

**JOB RESOURCES, POSITIVE WORK-HOME INTERACTION
AND WORK ENGAGEMENT IN A SAMPLE OF POLICE
OFFICERS**

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FORMAL STATEMENT

I hereby declare that the mini-dissertation titled:

Job Resources, Positive Work-Home Interaction and Work Engagement in a sample of Police Officers

that I am submitting at the North West University for the completion of my Masters Degree is my own work and has not been submitted at any other University.

I trust that the content of the enclosed dissertation meets the specified requirements for your approval.

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COMMENTS

The reader is reminded of the following:

- The editorial style as well as the references referred to in this mini-dissertation follow the format prescribed by the Publication Manual (5th edition) of the American Psychological Association (APA). This practice is in line with the policy of the Programme in Industrial Psychology of the North-West University (Potchefstroom) to use APA style in all scientific documents as of January 1999.
- The mini-dissertation is submitted in the form of a research article. The editorial style specified by the South African Journal of Industrial Psychology (which agrees largely with the APA style) is used, but the APA guidelines were followed in constructing tables.

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ABSTRACT

Title:

Job resources, positive work-home interaction and work engagement in a sample of police officers.

Key terms:

Job resources, positive work-home interaction, work engagement, South African Police Service.

The two most significant domains in the lives of employed individuals are work and home, which can influence each other in both a negative and a positive way. However, there has been a lack of empirical research investigating the positive interaction between the work and home domains, as well as the possible antecedents and outcomes associated with it, including job resources and work engagement.

The objectives of this study were to test a structural model that includes job resources, positive work-home interaction (WHI) and work engagement, and to determine the mediating role of positive WHI in the relationship between job resources and work engagement for police officers in the North West Province. A cross-sectional survey design was used. Random samples ($n = 468$) were taken of employees in the South African Police Service in the North West Province. The Job Demands-Resources Scale, the positive WHI scale of the Survey Work-Home Interaction – Nijmegen (SWING) and the Utrecht Work Engagement Scale (UWES) were administered.

Structural equation modelling showed that people who receive sufficient job resources (including organisational support, possibilities for advancement, growth opportunities and contact with colleagues) experience positive WHI that leads to work engagement. In addition, job resources help to enhance work engagement. These results provided evidence for the partial mediating role of positive work-home interaction in the relationship between job resources and work engagement.

Recommendations were made for the organisation and for future research.

OPSOMMING

Titel:

Werkhulpbronne, positiewe werk-huis-interaksie en werkbegeestering in 'n steekproef van polisiebeamptes.

Sleuteltermes:

Werkhulpbronne, positiewe werk-huis-interaksie, werkbegeestering, Suid-Afrikaanse Polisiebeamptes.

Die twee belangrikste domeine in die lewens van werknemers is die werk en die huis, wat mekaar positief sowel as negatief kan beïnvloed. Daar is egter 'n gebrek aan empiriese navorsing oor die positiewe interaksie tussen die werk- en die huisdomein, en oor die moontlike antedeede en uitkomst wat daarmee gepaardgaan – met inbegrip van werkhulpbronne en werkbegeestering.

Die doelstelling van hierdie studie was om 'n strukturele model te toets wat werkhulpbronne, positiewe werk-huis-interaksie en werkbegeestering insluit, en om ondersoek in te stel na die mediërende rol van positiewe werk-huis-interaksie in die verhouding tussen werkhulpbronne en werkbegeestering vir polisiebeamptes in die Noordwes provinsie. Daar is gebruik gemaak van 'n dwarsdeursnee-opnameontwerp. Ewekansige steekproewe ($n = 468$) is geneem van werknemers in die Suid-Afrikaanse Polisiebeamptes in die Noordwesprovinsie. Die Werkhulpbronne-skaal, die positiewe werk-huis interaksie skaal van die 'Survey Work-Home Interaction – Nijmegen' (SWING) en die Utrecht Werkbegeesteringskaal (UWES) is afgeneem.

Strukturele vergelykingsmodellering het gewys dat mense wat voldoende werkhulpbronne tot hulle beskikking het (met inbegrip van organisasie-ondersteuning, geleentheid om vooruit te gaan, groeigeleentheid en kontak met kollegas) positiewe werk-huis-interaksie ervaar wat tot werkbegeestering lei. Werkhulpbronne is ook bevorderend vir werkbegeestering. Die resultate het bewys gelewer van die gedeeltelike mediërende rol van positiewe werk-huis-interaksie in die verhouding tussen werkhulpbronne en werkbegeestering.

Aanbevelings is gemaak vir die organisasie en vir verdere studie.

CHAPTER 1

INTRODUCTION

This mini-dissertation focuses on the relationship between job resources, positive work-home interaction and work engagement in a sample of police officers in the South African Police Service (SAPS).

This chapter contains the problem statement and a discussion of the research objectives, in which the general and specific objectives are set out. The research method is explained and an overview is given of the chapters that follow.

1.1 PROBLEM STATEMENT

In modern society, “work” and “home” are most often seen as two separated domains, with early researchers treating these domains as if they operated independently. However, researchers came to realise over the last decade that working individuals should live in an optimal way. In order to help employees do that, the work and home domains should be in harmony with each other and influence each other in a positive way. However, changes in the economic and political climate, as well as social changes, suggest that the integration between these two domains will become more difficult and that work-family issues will become increasingly important (cf. Frone, 2003; Geurts & Demerouti, 2003). Changes that influence work-home interaction include the changes in family structures and technology that make it possible for job tasks to be performed in a variety of locations, resulting in a growing number of individuals, employed workers, and particularly employed parents, who are challenged to combine substantial domestic responsibilities and work obligations (Allen, Herst, Bruck, & Sutton, 2000; Montgomery, Panagopoutou, Peeters, & Schaufeli, 2005). In South Africa, changes have also occurred that affect the way in which work interacts with home. In the last couple of years there has been a marked increase in the number of working women, dual-career couples, single parents, and fathers who are actively involved in parenting (Gerber, 2000; Schreuder & Theron, 2001).

These demographic changes in the workforce and family situation have not only affected work and family roles and the way they interact with each other (e.g., Bond, Galinsky & Swanberg, 1998; Ferber, O'Farrell, & Allen, 1991), but also have a significant impact on individual behaviour, and ultimately on organisational functioning itself (Greenhaus, 1988; Parasuraman & Greenhaus, 1999). Although the body of literature on work-home interaction has greatly increased, there is still a lack of in-depth knowledge about the interaction between work and home life and its relationship with employee health and well-being – particularly in South Africa.

According to Greenhaus and Beutell (1985), work-home conflict reflects a mutual incompatibility between demands in the work domain and the demands of home life, which implies that participation in the work role is made more difficult by virtue of participation in the home role. As a result, a large body of research deals with the possible *negative* spillover (e.g., causes and consequences of conflict) between work and private life. However, researchers have come to realise that home life can *benefit* from work (e.g., via work skills generalising to the home environment) and, conversely, that work can benefit from home life (e.g., via the buffer role of support) (Geurts & Demerouti, 2003). As a result, researchers realised that performance and well-being at work and home benefit from positive moods experienced in both domains and lead to the absence of conflicts between family and work.

A frequently studied outcome of work-home interaction is burnout, a metaphor that is commonly used to describe a state or process of mental exhaustion (Schaufeli & Enzmann, 1998). However, with the recent introduction of the “Positive Psychology” paradigm (Seligman & Csikszentmihalyi, 2000), the positive antitheses of burnout was formed, namely “work engagement” (Schaufeli, Salanova, Gonzáles-Romá, & Bakker, 2002). Work engagement is a relevant concept for employee well-being and work behaviour – for several reasons. Firstly, it is a positive experience in itself (Schaufeli et al., 2002); secondly, it can be related to good health and positive work effect (Demerouti, Bakker, De Jonge, Janssen, & Schaufeli, 2001); thirdly, employees derive benefits from stressful work through work engagement (Britt, Adler, & Bartone, 2001); and fourthly, it is positively related to organisational commitment and is expected to affect employee performance (Demerouti et al., 2001; Kahn, 1990).

Research on work engagement has taken two different paths. According to Maslach and Leiter (1997), work engagement can be seen as the direct opposite of the three burnout dimensions, namely exhaustion, cynicism, and lack of professional efficacy respectively. However, Schaufeli and his colleagues define and operationalise work engagement in its own right and see the concept as an energetic state in which the employee is dedicated to excellent performance at work and is confident of his or her own effectiveness (Schutte, Toppinen, Kalimo, & Schaufeli, 2000). According to Schaufeli et al. (2002), work engagement consists of three dimensions, namely vigour, dedication and absorption. Vigour is characterised by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, not being easily fatigued, and persistence even in the face of difficulties. Dedication can be seen as deriving a sense of significance from one's work, by feeling enthusiastic about and proud of one's job, and by feeling inspired and challenged by it. Absorption is characterised by being totally and happily immersed in one's work and having difficulties detaching oneself from it. Time passes quickly and one forgets everything else.

Various researchers agree that job characteristics are an important antecedent of both work-home interaction and work engagement (cf. Geurts & Demerouti, 2003; Schaufeli & Enzmann, 1998). Several models can be used to investigate the influence of job characteristics on work-home interaction and work engagement, including the Job Demands-Resources (JD-R) model (Bakker, Demerouti, De Boer, & Schaufeli, 2003; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). The central proposition of the JD-R model is that job characteristics can be organised in two categories, namely job demands and job resources. Job demands refer to the aspects of the job that require physical and/or mental effort and are therefore associated with certain psychosocial and/or psychological costs. Resources on the other hand refer to those physical, psychosocial or organisational aspects of the job that may be functional in meeting task requirements. This will cause a reduction in physiological and/or psychological costs and it will also stimulate personal growth and development (Demerouti et al., 2001).

Various findings indicate that job demands are predictors of adverse health and that job resources predict motivational outcomes. This is also true in the burnout/work engagement literature,

where job demands are associated with burnout, and job resources with higher work engagement (Barkhuizen, 2005; Coetzer, 2004; Demerouti et al., 2001; Jackson, 2004; Montgomery, Peeters, Schaufeli, & Den Ouden, 2003; Schaufeli & Bakker, 2004). There also seem to be a strong relationship between job resources and work-home interaction. The research of Kinnunen and Mauno (1998) found a strong relationship between two job resources (job control and job support) and work-home interaction. Similar results were found by Demerouti, Geurts, and Kompier (2004), where positive work-home interference was related to job control and support. Grzywacz and Marks (2000) also showed that job control was stronger related to positive than to negative spillover between work and family. From these findings, it seems that if individuals do not receive sufficient resources to achieve their work goals, to cope with demanding aspects at work or to stimulate growth and development, they will experience less positive work-home interaction and lower levels of engagement.

It seems that job resources, positive work-home interaction and engagement all have a relationship (Geurts & Demerouti, 2003; Schaufeli & Bakker, 2004; Montgomery et al., 2003). This means that adequate job resources can assist individuals to balance the demands at work and at home, leading to a positive interaction between the two domains, which will bring forth higher levels of engagement (Frone, 2003; Geurts & Demerouti, 2003). However, sufficient job resources will also have an effect on work engagement. Based on these findings, it seems that positive work-home interaction could possibly mediate between job resources and work engagement.

A mediator specifies how (or the mechanism by which) a given effect occurs (Baron & Kenny, 1986; James & Brett, 1984). More specifically, Baron and Kenny (1986) describe a mediating variable as “the generative mechanism through which the focal independent variable is able to influence the dependent variable of interest” (p. 1173). Stated more simply, the independent variable causes the mediator which then causes the outcome (Shadish & Sweeney, 1991). Furthermore, the role of the mediator could also be described as a full mediating effect (where the cause is related to the mediator and consequently to the outcome) or a partial mediating effect (where the cause also have a direct relationship with the outcome in addition to the indirect effect through the mediator). Although one may argue that the relationships among independent

variable, mediator, and outcome may not necessarily be "causal," the nature of the mediated relationship is such that the independent variable influences the mediator which, in turn, influences the outcome (Holmbeck, 1997). This study will investigate if positive work-home interaction (WHI) has a full of partial mediating effect between positive WHI, job resources and work engagement.

The Effort-Recovery (E-R) model (Meijman & Mulder, 1998) is a work psychological model with its roots in exercise psychology and can be used to explain the relation between job resources, positive WHI and work engagement. The main purpose of the model is to show how work and private life may interact with each other, and by what mechanisms well-being may be affected. Research done on this model indicates that effort expenditure is associated with specific load reactions (psychological, behavioural and subjective responses) that develop within the individual. Recovery takes place when the exposure to load ceases and the respective psychological systems stabilise at the baseline of a specific level within a certain period of time (Drenth, Thierry, & De Wolff, 1998).

Using the E-R model, it is possible to increase our understanding of positive work-home interaction, since effort expenditure may also be accompanied by positive load reactions. For example, if one feels satisfied and competent in one's work, this positive attitude will increase one's self-worth and will also lead to positive reactions in the home sphere (and vice versa). The quantity and quality of recovery also plays a crucial role, where employees who are recovered will be willing to invest their effort in tasks and will be more resilient when they are confronted with stressful situations. Experimental research showed that individuals who have not recovered from preceding workload will feel less vigorous and dedicated to their work (Schellekens, Sijisma, Vegter, & Meijman, 2000). However, empirical studies done by Westman and Etzion (2001) shows that fatigued and insufficiently recovered individuals tend to withdraw from demands present at that moment. Another assumption is that recovery will have an effect on work behaviour and particularly proactive behaviour (Sonnentag, 2003). If a person feels satisfied and competent in his/her work, these positive feelings will foster a self-worth which will lead to positive reactions in the home environment.

Police work has been identified as one of society's most stressful occupations and consists of various negative aspects that cause job stress (Greller & Parsons, 1988). In the last two decades, research that was done on the stress experienced by police officers produced little information on the extent to which policing is stressful. Furthermore, in their attempts to identify the sources of police stress, researchers have focused almost exclusively on the negative aspects of policing (e.g., Band & Manuelle, 1987; Greller, Parsons, & Mitchell, 1992). This approach resulted in relatively little being known about the quality of life and well-being among police officers (Hart, Wearing, & Headey, 1995). It is therefore also necessary that police work be studied in a positive way. This could be done by focusing on the concepts of positive WHI and work engagement. Not only is it necessary for police officers to experience a positive interaction between work and home, but also to feel engaged in their work by receiving valued and necessary resources so that positive work-home interaction can be achieved. This study will therefore focus only on the positive aspects (job resources, positive WHI and work engagement) of police officers in order to gain more information on how to enhance well-being.

The following research questions emerge from the above-mentioned problem statement:

- What is the relationship between job resources, positive work-home interaction and work engagement, according to the literature?
- What is the relationship between job resources, positive work-home interaction and work engagement in a sample of police officers?
- Does positive work-home interaction mediate between job resources and work engagement, and is this a full or a partial effect?
- What recommendations can be made for future research and practice?

1.2 RESEARCH OBJECTIVES

The research objectives can be divided into a general objective and specific objectives.

1.2.1 General objective

The general objective of this study was to investigate if positive work-home interaction mediates between job resources and work engagement in a sample of police officers in the SAPS.

1.2.2 Specific objectives

The specific objectives of the research are the following:

- To investigate the relationship between job resources, positive work-home interaction and work engagement, according to the literature.
- To determine the relationship between job resources, positive work-home interaction and work engagement in a sample of police officers.
- To determine if positive work-home interaction mediates between job resources and work engagement, and whether it is a full or a partial effect.
- To make recommendations for future research and practice.

1.3 RESEARCH METHOD

The research method consists of a literature review and an empirical study. The results obtained are presented in the form of a research article. The reader should note that a brief literature review is compiled for the purpose of the article. This paragraph focuses on aspects relevant to the empirical study that is conducted.

1.3.1 Research design

A cross-sectional design, with a survey as technique of data collection, is used to achieve the objectives of this study. This design is well suited to the descriptive and predictive functions associated with correctional research, whereby relationships between variables are examined (Shaughnessy & Zechmeister, 1997).

1.3.2 Participants and procedure

Random samples ($n = 468$) are taken from police stations in the North West Province. After permission is obtained from specific police stations, the questionnaire is developed and distributed among the selected police officers. A letter is included, requesting participation, motivating the research, and explaining ethical aspects. The participants are assured of the anonymity and confidentiality with which the information would be treated. Selected officers are given three to four weeks time to complete the questionnaires, whereafter they are personally collected from the participating police stations.

1.3.3 Measuring instruments

The following questionnaires are utilised in the empirical study:

Job Resources. Recently, Jackson and Rothmann (2005) developed the Job Demands-Resources Scale (JDRS) to measure job demand and job resources. The JDRS was developed based on a literature review and interviews with participants in the study. Items were developed and checked for face validity. The JDRS consists of 48 items about pace and amount of work, mental load, emotional load, variety in work, opportunities to learn, independence in work, relationships with colleagues, relationship with immediate supervisor, ambiguities about work, information, communications, participation, contact possibilities, uncertainty about the future, remuneration, and career possibilities. The items are rated on a four-point scale ranging from 1 (*never*) to 4 (*always*). Jackson and Rothmann (2005) found that the dimensions of the JDRS consisted of seven reliable factors, namely organisational support ($\alpha = 0,88$), growth opportunities ($\alpha = 0,80$), overload ($\alpha = 0,75$), job insecurity ($\alpha = 0,90$), relationship with colleagues ($\alpha = 0,76$), control ($\alpha = 0,71$) and rewards ($\alpha = 0,78$). In this study, items of the JDRS that measure job resources are adapted to measure job resources for police officers.

Positive Work-home Interaction. Positive WHI is measured using the PWHI scale of the 'Survey Work-home Interaction-Nijmegen' (SWING) (Geurts et al., 2005; Wagena & Geurts,

2000). Positive WHI refers to a positive interference from “work” with “home”, referring to a positive influence of the work situation on one’s functioning at home (six items, e.g. “you come cheerfully home after a successful day at work, positively affecting the atmosphere at home”). All items are scored on a four-point frequency rating scale ranging from 0 (*never*) to 3 (*always*). Geurts et al. (2005) obtained a reliable Cronbach alpha coefficient for this scale ($\alpha = 0,75$). In a psychometric analysis of the SWING in a South African sample of employees working in the earthmoving equipment industry, Pieterse and Mostert (2005) also confirmed the reliability of this scale ($\alpha = 0,79$).

Engagement. The Utrecht Work Engagement Scale (UWES) (Schaufeli et al., 2002) is used to measure work engagement, and consists of three scales, namely Vigour, Dedication and Absorption. Theoretically, Vigour and Emotional Exhaustion; and Dedication and Cynicism is considered to be opposites but Absorption is not conceived as the opposite of Professional Inefficacy. In this study, Vigour and Dedication are the subscales used, for Absorption is seen as a relevant aspect of work engagement (Schaufeli & Bakker 2001, 2004). Four items are used to measure Vigour (e.g., “I am bursting with energy every day in my work”) and five items to measure Dedication (“I am enthusiastic about my job”). The UWES is scored on a seven-point frequency rating scale, varying from 0 (*never*) to 6 (*always*). Alpha coefficients range between 0,78 and 0,89 (Schaufeli et al., 2002). Storm and Rothmann (2003) obtained the following alpha coefficients for the UWES in a sample of 2 396 members of the SAPS: Vigour: 0,78; Dedication: 0,89.

1.3.4 Statistical analysis

The statistical analysis is carried out with the SPSS program (SPSS Inc., 2003) and the Amos program (Arbuckle, 1999). Cronbach alpha coefficients are used to assess the reliability of the constructs that are measured in this study. Descriptive statistics (e.g. means, standard deviations, skewness and kurtosis) and inferential statistics are used to analyse the data.

Exploratory factor analyses are carried out to determine the construct validity of the Job Demands-Resources Scale (JDERS). Firstly, a simple principle components analysis is conducted

on the items of the JDRS. Eigenvalues and scree plots are studied to determine the number of factors underlying the measuring instrument. Secondly, a principal components analysis with direct oblimin rotation is conducted if factors are related. A principal component analysis with varimax rotation is used if the obtained factors are not related (Tabachnick & Fidell, 2001).

Pearson product-moment correlation coefficients are used to specify the relationship between the variables. In terms of statistical significance, it is decided to set the value at a 95% confidence interval level ($p \leq 0,05$). Effect sizes are used to decide on the practical significance of the findings (Steyn, 1999). A cut-off point of 0,30 (medium effect, Cohen, 1988) and 0,50 (large effect) is set for the practical significance of correlation coefficients.

Structural equation modelling (SEM) methods, as implemented by AMOS (Arbuckle, 1999), are used to test the construct validity of Work Engagement, and to test the structural model. SEM is a statistical methodology that takes a confirmatory (i.e., hypothesis-testing) approach to the analysis of a structural theory bearing on some phenomenon (Byrne, 2001). In order to assess the mediating role of positive work-home interaction between job resources and work engagement, two competing models are tested using SEM. Model 1 assumes that job resources are related to positive work-home interaction and, consequently, to work engagement (full mediating effect). Model 2 assumes that job resources will have a direct relationship with work engagement, in addition to the indirect effect through positive work-home interaction (partial mediating effect). The χ^2 and several other goodness-of-fit indices are used to summarise the degree of correspondence between the implied and observed covariance matrices. The following goodness-of-fit-indices are used as adjuncts to the χ^2 statistics: a) χ^2/df ratio; b) The Goodness-of-Fit Index (GFI); c) The Adjusted Goodness-of-Fit Index (AGFI); d) The Parsimony Goodness-of-Fit Index (PGFI); e) The Incremental Fit Index (IFI); f) The Tucker-Lewis Index (TLI); g) The Comparative Fit Index (CFI); h) The Root Mean Square Error of Approximation (RMSEA).

1.4 OVERVIEW OF CHAPTERS

In Chapter 2, the relationship between job resources, positive work-home interaction and work engagement is discussed. Chapter 2 also deals with the empirical study. Chapter 3 deals with the discussion, limitations and recommendations of this study.

1.5 CHAPTER SUMMARY

This chapter discussed the problem statement and research objectives. The measuring instruments and research method used in this research were explained, followed by a brief overview of the chapters that follow.

REFERENCES

- Allen, T. D., Herst, D. E. L., Bruck, C. S., & Sutton, M. (2000). Consequences associated with work-to-family conflict: A review and agenda for future research. *Journal of Occupational Health Psychology, 5*, 278–308.
- Arbuckle, J. L. (1999). *Amos 5.0*. Chicago, IL: Smallwaters.
- Bakker, A. B., & Geurts, S. A. E. (2004). Toward a dual-process model of work-home interference. *Work and Occupations, 31*, 345–366.
- Bakker, A. B., Demerouti, E., De Boer, E., & Schaufeli, W. B. (2003). Job demands and job resources as predictors of absence duration and frequency. *Journal of Vocational Behavior, 62*, 341–356.
- Band, S. R., & Manuelle, C. A. (1987). Stress and police officers' performance: An examination of effective coping behavior. *Police Studies, 10*, 122–131.
- Barkhuizen, E. N. (2005). *Work wellness of academic staff in South African Higher Education institutions*. Unpublished doctoral thesis, North-West University, Potchefstroom.
- Baron, R. M., & Kenny, D. A. (1986). The mediator distraction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173–1182.
- Bond, J. T., Galinsky, E., & Swanberg, J. E. (1998). *The 1997 national study of the changing workforce*. New York: Families and Work Institute.
- Britt, T. W., Adler, A. B., & Bartone, P. T. (2001). Deriving benefits from stressful events: The role of engagement in meaningful work and hardiness. *Journal of Occupational Health Psychology, 6*, 53–63.
- Byrne, B. M. (2001). *Structural equation modeling with AMOS*. Mahwah, NJ: Erlbaum.
- Coetzer, W. J. (2004). *Burnout and work engagement of employees in an insurance company*. Unpublished doctoral thesis, North-West University, Potchefstroom.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (Rev. ed.) Orlando, FL: Academic Press.
- Demerouti, E., Bakker, A. B., De Jonge, J., Janssen, P. P., & Schaufeli, W. B. (2001). Burnout and engagement at work as a function of demands and control. *Scandinavian Journal of Work Environment and Health, 27*, 279–286.

- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology, 86*, 499–512.
- Demerouti, E., Geurts, S. A. E., & Kompier, M. A. J. (2004). Positive and negative work-home interaction: Prevalence and correlates. *Equal Opportunities International, 23*(1), 6–35.
- Drenth, P. J. D., Thierry, H., & De Wolff, C. J. (Eds.) (1998). *Handbook of work and organizational psychology: Work psychology* (2nd ed.) London: Psychology Press.
- Ferber, M. A., O'Farrell, B., & Allen, L. R. (Eds.) (1991). *Work and family: Policies for a changing work force*. Washington, DC: National Academy Press.
- Frone, M. R. (2003). Work-family balance. In J.C. Quick & L.E. Tetrick (Eds.), *Handbook of occupational health psychology* (pp. 143–162). Washington, DC: American Psychological Association.
- Gerber, H. M. (2000). Career development of SA professional women who take career breaks. *Journal of Industrial Psychology, 26*(2), 7–13.
- Geurts, S. A. E., & Demerouti, E. (2003). Work/nonwork interface: A review of theories and findings. In M. Schabracq, J. Winnubst & C.L. Cooper (Eds.), *Handbook of work and health psychology* (pp. 279–312). Chichester: Wiley.
- Geurts, S. A. E., Taris, T. W., Kompier, M. A. J., Dijkers, J. S. E., Van Hooff, M. L. M., & Kinnunen, U. M. (2005). Work-home interaction from a work psychological perspective: Development and validation of the SWING. *Work & Stress, 19*(4), 319–339
- Greenhaus, J. H. (1988). The intersection of work and family roles: Individual, interpersonal, and organizational issues. *Journal of Social Behaviour and Personality, 3*, 23–44.
- Greenhaus, J. H., & Beutell, N. J. (1985). Sources of conflict between work and family roles. *Academy of Management Review, 10*, 76–88.
- Greller, M., & Parsons, C. K. (1988). Psychosomatic complaints scale of stress: Measure development and psychometric properties. *Educational and Psychological Measurement, 48*, 1051–1065.
- Greller, M. M., Parsons, C. K., & Mitchell, D. R. D. (1992). Additive effects and beyond: Occupational stressors and social buffers in a police organization. In J. C. Quick, L. R. Murphy & J. J. Hurrell, Jr. (Eds), *Stress and wellbeing at work, assessments and interventions for occupational mental health* (pp. 33–47). Washington, DC: American Psychological Association.

- Grzywacz, J. G., & Marks, N. F. (2000). Re-conceptualizing the work-family interface: An ecological perspective on the correlates of positive and negative spillover between work and family. *Journal of Occupational Health Psychology, 5*, 111–126.
- Hart, P. M., Wearing, A. J., & Heady, B. (1993). Assessing police work experiences: Development of the Police Daily Hassles and Uplifts Scales. *Journal of Criminal Justice, 21*, 553–572.
- Holmbeck, G. N. (1997). Toward terminological, conceptual, and statistical clarity in the study of mediators and moderators: Examples from the child-clinical and pediatric psychology literatures. *Journal of Consulting and Clinical Psychology, 65*, 599–610.
- Jackson, L. T. B. (2004). *Burnout and engagement of teachers: A cross-cultural study*. Unpublished doctoral thesis, North-West University, Potchefstroom.
- Jackson, L. T. B., & Rothman, S. (2005). Work-related well-being of educators in a district of the North-West Province. *Perspectives in Education, 23*(3), 107–122.
- James, L. R., & Brett, J. M. (1984). Mediators, moderators, and tests for mediation. *Journal of Applied Psychology, 69*, 307–321.
- Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal, 33*, 692–724.
- Kinnunen, U., & Mauno, S. (1998). Antecedents and outcomes of work-family conflict among employed women and men in Finland. *Human Relations, 51*, 157–177.
- Maslach, C., & Leiter, M. P. (1997). *The truth about burnout*. San Francisco, CA: Jossey Bass.
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology, 52*, 397–422.
- Meijman, T. F., & Mulder, G. (1998). Psychological aspects of workload. In P.J. Drenth, H. Thierry & C.J. de Wolff (Eds.), *Handbook of work and organizational psychology* (2nd ed., pp. 5–33). Hove: Erlbaum.
- Montgomery, A. J., Panagopoulou, E. P., Peeters, M. C. W., & Schaufeli, W. B. (2005). The meaning of work and home. *Community, Work and Family, 8*(2), 141–161.
- Montgomery, A. J., Peeters, M. C. W., Schaufeli, W. B., & Den Ouden, M. (2003). Work-home interference among newspaper managers: Its relationship with burnout and engagement. *Anxiety, Stress & Coping, 16*, 195–211.

- Netemeyer, R. G., Boles, J. S., & McMurrian, R. (1996). Development and validation of work-family conflict and family-work conflict scales. *Journal of Applied Psychology, 81*, 400–410.
- Parasuraman, S., & Greenhaus, J. H. (1999). *Integrating work and family: Challenges for a changing world*. Westport, CT: Praeger.
- Pieterse, M., & Mostert, K. (2005). Measuring the work-home interface: Validation of the Survey Work-Home Interaction – Nijmegen (SWING) Instrument. *Management Dynamics, 14*(2), 2–15.
- Schaufeli, W. B., & Bakker, A. B. (2001). Werk en welbevinden: naar een positieve benadering in die Arbeids- en Gezondheidspsychologie (Work and well-being: towards a positive approach in Occupational Health Psychology). *Gedrag & Organisatie, 14*, 229–253.
- Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior, 25*, 293–315.
- Schaufeli, W. B., & Enzmann, D. (1998). *The burnout companion to study and practice: A critical analysis*. London: Taylor & Francis.
- Schaufeli, W. B., Salanova, M., Gonzáles-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A confirmatory factor analytic approach. *Journal of Happiness Studies, 3*, 71–92.
- Schellekens, J. M. H., Sijtsma, G. J., Vegter, E., & Meijman, T. F. (2000). Immediate and delayed after-effects of long lasting mentally demanding work. *Biological Psychology, 53*, 37–56.
- Schreuder, A. M. G., & Theron, A. L. (2001). *Careers: An organizational perspective* (2nd ed.). Cape Town : Juta.
- Schutte, N., Toppinnen, S., Kalimo, R., & Schaufeli, W. B. (2002). The factorial validity of the Maslach Inventory – General Survey across occupational groups and nations. *Journal of Occupational and Organizational Psychology, 73*, 53–66.
- Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist, 55*, 5–14.
- Shadish, W. R., & Sweeney, R. B. (1991). Mediators and moderators in meta-analysis: There's a reason we don't let dodo birds tell us which psychotherapies should have prizes. *Journal of Consulting and Clinical Psychology, 59*, 883–893.

- Shaughnessy, J. J., & Zechmeister, E. B. (1997). *Research methods in psychology* (4th ed.). New York: McGraw-Hill.
- Sonnentag, S. (2003). Recovery, work engagement, and proactive behavior: A new look at the interface between non-work and work. *Journal of Applied Psychology*, 88, 518–528.
- SPSS Inc. 2003. *SPSS 12.0 for Windows*. Chicago, IL: Author.
- Steyn, H. S. (1999). *Praktiese betekenisvolheid: Die gebruik van effekgroottes*. Wetenskaplike bydraes, Reeks B: Natuurwetenskappe Nr. 117. Potchefstroom: Potchefstroom University of Christian Higher Education, Statistical Consultation Services.
- Storm, K., & Rothmann, S. (2003). A psychometric analysis of the Utrecht Work Engagement Scale in the South African Police Service. *South African Journal of Industrial Psychology*, 29(4), 62–70.
- Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Boston, MA: Allyn and Bacon.
- Wagena, E., & Geurts, S. (2000). SWING. Ontwikkeling en validering van de 'Survey Werkthuis Interference-Nijmegen' [SWING. Development and validation of the 'Survey Work-home Interference-Nijmegen']. *Gedrag & Gezondheid*, 28, 138–158.
- Westman, M., & Etzion, D. (2001). The impact of vacation and job stress on burnout and absenteeism. *Psychology and Health*, 16, 595–606.

Chapter 2

Research Article

JOB RESOURCES, POSITIVE WORK-HOME INTERACTION AND WORK ENGAGEMENT IN A SAMPLE OF POLICE OFFICERS

ABSTRACT

The objectives of this study were to test a structural model that includes job resources, positive work-home interaction and work engagement, and to determine the mediating role of positive work-home interaction in the relationship between job resources and work engagement for police officers in the North West Province. A cross-sectional survey design was used. Random samples ($n = 468$) were taken of employees in the South African Police Service in the North West Province. The Job Demands-Resources Scale, the Survey Work-Home Interaction – Nijmegen (SWING) and the Utrecht Work Engagement Scale (UWES) were administered. Structural equation modelling showed that individuals who receive sufficient job resources (including organisational support, possibilities for advancement, growth opportunities and contact with colleagues) experience positive work-home interaction that leads to work engagement. In addition, job resources help to enhance work engagement. Two models were tested to provide evidence for the partial mediating role of positive work-home interaction in the relationship between job resources and work engagement.

OPSOMMING

Die doelstelling van hierdie studie was om 'n strukturele model te toets wat werkhulpbronne, positiewe werk-huis-interaksie en werkbegeesteringskaal insluit, en om ondersoek in te stel na die mediërende rol van positiewe werk-huis-interaksie in die verhouding tussen werkhulpbronne en werkbegeesteringskaal vir polisiebeamptes in die Noordwesprovinsie. Daar is gebruik gemaak van 'n dwarsdeursnee-opnameontwerp. Ewewoensige steekproewe is ($n = 468$) is geneem van werknemers in die Suid-Afrikaanse Polisie diens in die Noordwesprovinsie. Die Werkbegeesteringskaal, die 'Survey Work-Home Interaction – Nijmegen' (SWING) en die Utrecht Werkbegeesteringskaal (UWES) is afgeneem. Strukturele vergelykingsmodellering het gewys dat mense wat voldoende werkhulpbronne tot hulle beskikking het (met inbegrip van organisasie-ondersteuning, geleenthede om vooruit te gaan, groeigeleenthede en kontak met kollegas) positiewe werk-huis-interaksie ervaar wat tot werkbegeesteringskaal lei. Werkhulpbronne is ook bevorderend vir werkbegeesteringskaal. Twee modelle is getoets om die gedeeltelike mediërende rol van positiewe werk-huis-interaksie in die verhouding tussen werkhulpbronne en werkbegeesteringskaal te bevestig.

During the last few decades, “work” and “home” have been viewed as two conceptual categories, constructed by both mental and physical aspects such as the self, people, activities and things (Clark, 2000). Recently, the organisational view of work and home has been updated, and it now indicates that the work and home domains are interdependent. As a result, a growing number of individuals are being challenged to balance work roles and family roles (Allen, Herst, Bruck, & Sutton, 2000). Various factors intensify this challenge, including changes in family structures and technology that make it possible for job tasks to be performed in a variety of locations, resulting in a growing number of individuals, employed workers, and particularly employed parents, who are challenged to combine substantial domestic responsibilities and work obligations (Allen et al., 2000; Montgomery, Panagopoutou, Peeters, & Schaufeli, 2005). Research done by Geurts and Demerouti (2003) suggest that 30% of the American working population, and 40% of dual-earning couples, experience difficulty in balancing the two domains. In South Africa, an increase in the number of working women, dual-career couples and single parents also makes it more difficult for employees to balance their work and family lives (Gerber, 2000; Schreuder & Theron, 2001). This interdependence between work and family life has a significant impact on individual behaviour in the work and home settings, and it will also have an influence on the functioning of the organisation (Parasuraman & Greenhaus, 1999).

Although it seems that work and home influence each other in a negative way, various scholars agree that the almost exclusive focus on the negative impact of work and home is a serious limitation in the work-home interaction literature (Barnett, 1998; Frone, 2003; Geurts & Demerouti, 2003; Grzywacz & Mark, 2000). Many researchers have argued that it can also be beneficial for workers to combine work and family lives, and that these benefits can outweigh the costs (e.g., Hochschild, 1997; Kirchmeyer, 1993). Several empirical studies support this argument. It was found by Crosby (1982) that married working mothers are more satisfied than women without children (see also Bersoff & Crosby, 1984), whereas, Moen, Dempster-McClain, and William (1992) found that fulfilling multiple roles, participating in volunteer work on an intermittent basis, and belonging to a club or organisation are positively related to various health measures. This study supports Barnett’s (1998) review, which shows that permanent employees experience better health than non-permanent employees. In addition, Wethington and Kessler (1989) found that white married women who decrease their working time from full-time to part-

time show an increase in stress as homemakers. On the other hand, women who increase their working times from part-time to full-time report a significant decrease in emotional stress (Barnett & Gareis, 2000; Herold & Waldron, 1985; Verbrugge, 1989). It is therefore necessary to investigate possible antecedents and outcomes of *positive* work-home interaction.

Although possible antecedents of work-home interaction can be classified into personality characteristics, family characteristics, job characteristics and attitudes, various researchers have focused on the relationship between job characteristics and work-home interaction (e.g., Bakker & Geurts, 2004; Janssen, Peeters, De Jonge, Houkes, & Tummers, 2004; Montgomery, Peeters, Schaufeli, & Den Ouden, 2003). More specifically, it seems that job *resources* have an important relationship with positive work-home interaction (e.g., Frone, 2003; Geurts & Demerouti, 2003; Geurts, Taris, Demerouti, Dijkers, & Kompier, 2002; Geurts et al., 2004). There are also several possible outcomes or consequences of work-home interaction. Geurts and Demerouti (2003) classify these outcomes into five major categories, namely psychological, physical, attitudinal, behavioural, and organisational consequences. Since managers are increasingly concerned about managing the conflicts between work and home in order to get employees more engaged in their work, it seems that work engagement is an important outcome of positive work-home interaction. Engaged employees will have a positive influence on the productivity of the organisation, seeing that they will experience satisfaction in their work, which could result in lower turnover statistics (Schaufeli & Bakker, 2004). These engaged feelings will also result in employees wanting to develop themselves and who reflect a positive behaviour in the workplace (Sonnentag, 2003).

Taken together, it seems that valued job resources have a relationship with positive work-home interaction as well as with work engagement (e.g., Schaufeli & Bakker, 2004; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Therefore, when an organisation supplies enough job resources, it will result in positive interaction between work and home as well as more engaged employees. This implies that positive work-home interaction could mediate the relationship between job resources and work engagement, and that this could either be a full mediating effect (job resources are related to positive work-home interaction and, consequently, to work

engagement) or a partial mediating effect (job resources have a direct relationship with work engagement, in addition to the indirect effect through positive WHI) (see figure 1).

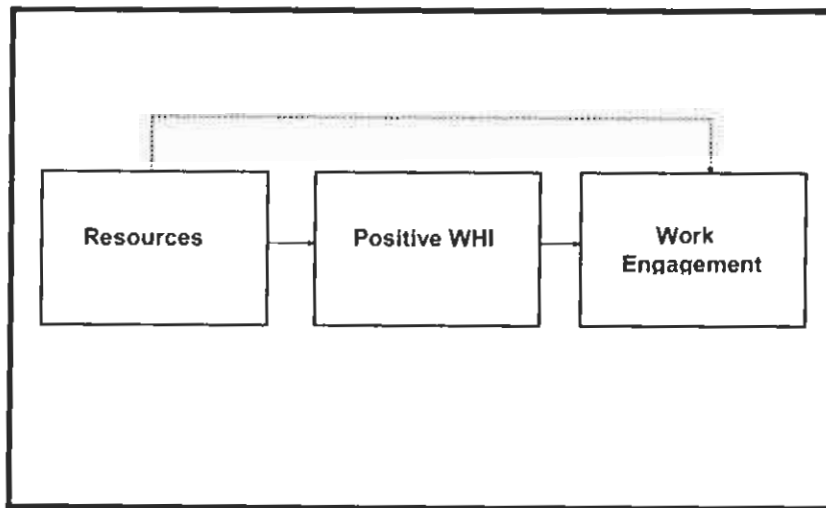


Figure 1. A structural model of job resources, positive work-home interaction and work engagement, with positive work-home interaction as full or partial mediator.

Based on this line of reasoning, the objectives of this study were to test a structural model that includes job resources, positive work-home interaction and work engagement, and to determine the mediating role of positive work-home interaction in the relationship between job resources and work engagement for police officers in the North West Province.

Work-home interaction

Work-home interaction research has always been dominated by the role strain perspective, suggesting that the responsibilities from both the work and the home domain compete for the limited amounts of time and energy of a person, eventually causing conflict between these two domains (Greenhaus & Beutell, 1985). Three major forms of conflict between work and home can be identified, namely (a) time-based conflict, (b) strain-based conflict and (c) behavioural conflict (Greenhaus & Beutell, 1985). Time-based conflict occurs when multiple roles compete for a person's time. This simply means that the time spent on the activities of one role generally cannot be devoted to another role. Furthermore, Pleck, Staines, and Lang (1980) identify

excessive work time and schedule conflict, while Kahn, Wolfe, Quinn, Snoek, and Rosenthal (1964) identifies role overload, which is consistent with time-based conflict. Strain-based conflict occurs when the roles of the two domains are incompatible in that strain created by one role makes it difficult to comply with demands of another role. This is also consistent with the fatigue/irritability dimensions identified by Pleck et al. (1980). Behavioural conflict occurs when specific patterns of in-role behaviour are incompatible with the expectations regarding the behaviour in another role. Therefore, if a person is unable to adjust his/her behaviour to comply with the expectations of a certain role it is likely that the person will experience behaviour-based conflict.

Geurts et al. (2005) define work-home interaction as an interactive process in which a worker's functioning in one domain (i.e., work) is influenced by load effects that built up in the other domain (i.e., home) and that this influence could be positive or negative. Based on this definition, four types of interaction can be distinguished, namely (1) *Negative Work-Home Interference (WHI)*, where negative load reactions that developed at work hamper functioning at home; (2) *Negative Home-Work Interference (HWI)*, where negative load reactions that developed at home hamper functioning at work; (3) *Positive WHI*, where positive load reactions that developed at work facilitate functioning at home; and (4) *Positive HWI*, where positive load reactions that developed at home facilitate functioning at work.

To illustrate the underlying mechanism of the relationship between job resources, positive work-home interaction and work engagement, a model that can be used as theoretical framework is the Effort-Recovery (E-R) model (Meijman & Mulder, 1998). The E-R model is a psychological model that is used in the work domain to determine a person's capacity in relation to workload (Meijman & Mulder, 1998). According to this model, effort expenditure (e.g., task performance at work) is associated with specific load reactions (e.g., physiological, behavioural and subjective responses like changes in hormone secretion and energy levels) that develop within an individual. These load reactions are normally reversible (after a rest period from work and effort investment, the psychological systems within the individual will re-stabilise to a baseline level where recovery will occur). Therefore, high demands in either the home or the job settings will not have unpleasant health consequences as long as there are recovery periods during and after

working time. The essential role of recovery makes the E-R model a promising perspective for understanding positive work-home interaction: if individuals feel satisfied and competent in their work, positive feelings will occur and this could increase a person's self-worth, which can lead to positive spillover to the home environment.

Work engagement

Research on work engagement has taken two different paths. According to Maslach and Leiter (1997), work engagement can be characterised by energy, involvement and efficiency, which are considered to be the three opposites of the burnout dimensions (exhaustion, cynicism and professional efficacy, respectively). Engaged employees are therefore assumed to have a sense of energetic and effective connection with their activities at work and may see themselves as more capable to deal with the demands of work. On the other hand, burnout refers to the draining of energy and resources caused by constant job stress, which is an indicator of psychological health at work.

Schaufeli, Salanova, Gonzáles-Romá, and Bakker (2002) conceptualise work engagement in its own right and define it as a persistent and pervasive affective-motivational state that is not focused on any particular object, event, individual or behaviour and that can be characterised by three dimensions, namely vigour, dedication and absorption. *Vigour* is characterised by high levels of energy and mental resilience, the willingness to put effort in one's work, and having persistence even in times of difficulties. *Dedication* is characterised by feelings of significance, enthusiasm, inspiration, pride and challenges. *Absorption* is characterised by being fully concentrated on and deeply engrossed in one's work, where the time passes quickly and people experience difficulty in detaching themselves from their work. However, after thirty in-depth interviews, Schaufeli and Bakker (2001) found that absorption is only a relevant aspect of engagement and that vigour and dedication are the core components of work engagement.

According to Sonnentag (2003), work engagement is a relevant concept for the well-being of employees for several reasons. Firstly, work engagement is a positive experience in itself (Schaufeli et al., 2002). Secondly, it relates to good health and positive work effect (Demerouti,

Bakker, De Jonge, Janssen, & Schaufeli, 2001; Rothbard, 2001). Thirdly, it helps individuals derive benefits from stressful work (Britt, Adler, & Bartone, 2001). Lastly, it is positively related to organisational commitment (Demerouti et al., 2001) and it is also expected to affect employee performance (Kahn, 1990). Furthermore, it seems that organisations can benefit from engaged employees, and, as a result, deem the well-being of their employees very important. This is supported by the structured qualitative interviews that were held with a heterogeneous group of Dutch employees (Schaufeli et al., 2001). It was found that the values of engaged employees largely agree with those of the organisation. The interviews also showed that engaged employees show initiative at work and generate their own positive feedback.

Job resources

Several models can be used to investigate the influence of job resources on work-home interaction and work engagement, including the Job-Demands-Resources (JD-R) model (Bakker, Demerouti, De Boer, & Schaufeli, 2003; Demerouti et al., 2001). The central proposition of the JD-R model is that job characteristics can be organised in two categories, namely job demands and job resources. According to Demerouti et al. (2001), *job demands* refer to the aspects of the job that require physical and/or mental effort and are therefore associated with certain psychosocial and/or psychological costs. *Job resources* on the other hand refer to those physical, psychological, social or organisational aspects of the job that (1) are functional in achieving work goals, (2) reduce job demands and the associated physiological and psychological costs, or (3) stimulate personal growth and development. Resources may be located in the task itself (e.g., performance feedback, skill variety, task significance, task identity, autonomy; cf. Hackman & Oldham, 1980), as well as in the context of the task, for instance organisational resources (career opportunities, job security, salary, etc.) and social resources (supervisor and co-worker support, and team climate, etc.). Adequate resources will cause a reduction in physiological and/or psychological costs and will also stimulate personal growth and development (Demerouti et al., 2001).

Research findings in the burnout/work engagement literature indicate that job demands are the main predictors of burnout, while work engagement is predicted by job resources (Barkhuizen,

2005; Coetzer, 2004; Demerouti et al., 2001; Jackson, 2004; Montgomery et al., 2003; Schaufeli & Bakker, 2004). Furthermore, there is a strong relationship between job resources and work-home interaction. The research of Kinnunen and Mauno (1998) found a strong relationship between work-home interaction and two job resources, namely job control and job support. In a similar vein, Demerouti, Geurts, and Kompier (2004) found that positive work-home interference was related to job control and support. Grzywacz and Marks (2000) also showed that job control was stronger related to positive than to negative spillover between work and family. From these findings, it seems that if an individual does not receive sufficient resources to achieve his or her work goals, to cope with demanding aspects at work or to stimulate growth and development, he or she will experience less positive work-home interaction and lower levels of engagement.

The mediating role of positive work-home interaction in the relationship between job resources and work engagement

It seems that job resources, positive work-home interaction and engagement all have a relationship (Geurts & Demerouti, 2003; Schaufeli & Bakker, 2004; Montgomery et al., 2003). This means that adequate job resources can assist individuals to balance the demands at work and at home, leading to a positive interaction between the two domains, which will bring forth higher levels of engagement (Frone, 2003; Geurts & Demerouti, 2003). However, sufficient job resources will also have an effect on work engagement. Based on these findings, it seems that positive work-home interaction could be an important mediator between job resources and work engagement.

A mediator specifies how (or the mechanism by which) a given effect occurs (Baron & Kenny, 1986; James & Brett, 1984). More specifically, Baron and Kenny (1986) describe a mediating variable as "the generative mechanism through which the focal independent variable is able to influence the dependent variable of interest" (p. 1173). Furthermore, the role of the mediator could also be described as a full mediating effect (where the cause is related to the mediator and consequently to the outcome) or a partial mediating effect (where the cause also have a direct relationship with the outcome in addition to the indirect effect through the mediator).

Although one may argue that the relationships among independent variable, mediator, and outcome may not necessarily be "causal," the nature of the mediated relationship is such that the independent variable influences the mediator which, in turn, influences the outcome (Holmbeck, 1997). This study will investigate if positive work-home interaction (WHI) has a full of partial mediating effect between positive WHI between job resources and work engagement. Given previous research findings regarding the relationship between job characteristics, work-home interaction, burnout and engagement (see Bakker & Geurts, 2004; Janssen et al., 2004; Montgomery et al., 2003), it is expected that positive WHI will *partially* mediate between job resources and work engagement, (e.g., job resources will have a direct relationship with work engagement, in addition to the indirect effect through positive work-home interaction).

METHOD

Research design

A survey design was used to reach the research objectives. The specific design was the cross-sectional design, where a sample is drawn from a population at a particular point in time (Shaughnessy & Zechmeister, 1997).

Participants and procedure

Individuals employed in the South African Police Service were randomly selected from the population ($n = 468$). Samples were taken from police stations in the North West Province. After informative meetings with representatives of the management and personnel department, permission was granted and the selected police officers received paper-and-pencil questionnaires. The questionnaires were accompanied by a letter introducing the goal of the study. The confidentiality and anonymity of the answers were emphasised. Police officers were requested to fill out the questionnaire in a three- to four-week period, whereafter they were personally collected from the participating police stations. Table 1 shows some of the characteristics of the participants.

Table 1

Characteristics of the Participants

Item	Category	Frequency	Percentage
Gender	Male	271	57,9
	Female	195	41,7
	Missing values	2	0,4
Age	22-25	22	4,7
	26-35	189	40,4
	36-45	192	41,1
	46-55	47	10,1
	56-59	17	3,6
	Missing values	1	0,2
	Language	English	18
Afrikaans		226	48,3
Setswana		163	34,8
isiXhosa		13	2,8
isiZulu		6	1,3
Sesotho		25	5,3
Sesotho sa Leboa		2	0,4
Missing values		15	3,2
Education level		Grade 10	41
	Grade 11	13	2,8
	Grade 12	242	51,7
	Technical College Diploma	16	3,4
	Technicon Diploma	83	17,7
	University Degree	17	3,6
	Postgraduate Degree	12	2,6
	Missing values	44	9,4

According to Table 1, more than half of the participants (57,9%) were male, 44% were white and 48,9% were African. A total of 41,1% of the participants were between the ages of 36 and 45. Most participants were either Afrikaans (43,3%) or Setswana (34,8%) speaking, 52,6% were married with children, 13% were single with children, 9,4% were married with no children, 6,8% were single with no children, and 8,5% were living with their parents. Slightly over half of the

participants (51,7%) were in possession of a grade 12 certificate and 17,7% had a Technicon Diploma. Regarding the positions of the police officers, 39,3% were inspectors, 13,0% were captains, 7,3% were constables, 5,8% were sergeants and 3,0% were superintendents.

Measuring instruments

The following questionnaires were utilised in the empirical study:

Job Resources. Recently, Jackson and Rothmann (2005) developed the Job Demands-Resources Scale (JDRS) to measure job demand and job resources. The JDRS was developed based on a literature review and interviews with participants in the study. Items were developed and checked for face validity. The JDRS consists of 48 items about pace and amount of work, mental load, emotional load, variety in work, opportunities to learn, independence in work, relationships with colleagues, relationship with immediate supervisor, ambiguities about work, information, communications, participation, contact possibilities, uncertainty about the future, remuneration, and career possibilities. The items are rated on a four-point scale ranging from 1 (*never*) to 4 (*always*). Jackson and Rothmann (2005) found that the dimensions of the JDRS consisted of seven reliable factors, namely organisational support ($\alpha = 0,88$), growth opportunities ($\alpha = 0,80$), overload ($\alpha = 0,75$), job insecurity ($\alpha = 0,90$), relationship with colleagues ($\alpha = 0,76$), control ($\alpha = 0,71$), and rewards ($\alpha = 0,78$). In this study, items of the JDRS that measure job resources were adapted to measure job resources for police officers (see Table 2).

Work-home Interaction. Positive WHI was measured using the PWHI scale of the 'Survey Work-home Interaction-NijmeGen' (SWING) (Geurts et al., 2005; Wagena & Geurts, 2000). Positive WHI refers to a positive interference from "work" with "home", referring to a positive influence of the work situation on one's functioning at home (six items, e.g., "you come cheerfully home after a successful day at work, positively affecting the atmosphere at home"). All items are scored on a four-point frequency rating scale ranging from 0 (*never*) to 3 (*always*). Geurts et al. (2005) obtained a reliable Cronbach alpha coefficient for this scale ($\alpha = 0,75$). In a psychometric analysis of the SWING in a South African sample of employees working in the

earthmoving equipment industry, Pieterse and Mostert (2005) also confirmed the reliability of this scale ($\alpha = 0,79$).

Engagement. The Utrecht Work Engagement Scale (UWES) (Schaufeli et al., 2002) is used to measure work engagement and consists of three scales, namely Vigour, Dedication and Absorption. Theoretically, when looking at Burnout and Work Engagement, Vigour and Emotional Exhaustion; and Dedication and Cynicism is considered to be opposites but Absorption is not regarded to be the opposite of Professional Inefficacy. Accordingly, the "core dimensions" of work engagement were used, namely Vigour and Dedication whereas Absorption has been found to be a valid characteristic of work engagement (see Schaufeli & Bakker 2001, 2004) . Four items were used to measure Vigour (e.g., "I am bursting with energy every day in my work") and five items to measure Dedication ("I am enthusiastic about my job"). The UWES is scored on a seven-point frequency rating scale, varying from 0 (*never*) to 6 (*always*). Alpha coefficients range between 0,78 and 0,89 (Schaufeli et al., 2002). Storm and Rothmann (2003) obtained the following alpha coefficients for the UWES in a sample of 2 396 members of the SAPS: Vigour: 0,78; Dedication: 0,89.

Statistical analysis

The statistical analysis was carried out with the SPSS program (SPSS Inc., 2003) and the Amos program (Arbuckle, 1999). Cronbach alpha coefficients were used to assess the reliability of the constructs that were measured in this study. Descriptive statistics (e.g., means, standard deviations, skewness and kurtosis) and inferential statistics were used to analyse the data.

Exploratory factor analyses were carried out to determine the construct validity of the Job Demands-Resources Scale (JDERS). Firstly, a simple principle components analysis was conducted on the items of the JDERS. Eigenvalues and scree plots were studied to determine the number of factors underlying the measuring instrument. Secondly, a principal components analysis with direct oblimin rotation was conducted if factors were related. A principal component analysis with varimax rotation was used if the obtained factors were not related (Tabachnick & Fidell, 2001).

Pearson product-moment correlation coefficients were used to specify the relationship between the variables. In terms of statistical significance, it was decided to set the value at a 95% confidence interval level ($p \leq 0,05$). Effect sizes were used to decide on the practical significance of the findings (Steyn, 1999). A cut-off point of 0,30 (medium effect, Cohen, 1988) and 0,50 (large effect) was set for the practical significance of correlation coefficients.

Structural equation modelling (SEM) methods, as implemented by AMOS (Arbuckle, 1999), were used to test the construct validity of Work Engagement, and to test the structural model. SEM is a statistical methodology that takes a confirmatory (i.e., hypothesis-testing) approach to the analysis of a structural theory bearing on some phenomenon (Byrne, 2001). In order to assess the mediating role of positive work-home interaction between job resources and work engagement, two competing models were tested using SEM. Model 1 assumes that job resources are related to positive work-home interaction and, consequently, to work engagement (full mediating effect). Model 2 assumes that job resources will have a direct relationship with work engagement, in addition to the indirect effect through positive work-home interaction (partial mediating effect). The χ^2 and several other goodness-of-fit indices are used to summarise the degree of correspondence between the implied and observed covariance matrices. The following goodness-of-fit-indices were used as adjuncts to the χ^2 statistics: a) χ^2/df ratio; b) The Goodness-of-Fit Index (GFI); c) The Adjusted Goodness-of-Fit Index (AGFI); d) The Parsimony Goodness-of-Fit Index (PGFI); e) The Incremental Fit Index (IFI); f) The Tucker-Lewis Index (TLI); g) The Comparative Fit Index (CFI); h) The Root Mean Square Error of Approximation (RMSEA).

RESULTS

A simple principal components analysis was carried out on the job resources items (as measured by the JDRS). An analysis of the eigenvalues ($> 1,00$) and scree plot indicated that four factors could be extracted, which explained 53,13% of the total variance. A principle components analysis with an oblimin rotation was then performed on the 29 items. The results of the exploratory factor analysis are shown in Table 2. Loadings of variables on factors and communalities are also shown in Table 2. Loadings under 0,30 were replaced by zeros. Labels are suggested for each factor in a footnote.

Table 2

Principal Component Analysis with an Oblimin Rotation on the items of the JDRS

Component	F1'	2	3	4	h^2
Enough variety in work	0,00	0,00	-0,45	0,00	0,30
Opportunities for growth and development	0,00	0,00	-0,77	0,00	0,61
Feeling of achievement	0,00	0,00	-0,78	0,00	0,66
Independent thought and action	0,00	0,00	-0,75	0,00	0,60
Freedom to do work activities	0,00	0,00	-0,69	0,00	0,54
I have influence in planning work	0,00	0,00	-0,69	0,00	0,55
Participate in decision about work completion	0,00	0,00	-0,65	0,00	0,47
Have influence on unit's discussions	0,00	0,00	-0,35	0,00	0,36
Support from supervisor when in difficulty	0,73	0,00	0,00	0,00	0,56
Good relationship with manager	0,76	0,00	0,00	0,00	0,55
Feel appreciated by Supervisor	0,75	0,00	0,00	0,00	0,62
Knowledge on what is expected of you	0,57	0,00	0,00	0,00	0,35
Knowledge of responsibilities	0,54	0,00	0,00	0,00	0,34
Knowledge on performance	0,75	0,00	0,00	0,00	0,51
Sufficient information on purpose of work	0,69	0,00	0,00	0,00	0,54
Sufficient feedback on results on work	0,70	0,00	0,00	0,00	0,57
Feedback on how well you're doing	0,78	0,00	0,00	0,00	0,61
Kept up to date on important issues.	0,39	0,00	0,00	0,00	0,38
Can discuss problems with supervisor	0,73	0,00	0,00	0,00	0,52
Participate in decisions about nature of work	0,43	0,00	0,00	0,00	0,55
Contact with colleagues as part of work	0,00	0,00	0,00	0,55	0,52
Chat with colleagues during work	0,00	0,00	0,00	0,79	0,60
Enough contact with colleagues at work	0,00	0,00	0,00	0,76	0,65
Paid good salary by SAPS	0,00	0,82	0,00	0,00	0,63
Live comfortably on salary	0,00	0,84	0,00	0,00	0,72
Enough payment for work	0,00	0,87	0,00	0,00	0,73
Possibilities to progress financially	0,00	0,78	0,00	0,00	0,67
Opportunities to follow training courses	0,00	0,31	0,00	0,00	0,31
Promotion opportunities	0,00	0,54	0,00	0,00	0,53

a Factor labels: F₁ Organisational Support F₂ Possibilities for Advancement F₃ Growth Opportunities F₄ Contact with Colleagues

Table 2 shows that the principal component analysis with an oblimin rotation resulted in four factors. Items loading on the first factor relate to Organisational Support and refer to the relationship with the supervisor, ambiguities regarding work, information, communications, participation and contact possibilities. The second factor addresses Possibilities for Advancement

and refers to whether payment is regarded as sufficient and whether the salary enables employees to progress financially. The third factor represents Growth Opportunities and refers to variety in work, opportunities to learn and independence in work. Items loading on the fourth factor relate to Contact with Colleagues and refer to the possibility to communicate and make contact with other police officers.

Next, the construct validity of work engagement was tested using structural equation modelling. Two competing factorial models were tested. Model 1 assumes that all the engagement items load on one latent factor, while Model 2 assumes that work engagement consists of two correlated factors, namely Vigour and Dedication. The results are reported in Table 3.

Table 3
Construct Validity of Work Engagement

Model	χ^2	χ^2/df	GFI	AGFI	PGFI	NFI	IFI	TLI	CFI	RSMEA
One-factor Model	88,88	3,29	0,96	0,93	0,58	0,95	0,96	0,95	0,96	0,07
Two-factor Model	81,16	3,12	0,96	0,93	0,56	0,95	0,97	0,97	0,97	0,07

The results indicate that there was not a statistically significantly difference between Model 1 (the one-factor model) and Model 2 (the two-factor model ($\Delta \chi^2 = 7,72$ ($N = 468$), $df = 1,00$, $p < 0,05$). However, based on previous research (Schaufeli et al., 2002) and the overall better fit of Model 2 compared to Model 1, it was decided to measure work engagement with two scales, namely Vigour and Dedication.

Table 4 shows the descriptive statistics and the Cronbach alpha coefficients of the measuring instruments.

Table 4

Descriptive Statistics and Cronbach's Coefficients Alpha of the Measuring Instruments

Item	<i>M</i>	<i>SD</i>	Skewness	Kurtosis	α
Job Resources					
Organisational Support	35,65	7,73	-0,35	-0,38	0,90
Possibilities for Advancement	11,33	4,14	1,04*	0,64	0,83
Growth Opportunities	21,64	5,37	-0,11	-0,35	0,84
Contact with Colleagues	9,34	1,98	-0,30	-0,56	0,67
Work-Home Interaction					
Positive WHI	11,75	5,29	0,06	-0,73	0,87
Work Engagement					
Vigour	16,89	5,94	-0,68	-0,37	0,74
Dedication	23,55	7,06	-1,06*	0,25	0,84

* High skewness and kurtosis

As indicated in Table 4, the scores on job resources, positive work-home interaction and work engagement were normally distributed, except for two scales (Possibilities for Advancement and Dedication). The alpha coefficients of all the measuring instruments were considered to be acceptable compared to the guideline of $\alpha > 0,70$ (Nunnally & Bernstein, 1994).

Product-moment correlation coefficients between the constructs are reported in Table 5.

Table 5

Correlation Coefficients between Job Resources, Positive Work-Home Interaction and Work Engagement

Item	1	2	3	4	5	6
1. Organisational Support	-	-	-	-	-	-
2. Possibilities for Advancement	0,32 [*]	-	-	-	-	-
3. Growth Opportunities	0,62 ^{***}	0,36 ^{**}	-	-	-	-
4. Contact with Colleagues	0,43 ^{**}	0,22 [*]	0,41 ^{**}	-	-	-
5. Positive WHI	0,15 [*]	0,22 [*]	0,42 ^{**}	0,10 [*]	-	-
6. Vigour	0,30 [*]	0,25 [*]	0,44 ^{**}	0,10 [*]	0,52 ^{***}	-
7. Dedication	0,37 ^{**}	0,24 [*]	0,53 ^{***}	0,19 [*]	0,51 ^{***}	0,68 ^{***}

^{*} Statistically significant correlation: $p > 0,05$

^{**} Practically significant correlation: $r > 0,30$ (medium effect)

^{***} Practically significant correlation: $r > 0,50$ (large effect)

Table 5 shows that Positive WHI is practically significantly related to Growth Opportunities (medium effect) and statistically significantly related to Organisational Support, Possibilities for Advancement and Contact with Colleagues. Vigour is practically significantly related to Positive Work-Home Interaction (large effect) and Growth Opportunities (medium effect), while it is statistically significantly related to Organisational Support, Possibilities for Advancement and Contact with Colleagues. Dedication is practically significantly related to Growth Opportunities (large effect), Positive Work-Home Interaction (large effect), Vigour (large effect) and Organisational Support (medium effect), and is statistically significantly related to Possibilities for Advancement and Contact with Colleagues.

Next, structural equation modelling methods were used to test a full mediation model (Model 1, assuming that job resources are related to positive work-home interaction and, consequently, to work engagement) and a partial mediating model (Model 2, assuming that job resources will

have a direct relationship with work engagement, in addition to the indirect effect through positive work-home interaction). The results are shown in Table 6.

Table 6

Goodness-of-Fit Statistics for Model 1 (Full Mediation Model) and Model 2 (Partial Mediation Model)

Model	χ^2	χ^2/df	GFI	AGFI	PGFI	NFI	RFI	TLI	CFI	RMSEA
Model 1	137,56	7,64	0,93	0,86	0,47	0,92	0,87	0,87	0,93	0,12
Model 2	74,27	4,37	0,96	0,92	0,45	0,96	0,93	0,94	0,97	0,08

As can be seen in Table 6, Model 1 (full mediation model) does not adequately fit the data (e.g., $\chi^2/df > 5,00$; RMSEA $> 0,08$). Model 2, the partial mediation model, fitted the data significantly better than Model 1 ($\Delta \chi^2 = 63,29$ ($N = 468$), $df = 1,00$, $p < 0,05$) and all the fit indices indicate a better fit for Model 2 ($\chi^2/df < 5,00$; GFI, AGFI, NFI, RFI, TLI and CFI $> 0,90$; RMSEA = $0,08$). These results support the partial mediating effect of positive work-home interaction between job resources and work engagement (see Figure 2).

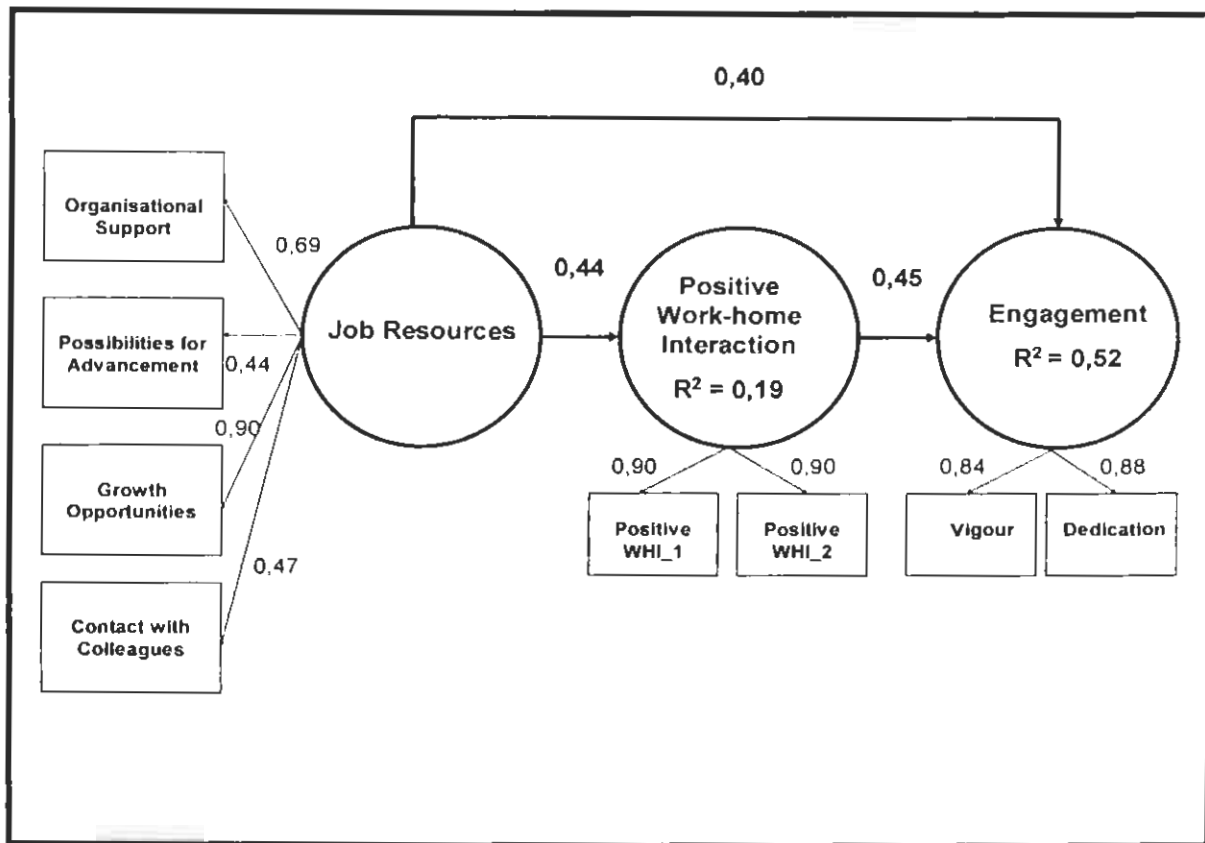


Figure 2

The final model of job resources, positive work-home interaction (as partial mediator), and work engagement.. Note: All factor loadings and path coefficients are statistically significant, $p < 0.01$.

Figure 2 shows the parameter estimates for the above model. All the relationships in the model appear to be significant as well as in the expected direction. Important considerations in testing this model were the significance of the relationship between job resources and positive work-home interaction and the relationship between positive work-home interaction and work engagement. The coefficients of the paths from job resources to positive work-home interaction and from positive work-home interaction to work engagement were both positive and significant. These findings strongly support the hypothesis that employees who receive valued job resources (e.g., support from the organisation, possibilities to advance, opportunities to grow and contact with other colleagues) experience positive interaction between their work and home lives that

will lead to employees feeling more engaged in their work. In addition, sufficient resources will help to enhance work engagement of employees. On the other hand, insufficient resources will hinder positive spillover between the work and home domains and decrease feelings of engagement.

DISCUSSION

Police officers are experiencing stress in their work environment. This may have a negative influence on their home environment. However, researchers have recently started to shift their focus to positive psychology and well-being. They have been studying factors (including job resources and work engagement) that have a positive influence on work-home interaction. In this study, the Effort-Recovery model (Meijman & Mulder, 1998) was used as theoretical framework to explain the underlying mechanisms of the relationship between job resources, positive work-home interaction and work engagement.

The objectives of this study were to test a structural model of job resources, positive work-home interaction and work engagement, and to determine if positive work-home interaction fully or partially mediates the relationship between job resources and work engagement. The results showed that job resources are directly linked to positive work-home interaction, which will in turn have an effect on work engagement. Several research findings seem to support these relationships. Kinnunen and Mauno (1998) and Demerouti et al. (2004) found that work-home interaction and job resources show a strong relationship. It also seems that there is a direct relationship between job resources and work engagement, supporting several other research findings (Schaufeli & Bakker, 2004; Demerouti, Bakker, Nachreiner & Schaufeli, 2001).

Based on these results, it seems that sufficient job resources result in positive work-home interaction, which in turn causes employees to experience work engagement. When the E-R model is used to explain these results, there appears to be specific load reactions that develop within an individual which are associated with task performance at work. This model illustrates that, after a rest period, these load reaction may be reversed, which will give the individual the opportunity to recover. It also shows that if individuals receive the necessary resources at work,

they will experience positive work-home interaction. This will have a positive effect on their work itself as well as on their home life. When the individual has positive load reactions that built up as a result of sufficient resources, this will spill over in a positive way to the home domain. The individual then has sufficient energy left to engage in relaxing activities at home, which will further contribute to the stabilisation of load reactions. As a result, fatigue and other effects of stressful situations at work are reduced, leaving the person revitalised, ready and motivated for the next day at work.

However, positive interaction between work and home only play a partial mediating role in the relationship between job resources and work engagement. The role that job resources play in the work engagement of police officers should therefore not be underestimated. If police officers receive sufficient job resources, they will be more engaged in their work. These resources include organisational support, advancement opportunities, growth opportunities and contact with, or support from, colleagues. Organisational support includes good and sufficient supervision (e.g., having a good relationship with one's supervisor, feeling appreciated, receiving sufficient feedback from one's supervisor), clarity about one's role (e.g., knowing exactly what your responsibilities are and what others expect from you), receiving sufficient information about the purpose and results of your work, effective communication and participation in decisions about the nature of one's work. Advancement opportunities include an adequate salary, training opportunities and opportunities for career development, while growth opportunities include a variety in one's job and the ability to learn more about the job. Lastly, contact with other colleagues (having a chat during working hours and feeling that you are not alone) also seems to be an important resource that could enhance work engagement.

This study had various limitations. The first limitation was the use of a cross-sectional design, which implies that the postulated relationship between job resources, work-home interaction and work engagement could not be interpreted causally. The second limitation of the study was the use of self-reported measures, which increased the possibility of contamination of the reported relationship through common method variance. Finally, this study did not take into account some of the variables that have been found to be related to work-home interaction (psychological

involvement, personality variables, demographical characteristics, etc.). Future research should therefore examine a model with different sets of variables.

RECOMMENDATIONS

Despite the limitations of the study, present findings may have important implications for future research and practice. The results of this study confirm that access to sufficient resources contributes to positive load reactions, which influence the home environment in a positive way. It also contributes to higher work engagement, which is related to organisation commitment and performance. However, the reverse can also occur. When there is a *lack* of resources, it could mean that there is not sufficient time for recovery during work, leading to a negative spillover effect to the home domain. When there is not sufficient time for recovery at home, the individual will return to work in a sub-optimal state, and engagement levels could be hampered.

Seeing that police officers work in a very stressful environment, strategies to enhance positive work-home interaction should focus on increasing job resources so as to enable employees to cope with the demands at work. This will also increase their level of work engagement and satisfaction. Furthermore, it is important that organisations should assist their employees to align both their life spheres (work and home). This means that organisations must also be considerate towards employees who have families and home demands, and who are therefore unable to concentrate exclusively on work demands. In order to promote this, formal as well as informal policies need to be in place and the culture of the organisation might have to change.

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REFERENCE

- Allen, T. D., Herst, D. E. L., Bruek, C. S., & Sutton, M. (2000). Consequences associated with work-to-family conflict: A review and agenda for future research. *Journal of Occupational Health Psychology, 5*, 278–308.
- Arbuckle, J. L. (1999). *Amos 5.0*. Chicago, IL: Smallwaters.
- Bakker, A. B., & Geurts, S. A. E. (2004). Toward a dual-process model of work-home interference. *Work and Occupations, 31*, 345–366.
- Bakker, A. B., Demerouti, E., De Boer, E., & Schaufeli, W. B. (2003). Job demands and job resources as predictors of absence duration and frequency. *Journal of Vocational Behavior, 62*, 341–356.
- Barkhuizen, E. N. (2005). *Work wellness of academic staff in South African Higher Education institutions*. Unpublished doctoral thesis, North-West University, Potchefstroom.
- Barnett, R. C. (1998). Toward a review and reconceptualization of the work/family literature. *Generic, Social and General Psychology Monographs, 124*, 125–182.
- Barnett, R. C., & Gareis, K. C. (2000). Reduced-hours employment: The relationship between difficulty of trade-offs and quality of life. *Work and Occupations, 27*, 168–187.
- Baron, R. M., & Kenny, D. A. (1986). The mediator distraction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173–1182.
- Bersoff, D., & Crosby, F. (1984). Job satisfaction and family status. *Personality and Social Psychology Bulletin, 10*, 79–83.
- Britt, T. W., Adler, A. B., & Bartone, P. T. (2001). Deriving benefits from stressful events: The role of engagement in meaningful work and hardiness. *Journal of Occupational Health Psychology, 6*, 53–63.
- Byrne, B. M. (2001). *Structural equation modeling with AMOS*. Mahwah, NJ: Erlbaum.
- Clark, S. C. (2000). Work/family border theory: A new theory of work/family balance. *Human Resources, 53*, 747–770.
- Coetzer, W. J. (2004). *Burnout and work engagement of employees in an insurance company*. Unpublished doctoral thesis, North-West University, Potchefstroom.

- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (Rev. ed.) Orlando, FL: Academic Press.
- Crosby, F. (1982). *Relative deprivation and working women*. New York: Oxford University Press.
- Demerouti, E., Bakker, A. B., De Jonge, J., Janssen, P. P., & Schaufeli, W. B. (2001). Burnout and engagement at work as a function of demands and control. *Scandinavian Journal of Work Environment and Health*, 27, 279–286.
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, 86, 499–512.
- Demerouti, E., Geurts, S. A. E., & Kompier, M. A. J. (2004). Positive and negative work-home interaction: Prevalence and correlates. *Equal Opportunities International*, 23(1), 6–35.
- Frone, M. R. (2003). Work-family balance. In J.C. Quick & L.E. Tetrick (Eds.), *Handbook of occupational health psychology* (pp. 143–162). Washington, DC: American Psychological Association.
- Gerber, H. M. (2000). Career development of SA professional women who take career breaks. *Journal of Industrial Psychology*, 26(2), 7–13.
- Geurts, S. A. E., Taris, T. W., Demerouti, E., Dikkers, J., & Kompier, M. A. J. (2002). Waar thuis en werk elkaar raken: De stand van zaken (Where work and nonwork meet: The state of the art). *Gedrag & Organisatie*, 15, 163–183.
- Geurts, S. A. E., Taris, T. W., Kompier, M. A. J., Dikkers, J. S. E., Van Hooff, M. L. M., & Kinnunen, U. M. (2004). *Measuring positive and negative interaction between 'work' and 'home': Development and validation of the survey Work-Home Interaction-Nijmegen*. Manuscript submitted for publication.
- Geurts, S. A. E., & Demerouti, E. (2003). Work/nonwork interface: A review of theories and findings. In M. Schabracq, J. Winnubst & C.L. Cooper (Eds.), *Handbook of work and health psychology* (pp. 279–312). Chichester: Wiley.
- Geurts, S. A. E., Taris, T. W., Kompier, M. A. J., Dikkers, J. S. E., Van Hooff, M. L. M., & Kinnunen, U. M. (2005). Work-home interaction from a work psychological perspective: Development and validation of a new questionnaire, the SWING. *Work & Stress*, 19(4), 319–339.

- Greenhaus, J. H., & Beutell, N. J. (1985). Sources of conflict between work and family roles. *Academy of Management Review, 10*, 76–88.
- Grzywacz, J. G., & Marks, N. F. (2000). Re-conceptualizing the work-family interface: An ecological perspective on the correlates of positive and negative spillover between work and family. *Journal of Occupational Health Psychology, 5*, 111–126.
- Hackman, J. R., & Oldman, G. R. (1980). *Work redesign*. Reading, MA: Addison Wesley.
- Herold, J., & Waldron, I. (1985). Part time employment and women's health. *Journal of Occupational Medicine, 27*, 405–412.
- Hochschild, A. (1997). *The time bind*. New York: Metropolitan.
- Holmbeck, G. N. (1997). Toward terminological, conceptual, and statistical clarity in the study of mediators and moderators: Examples from the child-clinical and pediatric psychology literatures. *Journal of Consulting and Clinical Psychology, 65*, 599–610.
- Jackson, L. T. B., & Rothman, S. (2005). Work-related well-being of educators in a district of the North-West Province. *Perspectives in Education, 23*(3), 107–122.
- Jackson, L. T. B. (2004). *Burnout and engagement of teachers: A cross-cultural study*. Unpublished doctoral thesis, North-West University, Potchefstroom.
- James, L. R., & Brett, J. M. (1984). Mediators, moderators, and tests for mediation. *Journal of Applied Psychology, 69*, 307–321.
- Janssen, P. P. M., Peeters, M. C. W., De Jonge, J., Houkes, I., & Tummers, G. E. R. (2004). Specific relationships between job demands, job resources and outcomes and the mediating role of work home interference: A cross cultural validation study among nurses. *Journal of Vocational Behavior, 65*, 411–429.
- Kahn, R. L., Wolfe, D. M., Quinn, R. P., Snoek, J. D., & Rosenthal, R. A. (1964). *Organizational stress: Studies in role conflict and ambiguity*. New York: Wiley.
- Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal, 33*, 692–724.
- Kinnunen, U., & Mauno, S. (1998). Antecedents and outcomes of work-family conflict among employed women and men in Finland. *Human Relations, 51*, 157–177.
- Kirchmeyer, C. (1993). Nonwork-to-work spillover. A more balanced view of the experiences and coping of professional women and men. *Sex Roles, 28*, 531–552.
- Maslach, C., & Leiter, M. P. (1997). *The truth about burnout*. San Francisco, CA: Jossey Bass.

- Meijman, T. F., & Mulder, G. (1998). Psychological aspects of workload. In P.J. Drenth, H. Thierry & C.J. de Wolff (Eds.), *Handbook of work and organizational psychology* (2nd ed., pp. 5–33). Hove: Erlbaum.
- Moen, P., Dempster-McClain, D., & Williams, R. M. (1992). Successful aging: A life-course perspective on women's multiple roles and health. *American Journal of Sociology*, *97*, 1612–1638.
- Montgomery, A. J., Panagopoulou, E. P., Peeters, M. C. W., & Schaufeli, W. B. (2005). The meaning of work and home: Community. *Work and Family*, *8*(2), 141–161.
- Montgomery, A. J., Peeters, M. C. W., Schaufeli, W. B., & Den Ouden, M. (2003). Work-home interference among newspaper managers: Its relationship with burnout and engagement. *Anxiety, Stress & Coping*, *16*, 195–211.
- Nunnally, J. C. & Bernstein, I. H. 1994. *Psychometric Theory* (3rd ed.). New York: McGraw-Hill.
- Parasuraman, S., & Greenhaus, J. H. (1999). *Integrating work and family: Challenges for a changing world*. Westport, CT: Praeger.
- Pieterse, M., & Mostert, K. (2005). Measuring the work-home interface: Validation of the Survey Work-Home Interaction – Nijmegen (SWING) Instrument. *Management Dynamics*, *14*(2), 2–15.
- Pleck, J. H., Staines, G. L., & Lang, L. (1980). Conflicts between work and family life. *Monthly Labor Review*, *103*(3), 29–32.
- Rothbard, N. P. (2001). Enriching or depleting? The dynamics of engagement in work and family roles. *Administrative Science Quarterly*, *46*, 655–684.
- Schaufeli, W. B., & Bakker, A. B. (2001). Werk en welbevinden: naar een positieve benadering in die Arbeids- en Gezondheidspsychologie (Work and well-being: towards a positive approach in Occupational Health Psychology). *Gedrag & Organisatie*, *14*, 229–253.
- Schaufeli, W. B., Taris, T., Le Blanc, P., Peeters, M., Bakker, A., & De Jonge, J. (2001). Maakt arbeid gezond? Op zoek naar de bevlogen werknemer (Work and health: the quest of the engaged worker). *De Psycholoog*, *36*, 422–428.
- Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior*, *25*, 293–315.

- Schaufeli, W. B., Salanova, M., Gonzáles-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A confirmatory factor analytic approach. *Journal of Happiness Studies*, 3, 71–92.
- Schreuder, A. M. G., & Theron, A. L. (2001). *Careers: An organizational perspective* (2nd ed.). Cape Town: Juta.
- Shaughnessy, J. J., & Zechmeister, E. B. (1997). *Research methods in psychology* (4th ed.). New York: McGraw-Hill.
- Sonnetag, S. (2003). Recovery, work engagement, and proactive behavior: A new look at the interface between non-work and work. *Journal of Applied Psychology*, 88, 518–528.
- SPSS Inc. 2003. *SPSS 12.0 for Windows*. Chicago, IL: Author.
- Steyn, H. S. (1999). *Praktiese betekenisvolheid: Die gebruik van effekgroottes*. Wetenskaplike bydraes, Reeks B: Natuurwetenskappe Nr. 117. Potchefstroom: Potchefstroom University of Christian Higher Education, Statistical Consultation Services.
- Storm, K., & Rothmann, S. (2003). A psychometric analysis of the Utrecht Work Engagement Scale in the South African Police Service. *South African Journal of Industrial Psychology*, 29(4), 62–70.
- Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Boston, MA: Allyn and Bacon.
- Verbrugge, L. M. (1989). The twain meet: Empirical explanations of sex differences in health and mortality. *Journal of Health and Social Behavior*, 30, 282–304.
- Wagena, E., & Geurts, S. (2000). SWING. Ontwikkeling en validering van de 'Survey Werkthuis Interference-Nijmegen' [SWING. Development and validation of the 'Survey Work-home Interference-Nijmegen']. *Gedrag & Gezondheid*, 28, 138–158.
- Wethington, E., & Kessler, R. C. (1989). Employment, parental responsibility, and psychological distress. *Journal of Family Issues*, 10, 527–546.

CHAPTER 3

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

This chapter discusses conclusions attained from the research objectives. Limitations to the study are expounded upon and recommendations for further studies are put forward. Finally, suggestions are made for future research.

3.1 CONCLUSIONS

Police officers are experiencing stress in their work environment. This may have a negative influence on their home environment. However, researchers have recently started to shift their focus to positive psychology and well-being. They have been studying factors (including job resources and work engagement) that have a positive influence on work-home interaction. In this study, the relationship between job resources, positive work-home interaction and work engagement was investigated. The Effort-Recovery model (Meijman & Mulder, 1998) was used as theoretical framework to explain the underlying mechanisms of this relationship.

The first objective of this study was to investigate the relationship between job resources, positive work-home interaction and work engagement according to the literature. Job resources play an important role in positive work-home interaction (e.g., Frone, 2003; Geurts & Demerouti, 2003; Geurts, Taris, Demerouti, Dikkers, & Kompier, 2002; Geurts et al., 2005). Therefore job resources are being looked at more seriously by the organisation. Efficient job resources will contribute to employees experiencing positive work-home interaction. The outcome of positive work-home interaction is work engagement. Employees who experience work engagement will contribute towards the productivity of the organisation. This will lead to a positive spillover at home, which will contribute to the employees feeling more satisfied and positive at work (Schaufeli & Bakker, 2004).

The second and third objectives of this study were to test a structural model of job resources, positive work-home interaction and work engagement, and to determine if positive work-home

interaction fully or partially mediates the relationship between job resources and work engagement. The results showed that job resources are directly linked to positive work-home interaction, which will in turn have an effect on work engagement. Several research findings seem to support these relationships. Kinnunen and Mauno (1998), and Demerouti, Geurts, and Kompier (2004) found that work-home interaction and job resources show a strong relationship. It also seems that there is a direct relationship between job resources and work engagement, supporting several other research findings (Schaufeli & Bakker, 2004; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001).

Based on these results, it seems that sufficient job resources will result in positive work-home interaction, which in turn causes employees to experience work engagement. When the E-R model is used to explain these results, there appears to be specific load reactions that develop within an individual, which are associated with task performance at work. This model illustrates that, after a rest period, these load reaction may be reversed, which will give the individual the opportunity to recover. It also shows that if individuals receive the necessary resources at work, they will experience positive work-home interaction. This will have a positive effect on their work itself as well as on their home life. When the individual has positive load reactions that built up as a result of sufficient resources, this will spill over to the home domain in a positive way. The individual then has sufficient energy left to engage in relaxing activities at home, which will further contribute to the stabilisation of load reactions. As a result, fatigue and other effects of stressful situations at work are reduced, leaving the person revitalised, ready and motivated for the next day at work.

However, positive interaction between work and home only play a partial mediating role in the relationship between job resources and work engagement. The role that job resources play in the work engagement of police officers should therefore not be underestimated. If police officers receive sufficient job resources, they will be more engaged in their work. These resources include organisational support, advancement opportunities, growth opportunities and contact with, or support from, colleagues. Organisational support includes good and sufficient supervision (e.g., having a good relationship with one's supervisor, feeling appreciated, receiving sufficient feedback from one's supervisor), clarity about one's role (e.g., knowing exactly what

your responsibilities are and what others expect from you), receiving sufficient information about the purpose and results of your work, effective communication and participation in decisions about the nature of one's work. Advancement opportunities include an adequate salary, training opportunities and opportunities for career development, while growth opportunities include a variety in one's job and the ability to learn more about the job. Lastly, contact with other colleagues (having a chat during working hours and feeling that you are not alone) also seems to be an important resource that could enhance work engagement.

3.2 LIMITATIONS

The first limitation of this study was that the results were obtained solely by self-report questionnaires, which may lead to a problem called "method-variance" or "nuisance". Secondly, the design used in this study was a cross-sectional design. This implies that no underlying inferences could be made and that more complicated forms of infrequent connections could not be examined. Future longitudinal studies and quasi-experimental research designs are therefore needed to further validate the interpreted relationships.

Another limitation is that the research was conducted in a standardised sample consisting of individuals of a specific profession, namely the South African Police Service (SAPS). This specific profession probably has unique characteristics (such as a specific organisational culture) which could have influenced the participants' responses. The implication is that the results can not be generalised to other contexts or professions. Consequently, it is still necessary to test this model in other occupational groups to see if the same results will be obtained.

In addition to the above limitations, the structural model only included job characteristics and work-to-home interference. It seems necessary to include "home" characteristics (e.g., pressure experienced at home, control over the manner in which tasks at home are performed, support received from other family members) and the way they positively interact with the job.

A final limitation is that specific job resources were included in the present study. The JD-R model is capable of integrating a wide range of demands and resources, and it would be

interesting to investigate the relationship of other job resources with positive work-home interaction and work engagement.

3.3 RECOMMENDATIONS

The following recommendations are made for the organisation as well as for future research.

3.3.1 Recommendations for the organisation

The purpose of this study was to investigate the positive interaction from work to home. Most of the research done on work-home interaction has been based on negative interaction, while very little research exists that is primarily focused on the positive interaction between the two domains (Geurts & Demerouti, 2003). A clear and accurate understanding of positive work-home interaction is necessary in order to implement effective individual, managerial and organisational practices to effectively balance work and home. Management and individuals should realise the importance of job resources – especially in the SAPS, where extreme demands exist. The availability of sufficient resources such as organisational support, advancement opportunities, growth opportunities and contact with, or support from, colleagues will therefore not only help to deal with excessive demands, but will also foster a climate of work engagement. In this way, employees can be productive and at the same time able to deal with their families in a positive way.

In order to establish a motivating climate, the organisation needs to explain and advise their employees on their work engagement and related concepts (such as the role of job resources, the mechanisms of interaction between work and home as well as the importance of recovery during work and non-work hours). The implication is that employees must be able to identify specific job resources within their work environment, which could help them in their functioning at work and could foster work engagement and positive spillover to the home environment. Therefore, the organisation should implement organisation-based strategies to provide sufficient resources. The police organisation should also design and implement planned interventions to promote engagement in the work environment. These interventions should be designed for the long term

and deal with other factors that could foster high work engagement. This will be beneficial for the organisation, since work engagement relates to good health and positive work effect (Demerouti, Bakker, De Jonge, Janssen, & Schaufeli, 2001; Rothbard, 2001), helps individuals derive benefits from stressful work (Britt, Adler, & Bartone, 2001), is positively related to organisational commitment (Demerouti et al., 2001) and is expected to affect employee performance (Kahn, 1990).

3.3.2 Recommendations for future research

Despite the limitations of this study, certain recommendations can be made for future studies. Firstly, the mediating role of work-home interaction should be investigated. According to the literature, it seems unclear how negative WHI should be theoretically embedded in the stress-strain relationship. Often, negative WHI is considered a source of stress (e.g., a demand). However, it also seems plausible to consider it an outcome of stress (Bakker & Geurts, 2004; Geurts & Dikkers, 2002; Montgomery, Peeters, Schaufeli, & Den Ouden, 2003). The same is true for the relationship between positive WHI and work engagement. In this study, the hypothesis was that positive WHI is a partial mediator between job resources and work engagement, although it could also be seen as an outcome of work engagement (e.g., when the individual has sufficient resources, he or she will become more engaged, influencing the home domain in a positive way). Future research should therefore be directed to demonstrate a real mediational effect by using longitudinal studies (Peeters, Montgomery, Bakker, & Schaufeli, 2005).

Demerouti, Geurts, and Kompier (2004) have suggested that there is a strong need for longitudinal research designs within the work-home interaction research field. In general, it is also recommended that longitudinal designs be used when structural models are tested. A longitudinal design can be used to validate the causalities of the hypothesised relationships and to test if the estimated relationships hold true over time – something that is impossible to test in a cross-sectional research design.

In addition to studying the obvious factors that are related to work-home interaction in the SAPS, it is also necessary that other variables, such as psychological involvement, and dispositional traits, such as the big five personality dimensions (hardiness, locus of control, self-esteem, type A behaviour and sense of coherence) be included in future research.

Another suggestion for future research is to conduct more short-term studies, addressing issues such as time spent on work and non-work activities as well as momentary states of health and well-being. This will help to gain more insight into why individuals experience negative and/or positive load reactions. Sonnentag (2003) provides a new look at the interface between work and non-work, showing that day-level recovery is positively related to day-level work engagement and day-level proactive behaviour. Long-term longitudinal research may therefore reveal to what extent stable work and home characteristics influenced work-home interaction as well as the effects of these characteristics on individuals' health and well-being.

Finally, the Effort-Recovery model (Meijman & Mulder, 1998) seems to be a useful model to use as framework when work-home interaction studies are conducted. However, most studies concentrate on the short-term effects of recovery. Future research should look into the effects of long-term recovery (e.g., what will be the outcome of an individual who does not recover completely after a period of several weeks or even months of illness or extreme overload?). Hobfoll (1998) speculates that such a lack of recovery severely jeopardises an individual's health and well-being. As a result, research is needed to investigate the influence on sick leave, productivity, job satisfaction, and quality of goods and services.

REFERENCES

- Bakker, A. B., & Geurts, S. A. E. (2004). Toward a dual-process model of work-home interference. *Work and Occupations, 31*, 345–366.
- Britt, T. W., Adler, A. B., & Bartone, P.T. (2001). Deriving benefits from stressful events: The role of engagement in meaningful work and hardiness. *Journal of Occupational Health Psychology, 6*, 53–63.
- Demerouti, E., Bakker, A. B., De Jonge, J., Janssen, P. P., & Schaufeli, W.B. (2001). Burnout and engagement at work as a function of demands and control. *Scandinavian Journal of Work Environment and Health, 27*, 279–286.
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology, 86*, 499–512.
- Demerouti, E., Geurts, S. A. E., & Kompier, M. A. J. (2004). Positive and negative work-home interaction: Prevalence and correlates. *Equal Opportunities International, 23*(1), 6–35.
- Frone, M. R. (2003). Work-family balance. In J.C. Quick & L.E. Tetrick (Eds.), *Handbook of occupational health psychology* (pp. 143–162). Washington, DC: American Psychological Association.
- Geurts, A. R., & Dijkers, S. E. (2002, May). *The work-nonwork interface: What do we know and where should we go?* Paper presented at the European Academy of Management conference, Stockholm, Sweden.
- Geurts, S. A. E., & Demerouti, E. (2003). Work/nonwork interface: A review of theories and findings. In M. Schabracq, J. Winnubst & C.L. Cooper (Eds.), *Handbook of work and health psychology* (pp. 279–312). Chichester: Wiley.
- Geurts, S. A. E., Taris, T. W., Demerouti, E., Dijkers, J., & Kompier, M. A. J. (2002). Waar thuis en werk elkaar raken: De stand van zaken (Where work and nonwork meet: The state of affairs). *Gedrag & Organisatie, 15*, 163-183.
- Geurts, S. A. E., Taris, T. W., Kompier, M. A. J., Dijkers, J. S. E., Van Hooff, M. L. M., & Kinnunen, U. M. (2005). Work-home interaction from a work psychological perspective: Development and validation of a new questionnaire, the SWING. *Work & Stress, 19*(4), 319–339.

- Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist, 44*, 513–524.
- Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal, 33*, 692–724.
- Kinnunen, U., & Mauno, S. (1998). Antecedents and outcomes of work-family conflict among employed women and men in Finland. *Human Relations, 51*, 157–177.
- Meijman, T. F., & Mulder, G. (1998). Psychological aspects of workload. In P.J. Drenth, H. Thierry & C.J. de Wolff (Eds.), *Handbook of work and organizational psychology* (2nd ed., pp. 5–33). Hove: Erlbaum.
- Montgomery, A. J., Peeters, M. C. W., Schaufeli, W. B., & Den Ouden, M. (2003). Work-home interference among newspaper managers: Its relationship with burnout and engagement. *Anxiety, Stress & Coping, 16*, 195–211.
- Peeters, M. C. W., Montgomery, A. J., Bakker, A. B., & Schaufeli, W. B. (2005). Balancing work and home: How job and home demands are related to burnout. *International Journal of Stress Management, 12*(1), 43–61.
- Rothbard, N. P. (2001). Enriching or depleting? The dynamics of engagement in work and family roles. *Administrative Science Quarterly, 46*, 655–684.
- Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior, 25*, 293–315.
- Sonnentag, S. (2003). Recovery, work engagement, and proactive behavior: A new look at the interface between non-work and work. *Journal of Applied Psychology, 88*, 518–528.