychological outcomes for employees including well-being and work engagement. Secondly, it has also been shown that work context has an influence on psychological outcomes but that these outcomes depend on how the individual interprets the demands placed on them by these work contexts. Thirdly, the literature suggests that based on the type of occupational stress experienced, SE may moderate the relationship between aspects of work context and some psychological outcomes. Therefore consistent with theorising in Social Cognitive Theory (e.g., Bandura 1997; Bandura, 2008), it is expected that people with high levels of SE will be more confident of their abilities to respond to job demands and job resources as their level of SE will influence the way they perceive and process environmental demands and threats. Based on the foregoing the goal of the study would be to test the hypotheses that:

- i) work context factors and SE will significantly influence psychological outcomes.
- ii) the interaction between work context factors and SE differentially influence psychological outcomes.

Method

Design and Participants

This research utilized a cross-sectional survey design. A convenience sample of 459 participants was drawn from North West Provincial Government Employees with the qualifications of Matric (Standard 10/Grade 12) and above. Females comprised 59.5% of the sample while men made up 32.9%. With respect to age 56.7% of the sample participants fell into the categories 25-44, while 5.9% fell into the 18-24 age group, while ages 45-55 made up 31.8% of the sample. In terms of education, 35.9% of the sample had Matric, while 36.2% had a diploma or a Bachelor's degree or diploma and 12.9% had a post-graduate degree. Operational employees comprised 42.9% of the sample while 50.7% listed management (Assistant Director through to Director Level) as their employment category. Owing to missing data in some of the categories, the percentages may not add to 100%.

Instruments

Demographic information such as age, gender, marital status and turnover intention was sourced using a demographic questionnaire compiled by the first author.

The *Generalized Self-Efficacy Scale* (GSE) (Schwarzer & Jerusalem, 1993) is a 10-item scale developed to measure the general sense of optimistic self-belief with the aim in mind to predict coping with the adversity of daily hassles as well as coping with any setbacks from such hassles. Responses were reported on a four-point scale ranging from 1 (*not at all true*) to 4 (*exactly true*). Schwarzer and Jerusalem (1993) reported Cronbach alphas between 0.82 and 0.93. Research on the scale indicates that it has only one global dimension (Scholz, Gutiérrez-Doña, Sud, & Schwarzer, 2002).

The *Job Demands-Resources Scale* (JD-R) (Rothmann, Mostert, & Strydom, 2006) consists of 48 items and the dimensions were measured on a scale from 1 (*never*) to 4 (*always*). The following dimensions are assessed by this scale viz.: contact and career possibilities, remuneration, amount of work and mental load, pace and emotional load, variety and independence in work, opportunities to learn, relationship with colleagues and supervisor, work ambiguities, information and participation. The factors are Job Demands (Overload and Job Insecurity) and Job Resources (Growth Opportunities, Organisational Support and Advancement). The scale is reliable and valid for the South African context (Jackson, Rothmann, & van de Vijver, 2006; Rothmann et al., 2006).

The *Utrecht Work Engagement Scale* (UWES) (Schaufeli et al., 2002) consists of 17 items and it measures levels of engagement. Vigour, Dedication and Absorption are the three dimensions of the scale. For this study only the dimensions of Vigour and Dedication were used. The scale measures frequency of occurrence and the response range is from 0 (*never*) to 6 (*daily*). Confirmatory analysis was used to demonstrate factorial validity (Naudé, 2003, Rothmann & Storm, 2003) of the scale. Internal reliabilities for Vigour (0.71), Dedication (0.81), and Absorption (0.57) were reported.

The *Satisfaction with Life Scale* (SWLS) (Diener et al., 1985) consists of 5 items which provide a measure of an individual's overall satisfaction with life. A person using his / her own criteria to evaluate his / her quality of life does it on a cognitive-judgemental level. The scale ranged from 1 (*strongly disagree*) to 7 (*strongly agree*). The Cronbach alpha-reliability index was 0.87 while the two month test-retest reliability index is 0.82 (Diener et al., 1985). Pavot and Diener (1993, 2008) also indicate the scales good psychometric characteristics. The SWLS is reliable and valid for use in an African context (Wissing et al., 1999; Wissing, Wissing, Du Toit, & Temane, 2008).

The *Affectometer-2 Short-form* (AFM) (Kammann & Flett, 1983) measures general happiness or a general sense of well-being. According to Kammann and Flett (1983), the balance between negative and positive affect indicates the degree of psychological well-being on an affective level. The AFM consists of a 20-adjective item scale and a 20-sentence item scale – these two parts are equivalent. The scale ranges from 1 (*not at all*) to 5 (*all the time*). For the current study the 20-sentence item scale was used. The questionnaire consists of two subscales with 10 items measuring Positive Affect and 10 items measuring Negative Affect. The higher the overall well-being, the more positive affect dominates over negative affect (Kammann & Flett, 1983). The scale is reliable and valid for use in an African context (Wissing et al., 1999; Wissing, Wissing, Du

Toit & Temane, 2008) and the Cronbach alpha-reliability indices range between 0.88 to 0.93.

Procedure

Permission was firstly solicited from the Director General of the North West Province (NWP) to conduct the study amongst North West Provincial Government (NWPG) employees. Once permission for the study had been granted, Employee Assistance Programme (EAP) coordinators were approached by the first author through the Provincial EAP Forum. Thereafter EAP coordinators received training in questionnaire administration as well as ethical considerations of the data collection. The EAP coordinators then were responsible for overseeing that participants in the respective Departments completed the questionnaires. Employees identified for the sample needed to have at least a matriculation certificate. As part of the ethical considerations, the participants were required to give their informed consent by completing and signing a return slip. The first author contacted EAP coordinators monthly to remind them to request participants to complete and submit the questionnaires. The study followed all ethical guidelines prescribed when using human subjects in research. The Ethics Committee of the North-West University, Potchefstroom Campus granted approval (05K10) for conducting this study. Once the data had been collected, it was cleaned and analysed.

Statistical Analysis

Data analyses were conducted with the SPSS (ver. 16.0) program (SPSS, 2007). Appropriate descriptive statistics such as means and standard deviations, correlations (and associated effect sizes), and internal consistencies were used to explore data. The reliability indices (as well as all the other indices referred to) of all measures used in this study are reported in Tables 1 and 2. In terms of the effect sizes of the correlations, guidelines set by Cohen (1988) were followed. Practical significance of the correlations is reported in line with Field's (2005) recommendations. A correlation of $r = 0.1$ indicates a small effect, while a correlation of $r = 0.30$ and $r = 0.50$ indicate a medium and large effect respectively.

Regression analyses were used for two purposes in this study. Firstly, multiple regression analyses were calculated to test the main effects of work context variables (namely, job demands and job resources) as predictors of psychological outcomes (psychological well-being and work engagement) as criterion or dependent variables. The coefficient of determination (F^2) is primarily reported as an indication of the amount of variance explained by the predictor variables in the criterion variables. As the predictor variables are comprised of various dimensions, the significant contribution made by the dimensions is highlighted by referring to associated student t-values and standardised coefficients.

Secondly, hierarchical regression analyses were used to test whether self-efficacy moderated between work context variables and psychological outcomes. Moderation is important in explaining and testing the interactive effects of two or more variables in predicting a dependent variable (Dawson & Richter, 2006) while controlling for associated main effects (Preacher, Curran, & Bauer, 2006). Hierarchical regression analyses with backward deletion of independent variables not significantly contributing to an equation 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 self-efficacy on the other hand), followed by their interactions in the

second step. Prior to the second step all predictor variables were centred to obtain their deviation as to obviate any multicollinearity (Brambor, Clark, & Golden, 2005).

There are arguments for the value of this procedure which are beyond the scope of this study (see Aiken & West, 1991; Brambor et al., 2005; Preacher, Rucker, & Hayes, 2007). A significant interaction term indicates that the effect of work context on either psychological well-being or work engagement differs across the levels of general self-efficacy. Usually a graph can be drawn to examine the direction of an interaction, referred to by Field (2005) as a simple effects analysis. Field (2005) indicates that a significant interaction is shown by non-parallel lines on an interaction graph, however he cautions that even though the lines may cross, this may not indicate a significant interaction.

Results

Descriptive Statistics

Table 1 presents the means, standard deviations, internal consistency (Cronbach alpha) and intercorrelations among all study variables used in the study. Cronbach alphas meet the criterion of 0.70 as set by Nunnally and Bernstein (1994) except for Vigour which is however close to this criterion.

Inspection of Table 2 indicates that Self-efficacy is practically significantly positively related to Satisfaction with Life and Positive Affect (both large effect), and Dedication (medium effect). Satisfaction with Life is practically significantly positively related to Positive Affect (medium effect). Positive Affect is practically significantly positively related to Negative Affect, Vigour and Dedication (all three of them 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 Growth Opportunities (large effect). Organisational Support is significantly positively related to Growth Opportunities (large effect) and Advancement (medium effect).

Influence of work context and GSE on psychological outcomes. Multiple regression analyses were conducted to test the degree of influence of work context factors and GSE on psychological well-being (including Satisfaction with Life, Positive Affect, Negative Affect) and Work Engagement as dependent variables.

Job demands, job resources and self-efficacy significantly predicted Satisfaction with Life, $F(6,452) = 30.76, p < 0.01, F^2 = 0.29$. Three variables made a statistically significant contribution to the regression model: Job Insecurity, $\beta = -0.13, t = -3.13, p < 0.01$, Advancement, $\beta = 0.10, t = 2.13, p < 0.01$, and Self-efficacy, $\beta = 0.52, t = 12.58, p < 0.01$.

Job demands, job resources and self-efficacy significantly predicted Positive Affect, $F(6,452) = 45.84, p < 0.01, F^2 = 0.44$. Three variables made a statistically significant contribution to the regression model: Overload, $\beta = -0.08, t = -2.22, p < 0.03$, Growth Opportunities, $\beta = 0.13, t = 2.84, p < 0.01$, and Self-efficacy, $\beta = 0.63, t = 17.02, p < 0.01$.

Job demands, job resources and self-efficacy significantly predicted Negative Affect, $F(6,452) = 14.52, p < 0.01, F^2 = 0.16$. Five variables made a statistically significant contribution to the regression model: Overload, $\beta = 0.11, t = 2.46, p < 0.01$, Job Insecurity, $\beta = 0.20, t = 4.39, p < 0.01$, Growth Opportunities, $\beta = -0.12, t = -2.22, p < 0.03$, Advancement, $\beta = 0.14, t = 2.82, p < 0.01$, and Self-efficacy, $\beta = -0.26, t = -5.69, p < 0.01$.

Job demands, job resources and self-efficacy significantly predicted Vigour, $F(6,452) = 32.97, p < 0.01, F^2 = 0.30$. Three variables made a statistically significant contribution to the regression model: Job Insecurity, $\alpha = 0.17, t = 4.17, p < 0.01$, Growth Opportunity, $\alpha = 0.36, t = 7.31, p < 0.01$, and Self-efficacy, $\alpha = 0.22, t = 5.45, p < 0.01$.

Job demands, job resources and self-efficacy significantly predicted Dedication, $F(6,452) = 39.07, p < 0.01, F^2 = 0.34$. Four variables made a statistically significant contribution to the regression model: Overload, $\beta = -0.13, t = -3.18, p < 0.01$, Job Insecurity, $\beta = 0.13, t = 3.23, p < 0.01$, Growth Opportunities, $\alpha = 0.44, t = 9.09, p < 0.01$, and Self-efficacy, $\beta = 0.24, t = 5.94, p < 0.01$.

The results from the regression analysis supported the hypothesis that work context factors and SE significantly predicted psychological outcomes.

Moderation of GSE Between Work Context and Psychological Outcomes

To test the *moderation* of SE (as measured by the GSE) between job resources and job demands and both psychological well-being and work engagement, hierarchical regression pro-

Table 1

Descriptive statistics of the GSE, SWLS, AFM, UWES, and JD-R scales

	Minimum	Maximum	Mean	SD	α
Self-efficacy	10.00	40.00	30.68	5.60	0.88
Satisfaction with Life	5.00	35.00	22.48	5.95	0.79
Positive Affect	10.00	50.00	36.04	6.45	0.81
Negative Affect	10.00	50.00	23.96	7.30	0.82
Vigour	0.00	30.00	21.71	5.82	0.68
Dedication	0.00	30.00	22.76	6.55	0.81
Overload	9.00	32.00	22.31	3.83	0.70
Job insecurity	3.00	12.00	8.29	2.70	0.80
Organisational Support	14.00	56.00	37.12	8.26	0.87
Growth Opportunities	19.00	56.00	41.61	7.44	0.84
Advancement	5.00	20.00	9.52	4.02	0.85

Note. GSE—General Self-efficacy Scale; SWLS—Satisfaction with Life Scale; AFM—effort-reward imbalance scale; UWES—Utrecht Work Engagement Scale; JD-R—Job Demands-Resources Scale.

Table 2
Intercorrelations of the GSE, SWLS, AFM, UWES, and JD-R Scales

	1	2	3	4	5	6	7	8	9	10
1. Self-efficacy	-	-	-	-	-	-	-	-	-	-
2. Satisfaction with Life	0.51***	-	-	-	-	-	-	-	-	-
3. Positive Affect	0.64***	0.48**	-	-	-	-	-	-	-	-
4. Negative Affect	-0.29**	-0.27**	-0.37**	-	-	-	-	-	-	-
5. Vigour	0.29**	0.12*	0.31***	-0.14**	-	-	-	-	-	-
6. Dedication	0.31***	0.18**	0.41***	-0.24**	0.72***	-	-	-	-	-
7. Overload	0.06	-0.05	-0.04	0.11*	0.05	-0.04	-	-	-	-
8. Job insecurity	-0.01	-0.12**	-0.04	0.22**	0.27**	0.22**	0.15**	-	-	-
9. Organisational Support	0.15**	0.14**	0.20**	-0.03	0.33***	0.34***	-0.07	0.12**	-	-
10. Growth Opportunities	0.17**	0.08	0.23**	-0.06	0.48***	0.51***	0.12*	0.25**	0.56***	-
11. Advancement	-0.13**	0.02	-0.01	0.18**	0.15**	0.15**	-0.02	0.22**	0.41***	0.29**

Note. GSE – General Self-efficacy Scale; SWLS – Satisfaction with Life Scale; AFM – Affectometer; UWES – Utrecht Work Engagement Scale; and JDR – Job Demands-Resources Scale

* Correlation is statistically significant at $p < 0.05$ (2-tailed); ** Correlation is statistically significant at $p < 0.01$ (2-tailed); † Correlation is practically significant (medium effect): $r > 0.30$; *** Correlation is practically significant (large effect): $r > 0.50$

cedures were implemented. The products of the interaction terms of all facets of job resources (Organisational Support, Growth Opportunities, and Advancement) and job demands (Overload and Job Insecurity) and Self-Efficacy were computed. To obviate any multicollinearity from the effect of product terms, all predictor and moderator variables were centred. To test the possibility of any interaction effects, the centred predictors and moderators were entered first into the hierarchical 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 a significant change in the coefficient of determination (ΔR^2) was yielded for the model predicting Negative Affect ($F = 8.21$, $p < 0.05$, $\Delta R^2 = 0.03$) and Satisfaction with Life ($F = 17.17$, $p < 0.05$, $\Delta R^2 = 0.05$). The unstandardised regression coefficients show that the interaction terms between Overload and GSE and Job Insecurity and GSE were significant and these were plotted as Figures 1 and 2.

Figure 1 shows that at low levels of GSE (compared to high levels) the relationship between low Overload and Satisfaction with Life was somewhat stronger. Figure 2 shows that low levels

of GSE (compared to high levels), Job Insecurity showed a stronger relationship with low Satisfaction with Life.

Table 4 shows that although small, the interaction effects between Growth Opportunities and GSE was significant for the model predicting Dedication. The change in the coefficient of determination (ΔR^2) for this model was however not significant. The results of the significant interaction were plotted in Figure 3. The figure shows that at low levels of GSE (compared to high levels) and Growth Opportunities was less strongly related to Dedication.

The results of the interaction effects support the hypothesis that the interaction between work context factors and SE differentially influence psychological outcomes. Figures 1-3 show that two job demands (Overload and Job Insecurity) and one job resource (Growth Opportunities) significantly interacted with SE to influence Satisfaction with Life and Dedication.

Discussion

The aim of the study was to examine the main effects of SE and work context on psychological outcomes and the possible interaction effects between SE and work context in predicting

Table 3
Interaction of Job Demands, Job Resources and Generalised Self-efficacy on Psychological Well-being

Independent Variable	Positive Affect				Negative Affect				Satisfaction with Life Scale			
	B	SE	ΔR^2	F	B	SE	ΔR^2	F	B	SE	ΔR^2	F
Step 1			0.46*	52.88*			0.03*	8.21*			0.29*	26.01
Overload	-0.15*	0.07			0.28	0.10			-0.10	0.07		
Job Insecurity	-0.15	0.10			0.58	0.14			-0.29	0.10*		
Growth Opportunities	0.12*	0.04			-0.15	0.06			-0.01	0.04		
Organisational Support	0.02	0.04			0.02	0.06			0.03	0.04		
Advancement	0.09	0.07			0.25	0.10			0.19	0.08*		
GSE	0.74*	0.05			-0.33	0.07			0.55	0.05*		
Step 2			0.00	29.30*			0.03*	8.21*			0.05*	17.17*
Overload × GSE	0.01	0.01			0.02	0.02			0.03*	0.01		
Job Insecurity × GSE	0.01	0.02			-0.02	0.03			0.05*	0.02		
Growth Opportunities × GSE	-0.01	0.01			0.01	0.01			0.01	0.01		
Organisational Support × GSE	-0.00	0.01			-0.02	0.01			-0.01	0.01		
Advancement × GSE	0.02	0.01			-0.02	0.02			0.00	0.01		

Note. * $p < 0.05$

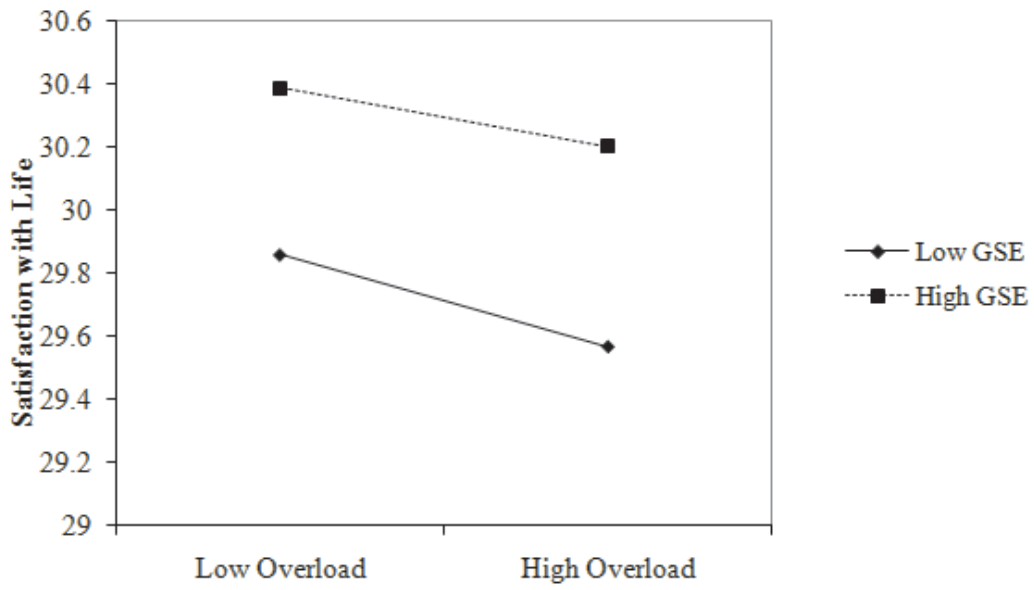


Figure 1. Interaction effect of GSE and Overload on Satisfaction with Life

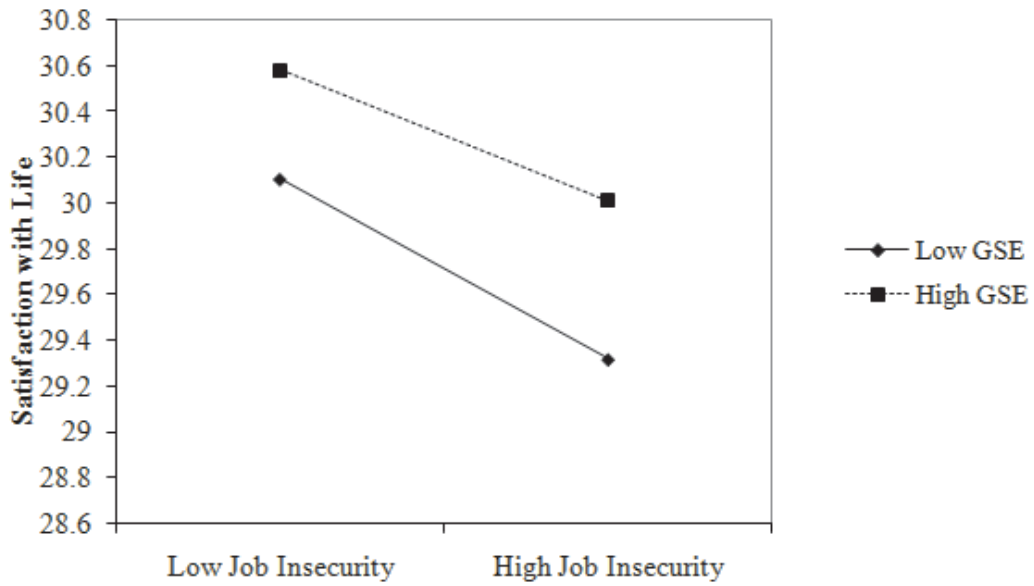


Figure 2. Interaction effect of GSE and Job Insecurity on Satisfaction with Life

Table 4

Interaction of Job Demands, Job Resources and Generalised Self-efficacy on Work Engagement

Independent Variable	Vigour				Dedication			
	<i>B</i>	<i>SE</i>	ΔR^2	<i>F</i>	<i>B</i>	<i>SE</i>	ΔR^2	<i>F</i>
Step 1			0.31*	28.62*			0.36*	34.72*
Overload	0.01	0.07			-0.19*	0.07		
Job Insecurity	0.28*	0.09			0.26*	0.10		
Growth Opportunities	0.29*	0.04			0.39*	0.05		
Organisational Support	0.02	0.04			0.01	0.04		
Advancement	0.03	0.07			0.03	0.08		
GSE	0.26*	0.04			0.29*	0.05		
Step 2			0.00	16.11*			0.01	20.22*
Overload × GSE	-0.00	0.01			-0.01	0.01		
Job Insecurity × GSE	-0.02	0.02			0.00	0.02		
Growth Opportunities × GSE	-0.01	0.01			-0.02*	0.01		
Organisational Support × GSE	0.00	0.01			0.01	0.01		
Advancement × GSE	0.01	0.01			0.02	0.01		

Note. * $p < 0.05$

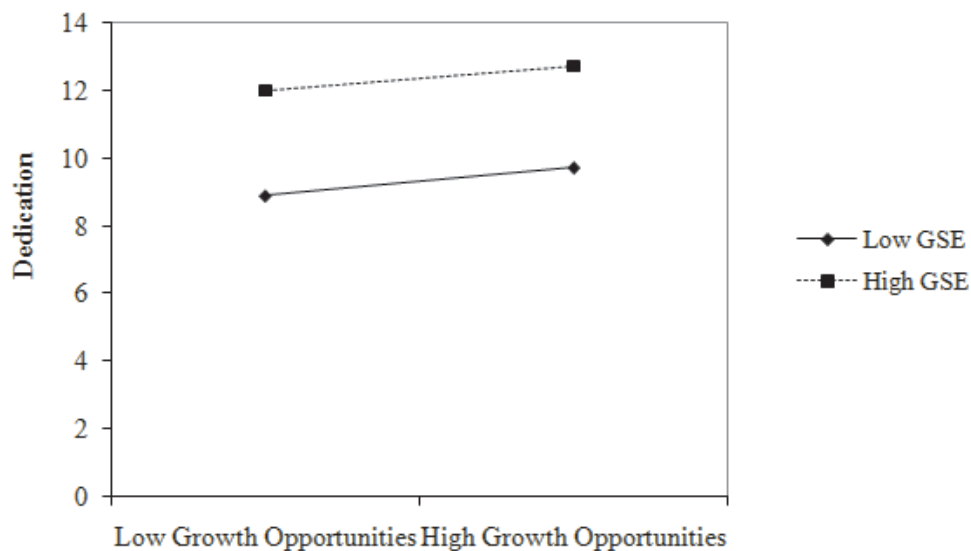


Figure 3. Interaction effect of GSE and Growth Opportunities on Dedication

psychological outcomes. The results show that interaction terms of two dimensions of job demands and GSE significantly predicted satisfaction with life and the interaction term between one dimension of job resources and GSE significantly predicted dedication as discussed below. As indicated in the literature, SE can be considered as a personal resource that enables employees to deal with job demands (Xanthopoulou et al., 2007) and was hypothesised in this study to have a moderating effect on the relationship between work context factors and psychological outcomes.

The intercorrelations among the study variables showed that SE was positively related to measures of optimal function-

ing and negatively related to measures indicating non-optimal functioning. Positive affect and satisfaction with life primarily yielded large effects in these correlations whereas dedication yielded a medium effect. Previous studies have generally shown that efficacious individuals tend to experience well-being (Bisschop et al., 2004; Heuven, Bakker, Schaufeli, & Huisman, 2006; Luszczynska, Scholz, & Schwarzer, 2005) and are more engaged with their tasks (Heuven et al., 2006; Siu et al., 2007).

Overall, the results suggest that work context factors and SE significantly predicted both the facets of psychological well-being and dimensions of work engagement. Both work context factors and SE explained the highest percentage of

variance in positive affect compared to other criterion variables, followed by dedication, vigour, satisfaction with life and finally negative affect. These findings underscore the importance of work context and SE beliefs for psychological outcomes of employees in this sample. The JD-R also suggests that psychological outcomes are influenced by job characteristics (Demerouti, et al., 2001) and that personal resources play an important role in outcomes (Xanthopoulou et al., 2007).

Satisfaction with life was significantly predicted by the interaction term between one dimension of job demands (overload) and SE. The standardised regression coefficient for this interaction term comprising of overload and SE was ($\alpha = 0.10$) as compared to the unstandardised coefficient ($B = 0.03$). This finding suggests that in the presence of a combination of SE with low job demands (overload), employees may experience high satisfaction with life. Luszczynska et al. (2005) argue that in line with social cognitive theory it is to be expected that SE will influence satisfaction with life among others. The results also showed that low job insecurity was related to high levels of satisfaction with life. Dedication was associated with low levels of growth opportunities at low levels of GSE. Thus, it is reasonable to assume that as SE represents a cognitive appraisal of an external job situation, it is possible that satisfaction with life could be adversely influenced by sub-optimal conditions of work such as high overload, high job insecurity and low growth opportunities.

The findings above are consistent with the view that happy and successful employees experience positive emotions in the workplace (Boehm & Lyubomirsky, 2008; Demerouti et al., 2001; Xanthopoulou et al., 2007). By contrast, unhappy employees have been shown to withdraw from their work and are likely to suffer health impairment in the end (Xanthopoulou et al., 2007). Thus, personal resources (such as SE) may buffer the employee against the effects of a demanding workplace. Another possibility is of course that this low satisfaction with life may spill over into other aspects of their lives. The findings of this study suggest that sufficient job resources are important for work success in the public sector context.

Dedication was significantly predicted by the interaction terms between one dimension of job resources (growth opportunities) with SE. This finding may suggest that a work environment characterised by job resources may enhance employee vigour and dedication through SE. This is in line with the finding of Xanthopoulou, Bakker, Heuven, Demerouti, and Schaufeli (2008) that a resourceful work environment may facilitate the attainment of work goals and thus activate work engagement.

SE beliefs facilitate actions and behaviour taken by individuals including effort expended in tasks, the persistence and perseverance of individuals in these tasks (Bandura, 1997). The sources of SE for example, mastery experience, vicarious experience, verbal and social persuasions, and emotional and physiological states (Usher & Pajares, 2008) suggest that feedback and modelling could play an important role especially in service-oriented work contexts that may need self-regulation of emotions.

Future research on the moderating role of SE should include some assessment of the impact of SE training on perceived psychological outcomes as evidence on positive gain spirals (Llorens, Schaufeli, Bakker, & Salanova, 2007; Hakanen, Perhoniemi, & Toppinen-Tanner, 2008). Research on the latter indicates that work contexts with job resources lead to work engagement and work engagement leads to personal initiative. Thus, it would be important to establish whether the presence of

tangible job resources within the public service could enhance personal initiative through work engagement.

Limitations of the Study

A limitation of the present study is that self-report measures were used as the main strategy for data collection and as a result the influence of common method variance must be taken into account. Secondly, the study focussed on a sample of government employees and may thus limit the generalisations that could be made from these findings. However, the study makes a unique contribution in terms of understanding the role of SE in the relationship between work context factors and psychological outcomes.

Conclusion

Based on the results of the study, it can be 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. The consequences for health impairment and negative outcomes cannot be over-emphasised in a situation where job demands outstrip job resources. A balance between job resources and minimal low job demands could be ideal but this is not realistic. However, it can be concluded that in the role personal resources will greatly improve psychological outcomes in the presence of high job demands.

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