

**SUPERVISOR BEHAVIOUR, PSYCHOLOGICAL NEED SATISFACTION,
EMPLOYEE ENGAGEMENT AND INTENTION TO LEAVE**

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COMMENTS

The reader is kindly requested to take note of the following:

- In the writing of this mini-dissertation, the referencing and editorial style as prescribed by the Publication Manual (6th edition) of the American Psychological Association (APA) was followed, as this is the prescribed referencing style of the Master's in Positive Psychology of the North-West University (Vanderbijlpark Campus).
- This mini-dissertation contributes only 40% to the course evaluation. The other 60% is comes from compulsory subjects for the MA (Positive Psychology) degree.
- This mini-dissertation has been written in the article format, which consists of an introductory chapter, one research article containing the main findings of the study, and a final chapter outlining the conclusions, limitations, and recommendations pertaining to the study.
- Confusion exists about the definition of employee engagement: it occasionally refers to states, traits and behaviour, and even to antecedents and outcomes thereof. Variations are evident in the terms used to refer to the concept, e.g. "work engagement" and "employee engagement". In this study the term employee engagement is used.

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DECLARATION

I, Chanelle Badenhorst, hereby declare that “Supervisor Behaviour, Psychological Need Satisfaction, Employee Engagement and Intention to Leave” is my own work and that the views and opinions expressed in this work are those of the author and relevant literature references as shown in the list of references.

I further declare that the content of this research will not be handed in for any other qualification at any other tertiary institution.

CHANELLE BADENHORST

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SUMMARY

Topic: Supervisor Behaviour, Psychological Need Satisfaction, Employee Engagement and Intention to leave

Key Words: Supervisor behaviour, psychological need satisfaction, employee engagement intention to leave

For organisations in South Africa to preserve talented and skilled employees it is important that these organisations consider the psychological needs of their employees. This is particularly true for supervisors and their relationships with their subordinates. South Africans are daily engaged in working and influencing people within their workplaces. Although supervisors are not capable of addressing or changing all the problems and concerns of employees, they can intervene in order to improve the quality of their employees' working lives. A suggested point to start with is within the supervisor's behaviour and their relationships with employees, due to its effect on employee engagement and intentions to leave. Consequently, when employees experience a deprived relationship with their supervisors, it will contribute to lower employee engagement levels and higher intentions to leave. To possibly decrease the negative impact of supervisor behaviour, it is important that supervisors pay attention and create an environment in which satisfaction of the psychological needs of their subordinates can be maintained. The objectives of this study were to investigate the relations between supervisor behaviour (that supports psychological need satisfaction), psychological need satisfaction, employee engagement and intentions to leave.

A convenience sample ($N = 139$) of employees working under the guidance of a leader/supervisor was taken from manufacturing companies across South Africa. Participation in the study was voluntary. A measuring battery measuring supervisor behaviour (i.e. perceptions of supervisor support, trust and competence-focused behaviour), work-related basic need satisfaction (i.e. the satisfaction of psychological needs such as autonomy, competence and relatedness) work engagement (i.e. cognitive, emotional and physical engagement) and intention to leave was used.

Descriptive statistics, exploratory factor analyses, alpha coefficients, Pearson product-moment correlations, and multiple regression analyses were used to analyse the data.

The results indicated that the measuring instruments used in this study were valid and reliable for further analyses. The results showed that supervisor support comprised one factor and not three factors as expected. Furthermore, the results showed that supervisor support for autonomy, competence and relatedness had a large effect on autonomy satisfaction and a medium effect on relatedness satisfaction. Supervisor relations did not impact competence satisfaction. The effect of supervisor support on autonomy satisfaction was larger than on relatedness satisfaction. Results from this study showed that supervisor support, autonomy satisfaction and competence satisfaction affected work engagement. Employees will tend to be engaged when supervisors demonstrate supportive behaviour and when they are able to regulate themselves because they feel a sense of competence and autonomy. The results also showed that supervisor support for psychological need satisfaction, autonomy satisfaction and relatedness satisfaction predicted employees' intentions to leave organisations. Lastly, the results showed that supervisor support for psychological need satisfaction impacted employee engagement indirectly and positively via autonomy satisfaction, and indirectly and negatively impacted intention to leave via autonomy dissatisfaction.

Recommendations were made for manufacturing organisations as well as for future research. Manufacturing organisations and employees should comprehend the impact of supervisor behaviour and psychological need satisfaction on outcomes such as employee engagement and intentions to leave, as both parties are similarly affected by its consequences. Interventions should be implemented to address the satisfaction of employees' basic psychological needs. Additionally, manufacturing organisations should understand the importance of supervisor behaviour and the impact it can have on their business unit and the organisation as a whole. Recommendations for future research were made.

CHAPTER 1

INTRODUCTION

This mini-dissertation focuses on supervisor behaviour, psychological need satisfaction, employee engagement and intention to leave in selected organisations in the manufacturing industry.

This chapter contains the problem statement and the discussion of the research objectives. Furthermore, the research method is explained and the division of the chapters is given.

1.1 Problem Statement

In South Africa it is important for companies to have an engaged workforce and to retain talented employees, especially in supervisory and management positions (Nienaber & Masibigri, 2012). Talented and skilled supervisory and managerial employees are usually in key jobs and possess promising potential (Scott, McMullen, & Royal, 2012). These employees play a significant role throughout economic recoveries when organisations are competing for market share and talent (Scott et al., 2012). Skilled and talented members of staff also contribute to organisational performance; therefore the loss of key talent is costly (O'Connell & Kung, 2007). When organisations struggle with unstable work conditions, costly interventions such as recruiting, orienting, overtime, training and supervision will be required (Reichheld, 2001).

Research has shown that management has more authority than anyone else to decrease undesirable turnover (Kreisman, 2002). Supervisors affect employees' engagement and intentions to stay in an organisation (Rothmann, 2013). According to Kay and Jordan (1999), factors that drive employee satisfaction, commitment and turnover are mostly within a manager's control. When organisations are losing skilled employees, it is often because of the way they are treated by managers and supervisors. Supervisors have a demanding task of encouraging and retaining workers in a milieu of increased uncertainties (Mitchell, 2002).

Intention to leave reflects the decisions and feelings of employees' experiences before the initiation of turnover behaviour (Sager, Griffeth, & Hom, 1998). Studies have found that

within solid relationships, leaders establish enhanced self-disclosure (Mehr, Ladany, & Caskie, 2010), advanced satisfaction, and a better articulation of thoughts (Ladany, Ellis, & Friedlander, 1999). Organisations need to generate engaging work settings that will promote supportive relationships with employees (Armstrong, 2006). Worker commitment, efficiency and retention matters are developing as the utmost acute workforce management challenges of the future (Caplan & Teese, 1997). Research showed that the employees' engagement (May, Gilson, & Harter, 2004), well-being (Van Dierendonck, Haynes, Borrill, & Stride, 2004), and intention to leave (Harter, Schmidt, & Hayes, 2002) are affected by leadership behaviour.

In the modern and challenging economic conditions, employee engagement is regarded as vital for organisational performance and efficiency (Rothmann, 2014). Schaufeli and Bakker (2004) found that employee engagement results in organisational commitment. Bakker, Schaufeli, Leiter, and Taris (2008) reported that employee engagement forecasts productivity of employees, job satisfaction, motivation, commitment and low turnover intention. Engagement is more than a mere brief and exact state; it is rather an insistent and pervasive affective-cognitive state; it is not engrossed in any specific object, event, individual or behaviour (Schaufeli et al., 2002). Furthermore, research suggested that low levels of employee engagement is related to intentions to leave (Firt, Mellor, Moore, & Loquet, 2004). Hence it is argued that the concept of employee engagement is relevant for the well-being and outcomes for individuals and organisations (Diedericks & Rothmann, 2013; Saks, 2006).

The conceptualisations of Kahn (1990) and Schaufeli et al. (2002) have been popular in literature regarding employee engagement. Kahn (1990 p. 694) defines engagement as the 'harnessing of members' selves, in the organisation, to their work roles so "... that they employ and express themselves physically, cognitively, mentally and emotionally during role performance". Schaufeli et al. (2002, p. 74) defined engagement as "a positive, fulfilling, work-related state of mind that is characterized by vigour, dedication and absorption.

According to Hom and Griffeth (1995), employee turnover could have a destructive influence on the effectiveness of organisations. Intention to leave can be defined as "[a]n individual's own estimated probability (subjective) that they are permanently leaving the organisation at some point in the near future" (Vandenberg & Nelson, 1999, p. 1315). Intentions are a determining factor of actual behaviour (McCarthy, Tyrell, & Lehane, 2007). Firt et al. (2004)

point out that they can be noted as precise indicators of later behaviour, but yet the reasons for intentions to quit remain unknown. Research done by McCarthy et al. (2007) indicates that intention to leave is related to actual turnover. An organisation could be profoundly damaged by unanticipated employee turnover (Dibble, 1999). Organisations can be helped if they have adequate knowledge regarding intention to leave and its antecedents, in order to pinpoint the situations leading to considerations of leaving (Costigan, Insigna, Berman, Kranas, & Kureshov, 2011). Furthermore, if the determinants of employees' intention to leave are identified, organisations could also predict turnover behaviours more accurately, leading to the earlier construction of measures to prevent turnover in the future (Hwang & Kuo, 2006).

Supervisors can contribute directly to employees' intentions to leave and their turnover behaviour. Supervisors are main contributors to turnover intent. They can contribute to the retention of talent and employees' value to organisations. When supervisors act inconsistently, employees tend to be less engaged and have stronger intentions to leave the organisation (May et al., 2004). Research indicates that secure attachments will contribute to and nurture the well-being of employees. The reason is that these attachments represent secure relationships and within these relationships a person's psychological needs for autonomy, competence and relatedness will be satisfied. Employee engagement can be comprehended as a specific type of well-being, which is intensely influenced by the intrinsic motivation of individuals (Ryan & Deci, 2001). The importance of understanding the effects of supervisor relationships on employees' psychological need satisfaction, engagement and turnover intention in the manufacturing industry is evident, especially when organisations are challenged to retain engaged and skilled employees.

Supervisor Relationships

There is a difference between management and supervision (Rothmann, Diedericks, & Swart, 2013), although the terms are used interchangeably in this study. Management is about agreeing on concrete goals an organisation should achieve within a set period. Supervision is about day-to-day execution of activities that will contribute to an organisation meeting its set goals. In modern times supervisors have diverted their responsibility of control over goals set for workers and are relying more on the workers to achieve them. Supervision and specifically the relationships between supervisors and employees will affect engagement and

intentions to leave an organisation (Kahn, 1990; May et al., 2004; Rothmann & Rothmann, 2010). Kouzes and Posner (2002, p. 283) reflect on the effects supervisors have on employees: “Managers are a key factor as to why people stay in their organisations. It is equally important in why people leave organisations. People, in fact, don’t generally quit companies, they quit managers.”

Supervisor support is one of the antecedents of perceived organisational support (Settoon, Bennet, & Liden, 1996) and reduced turnover is a consequence of perceived organisational support (Rhoades & Eisenberger, 2002). Employees tend to see their supervisors as the embodiment of the company (Levinson, 1965). Levinson (1965) noted that actions performed by persons within the organisation are not regarded as individual actions or intentions, but rather as organisational drives. According to Dawley, Houghton, and Bucklew (2010), the level of employee commitment to the organisation is centred on the social exchange relationship between employer and employee. Employees tend to interpret constructive and destructive job interactions with superiors as an indicator of support (or lack thereof) from the company.

Supervisors that are aware of the issues and concerns of employees spend time with them and strive to empower and develop them, which will add to the well-being of employees. Therefore the relationship with one’s supervisor can have an effect on perceptions of safety in the work environment. A leader that displays concerns for needs and feelings of employees, provides positive feedback and encourages employees to voice their concerns, develops employees’ skills and solves their work-related problems will enhance employees’ self-determination and their interest in their work (May et al., 2004; Ryan & Deci, 2001). Such individuals will feel safer while engaging in their work.

The well-being of individuals has been linked to the social context within organisations. Other people at work, especially the leader (or supervisor), affect the thought patterns of employees with regard to their feelings about themselves and their work (May et al., 2004). Furthermore, poor relationships between supervisors and inferiors, deficient communication and lack of appropriate and adequate feedback could have a negative impact on the well-being of employees (May et al., 2004).

Psychological Need Satisfaction

Using the theoretical framework of self-determination theory (SDT; Deci & Ryan, 1985, 2000; Ryan & Deci, 2000), the researcher proposes that the satisfaction of the basic psychological need for autonomy, competence and relatedness (Ryan, 1995) advocate the reasons why supervisor relationships with the employees affect their engagement and their intentions to leave organisations. What is of importance is the extent to which employees experience a sense of ability, social connectedness and choice in situations (Deci & Ryan, 2000). Research on SDT focused on elements that permit or hamper the fulfilment of these psychological needs. The satisfaction of these psychological needs will lead to motivation and optimal functioning.

The satisfaction of these psychological needs within a work context serves as a requirement for intrinsic motivation, internalising work behaviour and flourishing (Deci & Ryan, 2008). According to Deci and Ryan (2000), a work milieu which nurtures these inborn needs enables well-being. Furthermore, Gagné and Deci (2005) found that the fulfilment of these needs will promote intrinsic motivation, it will promote internalising extrinsic motivation and this, in turn, will lead to organisational liability which will influence the retention of employees. The gratification of basic psychological needs boosts and guides behaviour (Vansteenkiste, Neyrinck, & Niemiec, 2007). The fulfilment of employees' psychological needs rests on their interactions both in their societal and traditional surroundings; when their managers and supervisors pay attention to their views and ideas and support their choices, they will have improved well-being, as opposed to when power figures (such as managers and supervisors) are more controlling (Ryan & Deci, 2002).

Employees will function well at work when their psychological needs are satisfied and when they engage in their work (Rothmann, 2013). Baard, Deci, and Ryan (2004) assert that experiences of employees within a work environment will influence their psychological need satisfaction. The level of well-being employees experience in their work context will predict individual outcomes (e.g. engagement) and organisational outcomes (e.g. intention to leave). When the psychological needs of employees are fulfilled, it could lead to constructive work-related outcomes and low intentions to leave. Supportive supervisors can be described as follows: they will show concern for the needs and feelings of employees, encourage them to participate in decision making, assist them in developing skills, assist them in solving work-

related problems and give them constructive feedback (Deci & Ryan, 1985). This display of support from supervisors will encourage subordinates to be more absorbed in their work and will also escalate their autonomy. Supportive supervisors will contribute to employees' retention (May et al., 2004). It is almost evident why trust can be viewed as a fundamental component in the relationship between the supervisor and subordinate. May et al. (2004) list the following behavioural categories for specifying employees' perceptions of an employment relationship evident of credibility: predictability; integrity; sharing and delegating control, accurate and transparent communication and demonstrating concern.

Supervisors' relationships with subordinates in the workplace will probably also affect employees' intentions to leave via their psychological need satisfaction. This is evident from the research of Van den Broeck, Vansteenkiste, De Witte, and Lens (2008) in which they confirm that reassuring and trusting supervisor relationships could affect psychological need satisfaction and intentions to leave. Rothmann et al. (2013) found that if a work setting provides the necessary support by fulfilling the three psychological needs, it would produce better employee participation, because employees would connect it with autonomous motivation. The reason as to why autonomy-supportive interpersonal work environments play such a substantial role is evident.

Employee Engagement and Intention to Leave

In the modern and challenging times of today, employee engagement can be regarded as a vital notion for organisations within the present economic condition in South Africa. Schaufeli and Bakker (2004) argue that work-related factors are influenced by employee engagement. Bakker, Schaufeli, Leiter, and Taris (2008) believe that employee engagement forecasts productivity of employees, job satisfaction, motivation, commitment and low turnover intention. Employee engagement holds many constructive values for the organisation. In this light it is commonly understood that a relations exists among employee engagement and business results (Harter et al., 2002). Research indicated that secure attachments will nurture the well-being of employees and contribute to it. The reason is that these secure attachments represent secure relationships and within these relationships a person's psychological needs for autonomy, competence and relatedness will be satisfied. Employee engagement can be comprehended as a specific type of well-being, which is intensely influenced by the intrinsic motivation of individuals (Ryan & Deci, 2001).

Kahn (1990 p. 694) outlines employee engagement as the ‘harnessing of members’ selves, in the organisation, to their work roles so “... that they employ and express themselves physically, cognitively, mentally and emotionally during role performance”. Schaufeli et al. (2002, p. 74) outline employee engagement as ‘a positive, fulfilling, work-related state of mind that is characterized by vigour, dedication and absorption’. Vigour is indicated by high levels of energy and mental resilience while working. It will further entail the preparedness to devote energy into one’s work and to endure when trials ascend. Dedication denotes deriving a sense of involvement and significance from one’s work and also feeling challenged, inspired, enthusiastic and proud. Absorption means to be favourably engrossed in one’s work.

When we think about employee engagement it is noted that organisations should understand the concept correctly. Engagement is thus far more than a mere brief and exact state; it rather is an insistent and widespread affective-cognitive state. According to Schaufeli et al. (2002), engagement it is not absorbed in any specific object, event, individual or behaviour. Therefore it can be argued that the concept of employee engagement is relevant for the well-being and work behaviour of employees (Saks, 2006). Furthermore, research suggests that low levels of employee engagement will result in intention to leave (Firth et al., 2004).

Specific Research Problems

Based on the preceding discussion, the research problems can be summarised as follows:

In South-African companies today, and within the challenging economic circumstances, employee disengagement and turnover are costly and destructive for organisations. Scientific information is needed regarding the association among supervisor relations, psychological need satisfaction, employee engagement and turnover intention. Previous studies have focused on the direct effects of the perceived relationship of employees with supervisors and managers on employee engagement (e.g. Barkhuizen, Rothmann, & Van de Vijver, 2014; Schaufeli & Bakker, 2004), the direct and indirect effects on employee engagement via psychological conditions of meaningfulness, availability and safety (Kahn & Heaphy, 2014; May et al., 2004; Rothmann & Welsh, 2013) and the direct and indirect effects on intention to leave via psychological need satisfaction (Rothmann et al., 2013). Notably, the results of these studies confirmed the direct effects of the perceived relationship of employees with supervisors on employee engagement and intentions to leave. Furthermore, the studies

regarding the indirect effects of the perceived relationship of employees with supervisors on employee engagement (via the condition of psychological safety – May et al., 2004) and intention to leave (via psychological need satisfaction – Rothmann et al., 2013) were confirmed. However, the following research gaps remain: First, scientific information is needed regarding the associations between relationships with supervisors and psychological need satisfaction on the one hand and employee engagement and intention to leave on the other. Compared to developed countries, South African organisations are (due to of historical reasons) more negatively affected by competence gaps and diversity, which might affect satisfaction of all three psychological needs distinguished by Deci and Ryan (2008).

Second, the study of Rothmann et al. (2013) showed that supportive and trusting relationships with managers did not contribute significantly to competence satisfaction. Competence satisfaction allows employees to adapt to complex and changing environments (Deci & Ryan, 2011). Although competence satisfaction might be implicit in autonomy support (Deci & Ryan, 2000), Rothmann et al. (2013) argued that supervisors in their study might not have been sufficiently skilled and motivated to demonstrate behaviour necessary for eliciting the competence satisfaction of employees. The scale that they used to measure supportive and trusting supervisor relationships with subordinates might not adequately measure competence-promoting behaviour. Behaviours such as delegating authority, emphasising accountability, encouraging self-directed decision making, developing skills and coaching to promote innovation (Konczak, Stelly, & Trusty, 2000) will promote the autonomy satisfaction of employees and will contribute to their competence satisfaction. In line with this argument, Mendes and Stander (2011) showed that promoting role clarity could promote experiences of competence, which affects the retention of employees.

The main research question in this study is: “Do supervisor support and psychological need satisfaction affect employees’ engagement and intentions to leave?” The following specific research questions were posed:

- What is the role of psychological need satisfaction in SDT and in the optimal functioning of employees?
- Which behaviours should supervisors demonstrate in creating an environment supportive of psychological need satisfaction?

- What, in the manufacturing sector, are the relations among supervisor behaviours, psychological need satisfaction, employee engagement and intention to leave?
- Do supervisor behaviours, in the manufacturing sector, have direct effects on psychological need satisfaction, employee engagement and intention to leave?
- Does psychological need satisfaction mediate the relations among supervisory behaviours, employee engagement and intention to leave?

1.2 Research Objectives

The research objectives are divided into general and specific objectives.

1.2.1 General Objective

The aim of this study was to investigate the relations among supervisor behaviours, psychological need satisfaction, employee engagement and intention to leave.

1.2.2 Specific Objectives

The specific objectives of this research were to:

- Investigate the role of psychological need satisfaction in SDT and in the optimal functioning of employees.
- Identify behaviours supervisors should demonstrate to create an environment supportive of psychological need satisfaction.
- Determine, in the manufacturing sector, the relations among supervisor behaviours, psychological need satisfaction, employee engagement and intention to leave.
- Study, in the manufacturing sector, whether supervisor behaviours have direct effects on psychological need satisfaction, employee engagement and intention to leave.
- Investigate whether psychological need satisfaction mediates the relations among supervisory behaviours, employee engagement and intention to leave.

1.3 Research Method

The research method consisted of two phases, namely a literature review and an empirical study. The results were presented in the form of a research article.

1.3.1 Research Design

This study was quantitative in nature. Quantitative research refers to the gathering of statistical data and the application of mathematically grounded methods to analyse the data (Muijs, 2010). A cross-sectional survey was employed. Salkind (2009) points out that a cross-sectional design permits the researcher to study numerous groups of individuals during a single point in time. The study is descriptive, as certain hypotheses are supported by existing theory. Primary data was gathered, which was analysed by means of a correlation approach.

1.3.2 Participants and Procedure

In this study, a sample ($N = 139$) was taken from employees working in the position of leader/manager/supervisor at manufacturing companies across South Africa. Permission was obtained from the selected manufacturing companies to distribute the links to the electronic questionnaires (in English) amongst employees that met the criteria. An information letter was also attached onto the electronic survey, clarifying the purpose of the study as well as ethical considerations. Participants completed the questionnaires on-line and responses to items were captured in an Excel sheet, where after it was prepared for analysis with the SPSS software program.

1.3.3 Measuring Instruments

The following questionnaires were used in the empirical study:

The *Supervisor Support Scale* (SSS; Fouché & Rothmann, in press) was used to measure the participants' perceptions of supervisor support for autonomy (9 items), competence (9 items) and relatedness (9 items). All items are rated on an agreement-disagreement Likert format varying from 1 (*strongly disagree*) to 5 (*strongly agree*). Autonomy support was measured using nine items (e.g. "My supervisor encourages people to speak up when they disagree with

a decision”). Competence support was measured using nine items (e.g. “My supervisor gives me helpful feedback about my performance”). Relatedness support was measured using six items (e.g. “My supervisor is accessible”). Fouché and Rothmann (in press) found composite reliability coefficients of 0.72, 0.72 and 0.73 for autonomy, competence and relatedness support respectively.

The *Work-related Basic Need Satisfaction Scale* (WBNSS; (Van den Broeck, Vansteenkiste, De Witte, Soenens, & Lens, 2010) was employed to measure the satisfaction of psychological needs. The WBNSS measured the satisfaction of three psychological needs: Autonomy (six items), Competence (six items) and Relatedness (six items). A 5-point frequency scale varying from 1 (*totally disagree*) to 5 (*totally agree*) was used. Research by Rothmann et al. (2013) supported the three-factor structure of the WBNSS. Alpha coefficients of 0.78, 0.82 and 0.86 confirm the reliability for autonomy, competence and relatedness satisfaction subscales (Diedericks & Rothmann, 2013).

The *Employee Engagement Scale* (WES; Rothmann, 2010) was employed to measure work engagement. The EES consists of 9 items. A 7-point frequency scale varying from 1 (*almost never or never*) to 7 (*always or almost always*) was used for all items. The items measured three components of engagement suggested by Kahn’s (1990), namely cognitive, emotional and physical engagement. Evidence for the construct validity of the WES was reported by Rothmann (2010) and the following alpha coefficients for the three scales of the WES were found: physical engagement = 0.80; cognitive engagement = 0.78, and emotional engagement = 0.82.

The *Turnover Intention Scale* (TIS; (Sjöberg & Sverke, 2000) was used to measure employees’ intention to leave. The TIS consists of three items. Response options range from 1 (*strongly disagree*) to 5 (*strongly agree*). An alpha coefficient of 0.83 was found for the TIS (Rothmann et al., 2013).

1.3.4 Statistical Analysis

The analysis was carried out with the SPSS 22.0 programme (IBM Corp., 2013). Exploratory factor analyses were conducted to explore the structure of the measuring instruments. Principal component analyses were used to estimate the number of components of each

measuring instrument. Thereafter the responses of participants to each measuring instrument were subjected to principal factor analyses with a direct oblimin rotation. A cut-off point of 0.40 was used for cross-loadings.

Cronbach alpha coefficients were computed to assess the reliability of the measuring instrument. Descriptive statistics (means and standard deviations) were computed to describe the data. Pearson correlation coefficients were used to specify the relationships between the variables. The level of statistical significance was set at $p < 0.05$. Effect sizes (Steyn, 1999) were used to decide on the practical significance of the findings. A cut-off point of 0.30 (medium effect, Cohen, 1988) was set for the practical significance of correlation coefficients.

Multiple regression analyses were used to test the hypotheses in this study. Firstly, standard multiple regression analyses were used to investigate the effects of supportive supervisor behaviour on psychological need satisfaction (i.e. autonomy, competence and relatedness satisfaction). Secondly, multiple regression analysis was conducted to study the effects of supportive supervisor behaviour and psychological need satisfaction on work engagement and intention to leave. The indirect effects of supervisor behaviour on employees' engagement and intentions to leave were investigated using the procedure developed and described by Hayes (2013).

1.3.5 Ethical Considerations

The researcher explained that participation in the study is voluntary. The roles and responsibilities of different parties involved in the study were outlined. The objectives of the study were discussed with employees. Written consent was obtained prior to them taking part in the study. Confidentiality and anonymity (where applicable) was assured. All participants were briefed on the research project and were afforded the opportunity of asking questions and raising concerns about any issues before considering participation. It was clearly stated that participation in the project was voluntary and anonymous, and participants were required to sign a consent form stating that the information obtained via the research would be used for research purposes only. Feedback on the results of the study will be given to the participants.

1.4 Overview of Chapters

In Chapter 2 an empirical study was conducted, according to the objectives as set out in Chapter 1. Chapter 3 provided the conclusion as well as limitations and recommendations of the study.

1.5 Chapter Summary

This chapter provided a discussion of the problem statement and research objectives. Furthermore, the research method and the measuring instruments were explained, followed by a brief overview of the chapters to follow.

References

- Armstrong, M. (2006). *A handbook of human resource management practice* (10th ed.). London, United Kingdom: Kogan Page.
- Baard, P. P., Deci, E. L., & Ryan, R. M. (2004). Intrinsic need satisfaction: A motivational basis of performance and well-being in two work settings. *Journal of Applied Social Psychology, 34*, 2045-2068.
- Bakker, A. B., Schaufeli, W. B., Leiter, M. P., & Taris, T. W. (2008). Work engagement: An emerging concept in occupational health psychology. *Work and Stress, 22*, 187-200.
- Barkhuizen, N., Rothmann, S., & Van de Vijver, A. J. R. (2014). Burnout and engagement of academics in higher education institutions: Effects of dispositional optimism. *Stress and Health, 30*(4), 322-332.
- Capplan, G., & Teese, M. (1997). *Survivors - How to keep your best people on board after downsizing*. Palo Alto, CA: Davies-Black Publishing.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Costigan, R. D., Insigna, R. C., Berman, J. J., Kranas, G., & Kureshov, V. A. (2011). Revisiting the relationship of supervisor trust and CEO trust to turnover intentions: A three-country comparative study. *Journal of World Business, 46*, 74-83.
- Dawley, D., Houghton, J. D., & Bucklew, N. S. (2010). Perceived organisational support and turnover intention: The mediating effects of personal sacrifice and job fit. *Journal of Social Psychology, 150*, 238-257.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behaviour*. New York, NY: Plenum.
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*, 319-338.
- Deci, E. D., & Ryan, R. M. (2002). *Handbook of self-determination research*. New York, NY: University of Rochester Press.
- Deci, E. L., & Ryan, R. M. (2008). Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology, 49*, 14-23.
- Deci, E. L., & Ryan, R. M. (2011). Levels of analysis: Regnant causes of behavior and well-being: The role of psychological needs. *Psychological Inquiry, 22*, 17-22.
- Dibble, S. (1999). *Keeping valuable employees: Retention strategies for your organization's most important resource*. New York, NY: Wiley.

- Diedericks, E., & Rothmann, S. (2013). Flourishing of information technology professionals: The role of work engagement and job satisfaction. *Journal of Psychology in Africa*, *23*, 225-234.
- Firf, L., Mellor, D. J., Moore, K. A., & Loquet, C. (2004). How can managers reduce employee intention to quit? *Journal of Managerial Psychology*, *19*, 170-187.
- Fouché, E., & Rothmann, S. (in press). Psychological need satisfaction, engagement and intention to leave of educators: The role of the leadership. *Career Development International*.
- Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organisational Behavior*, *26*, 331-362.
- Harter, J. K., Schmidt, F. L., & Hayes, T. L. (2002). Business-unit level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. *Journal of Applied Psychology*, *87*, 268-279.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY: The Guilford Press.
- Hom, P. W., & Griffeth, R. W. (1995). *Employee turnover*. Cincinnati, OH: South Western College Publishing.
- Hwang, L., & Kuo, J. (2006). Effects of job satisfaction and perceived alternative employment opportunities on turnover intention: An examination of public sector organisations. *The Journal of American Academy of Business*, *8*, 254-259.
- IBM Corp. (2013). *IBM SPSS Statistics for Windows, Version 22.0*. Armonk, NY: IBM Corp.
- Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, *33*, 692-724.
- Kahn, W. & Heaphy, E. D. (2014). Relational contexts of personal engagement at work. In C. Truss, R. Delbridge, E. Soane, K. Alfes, & A. Shantz (Eds.), *Employee engagement in theory and practice* (pp. 163-179). Abingdon, United Kingdom: Routledge.
- Kay, B., & Jordan, E. (1999). *Love'em or lose'em - Getting good people to stay*. San Francisco: Berett-Koehler Publishers Inc.
- Konczak, L. J., Stelly, D. J., & Trusty, M. L. (2000). Defining and measuring empowerment leader behaviours: Development of an upward feedback instrument. *Educational and Psychological Measurement*, *60*, 301-313.
- Kouzes, J. M., & Posner, B. Z. (2002). *Leadership challenge*. San Francisco, CA: Jossey Bass.

- Kreisman, B. J. (2002). Insights into employee motivation, commitment and retention. *Insights Denver*, 1-24.
- Ladany, N., Ellis, M. V., & Friedlander, M. L. (1999). The supervisory working alliance, trainee self-efficacy and satisfaction. *Journal of Counseling and Development*, 77, 447-455.
- Levinson, H. (1965). Reciprocation: The relationship between man and organization. *Administrative Science Quarterly*, 9, 370-390.
- May, D. R., Gilson, R. L., & Harter, L. M. (2004). The psychological conditions of meaningfulness, safety and availability and the engagement of the human spirit at work. *Journal of Occupational and Organisational Psychology*, 77, 11-37.
- McCarthy, G., Tyrell, M. P., & Lehane, E. (2007). Intention to 'leave' or 'stay' in nursing. *Journal of Nursing Management*, 15, 248-255.
- Mehr, K. E., Ladany, N., & Caskie, G. I. (2010). Trainee nondisclosure in supervision: What are they not telling you? *Counseling and Psychotherapy Research*, 10, 103-113.
- Mendes, F., & Stander, M.W. (2011). Positive organisation: The role of leader behaviour in employee engagement and turnover intention. *SA Journal of Industrial Psychology*, 37(1), doi:10.4102/sajip.v37i1.900
- Mitchell, L. E. (2002). *Corporate irresponsibility: America's newest export*. New Haven: Yale University Press.
- Muijs, D. (2010). *Doing quantitative research in education with SPSS* (2nd ed.). Thousand Oaks, CA: Sage.
- Naumann, E. (1993). Antecedents and consequences of satisfaction and commitment among expatriate managers. *Group & Organization Management*, 18, 153-87.
- Nienaber, H., & Masibigri, V. (2012). Exploring factors influencing voluntary turnover intent of Generation X public servants: a South African case. *Acta Commercii*, 12, 67-84.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York, NY: McGraw-Hill.
- O'Connell, M., & Kung, M. C. (2007). The cost of employee turnover. *Industrial Management*, 49, 14-19.
- Reichheld, F. F. (2001). *Loyalty rules! How today's leaders build lasting relationships*. Boston, MA: Harvard Business School Press.
- Rhoades, L., & Eisenberger, R. (2002). Perceived organisational support: A review of the literature. *Journal of Applied Psychology*, 87, 698-714.

- Rothmann, S. (2010). *The reliability and validity of measuring instruments of happiness in the Southern African Context*. Unpublished research report. Vanderbijlpark, South Africa: North-West University.
- Rothmann, S. (2013). Flourishing in work and careers. In M. Coetzee (Ed.), *Psycho-social career meta-capacities : Dynamics of contemporary career development*. Dordrecht, The Netherlands: Springer.
- Rothmann, S. (2014). Employee engagement in a cultural context. In C. Truss, R. Delbridge, E. Soane, K. Alfes, & A. Shantz (Eds.), *Employee engagement in theory and practice* (pp. 163-179). Abingdon, United Kingdom: Routledge.
- Rothmann, S., Diedericks, E., & Swart, J. P. (2013). Manager relations, psychological need satisfaction and intention to leave in the agricultural sector. *SA Journal of Industrial Psychology, 39*(2), 1-11.
- Rothmann, S., & Rothmann, S. (2010). Factors associated with employee engagement in South Africa. *SA Journal of Industrial Psychology, 36*(2), 1-12.
- Rothmann, S., & Welsh, C. (2013). Employee engagement in Namibia: The role of psychological conditions. *Management Dynamics, 22*(1), 14-25.
- Ryan, R. M. (1995). Psychological needs and the facilitation of integrative processes. *Journal of Personality, 63*, 397-427.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development and well-being. *American Psychologist, 55*, 68-78.
- Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology, 52*, 141-166.
- Ryan, R. M., & Deci, E. L. (2002). Overview of self-determination theory: An organismic-dialectical perspective. In E. L. Deci, & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 3-33). Rochester, NY: The University of Rochester Press.
- Sager, J. K., Griffeth, R. W., & Hom, P. W. (1998). A comparison of structural models representing turnover cognitions. *Journal of Vocational Behaviour, 53*, 254-273.
- Saks, A. M. (2006). Antecedents and consequence of employee engagement: A multi-sample study. *Journal of Managerial Psychology, 21*, 600-619.
- Salkind, N.J. (2009). *Exploratory research* (7th ed.). Upper Saddle River, NS: Pearson Prentice Hall
- 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 Behaviour, 25*, 293-315.

- Schaufeli, W., Salanova, M., González-Romá, V., & Bakker, A. (2002). The measurement of engagement and burnout: A confirmative analytic approach. *Journal of Happiness Studies*, 3, 71-92.
- Scott, D., McMullen, T., & Royal, M. (2012). Retention of key talent and the role of rewards. *Worldatwork*, 1-17.
- Settoon, R. P., Bennet, N., & Liden, R. C. (1996). Social exchange in organisations: Perceived organisational support, leader-member exchange, reciprocity. *Journal of Applied Psychology*, 81, 219-227.
- Sjöberg, A., & Sverke, M. (2000). The interactive effect of job involvement and organisational commitment revisited: A note on the mediating role of turnover intention. *Scandinavian Journal of Psychology*, 41, 247-252.
- Steyn, H.S. (1999). *Praktiese betekenisvolheid: Die gebruik van effekgroottes*. Wetenskaplike bydraes Reeks B: Natuurwetenskappe Nr. 117. Potchefstroom: PU vir CHO.
- Van den Broeck, A., Vansteenkiste, M., De Witte, H., & Lens, W. (2008). Explaining the relationship between job characteristics, burnout and engagement: The role of basic psychological need satisfaction. *Work & Stress*, 22, 277-294.
- Van den Broeck, A., Vansteenkiste, M., De Witte, H., Soenens, B., & Lens, W. (2010). Capturing autonomy, relatedness and competence at work: Construction and validation of the Work-related Basic Need Satisfaction Scale. *Journal of Occupational and Organizational Psychology*, 83, 981-1002.
- Van Dierendonck, D., Haynes, C., Borrill, C., & Stride, C. (2004). Leadership behaviour and subordinate well-being. *Journal of Occupational Health Psychology*, 9, 165-175.
- Vandenberg, R. J., & Nelson, J. B. (1999). Disaggregating the motives underlying turnover intentions: When do intentions predict turnover behaviour? *Human Relations*, 152, 1313-1336.
- Vansteenkiste, M., Neyrinck, B., Niemiec, C. P., Soenens, B., De Witte, H., & Van den Broeck, A. (2007). On the relations among work value orientations, psychological need satisfaction and job outcomes: A self-determination theory approach. *Journal of Occupational and Organizational Psychology*, 80, 251-277.

Chapter 2

Research Article

SUPERVISOR BEHAVIOUR, PSYCHOLOGICAL NEED SATISFACTION, EMPLOYEE ENGAGEMENT AND INTENTION TO LEAVE

ABSTRACT

The aim of this study was to investigate the relationship between need-supportive supervisor behaviour, the satisfaction of the psychological needs of employees, employee engagement and their intentions to leave. A cross-sectional survey design was used. Convenience samples of supervisors in selected organisations in the manufacturing organisations ($N = 139$) in South Africa were taken. The Supervisor Support Scale, the Work-related Basic Need Satisfaction Scale, The Work Engagement Scale and the Turnover Intention Scale were administered. The results showed that supervisor support for autonomy, competence and relatedness satisfaction had a large effect on autonomy satisfaction and a medium effect on relatedness satisfaction. Supervisor support and satisfaction of the psychological needs for autonomy and competence impacted employee engagement positively. A perceived lack of supervisor support and dissatisfaction of the psychological needs for autonomy and relatedness predicted intention to leave. Supervisor behaviour which supported satisfaction indirectly and positively affected employee engagement and negatively affected intention to leave via autonomy satisfaction.

Key words: Supervisor behaviour, psychological need satisfaction, employee engagement, intention to leave

Employees' experiences and conditions at work are closely linked to their engagement and retention (Reichheld, 2001). Unpleasant work environments, problems and challenges can cause employees to become disengaged and resign from their organisations (Scott, McMullen, & Royal, 2012). In particular, the relationships between employees and their immediate supervisors are important drivers for employees' engagement and intentions to leave (Kahn & Heaphy, 2014). One of many challenges human resource practitioners face is the retention of talented employees. According to Kay and Jordan (1999), employees are leaving organisations for many reasons. Supervisors can have a direct influence on employees' intention to leave or stay in an organisation. Therefore supervisory or management relations are one of the most frequently cited causes of negative emotions at work (Naumann, 1993). Even though supervisors in the manufacturing industry are not capable of addressing or changing all the problems, concerns and issues experienced by employees in the South African population, they can intervene to improve the quality of employees' working lives and environment. Research has also shown that management has more authority than anyone else to decrease undesirable turnover (Kreisman, 2002).

According to Rothmann (2013), supervision is regarded as one of the most important factors which will affect the engagement and retention of talented employees. Research by Kay and Jordan (1999) support this by stating that factors which drives employee satisfaction, commitment and turnover are often within a manager's or supervisor's control. This is crucial, for work plays a key role in the lives of employees, as most of their time is spent on job-related tasks (Buitendach & Rothmann, 2009). Kouzes and Posner (2002) reflect on the significance and the effects supervisors and managers have on employees: "Managers are a key factor as to why people stay in their organisations. It is equally important in why people leave organisations. People, in fact, don't generally quit companies, they quit managers" (p. 283). According to Harris, Kacmar, and Witt (2005), employees in similar jobs and organisations will have different intentions to leave; therefore it is crucial for organisations to understand the antecedents thereof. According to Griffeth, Hom, and Gaertner (2000), employees' intentions to stay or leave organisations are the best predictors of voluntary turnover. Therefore it makes sense to study intentions to leave rather than actual turnover (Harris et al., 2005). Because intention to leave will vary between employees in the same job and organisation, it is important to understand the antecedents thereof.

Costigan, Insinga, Berman, Kranas, and Kureshov (2011) argue that an awareness of intention to leave and its predictors can assist organisations to determine the conditions that might cause thoughts of leaving organisations. Research on the predictors of an organisation's employees and their intentions to leave can be beneficial to organisations and be used proactively by them. These predictors comprise resources, job demands and also psychological processes that pave the way to well-being and intention to leave.

Self-determination theory (SDT) designed by Deci and Ryan (1985, 2008) might clarify why supervisors and their behaviour affect employees' engagement and intentions to leave. Seen from a eudaimonic perspective of well-being, SDT looks into the processes involved in living well and optimal functioning in the steps toward following virtue and brilliance (Waterman, 2008). Employees have the need for self-actualisation and will fundamentally attempt to develop and further their potential. Therefore employees will try to satisfy their innate psychological needs. These are the needs for autonomy, relatedness and competence (Deci & Ryan, 1985, 2008). Research done by Baard, Deci, and Ryan (2004) confirmed that workplace experiences can influence employees' psychological needs satisfaction. Deci and Ryan (2000) assert that satisfaction of psychological needs can lend itself to increased motivation and improved functioning. It is also evident that prevention of satisfaction of these psychological needs can hamper both motivation and functioning.

Van den Broeck, Vansteenkiste, De Witte, and Lens (2008) advanced the argument that supervisor behaviour can affect employees' psychological need satisfaction, engagement as well as their intentions to leave the organisation. This study will add to the literature by discovering the processes through which supervisor behaviour affects employees' engagement and intentions to leave an organisation. The aim of this study was to examine the relations between supervisor behaviour, the satisfaction of psychological needs, work engagement and employees' intentions to leave. It also aimed at building on the theory of self-determination by examining the effects of supportive supervisors on satisfying psychological needs, work engagement and retention of employees.

Self-determination Theory: The Role of Psychological Need Satisfaction

Motivation at work in particular can be described by the Self-determination Theory (SDT; Deci & Ryan, 1985). The motivational discrepancy in SDT is not about external versus

internal motivation; it focuses on whether behaviour is motivated autonomously or controlled instead. Within SDT the motivation of behaviour ranges from autonomous (motivation which comes from oneself) and controlled (which originates from external pressure) (Deci & Ryan, 2008). Intrinsic motivation, a form of autonomous motivation that occurs when an activity is undertaken out of interest, enjoyment, or inherent satisfaction, is divided into three parts, namely intrinsic motivation to know, intrinsic motivation towards accomplishment, and intrinsic motivation to experience stimulation (Gagné & Deci, 2005; Ryan & Deci, 2002).

SDT recognises that satisfaction of the basic psychological needs of autonomy, competence, and relatedness are necessary for mental health, engagement and optimal functioning of people (Deci & Ryan, 2011; Greguras & Diefendorff, 2010; Rothmann, Diedericks, & Swart, 2013). Psychological needs provide the energy and direction for people to engage in activities that influence need satisfaction, allow observers to understand whether people will be subjectively well, and enable interventionists to determine which social contextual aspects should be changed to promote need satisfaction (Deci & Ryan, 2011). The need for autonomy is defined as the desire to experience freedom and choice when carrying out an activity. The need for competence refers to individuals' inherent desire to feel effective in interacting with the environment. The need for relatedness concerns the innate need of individuals to feel connected to others, to love and care for others, and to be loved and cared for. This need is satisfied when individuals experience a sense of communion and develop close and intimate relationships with others.

Higher levels of satisfaction of the psychological needs for autonomy, relatedness and competence are associated with higher levels of employee engagement and lower levels of intention to leave. Psychological needs that are unmet (deficiency needs) as well as needs that are satisfied (growth needs) have motivational value (Sheldon & Gunz, 2009). Individuals therefore want more autonomy, competence and relatedness experiences if their basic psychological needs have been satisfied.

Activities that are not intrinsically motivating require extrinsic motivation. Extrinsic motivation relates to activities undertaken when a person is not interested in an activity (Deci & Ryan, 2002). SDT distinguishes autonomous regulation (engagement) from controlled motivation and amotivation (i.e. withdrawal). These types of motivation can be measured independently, and research showed that these measures relate differently to task-relevant

behaviour (Gagné & Deci, 2005). Another motivational state identified within SDT, namely reactive autonomy can also be contrasted with engagement. Reactive autonomy means that individuals sometimes react to loss of autonomy by rebelling against the source of control (Koestner & Losier, 1996). Therefore SDT helps to explain not only engagement but also the psychological states and reactions that can result when engagement is absent.

The satisfaction of psychological needs serves as a requirement for intrinsic motivation, internalising work behaviour and thriving (Deci & Ryan, 2008). A work environment in which psychological needs are satisfied serves as a requirement for intrinsic motivation, internalising work behaviour and thriving (Deci & Ryan, 2008). Research also proved that a work milieu which nurtures these inborn needs enables well-being (Deci & Ryan, 2000). The realisation of psychological needs will promote intrinsic motivation; it will also promote internalising extrinsic motivation and this will, in turn, lead to organisational liability which will influence the retention of employees. According to SDT, psychological needs can be formed within a social context and therefore it is important to examine the factors that might contribute to an increase in the intrinsic motivational levels of employees within a manufacturing context. According to Vansteenkiste, Neyrinck, and Niemiec (2007), the fulfilment of basic psychological needs boosts and guides behaviour.

Within a work context, the principle of SDT is that in order to have intrinsic motivation, internalising work behaviour and thriving, a requirement is to satisfy the three basic psychological needs (autonomy, competence and relatedness) (Deci & Ryan, 2008). By taking this into consideration, an interpersonal environment which is autonomy supportive plays a substantial role (Rothmann et al., 2013). When supervisor behaviour empowers their subordinates by supporting their psychological needs and contributing to satisfying it, the value of SDT in the work environment becomes evident (Rothmann et al., 2013). To achieve optimal functioning according to Deci and Ryan (2000), it is important to satisfy all three these needs.

Supervisor Behaviour and Psychological Need Satisfaction

Leadership by supervisors and managers has been linked to need satisfaction. More specifically the fulfilment of autonomy, competence and relatedness needs within the work environment, by managers and supervisors can be anchored in need satisfaction theory

(Hetland, Hetland, Andreassen, Pallesen, & Notelaers, 2011). Work from Sheldon and Gunz (2009) showed that elevated levels of the satisfaction of the psychological needs for autonomy, competence and relatedness are supplementary to elevated levels of employee engagement.

A work environment that provides adequate support for the satisfaction of the three psychological needs should generate more participation from employees, because it would be associated with more autonomous motivation (Milyavskaya & Koestner, 2011). According to Sheldon and Houser-Marko (2001), employees setting themselves autonomous goals attained more goals, which then motivated them to set and attain more autonomous goals in the future and in so doing enhanced their own well-being. The extent to which goals are autonomous will affect individuals' energy in achieving goals that they set. Goals that are achieved relate to psychological need satisfaction for autonomy, competence and relatedness (Gagné & Deci, 2005).

Autonomy support requires of supervisors to understand and acknowledge employees' perceptions, supply information, provide opportunities and encourage self-initiation. Individuals will feel autonomous when they understand the value and/or relevance of the task in which they are engaged, and can identify with it. According to Katz and Assor (2007), autonomy satisfaction is strong when the task is viewed as being connected to the values, interests and goals that constitute the core of one's authentic self. Employees' autonomy satisfaction increases when supervisors minimise coercion and interference, show understanding for employees' perspectives and feelings, provide a meaningful rationale for doing a task, and offer choice by allowing employees to participate in task and goal selection and to choose their work methods and the mode of evaluation of their work (Deci & Ryan, 2011). Furthermore, close monitoring of work, controlling leadership and frequent interruptions undermine feelings of autonomy (Hetland et al., 2011). A work environment characterized by autonomy support will elicit overall need satisfaction (i.e. of all three needs) and result in greater engagement.

Supervisors can support employees' sense of competence by assessing their knowledge and skills in setting tasks that are challenging (Ryan & Deci, 2000). They can provide continual, informative, non-comparative feedback to employees about their mastering of tasks and create a climate in which employees can plan how to master specific tasks. Feedback should

be given in such a way that employees can judge their progress, correct mistakes, and redirect their efforts. Choices that offer options of intermediate difficulty are competence-supporting. In contrast, choice options that are too easy or too difficult might not support competence satisfaction and therefore undermine engagement (Ryan & Deci, 2000).

In order to enhance the sense of relatedness, supervisors can encourage peer acceptance and empathy in the work situation and minimise social comparisons and competition. A safe work environment that is conducive to employee well-being can be fostered by a supervisor who shows empathy towards employees, is sensitive to employees' needs, shows support, is dependable, empowers them towards building their skills, provides constructive feedback and inspires open communication channels through which employees can express their concerns and solve work-related problems (Deci & Ryan, 1985; May, Gilson, & Harter, 2004). This kind of support will encourage employees to be interested in their work and enhance their autonomy.

Supervisors can assist employees to higher their sense of competence by creating tasks that's challenging, in order to assess employees' knowledge and skills (Ryan & Deci, 2000). To establish a sense of relatedness under employees, supervisors can encourage acceptance under fellow employees, enhance empathy in the work place downsize competition and social comparisons (Gagné & Deci, 2005). Supervisors whom are aware of the issues and concerns of employees, who invest in time spent with employees and who strive to empower and develop employees, will add to their well-being. The relationship between an employee and a supervisor can have an effect on their perceptions of safety in the work environment. Poor relations between supervisors and their subordinates, a lack of communication and adequate and appropriate and adequate feedback could have a negative impact on the well-being of employees.

In the research of Bass and Avolio (2004) it is noted that leaders of a transformational leadership style are able to meet followers' needs. Leaders are in an exclusive position where they can have a substantial influence on important factors concerning employees (Gagné & Deci, 2005). Transformational leaders within the workplace will influence their followers through visions; they will implement inspiring motivation, will demonstrate individual consideration and will also aim at intellectually stimulating employees (Bass & Avolio, 2004). Research by Deci, Connel, and Ryan (1989) showed that supportive leadership is vital

for self-determination. Transformational leadership and supportive leadership are known to provide individual attention and sustenance. According to previous research, these types of leadership are therefore related to the satisfaction of psychological needs (Bass, 1985)

Table 1 shows indicators of supervisor support for autonomy, competence and relatedness (Fouché & Rothmann, in press).

Table 1

Behaviours of a Supervisor which Support Psychological Need Satisfaction

Autonomy support

- Encourages employees to participate in important decisions.
- Strengthens employees to speak about what they feel.
- Listens to different points of view before drawing conclusions.
- Encourages employees to speak up when they disagree with a decision.
- Seeks feedback to improve interactions with others.

Competence support

- Supports employees' attempts to acquire additional training or education to further their careers.
- Gives employees helpful feedback on their performance.
- Takes the time to learn about employees' career goals and aspirations.
- Cares about whether or not employees achieve their goals.
- Makes sure that employees get the credit for accomplishing something substantial on the job.
- Gives employees helpful advice about improving their performance when they need it.

Relatedness support

- Treats people fairly.
 - Shows commitment to protect employees' interests.
 - Does what he/she says he/she will do.
 - Demonstrates that he/she can be trusted.
 - Is accessible.
 - Has confidence in employees' abilities.
-

The relationship between the leader and the employee plays a large part in the psychological need satisfaction of employees and their autonomous motivation. Especially referring to the work context, leadership is a crucial component in the creation of a context where psychological need satisfaction can be facilitated (Baard et al., 2004). Previous studies showed that a leadership style which comprises behaviour by means of which leaders listen to the perspectives of employees and offer them freedom of choice relating to tasks, give them informative feedback and boost their initiatives will encourage autonomous motivation (Baard et al., 2004).

Employee Engagement and Intention to Leave

In the modern and challenging times of today, employee engagement can be regarded as a vital notion for organisations within the present economic condition in South Africa. Schaufeli and Bakker (2004) argue that work-related factors are influenced by employee engagement. Bakker, Schaufeli, Leiter, and Taris (2008) believe that employee engagement forecasts productivity of employees, job satisfaction, motivation, commitment and low turnover intention. Employee engagement holds many constructive values for the organisation. In this light it is commonly understood that a relation exists among employee engagement and business results (Harter, Schmidt, & Hayes, 2002). Research indicated that secure attachments will nurture and contribute to the well-being of employees, especially relationships harvested in the form of supervisor support. The reason is that these secure attachments represent secure relationships and within these relationships a person's psychological need for autonomy, competence and relatedness will be satisfied. Employee engagement can be comprehended as a specific type of well-being, which is intensely influenced by the intrinsic motivation of individuals (Ryan & Deci, 2001).

It is important to define and understand employee engagement within the right context. Kahn (1990) and Schaufeli, Salanova, González-Romá, and Bakker's (2002) constructions have been popular in literature regarding employee engagement. Kahn (1990 p. 694) outlines employee engagement as the harnessing of members' selves, in the organisation, to their work roles so "... that they employ and express themselves physically, cognitively, mentally and emotionally during role performance". Schaufeli et al. (2002, p. 74) outline employee engagement as 'a positive, fulfilling, work-related state of mind that is characterized by vigour, dedication and absorption'. Vigour is indicated by high levels of energy and mental

resilience while working. It will further entail the preparedness to devote energy into one's work and to endure when trials ascend. Dedication denotes deriving a sense of involvement and significance from one's work and also feeling challenged, inspired, enthusiastic and proud. Absorption means to be favourably engrossed in one's work. Kahn (1990) and Kahn and Heaphy (2014) classify engagement in terms of three dimensions, namely a cognitive dimension (absorption), an emotional dimension (dedication), and a physical dimension (vigour).

Employee engagement (with the exception of the cognitive dimension) is far more than a mere brief and exact state; it is rather an insistent and pervasive affective-cognitive state; therefore it is not engrossed on any specific object, event, individual or behaviour (Rothmann & Rothmann, 2010; Schaufeli et al., 2002). Hence it can be argued that the concept of employee engagement is relevant to the well-being, relations with supervisors and work behaviour of employees (Saks, 2006). Furthermore, research suggested that low levels of employee engagement will result in intention to leave (Firth, Mellor, Moore, & Loquet, 2004).

Intention to leave reflects the decisions and feelings of employees' experiences before the initiation of turnover behaviour (Sager, Griffeth, & Hom, 1998). Intention to leave can be defined as "[a]n individual's own estimated probability (subjective) that they are permanently leaving the organisation at some point in the near future" (Vandenberg & Nelson, 1999, p. 1315). Intentions are a determining factor of actual behaviour (McCarthy, Tyrell, & Lehane, 2007). Supervisors affect the turnover intentions of employees because their behaviours (e.g. leadership and the quality of relationships) affect the need satisfaction of employees (Harter et al., 2002; Kay & Jordan, 1999; Kreisman, 2002).

When supervisors show inconsistent behaviour, employees tend to present lower engagement and a stronger intention to leave the organisation (May et al., 2004). Research indicates that secure attachments will contribute to and nurture the well-being of employees. The reason is that these attachments represent secure relationships and within these relationships a person's psychological needs for autonomy, competence and relatedness will be satisfied. A supportive supervisor that displays concern for employees' needs and feelings, provides feedback and encourages employees to voice their concerns, develops employees' skills and solves their work-related problems, will enhance the self-determination of employees and

their interest in their work and will promote employee engagement and retention (May et al., 2004; Rothmann et al., 2013).

The notion in organisations today is that of supervisors that have shifted their reliance on workers to achieve set goals and to control it. According to organisational studies, supervision, and more specifically the nature and quality of relationships between supervisors and employees, will affect engagement and employees' intention to leave a company (Kahn, 1990; May et al., 2004; Rothmann & Rothmann, 2010). The effects of supervisor behaviour on employees' intentions to leave are confirmed in the following words of Kouzes and Posner (2002, p. 283): "Managers are a key factor as to why people stay in their organisations. It is equally important in why people leave organisations. People, in fact, don't generally quit companies, they quit managers."

According to Settoon, Bennet, and Linden (1996), supervisor support is one of the antecedents of observed organisational support. Therefore, according to Rhoades and Eisenberger (2002), reduced levels of employee turnover is a result of perceived organisational support. Levinson (1965) showed that workers often tend to view their supervisors as a picture of the company. Actions which are being performed by individuals within the organisation are not viewed as individual actions or intentions; instead they are viewed as organisational drives.

The level in which employees are engaged and committed to their organisations is based on the social exchange relationship between proprietor and worker. In the social exchange relationship, employees will typically present their commitment towards the work and their organisation by means of lowered absenteeism levels and employee turnover, aligned with increased levels of performance (Rhoades & Eisenberger, 2002). A work environment which provides sufficient support for the satisfaction of psychological needs would generate more participation from employees. This will be linked to autonomous motivation.

Autonomy support depends on a supervisor's understanding and acknowledgement of employees' insights, supplying them with opportunities, providing information and inspiring self-initiation. Workers who experience their supervisors as being supportive of their autonomy satisfaction showed improved well-being and displayed greater job satisfaction (Baard et al., 2002). In order to have motivation, relatedness and competence is required –

this can be controlled or autonomous – and are imbedded in autonomy support (Deci & Ryan, 2000). Taking the above into consideration, it is evident why the fulfilment of psychological needs is a vital mediator between autonomy support from supervisors and turnover intention (Van den Broeck et al., 2008).

Hypotheses

Based on a review of the literature, it is argued that supervisor support for autonomy, competence and relatedness affect the satisfaction of the basic psychological need for autonomy, competence and relatedness, which affects employees' engagement and intention to leave. The level of well-being which employees experience in their work environment is expected to predict individual outcomes (e.g. engagement) and organisational outcomes (e.g. intention to leave). When psychological needs of employees are satisfied, it can lead to constructive work-related outcomes, such as engagement and low intentions to leave. The relationship between supervisors and subordinates in the work environment will also affect employees' engagement and intentions to leave via their psychological need satisfaction. Reassuring and trusting supervisor relations can affect psychological need satisfaction as well as intentions to leave. If a work setting offers the necessary provision by satisfying the three psychological needs, it would produce better employee participation, because employees would connect it to autonomous motivation. Organisations have realised the value of creating autonomy supportive work environments as crucial depending factors for both organisational and personal development and growth.

Based on the literature review, the author set the following hypotheses for this study:

Hypothesis 1: Supervisor support for autonomy, competence and relatedness satisfaction is positively related to autonomy satisfaction.

Hypothesis 2: Supervisor support for autonomy, competence and relatedness satisfaction is positively related to competence satisfaction.

Hypothesis 3: Supervisor support for autonomy, competence and relatedness satisfaction is positively related to relatedness satisfaction.

Hypothesis 4: Supervisor support for autonomy, competence and relatedness satisfaction and psychological need satisfaction predict employee engagement.

Hypothesis 5: Supervisor support for autonomy, competence and relatedness satisfaction, and psychological need dissatisfaction, all predict intention to leave.

Hypothesis 6: Supervisor support for satisfaction of autonomy, competence and relatedness satisfaction indirectly affect employee engagement via psychological need satisfaction.

Hypothesis 6: Supervisor support for satisfaction of autonomy, competence and relatedness, satisfaction indirectly and negatively affect intention to leave via psychological need satisfaction.

Method

Research Design

The author used a quantitative research approach to achieve the research objectives. A cross-sectional survey design was used to collect data on experiences of supervisor behaviour, psychological need satisfaction and the intentions of workers to leave an organisation in a specific point in time.

Participants

Employees on supervisor level in manufacturing companies ($N = 139$) across South Africa participated in the study. The number of participants varied from as few as four per company to more in the case of the larger companies.

The ages of the participants varied from 23 to 62 (Mean = 39.35; $SD = 9.99$). The length of service in the various companies varied between 1 year and 43 years (Mean = 17.40; $SD = 10.57$). The overall total years of work experience of the participants in the various companies varied between 0 years and 38 years (Mean = 11.58; $SD = 9.56$). Males ($N=104$) comprised 74.8% of the sample and females ($N=35$) 25.2%. With regard to race, White people dominated the sample (34.1%), followed by Indians (31.9%), Africans (29.7%) and Coloureds (4.3%).

Measuring Instruments

The following measuring instruments were used in the empirical study:

The **Supervisor Support Scale** (SSS; Fouché & Rothmann, in press) was used to measure the participants' perceptions of supervisor support for autonomy (9 items), competence (9 items) and relatedness (9 items). All items are rated on an agreement-disagreement Likert format varying from 1 (*strongly disagree*) to 5 (*strongly agree*). Autonomy support was measured by nine items (e.g. "My supervisor encourages people to speak up when they disagree with a decision"). Competence support was measured by nine items (e.g. "My supervisor gives me helpful feedback about my performance"). Relatedness support was measured by six items (e.g. "My supervisor is accessible"). Fouché and Rothmann (in press) found composite reliability coefficients of 0.72, 0.72 and 0.73 for autonomy, competence and relatedness support respectively.

The **Work-related Basic Need Satisfaction Scale** (WBNSS; Van den Broeck, Vansteenkiste, De Witte, Soenens, & Lens, 2010) was used to measure the satisfaction of psychological needs. The WBNSS measures the satisfaction of three psychological needs, namely autonomy (6 items) (e.g. "I feel like I can pretty much be myself at work"), competence (6 items) (e.g. "I feel competent at work") and relatedness (6 items) (e.g. "People at work care about me"). A 5-point frequency scale varying from 1 (*totally disagree*) to 5 (*totally agree*) was used. Research in South Africa supported the three-factor structure of the WBNSS (Diedericks, 2012). Alpha coefficients of 0.81, 0.79 and 0.79 confirm the reliability for autonomy, competence and relatedness satisfaction.

The **Employee Engagement Scale** (EES; Rothmann, 2010) was used to measure employee engagement. A 7-point frequency scale varying from 1 (almost never or never) to 7 (always or almost always) was used for all items. The nine items reflect the three components of Kahn's (1990) description of personal engagement, namely cognitive (3 items) (e.g. "I am very absorbed in my work"), emotional (3 items) (e.g. "I am passionate about my work"), and physical engagement (3 items) (e.g. "I feel alive and vital at work"). An alpha coefficient of 0.85 was found for the total scale (Rothmann & Rothmann, 2010).

The **Turnover Intention Scale** (TIS; Sjöberg & Sverke, 2000) was used to measure intentions to leave. The TIS consists of three items. An example of an item is "If I was completely free to choose I would leave this job". Response options ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). The authors found an alpha coefficient of 0.83 for the TIS. Diedericks (2012) found an alpha coefficient of 0.79 for the TIS in a study in South Africa.

Research Procedure

The Ethics Committee of the North-West University (Vaal Triangle Campus), South Africa, evaluated and accepted the research project. The ethics number is: NWU-00107-14-S8. In this study, a sample ($N = 139$) was taken from employees working in the position of supervisor at manufacturing companies across South Africa. Permission was obtained from the selected manufacturing companies to distribute the links to the electronic questionnaires (in English) amongst employees who met the criteria. An information letter was also attached onto the electronic survey, clarifying the purpose of the study as well as ethical considerations. Participants completed the questionnaires on-line and responses to items were captured in an Excel sheet, where after it was prepared for analysis with the SPSS software program.

Statistical Analyses

The analysis was carried out with the SPSS 22.0 programme (IBM Corp., 2013). Exploratory factor analyses were conducted to investigate the structure of the four measuring instruments in this study. Exploratory factor analysis was used to investigate the factor structure of the SSS, the WBNSS, the WES and the TIS. As a first step, items with communalities higher than 0.40 were retained, given that communalities from 0.40 to 0.70 are often obtained in social sciences research (Field, 2013). Concerning the number of factors that should be extracted as well as the techniques used for extraction, there has been debate in the literature (Field, 2013). However, there seems to be consensus that choosing a suitable factor extraction, such as principal axis factoring, and a rotation method, such as a direct oblimin rotation, produces optimal results. In order to determine how many factors should be extracted for further analysis, three criteria were applied. The first criterion is the Kaiser criterion which states that only factors with eigenvalues higher than 1.0 should be retained for interpretation (Hair, Babin, Money, & Samouel, 2010, p. 364). The second criterion was the percentage of the variance that was explained by the extracted factors. The general rule for this criterion is that the factor solution should account for a minimum of 60% of the total variance (Hair et al., 2010). To further determine the number of factors suitable for extraction, a third criterion was applied, namely the scree plot. A scree plot involves

examining a graphic display of the eigenvalues and looking for the natural bend in the data where the curve flattens out (Field, 2013).

Principal component analyses were used to estimate the number of components in each measuring instrument (by considering the eigenvalues, percentage of variance explained and the scree plots). Responses to each questionnaire were subjected to principal factor analyses with a direct oblimin rotation. Tabachnick and Fidell (2007) suggested the following guidelines to evaluate factor loadings: loadings higher than 0.71 are considered excellent, 0.63 very good, 0.55 good, 0.45 fair, and 0.32 poor. A cut-off point of 0.40 was used for cross-loadings.

Cronbach alpha coefficients were computed to assess the reliability of the measuring instruments. Descriptive statistics (means and standard deviations) were computed to describe the data. Pearson correlation coefficients were used to specify the relations between the variables. The level of statistical significance was set at $p < 0.05$. The practical significance of findings was assessed through effect sizes (Steyn, 1999). A cut-off point of 0.30 (medium effect, Cohen, 1988) was set for the practical significance of correlation coefficients.

Furthermore, regression analyses were used in this study. Firstly, standard multiple regression analyses were used to investigate the main effects of supervisor support for autonomy, competence and relatedness, on psychological need satisfaction. Secondly, standard multiple regression analyses were used to investigate the main effects of supervisor support and psychological need satisfaction on employee engagement and turnover intention. The practical significance of the explained variance was assessed according to the following guidelines (Cohen, 1988): $R^2 = 0.09$ (medium effect) and $R^2 = 0.25$ (large effect).

PROCESS was used to assess indirect effects of supervisor support for psychological need satisfaction on employee engagement and intention to leave. Using confidence intervals, this macro for SPSS estimates the indirect effects of X on Y through one or more mediator variable(s) (Hayes, 2013). Bias-corrected confidence intervals (95% CI with 10000 resamples) were used to assess whether indirect effects were different from zero (Hayes, 2013). The kappa squared values (κ^2), which indicate the practical significance of indirect

effects were computed using PROCESS (Hayes, 2013). According to Preacher and Kelly (2011), κ^2 values can be interpreted in the same way as the determination coefficient (R^2). Therefore, and in line with Cohen (1988), cut-off points for κ^2 values are set at 0.01 (small effect), 0.09 (medium effect), and 0.25 (large effect).

Results

Next, the results of the empirical study are reported. Exploratory factor analyses are reported. The factor loadings of one scale, namely the SSS, are reported in detail, given that it is a newly developed instrument which was only used in one South African study. This is followed by the descriptive statistics, reliabilities and Pearson correlations of the scales. Lastly, the results of multiple regression analyses and testing of indirect effects are reported.

Exploratory Factor Analyses

First, a principal component analysis was done on the 27 items of the SSS. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (0.92) and the Bartlett's test of sphericity ($p < 0.01$) showed that the data was factorable. Three factors had eigenvalues larger than one: Component 1 = 16.42 (explaining 60.81% of the total variance), Component 2 = 1.41 (explaining 4.49% of the total variance), and Component 3 = 1.20 (explaining 4.43% of the total variance). These results, as well as the scree plot, confirmed a one-factor solution for supervisor support. Table 2 shows the loadings of the items on the factor.

Table 2 shows that all items loaded on one factor, labelled *Supervisor Support*. This factor included autonomy, competence and relatedness support. The communalities were all higher than the recommended guideline of 0.40. Factor loadings of all items were moderate to high. These results support the construct validity of the SSS for this study.

Table 2

Principal Factor Analysis of the SSS

	STATEMENT	Loading	h^2
	My supervisor ...		
1.	takes the time to learn about my career goals and aspirations.	0.67	0.48
2.	cares about whether or not I achieve my goals.	0.73	0.60
3.	makes sure I get the credit when I accomplish something substantial on the job.	0.80	0.71
4.	gives me helpful feedback about my performance.	0.84	0.80
5.	gives me helpful advice about improving my performance when I need it.	0.87	0.78
6.	provides assignments that give me the opportunity to develop and strengthen new skills.	0.70	0.66
7.	helps me solve work-related problems.	0.76	0.62
8.	encourages me to develop new skills.	0.81	0.62
9.	encourages employees to participate in important decisions.	0.75	0.77
10.	praises good work.	0.74	0.65
11.	encourages employees to speak up when they disagree with a decision.	0.78	0.69
12.	treats people fairly .	0.74	0.65
13.	is committed to protecting my interests.	0.81	0.66
14.	can be trusted.	0.76	0.75
15.	is accessible.	0.69	0.56
16.	allows me to learn from my mistakes.	0.78	0.75
17.	makes it clear what I should be doing.	0.68	0.56
18.	sets high expectations regarding my work.	0.53	0.65
19.	has confidence in my abilities.	0.72	0.87
20.	supports me to develop my potential.	0.88	0.49
21.	provides direction when needed.	0.83	0.60
22.	understands what motivates me.	0.79	0.77
23.	communicates in a way that I understand.	0.81	0.71
24.	treats me in a humane way.	0.75	0.67
25.	encourages everyone to speak about what they feel.	0.84	0.72
26.	listens carefully to different points of view before coming to conclusions.	0.85	0.66
27.	seeks feedback to improve interactions with others.	0.80	0.75

A principal component analysis was carried out on the 15 items of the WBNSS. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (0.84) and the Bartlett's test of sphericity ($p < 0.01$) showed that the data was factorable. Three components had eigenvalues larger than one: Component 1 = 4.75 (explaining 34% of the total variance), Component 2 = 2.01 (explaining 14.35% of the total variance), and Component 3 = 1.51 (explaining 10.78% of the total variance). These results, as well as the scree plot confirmed a three-factor solution for psychological need satisfaction. A principal factor analysis with a direct oblimin rotation supported three factors as hypothesised, namely autonomy satisfaction (5 items), competence satisfaction (4 items) and relatedness satisfaction (6 items). Communalities varied from 0.29

to 0.61. Factor loadings varied from 0.42 to 0.70. These results support the construct validity of the WBNS for this study.

A principal component analysis was carried out on the 11 items of the WES. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (0.80) and the Bartlett's test of sphericity ($p < 0.01$) showed that the data was factorable. Two components had eigenvalues larger than one: Component 1 = 5.56 (explaining 50.56% of the total variance), Component 2 = 2.21 (explaining 20.09% of the total variance). These results, as well as the scree plot, confirmed a two-factor solution for employee engagement. A principal factor analysis with a direct oblimin rotation supported two factors, namely cognitive engagement (3 items), and physical/emotional engagement (8 items). Communalities varied from 0.42 to 0.87. Factor loadings varied from 0.66 to 0.79. These results provide support for the construct validity of the WES for this study.

A principal component analysis was carried out on the 3 items of the TIS. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (0.52) and the Bartlett's test of sphericity ($p < 0.01$) showed that the data was factorable. One component had an eigenvalue larger than one: Component 1 = 1.81 (explaining 60.48% of the total variance). These results, as well as the scree plot confirmed a one-factor solution for intention to leave. Subsequent analyses showed that one item did not measure what it was supposed to measure. This item was subsequently removed. Communalities of two items were higher than 0.80. However, item 3 of the scale had a communality of 0.37, which was much lower than communalities of the other two items. Therefore item 3 was removed from the analyses. Factor loadings were both higher than 0.90. These results provide support for the construct validity of the TIS for this study.

Descriptive Statistics and Correlations

The descriptive statistics, alpha coefficients, and Pearson correlations of the SSS, the WBNS, the WES and the TIS are reported in Table 3.

Table 3

Descriptive Statistics, Alpha Coefficients, and Pearson Correlations of the Scales

Item	Mean	SD	α	1	2	3	4	5	6
1. Supervisor Support	3.86	0.81	0.97	-	-	-	-	-	-
2. Autonomy Satisfaction	3.54	0.62	0.76	0.52**	-	-	-	-	-
3. Competence Satisfaction	4.17	0.52	0.76	0.08	0.44**	-	-	-	-
4. Relatedness Satisfaction	3.99	0.69	0.80	0.29**	0.39**	0.49**	-	-	-
5. Cognitive Engagement	4.01	1.21	0.84	0.11	0.07	0.08	0.08	-	-
6. Physical/Emotional Engagement	4.69	0.97	0.93	0.39**	0.59**	0.44**	0.27**	0.14	-
7. Intention to Leave	2.51	1.13	0.85	-0.54**	-0.58**	-0.23**	-0.30**	-0.01	-0.51**

* $p < 0.05$ – statistically significant

** $p < 0.01$ – statistically significant

+ $r > 0.30$ – practically significant (medium effect)

++ $r > 0.50$ – practically significant (large effect)

The alpha coefficients of the scales were acceptable when compared with the cut-off point of 0.70 (Nunnally & Bernstein, 1994). Table 3 shows that supervisor support is statistically and practically significantly related to autonomy satisfaction ($r = 0.52$, large effect), and relatedness satisfaction ($r = 0.29$, medium effect). Supervisor support is also statistically and practically significantly related to physical/emotional engagement ($r = 0.39$, medium effect) and intention to leave (-0.54 , large effect). Autonomy satisfaction is statistically and practically significantly related to physical/emotional engagement ($r = 0.59$, large effect) and intention to leave (-0.58 , large effect). Competence satisfaction is statistically and practically significantly related to physical/emotional engagement ($r = 0.44$, medium effect), while relatedness satisfaction is statistically and practically significantly and negatively related to intention to leave (-0.30 , medium effect).

Multivariate Statistics

Multiple regression analyses with three types of psychological need satisfaction (as measured by the WBNSS) as dependent variables and supervisor support (as measured by the SSS) as independent variable were subsequently conducted (see Table 4).

Table 4

Regression Analyses of Supportive Supervisor Behaviour on Psychological Need Satisfaction

Model	Unstandardised Coefficients		Standardised Coefficients	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²
	B	SE	Beta					
<i>Autonomy Satisfaction</i>								
(Constant)	2.03	0.22		9.07	0.000	47.45*	0.51	0.26*
Supervisor Support	0.39	0.06	0.51	6.89	0.000*			
<i>Competence Satisfaction</i>								
(Constant)	3.97	0.22		18.44	0.000	0.90	0.08	0.01
Supervisor Support	0.05	0.06	0.08	0.95	0.343			
<i>Relatedness Satisfaction</i>								
(Constant)	3.03	0.27		11.07	0.000	12.68*	0.29	0.09*
Supervisor Support	0.25	0.07	0.29	3.561	0.001*			

* $p < 0.01$

Table 4 shows that the supervisor support predicted 26% of the variance in autonomy satisfaction ($F = 47.45$, $p < 0.001$), 1% of the variance in competence satisfaction ($F = 0.09$, $p > 0.05$) and 9% of the variance in relatedness satisfaction ($F = 12.68$, $p = 0.001$). The regression coefficients of supervisor support on autonomy satisfaction ($\beta = 0.51$, $p < 0.001$) and relatedness satisfaction ($\beta = 0.29$, $p < 0.001$) were statistically significant. Therefore, supervisor relations are a statistically significant predictor of autonomy and relatedness satisfaction. Based on these results, hypotheses 1 and 3 are accepted and hypothesis 2 is rejected.

Multiple regression analyses with employee engagement (as measured by the WES) as dependent variable and manager support (as measured by the SSS) and psychological need satisfaction (as measured by the WBNS) as independent variable were subsequently conducted (see Table 5).

Table 5

Regression Analyses of Supervisor Support for Autonomy, Competence and Relatedness and Psychological Need Satisfaction on Employee Engagement

Model	Unstandardised Coefficients		Standardised Coefficients	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²
	B	SE	Beta					
<i>Employee Engagement (Cognitive) - Step 1</i>						1.74	0.11	0.01
(Constant)	3.37	0.50		6.70	0.000			
Supervisor Support	0.17	0.13	0.11	1.32	0.189			
<i>Employee Engagement (Cognitive) - Step 2</i>						0.61	0.14	0.02
(Constant)	2.70	0.95		2.84	0.005			
Supervisor Support	0.17	0.16	0.11	1.08	0.283			
Autonomy Satisfaction	-0.04	0.22	-0.02	-0.20	0.845			
Competence Satisfaction	0.16	0.25	0.07	0.65	0.515			
Relatedness Satisfaction	0.04	0.18	0.02	0.19	0.846			
<i>Employee Engagement (Emotional) - Step 1</i>						23.90**	0.39	0.15
(Constant)	2.90	0.37		7.75	0.000			
Supervisor Support	0.46	0.10	0.39	4.89	0.000			
<i>Employee Engagement (Emotional) - Step 2</i>						23.62**	0.64	0.42
(Constant)	-0.20	0.59		-0.34	0.733			
Supervisor Support	0.22	0.10	0.19	2.31	0.022*			
Autonomy Satisfaction	0.61	0.14	0.39	4.52	0.000**			
Competence Satisfaction	0.56	0.15	0.30	3.64	0.000**			
Relatedness Satisfaction	-0.12	0.11	-0.09	-1.06	0.292			

* $p < 0.05$

** $p < 0.01$

The results in Table 5 show that the supervisor support predicted 15% of the variance in physical/emotional engagement ($F = 23.90$, $p < 0.001$). When psychological need satisfaction was entered with supervisor support into the regression equation, 42% of the variance in physical/emotional engagement was predicted ($F = 23.62$, $p < 0.01$). The regression coefficients of supervisor support ($\beta = 0.19$, $p < 0.05$), autonomy satisfaction ($\beta = 0.39$, $p < 0.001$) and competence satisfaction ($\beta = 0.30$, $p < 0.001$) were statistically significant. Concerning the prediction of the physical/emotional component of employee engagement by supervisor support and psychological need satisfaction, the change in chi-square was significant between steps 1 and 2 ($\Delta F = 20.16$, $\Delta df = 3$, $p < 0.001$). Based on these results, hypothesis 4 is partially supported.

Multiple regression analyses with intention to leave (as measured by the TIS) as dependent variable and manager support (as measured by the SSS) and psychological need satisfaction (as measured by the WBNSS) as independent variables were subsequently conducted (see Table 6).

Table 6

Regression Analyses of Supportive Supervisor Behaviour, and Psychological Need Satisfaction on Intention to Leave

Model	Unstandardised Coefficients		Standardised Coefficients	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²
	B	SE						
<i>Intention to Leave - Step 1</i>								
(Constant)	5.39	0.40		13.56	0.000	54.03*	0.53	0.29
Supervisor Support	-0.75	0.10	-0.53	-7.37	0.000**			
<i>Intention to Leave - Step 2</i>								
(Constant)	7.16	0.68		10.57	0.000	24.24*	0.65	0.42
Supervisor Support	-0.44	0.11	-0.31	-3.92	0.000**			
Autonomy Satisfaction	-0.73	0.16	-0.41	-4.69	0.000**			
Competence Satisfaction	-0.01	0.18	-0.01	-0.07	0.945			
Relatedness Satisfaction	-0.08	0.13	-0.05	-0.62	0.539			

** $p < 0.01$ – statistically significant

The results in Table 6 show that the supervisor support predicted 29% of the variance in intention to leave ($F = 54.03$, $p < 0.001$). When psychological need satisfaction was entered with supervisor support into the regression equation, 42% of the variance in intention to leave was predicted ($F = 24.24$, $p < 0.01$). The regression coefficients of supervisor support ($\beta = -0.31$, $p < 0.001$) and autonomy satisfaction ($\beta = -0.41$, $p < 0.001$) were statistically significant. Concerning the prediction of intention to leave by supervisor support and psychological need satisfaction, the change in chi-square was significant between steps 1 and 2 ($\Delta F = 10.45$, $\Delta df = 3$, $p < 0.001$). Based on these results, hypothesis 5 is partially supported.

Indirect Effects of Supervisor Behaviour

To further investigate indirect effects of need-supportive supervisor behavior on employee engagement and intentions to leave, the PROCESS v2.13 procedure developed and explained by Hayes (2013) was used. Bootstrapping (with 10 000 samples) was used to construct two-

sided bias-corrected 95% confidence intervals (CIs so as to evaluate indirect effects. Lower and upper CIs are reported (see Table 7).

Table 7

Indirect Effects of Supervisor Support for Psychological Need satisfaction on Physical/Emotional Engagement and Intention to Leave

Variable	Estimate	SE	95% BC CI	κ^2		
				Effect	SE	CI
<i>Employee Engagement</i>						
Autonomy satisfaction	0.24*	0.10	[0.07, 0.45]	0.26	0.05	[0.16, 0.37]
Competence satisfaction	0.03	0.04	[-0.03, 0.12]	-	-	-
Relatedness satisfaction	-0.03	0.04	[-0.12, 0.02]	-	-	-
<i>Intention to Leave</i>						
Autonomy satisfaction	-0.29*	0.08	[-0.45, -0.16]	0.22	0.05	[0.14, 0.31]
Competence satisfaction	-0.01	0.02	[-0.04, 0.04]	-	-	-
Relatedness satisfaction	-0.02	0.04	[-0.14, 0.03]	-	-	-

$p < 0.01$ $\kappa^2 =$ Kappa-squared

Table 7 shows that the 95% CIs of autonomy satisfaction did not include zero for physical/emotional engagement. Therefore, need-supportive supervisor behaviour had an indirect effect on physical/emotional engagement via satisfaction of the need for autonomy. The $\kappa^2 = 0.26$ means that the observed indirect effect of supervisor support for psychological need satisfaction (0.24) is about 26% as large as its maximum possible value given the association between the variables observed in the sample. The confidence interval for κ^2 did not include zero. Hypothesis 6 is partially accepted regarding the indirect effects of supervisor behaviour on physical/emotional engagement (via autonomy satisfaction).

Furthermore, the 95% CIs of autonomy satisfaction did not include zero for turnover intention. Therefore, need-supportive supervisor behaviour had an indirect effect on intention to leave via satisfaction of the need for autonomy. The $\kappa^2 = 0.22$ means that the observed indirect effect of supervisor support for psychological need satisfaction (-0.29) is about 22% as large as its maximum possible value given the association between the variables observed in the sample. The confidence interval for κ^2 did not include zero. Hypothesis 7 is partially accepted regarding the indirect effects of supervisor behaviour on employee engagement (via autonomy satisfaction).

Discussion

The aim of this study was to investigate the relation between supervisor behaviour, the satisfaction of the psychological needs of employees, employee engagement and their intentions to leave. Need-supportive supervisor behaviours had direct effects on two dimensions of psychological need satisfaction, namely autonomy and relatedness. Supervisor behaviour explained relatively large percentages of the variance in autonomy and relatedness satisfaction, but did not affect competence satisfaction significantly. Autonomy and competence satisfaction predicted employee engagement. Poor support for psychological need satisfaction from supervisors indirectly affected employee engagement and intentions to leave via a lack of autonomy satisfaction. The results confirmed that supportive supervisor behaviour is positively related to employee engagement and negatively related to intentions to leave.

The exploratory factor analyses in this study supported the validity of the measuring instruments for need-supportive supervisor behaviour, psychological need satisfaction, employee engagement and intention to leave. Two observations can be made regarding the factor structures of the SSS and the WES. First, based on the conceptualisation of need-supportive supervisor behaviour and the result of an empirical study (Fouché & Rothmann, in press) it was expected that three factors would underlie the construct. However, exploratory factor analyses strongly suggested a one-factor solution. Second, in line with findings of a previous study (e.g. Rothmann & Rothmann, 2010), a two-factor solution of employee engagement (rather than a three-factor solution) was obtained. Research is necessary to validate these findings in different and larger samples.

Supervisor support for autonomy, competence and relatedness had a direct effect on two dimensions of psychological need satisfaction: autonomy satisfaction (large effect) and a relatedness (medium effect). Employees will be inclined to experience autonomy and relatedness satisfaction when the supervisor shows the following behaviours: take time to learn about employees' career goals and aspirations, cares about whether or not they achieve their goals, give credit when they accomplish something substantial on the job, give helpful feedback about their performance, provide assignments that give them opportunities to develop and strengthen new skills, helps them solve work-related problems, encourage them to develop new skills, encourage them to participate in important decisions, praise good work, encourage employees to speak up when they disagree with a decision, treat them fairly, show commitment to protecting their interests, trust them, are accessible, allow employees to learn from their mistakes, make it clear what they should be doing, set high expectations regarding their work, have confidence in employees' abilities, supports them to develop their potential, provide direction when needed, understand what motivates employees, communicate in a way that they understand, treat them in a humane way, encourage everyone to speak about what they feel, listen carefully to different points of view before coming to conclusions, and seek feedback to improve their interactions with employees. Unlike expected, supervisor support for psychological need satisfaction did not affect competence satisfaction significantly.

The effect supervisor support had on autonomy satisfaction was twice as large as the effect it had on relatedness satisfaction. Various explanations can be given for this finding. First, it is known that competence satisfaction is required for motivation, but autonomy support is more important to optimise internal regulation of behaviour (Deci & Ryan, 2000). A work setting which is supportive to autonomy satisfaction will provoke total need satisfaction i.e. all three of the needs. Second, supervisors may not be motivated or have the acquired skills to demonstrate certain required behaviours to stimulate competence satisfaction amongst employees (Bandura, 2000). The need for autonomy and relatedness might be satisfied by supervisors who are supportive and trusting. Nevertheless, this behaviour of supervisors might not be adequate to satisfy the psychological need for competence. Konczak, Stelly, and Trusty (2000) argue that the development of skills, training and coaching in order to foster innovation, delegation of authority, encouragement of self-directed decision-making and delegation of authority will promote autonomy satisfaction.

Supervisor support, autonomy satisfaction and competence satisfaction had direct effects on employee engagement. Aligned with SDT, employees will present with both physical and emotional engagement when they receive good supervisor support and when they can regulate themselves because they feel a sense of autonomy and competency. This will lead to self-regulating behaviour. Levels of engagement will increase when employees experience a sense of mastering their tasks and when they feel effective at work (Deci & Ryan, 2011). Behaviour from supervisors which are supportive (and which will contribute to autonomy-supportive interpersonal environments) can affect employee engagement through realising the psychological need for autonomy (Gagné & Deci, 2005). Behaviour of this kind will enhance the social identity of employees and produce meaningfulness within their work environment; thus resulting in employee engagement (Rothmann & Rothmann, 2010).

The results confirmed that poor supervisor support for psychological need satisfaction as well as lack of autonomy satisfaction and lack of relatedness satisfaction predicted intention to leave. When employees feel that their supervisors are not supportive (i.e. exhibiting behaviour that does not support psychological need satisfaction), they will experience less autonomy satisfaction. This in turn will then result in low engagement and intentions to leave. Previous research has shown that employees leave their supervisor rather than their companies (Kouzes & Posner, 2002).

Previous research showed that supervisor relationships which are supportive and trusting will fortify the social identities of employees and will also produce more meaningfulness in the workplace. The outcome will then be higher levels of commitment of employees and lower intentions to leave (May et al., 2004). Support from supervisors could empower employees to be able to better cope with their job demands and will thus also reduce their intentions to leave. If an atmosphere of trust is created by supervisors and they are being supportive, the psychological needs of employees (especially autonomy and relatedness satisfaction) will be fulfilled, and this is crucial for optimal human development (Gagné & Deci, 2005) and also for achieving positive organisational outcomes (Greguras & Diefendorff, 2010).

Satisfaction of the psychological needs for autonomy and competence explained a large percentage of the variance in engagement. In line with SDT, adequate experiences of freedom and choice at work result in engagement because it leads to self-regulation of behaviour. Engagement is strengthened when employees master tasks and feel effective at work (Deci &

Ryan, 2011). However, supportive supervisor behaviours (which contribute to autonomy-supportive interpersonal environments) affected employee engagement via fulfilment of the psychological need for autonomy (Gagné & Deci, 2005). If employees experience that supervisors are supportive and that they can be trusted, they will experience more autonomy satisfaction, which leads to engagement. Autonomy satisfaction is therefore an important psychological condition that transfers the effect of perceived supervisor support to employee engagement (Deci & Ryan, 2008). Need-supportive supervisor behaviours did not affect employee engagement or intention to leave indirectly via competence and relatedness satisfaction. This does not mean that such effects do not exist in practice. Competence and relatedness satisfaction might affect motivational outcomes (such as employee engagement) via autonomy satisfaction (Deci & Ryan, 2000).

The findings of this study endorsed the practicality of the use of self-determination theory in explaining the relation between supervisor behaviour, employee engagement and intention to leave. Need supportive environments initiated by supervisors contributed to employee engagement via the satisfaction of employees' autonomy needs. Furthermore, need-supportive supervisor behaviours contribute to relatedness satisfaction of employees, characterized by experiences of a sense of communion and developing close and intimate relationships with others.

The study had several limitations. First, the sample was relatively homogeneous in gender and culture and the sample size was relatively small. The author had to make use of exploratory factor analyses instead of confirmatory factor analyses due to a smaller sample. The small size and homogeneity of the sample were also problematic in the sense that employees' ratings of supervisors' behaviour did not support the three factors reported by Fouché and Rothmann (in press). Future studies will benefit from larger more diverse samples. Second, the availability of internet connections to reach supervisors directly was a huge challenge, as most of the supervisors were on site during production time and not available on emails to complete the web-based survey. Third, this study employed a cross-sectional design; therefore it is not possible to prove causality of relationships. Last, the study did not focus on what employees themselves can do to ensure need-supportive behaviours from supervisors (Kahn & Heaphy, 2014). To understand the dynamics of need satisfaction it might be necessary to focus the experiences of both supervisors and employees.

Recommendations

The following recommendations are made to organisations to address the resulting facets to support employee engagement and retention within organisations in the manufacturing sector. First, organisations should conduct surveys to measure supervisor support for psychological need satisfaction, psychological need satisfaction, employee engagement and intentions to leave of employees. Organisations should aim to develop work environments which will support and contribute to the satisfaction of employees' psychological needs. This can be achieved by the encouragement of employees' initiatives and their sense of choice, consideration of perspectives of employees, being responsive to ideas and the promotion of employees' communication skills and learning (Deci & Ryan, 2008). Organisations should implement interventions which will generate supportive work environments that will harvest supportive supervisor-subordinate relationships and clear internal communication systems within the organisation which will decrease the intentions of employees to leave.

Future research applying a longitudinal research design could measure the antecedents of psychological need satisfaction at work, focussing more specifically on competence. Future studies should comprise larger sample sizes and should aim to include more diversity (especially when considering gender and cultural diversity). Future research should also make use of the different data gathering methods. The reliance of mainly web-based surveys could influence the response rate, especially within the manufacturing sector, since supervisors are more present on manufacturing sites and mostly during the day.

References

- Baard, P. P., Deci, E. L., & Ryan, R. M. (2004). Intrinsic need satisfaction: A motivational basis of performance and well-being in two work settings. *Journal of Applied Social Psychology, 34*, 2045-2068.
- Bakker, A. B., Schaufeli, W. B., Leiter, M. P., & Taris, T. W. (2008). Work engagement: An emerging concept in occupational health psychology. *Work and Stress, 22*, 187-200.
- Bandura, A. (2000). Cultivate self-efficacy for personal and organizational effectiveness. In E. A. Locke (Ed.), *Handbook of principles of organization behaviour* (pp. 120-136). Oxford, United Kingdom: Blackwell.
- Bass, B. M. (1985). Leadership: Good, better, best. *Organizational Dynamics, 13*(3), 26-40.
- Bass, B. M., & Avolio, B. J. (2004). *Transformational leadership development: Manual for the Multifactor Leadership Questionnaire*. Palo Alto, CA: Consulting Psychologists Press.
- Buitendach, J. H., & Rothmann, S. (2009). The validation of the Minnesota Job Satisfaction Questionnaire in selected organisations in South Africa. *South African Journal of Human Resource Management, 7*(1), Art. #183, 8 pages. doi: 10.4102/sajhrm.v7i1.183
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Costigan, R. D., Insigna, R. C., Berman, J. J., Kranas, G., & Kureshov, V. A. (2011). Revisiting the relationship of supervisor trust and CEO trust to turnover intentions: A three-country comparative study. *Journal of World Business, 46*, 74-83.
- Deci, E. L., Connell, J. P., & Ryan, R. M. (1989). Self-determination in a work organization. *Journal of Applied Psychology, 74*, 580-590.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behaviour*. New York, NY: Plenum.
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*, 319-338.
- Deci, E. L., & Ryan, R. M. (2008). Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology, 49*, 14-23.
- Deci, E. L., & Ryan, R. M. (2011). Levels of analysis: Regnant causes of behavior and well-being: The role of psychological needs. *Psychological Inquiry, 22*, 17-22.

- Diedericks, E. (2012). *Flourishing of employees in the information technology industry in South Africa*. (Unpublished doctoral thesis). North-West University, Vanderbijlpark, South Africa.
- Field, A. (2013). *Discovering statistics using SPSS* (4th ed.). London, United Kingdom: SAGE.
- Firth, L., Mellor, D. J., Moore, K. A., & Loquet, C. (2004). How can managers reduce employee intention to quit? *Journal of Managerial Psychology*, *19*(2), 170-187.
- Fouché, E., & Rothmann, S. (in press). Psychological need satisfaction, engagement and intention to leave of educators: The role of the leadership. *Career Development International*.
- Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior*, *26*, 331-362.
- Greguras, G. J., & Diefendorff, J. M. (2010). Why does proactive personality predict employee life satisfaction and work behaviors? A field investigation of the mediating role of the self-concordance model. *Personnel Psychology*, *63*, 539-560.
- Griffeth, R. W., Hom, P. W., & Gaertner, S. (2000). A meta-analysis of antecedents and correlates of employee turnover: Update, moderator test, and research implications for the next millennium. *Journal of Management*, *26*(3), 463-488.
- Hair, J. F., Babin, B., Money, A. H., & Samouel, P. (2010). *Essentials of business research methods*. Boston, MA: Wiley.
- Harter, J. K., Schmidt, F. L., & Hayes, T. L. (2002). Business-unit level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. *Journal of Applied Psychology*, *87*, 268-279.
- Harris, K. J., Kacmar, K. M., & Witt, L. A. (2005). An examination of the curvilinear relationship between leader-member exchange and turnover. *Journal of Organizational Behaviour*, *26*, 363-378.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY: The Guilford Press.
- Hetland, H., Hetland, J., Andreassen, C. S., Pallesen, S., & Notelaers, G. (2011). Leadership and fulfilment of the three basic psychological needs at work. *Career Development International*, *16*, 507-523.
- IBM Corp. (2013). *IBM SPSS Statistics for Windows, Version 22.0*. Armonk, NY: IBM Corp.

- Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 692-724.
- Kahn, W. A., & Heaphy, E. D. (2014). Relational contexts of personal engagement at work. In C. Truss, R. Delbridge, K. Alfes, A. Shantz, & E. Soane (Eds.), *Employee engagement in theory and practice* (pp. 1-35). London, United Kingdom: Routledge.
- Katz, I., & Assor, A. A. (2007). When choice motivates and when it does not. *Educational Psychology Review*, 19, 429-442.
- Kay, B., & Jordan, E. (1999). *Love'em or lose'em - Getting good people to stay*. San Francisco, CA: Berrett-Koehler Publishers.
- Koestner, R., & Losier, G. F. (1996). Distinguishing reactive versus reflective autonomy. *Journal of Personality*, 64, 465-494.
- Konczak, L. J., Stelly, D. J., & Trusty, M. L. (2000). Defining and measuring empowerment leader behaviors: Development of an upward feedback instrument. *Educational and Psychological Measurement*, 60, 301-313.
- Kouzes, J. M., & Posner, B. Z. (2002). *Leadership challenge*. San Francisco, CA: Jossey-Bass
- Kreisman, B. J. (2002). Insights into employee motivation, commitment and retention. *Insights Denver*, 1-24.
- Levinson, H. (1965). Reciprocation: The relationship between man and organization. *Administrative Science Quarterly*, 9, 370-390.
- May, D. R., Gilson, R. L., & Harter, L. M. (2004). The psychological conditions of meaningfulness, safety and availability and the engagement of the human spirit at work. *Journal of Occupational and Organizational Psychology*, 77, 11-37.
- McCarthy, G., Tyrell, M. P., & Lehane, E. (2007). Intention to 'leave' or 'stay' in nursing. *Journal of Nursing Management*, 15, 248-255
- Milyavskaya, M., & Koestner, R. (2011). Psychological needs, motivation, and well-being: A test of self-determination theory across multiple domains. *Personality and Individual Differences*, 50, 387-391.
- Naumann, E. (1993). Antecedents and consequences of satisfaction and commitment among expatriate managers. *Group & Organization Management*, 18, 153-87.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York, NY: McGraw-Hill.

- Preacher, K. J., & Kelley, K. (2011). Effect sizes measures for mediation models: Quantitative strategies for communicating indirect effects. *Psychological Methods*, *16*(2), 93-115.
- Reichheld, F. F. (2001). *Loyalty rules! How todays leaders build lasting relationships*. Boston, MA: Harvard Business School Press.
- Rhoades, L., & Eisenberger, R. (2002). Perceived organizational support: A review of the literature. *Journal of Applied Psychology*, *87*, 698-714.
- Rothmann, S. (2010). *The reliability and validity of measuring instruments of happiness in the Southern African context*. Unpublished research report. Vanderbijlpark, South Africa: North-West University.
- Rothmann, S. (2013). Flourishing in work and careers. In M. Coetzee (Ed.), *Psycho-social career meta-capacities: Dynamics of contemporary career development*. Dordrecht, The Netherlands: Springer.
- Rothmann, S., & Rothmann, S. (2010). Factors associated with employee engagement in South Africa. *SA Journal of Industrial Psychology*, *36*(2), 1-12.
- Rothmann, S., Diedericks, E., & Swart, J. P. (2013). Manager relations, psychological need satisfaction and intention to leave in the agricultural sector. *SA Journal of Industrial Psychology*, *39*(2), 1-11.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development and well-being. *American Psychologist*, *55*, 68-78.
- Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, *52*, 141-166.
- Ryan, R. M., & Deci, E. L. (2002). Overview of self-determination theory: An organismic-dialectical perspective. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 3-33). Rochester, NY: The University of Rochester Press.
- Sager, J. K., Griffeth, R. W., & Hom, P. W. (1998). A comparison of structural models representing turnover cognitions. *Journal of Vocational Behaviour*, *53*, 254-273.
- Saks, A. M. (2006). Antecedents and consequence of employee engagement: A multi-sample study. *Journal of Managerial Psychology*, *21*, 600-619.
- 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 Behaviour*, *25*, 293-315.

- Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. (2002). The measurement of engagement and burnout: A confirmative analytic approach. *Journal of Happiness Studies, 3*, 71-92.
- Scott, D., McMullen, T., & Royal, M. (2012). Retention of key talent and the role of rewards. *World at work*, 1-17.
- Settoon, R. P., Bennet, N., & Liden, R. C. (1996). Social exchange in organisations: Perceived organisational support, leader-member exchange, reciprocity. *Journal of Applied Psychology, 81*, 219-227.
- Sheldon, K. M., & Gunz, A. (2009). Psychological needs as basic motives, not just experiential requirements. *Journal of Personality, 77*, 1467-2492.
- Sheldon, K. M., & Houser-Marko, L. (2001). Self-concordance, goal attainment, and the pursuit of happiness: Can there be an upward spiral? *Journal of Personality and Social Psychology, 80*, 152-165.
- Sjöberg, A., & Sverke, M. (2000). The interactive effect of job involvement and organisational commitment revisited: A note on the mediating role of turnover intention. *Scandinavian Journal of Psychology, 41*, 247-252.
- Steyn, H. S. (1999). *Praktiese betekenisvolheid: Die gebruik van effekgroottes*. Wetenskaplike bydraes Reeks B: Natuurwetenskappe Nr. 117. Potchefstroom: PU vir CHO.
- Tabachnick, B.G., & Fidell, L.S. (2007). *Using multivariate statistics* (5th ed.). Boston, MA: Allyn & Bacon.
- Van den Broeck, A., Vansteenkiste, M., De Witte, H., & Lens, W. (2008). Explaining the relationship between job characteristics, burnout engagement: The role of basic psychological need satisfaction. *Work & Stress, 22*, 277-294.
- Van den Broeck, A., Vansteenkiste, M., De Witte, H., Soenens, B., & Lens, W. (2010). Capturing autonomy, relatedness and competence at work: Construction and validation of the Work-related Basic Need Satisfaction Scale. *Journal of Occupational and Organisational Psychology, 83*, 981-1002.
- Vandenberg, R. J., & Nelson, J. B. (1999). Disaggregating the motives underlying turnover intentions: When do intentions predict turnover behaviour? *Human Relations, 152*, 1313-1336.
- Vansteenkiste, M., Neyrinck, B., Niemiec, C. P., Soenens, B., De Witte, H., & Van den Broeck, A. (2007). On the relations among work value orientations, psychological need satisfaction and job outcomes: A self-determination theory approach. *Journal of Occupational and Organizational Psychology, 80*, 251-277.

Waterman, A.S. (2008). Reconsidering happiness: A eudaimonist's perspective. *Journal of Positive Psychology*, 3, 234-252.

Chapter 3

Conclusion, Limitations and Recommendations

This chapter consists of conclusions pertaining to this study, according to the specific objectives. The limitations of this research are discussed, followed by recommendations for organisations. Furthermore, recommendations and suggestions are made for future research.

3.1 Conclusion

South Africans are engaged in daily problems and challenges within their work environments.

Even though the manufacturing industry is not able to address or change all the problems and challenges experienced by employees, it can intervene in order to improve the quality of the working experience of employees through creating and maintaining a supportive working environment. This is important as work plays a key role in the lives of employees; they spend a large portion of their lives at office being entangled in job-related tasks (Buitendach & Rothmann, 2009). For this reason it is important and also necessary to improve the working experience of employees. This in turn will strengthen their intentions to stay at the organisation (Armstrong, 2006; Snyder & Lopez, 2002).

The retention of talented and skilled employees is a concern and a huge challenge facing human resource managers (Koketso & Rust, 2012). Therefore, referring to the work context, the satisfaction of psychological needs serves as a requirement for intrinsic motivation, internalising work behaviour and thriving (Deci & Ryan, 2008). A work environment in which psychological needs are satisfied serves as a requirement for intrinsic motivation, internalising work behaviour and thriving. Research also proved that a work milieu which nurtures these inborn needs enables well-being and will decrease employees' intention to leave the organisation (Deci & Ryan, 2000).

The first objective of this study was to determine the role of psychological need satisfaction in SDT and in the optimal functioning of employees. Research has shown that the satisfaction of psychological needs for autonomy, competency and relatedness of employees will lead to motivation and optimal functioning (Deci & Ryan, 2000). The results of this current study

were consistent with previous research. That is why the satisfaction of psychological needs is imperative for employees to have intrinsic motivation, internalising work behaviour and also thriving (Deci & Ryan, 2008). Hence the realisation of psychological needs will promote intrinsic motivation. It will also promote internalising extrinsic motivation and this will, in turn, lead to organisational liability which will result in the retention of employees. Research has also shown that employees will perform well when their psychological needs are satisfied and when they engage in their work (Rothmann, 2013).

The three needs can be defined as follows (Deci & Ryan, 2008): The need for autonomy is defined as the desire to experience freedom and choice when carrying out an activity. The need for competence refers to individuals' inherent desire to feel effective in interacting with the environment. The need for relatedness concerns the innate need of individuals to feel connected to others, to love and care for others, and to be loved and cared for. This need is satisfied when individuals experience a sense of communion and develop close and intimate relationships with others. Higher levels of satisfaction of the psychological needs for autonomy, relatedness and competence are associated with higher levels of employee engagement.

The second objective of this study was to identify behaviours supervisors should demonstrate in order to create an environment supportive of psychological need satisfaction. Research has shown that supervisors are key role-players and will thus determine the nature of the workplace of employees.

In the fulfilment of autonomy, competence and relatedness needs within the work environment, supervision plays an important role (Hetland, Hetland, Andreassen, Pallesen, & Notelaers, 2011). Supervisors can increase employees' sense of autonomy through specific behaviours. This can be achieved when supervisors minimize micro management, show that they have an understanding for the needs and feelings of employees, and by giving employees a rationale behind their tasks and by offering them more choices in work methods and styles of assessments of their work (Deci & Ryan, 2011). In order to achieve autonomy support, supervisors must have an understanding of their employees' perceptions; they need to supply information and also offer opportunities and encourage self-initiation.

Supervisors can assist employees in increasing their sense of competence by creating tasks that are challenging in order to assess employees' knowledge and skills (Ryan & Deci, 2000). To establish a sense of relatedness amongst employees, supervisors can encourage acceptance fellow employees, enhance empathy in the work place downsize competition and social comparisons. Supervisors whom are aware of the issues and concerns of employees, who invest in time spent with employees and who strive to empower and develop employees, will add to their well-being. The results of the current study correlated with previous research where it proofed that in order for employees to experience supervisor support, they need to have autonomy, competence and relatedness support satisfied.

The last objective of this study was to identify within the manufacturing sector, the relations among supervisor behaviours, psychological need satisfaction, employee engagement and intention to leave. Previous research find that supervision and more specifically the relationship between supervisors and employees will affect engagement and employees' intention to leave a company (Kahn, 1990; May, Gilson, & Harter, 2004; Rothmann & Rothmann, 2010).

Work from Sheldon and Gunz (2009) showed that elevated levels of the satisfaction of the psychological needs for autonomy, competence and relatedness are supplementary to elevated levels of employee engagement. Research also showed that a supportive leader that displays the concerns for employees' needs and feelings, provides feedback and encourages employees to voice their concerns, who develops employees skills and solves their work-related problems, will enhance the self-determination of employees and their interest in their work and will promote employee engagement (May et al., 2004). The results correlated with these previous research findings when it showed that supervisor support for autonomy, competence and relatedness had a large effect on autonomy satisfaction and a medium effect on relatedness. Supervisor support and satisfaction of the psychological needs for autonomy and competence impacted employee engagement positively. A perceived lack of supervisor support and dissatisfaction of the psychological needs for autonomy and relatedness predicted intention to leave. Furthermore, support was found for the hypotheses that autonomy satisfaction would mediate the relation between supervisor support for psychological need satisfaction and employee engagement. If employees perceive behaviours that support psychological need satisfaction, they will experience more autonomy satisfaction, which result in higher engagement in their work. Autonomy satisfaction also mediated the relation

between supervisor support and employees' intentions to leave. More specifically, if employees perceive behaviours that do not support psychological need satisfaction, they will experience less autonomy satisfaction, which result in a higher intention to leave the organisation.

3.2 Limitations of this Research

Various study limitations should be noted. Firstly the use of exploratory factor analyses was implemented instead of confirmatory factor analyses. This restricted the author to see particular model fits. Furthermore, if a bigger sample was collected, the author could've implemented confirmatory factor analyses. The use of a larger sample would show specific model fits.

Secondly, the sample only comprised of employees from one particular industry. This can also be seen as a limitation in terms of the participants in the study not being representative of South Africa's general demographics. The study might've produced different results if organisations which are more inclusive of all the official cultural and language groups within South Africa were included in the study.

Thirdly, the data gathering method strongly relied on internet connectivity and web-based questionnaires. The working environment of the participants wasn't restricted to their offices, as these participants were much needed on site without internet and email access. If hard copy questionnaires combined with electronic questionnaires were distributed more participants could be reached. Furthermore, many organisations restrict certain websites one can access from a work computer, which hinder employees to continue with the web-based questionnaire, as their companies have blocked the domain.

3.3 Recommendations

Regardless of the limitations of this study, the present findings have important implications for practice and future research.

3.3.1 Recommendations for the Organisation

Firstly, it is of great importance for supervisors, Human Resources (HR) departments and employees to comprehend the importance and impact of supervisor relations and support on intentions to leave, and furthermore the satisfaction of psychological needs of employees, as all parties involved are equally affected by the implications. Results from the study showed that supervisor support for autonomy, competence and relatedness had a large effect on autonomy satisfaction and a medium effect on relatedness. Supervisor support and satisfaction of the psychological need for autonomy and competence impacted employee engagement positively.

A perceived lack of supervisor support and dissatisfaction of the psychological need for autonomy and relatedness predicted intention to leave. It is recommended that organisations conduct surveys in order to measure supervisor support, psychological need satisfaction and intentions to leave. It is also very important to examine supervisor relations, psychological satisfaction and intentions to leave in different ways and at different times.

Organisations within the manufacturing sector should focus on the following aspects to support retention in these organisations:

- Organisations should host interventions which will generate supportive work environments that will harvest supportive supervisor-subordinate relationships and clear internal communication systems within the organisation, which will decrease the intentions of employees to leave.
- Organisations should aim at developing work environments which will contribute to and support the satisfaction of employees' psychological needs. This can be achieved by encouraging employees' initiatives and their sense of choice, having consideration for perspectives of employees, being responsive to ideas and promoting employees' communication skills and learning (Deci & Ryan, 2008).

3.3.2 Recommendations for Future Research

The following recommendations can be made for future research.

Firstly, it is recommended that longitudinal research designs be conducted in future research studies. This may allow researchers to further authenticate the hypothesised causations of the relationships and to govern if these relationships continue true to present over an extended period of time.

Secondly, it is recommended that the study be extended to other trades, professions and provinces within South Africa and not only the manufacturing sector. Every trade, profession, and province might have its own challenges, benefits, and difficulties relating to the study variables.

References

- Armstrong, M. (2006). *A handbook of human resource management practice* (10th ed.). London, United Kingdom: Kogan Page.
- Buitendach, J. H., & Rothmann, S. (2009). The validation of the Minnesota Job Satisfaction Questionnaire in selected organisations in South Africa. *South African Journal of Human Resource Management*, 7(1), Art. #183, 8 pages. doi: 10.4102/sajhrm.v7i1.183
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11, 319-338.
- Deci, E. L., & Ryan, R. M. (2008). Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology*, 49, 14-23.
- Deci, E. L., & Ryan, R. M. (2011). Levels of analysis: Regnant causes of behavior and well-being: The role of psychological needs. *Psychological Inquiry*, 22, 17-22.
- Hetland, H., Hetland, J., Andreassen, C. S., Pallesen, S., & Notelaers, G. (2011). Leadership and fulfilment of the three basic psychological needs at work. *Career Development International*, 16, 507-523.
- Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 33, 692-724.
- Koketso, L. P.-J., & Rust, A. A. B. (2012). Perceived challenges to talent management in the South African public service: An exploratory study of the City of Cape Town municipality. *African Journal of Business Management*, 6, 2221-2233.
- May, D. R., Gilson, R. L., & Harter, L. M. (2004). The psychological conditions of meaningfulness, safety and availability and the engagement of the human spirit at work. *Journal of Occupational and Organizational Psychology*, 77, 11-37.
- Rothmann, S. (2013). Flourishing in work and careers. In M. Coetzee (Ed.), *Psycho-social career meta-capacities: Dynamics of contemporary career development*. Dordrecht, The Netherlands: Springer.
- Rothmann, S., & Rothmann, S. J. (2010). Factors associated with employee engagement in South Africa. *SA Journal of Industrial Psychology*, 36(2), 1-12.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development and well-being. *American Psychologist*, 55, 68-78.
- Sheldon, K. M., & Gunz, A. (2009). Psychological needs as basic motives, not just experiential requirements. *Journal of Personality*, 77, 1467-2492.

Snyder, C. R., & Lopez, S. J. (2002). *Handbook of positive psychology*. New York, NY: Oxford University Press.