FLOURISHING OF ACADEMICS IN UNIVERSITIES OF TECHNOLOGY

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MTech

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PREFACE AND DECLARATION

The article format was chosen for the current study. The researcher, Christine Janse van Rensburg, conducted the research and wrote the manuscripts. Prof. Sebastiaan Rothmann acted as promoter and Dr Elsabe Diedericks as co-promoter. Three manuscripts were written and/or submitted for publication.

The references as well as the editorial style as prescribed by the *Publication Manual* (6th edition) of the American Psychological Association (APA) were followed in this thesis. This practice is in line with the policy of the Optentia Research Focus Area of the North-West University (Vaal Triangle Campus) to use APA style in all scientific documents. Chapter 1 used the decimal style acceptable in South Africa, while the manuscripts were prepared in line with the APA conventions on the use of decimals. Also, English (USA) was used in some manuscripts, while United Kingdom English was used in some chapters.

I declare that “Flourishing of academics in universities of technology” is my work and that all the sources that I have used or quoted are indicated and acknowledged using complete references.
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SUMMARY

**Subject:** Flourishing of academics in universities of technology

**Keywords:** Flourishing, work, well-being, person-environment fit, job demands, job resources, performance, supervisor influence, intention to leave

Higher education in South Africa is dynamic, ever-changing, and experiences high turnover. In order to keep up with these transformations, organisations need to create conducive environments that foster positive organisational behaviour and capitalise on employee strengths. Positive psychology acknowledges that aspects of flourishing produce positive organisational and employee behaviours and outcomes. Organisations should therefore invest in ways to enable their employees to flourish. Flourishing in general life refers to high levels of emotional, psychological and social well-being in terms of feeling and functioning well (Keyes, 2007). Subjective well-being refers to the levels of positive and negative affect and the overall satisfaction with life. Psychological well-being consists of individuals’ positive functioning in life. Social well-being relates to individuals’ evaluation of their functioning on a public and social level.

Individuals also experience flourishing in the work and organisational context. Flourishing at work originated from literature of flourishing in general life and orientations of subjective well-being in positive psychology. Emotional, psychological and social well-being aspects are also incorporated in work flourishing. The concept of flourishing at work can be seen as an employee’s desirable state of well-being, and can be achieved through positive experiences and effective management of work-related factors, thus feeling and function well. Limited studies regarding flourishing in work and organisational contexts exist. The aim of this study was to investigate the impact of various factors in the work and organisational environment on flourishing in universities of technology.

A cross-sectional survey design was used to gather data regarding the flourishing of employees in higher education in South Africa. A stratified random sample ($n=339$) was taken of academics in three universities of technology (UoTs), in the Free State and Gauteng provinces in South Africa. The measuring instruments used were the Flourishing-at-Work Scale, Flourishing-at-Work Scale – Short Form, three Perceived Fit Scales, Turnover Intention Scale,
Job Demands-Resources Scale and two Performance Scales. Confirmatory factor analysis, descriptive statistics, and regression analyses were employed. Structural equation modelling was used to test structural models of work flourishing and its relation to individual and organisational antecedents and outcomes.

The results of study 1 supported a three-factor model of flourishing at work (as measured by the Flourishing-at-Work Scale – Long Form), consisting of emotional well-being (positive affect, negative affect and job satisfaction), psychological well-being (autonomy, competence, relatedness, learning, meaning and purpose, and engagement), and social well-being. The internal consistencies of all the scales were acceptable. Person-environment fit predicted flourishing at work, which in turn predicted intention to leave. Furthermore, P-E fit predicted intention to leave, both directly and indirectly via flourishing. These findings provide support for the reliability and validity of the Flourishing-at-Work Scale for academics in universities of technology.

The findings of study 2 supported a three-factor model of flourishing at work (as measured by the Flourishing-at-Work Scale – Short Form), consisting of emotional, psychological and social well-being. The internal consistencies of the scales were acceptable. The mean frequencies showed that 12.4% of academics were languishing, 44.5% were experiencing moderate well-being at work, and 43.1% were flourishing. Job resources (role clarity, advancement and co-worker relations) had a large positive effect on flourishing at work, and flourishing at work had a small positive effect on individual job performance. Workload did not predict languishing or flourishing in the organisational environment.

Study 3 showed that supervisor support was a positive predictor of flourishing in the work context. The results showed that supervisor support had an effect on flourishing at work and a lack of flourishing at work had a large effect on intentions to leave. Autonomy-, competence- and relatedness supervisor support showed the strongest correlation with social well-being. Supervisor support was statistically significantly and negatively related to intention to leave.

Recommendations for future research were made.
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CHAPTER 1

INTRODUCTION

This thesis is about the measuring and outcomes of flourishing at work and the work and organisational antecedents thereof.

In Chapter 1 the background to and motivation for the research are discussed. Furthermore, the problem statement, aims of the research, research method, and division of chapters are provided.

1.1 BACKGROUND AND MOTIVATION OF THE RESEARCH

Worldwide, higher education systems are undergoing changes due to environmental pressures (Henkel, 2010) and so, correspondingly, have the backgrounds, specialisations, expectations and work roles of academic staff (Cummings & Arimoto, 2013). Academics are expected to be more professional in lecturing, more productive in research and more entrepreneurial (Cummings & Arimoto, 2013). Furthermore, with the massification of student enrolments, universities no longer enjoy the privileges of their former elite status, and neither do academics (Henkel, 2010). According to Teichler (2003), academics nearly everywhere are asked to work longer hours for less money relative to salary scales of a couple of decades ago and compared to those earned by other professional groups (Ward & Sloane, 2000; Welch, 1998).

In many countries, the academic profession is increasingly insecure, more accountable, more differentiated, more internationalised and less likely to be organised along disciplinary lines. Academics have also lost some of their traditional autonomy over work time and output (Gappa, 2010) and their research is required to be strategic and relevant, whilst the presumed defining characteristic of university teaching informed by research is under challenge in several jurisdictions (Owen-Smith & Powel, 2001; Rip, 2004). At the same time, most of the 14 International Convention on the Organisation for Economic Co-operation and Development (OECD) countries indicated that the academic profession is ageing, and there is evidence that the most intellectually talented of the younger generation do not view an academic career as attractive as they once did (Harman, 2003). All the mentioned factors
have, in recent times, raised questions about the attractiveness of an academic career (Cummings & Arimoto, 2013). If academic careers are not seen as attractive opportunities, academic employees may intend to leave this occupation. On the other hand, if academic staff experience flourishing in the higher education environment, they may find their jobs attractive and stay within their occupation.

Higher education in South African also experienced the above-mentioned international problems. South African higher education institutions (HEIs) underwent radical transformation between 2002 and 2005. Public HEIs was reduced from 36 to 23 (Jacobs, 2009) and changes to the identity of some of the “new” HEIs caused turmoil. South African academics also had to face stressors associated with societal transformation (Viljoen & Rothmann, 2009). With the recent turmoil times of the #FeesMustFall student led protest movement that began in mid-October 2015, academic staff also experienced intimidation of themselves and their students, interruptions of classes and pressures to catch up lost teaching time (Herman, 2016; Wits University, 2016), which bring another set of stressors to the academic arena.

One of the aims of higher education in South Africa is clearly set out in the Education White Paper 3 (CHE, 2013), which states that higher education has to “address the development needs of society and provide the labour market, in a knowledge-driven and knowledge-dependent society, with the ever-changing high-level competencies and expertise necessary for the growth and prosperity of a modern society”. In line with the Education White Paper 3, the National Planning Commission (2012) identified the major problem of education in South Africa as inefficiency. The principal cause of inefficiencies was specified as weak capacity and most of the recommendations are directed at dealing with inferred weaknesses, especially in the human capital of the education system. The targets (for 2030) proposed for higher education include growth in student enrolment to 1.6 million, an increase in the number of academics with PhDs from the current 34% to 75%, and an increase in the number of doctoral graduates from 1420 (2010) to 5000. In order to assist in the talent development of higher education in South Africa and in supporting the implementation of the National Development Plan of the National Planning Commission (2012), optimal functioning is crucial. One approach to obtaining optimal functioning is to focus on employee performance. High performing and productive staff members are valuable assets for organisations and assist in obtaining organisational goals (Awang, Ibrahim, Nor, Razali, Arof, & Rahman, 2015).
Transformation, as one of the South African features that may be seen as a part of optimal functioning, also brought change in HEIs in terms of medium of instruction, composition of student population, increased student numbers, outcomes-based instruction and structural design (Pienaar & Bester, 2009). These changes affect the well-being of academics. According to Youssef-Morgan and Bockorny (2014), the well-being of academics can be studied from a viewpoint of a negative or positive model. Negatively orientated research can be seen as limiting in understanding optimal functioning, because positivity and negativity usually represent distinct continuums. Research through the negative focus will therefore limit a better understanding of the potential and optimal functioning of academics. On the other hand, positive psychology can be applied to understand flourishing in the academic work environment. This study will therefore focus on the utilisation of positive psychology to establish flourishing of academics in South African UoTs.

Psychological studies increasingly use the concept *flourishing* to describe well-being and/or hedonic and eudaimonic components of happiness (Huppert & So, 2011; Seligman, 2011). Keyes and Annas (2009) define flourishing as a state in which individuals experience high levels of emotional well-being (i.e. feeling well), psychological and social well-being (i.e. functioning well). Authors (Ryff, 1989; Ryff & Keyes, 1995) also outline flourishing as a model of positive mental health, which was derived from theory, factor analyses and rational criteria. Keyes (2002) developed the Mental Health Continuum (MHC) on which a person’s level of flourishing or languishing or a value in between can be determined.

Rothmann (2013) conceptualised flourishing at work and found that flourishing in work and organisational contexts and flourishing in general life share around 50% of variance. Benefits of flourishing at work include more positive emotions, greater job satisfaction, effective learning, higher engagement levels, improved accomplishment and meaning making, healthier relationships, growth, optimal functioning and a reduced likelihood that employees will resign from their jobs (Seligman, 2011; Keyes, 2009; Keyes & Annas, 2009, Rothmann, 2013; Youssef & Luthans, 2012). In view of all the mentioned benefits, it makes sense to conceptualise and measure flourishing in organisational contexts. Rautenbach (2015) therefore designed the Flourishing-at-Work (FAWS) and Flourishing-at-Work – Short Form (FAWS-SF) scales to measure work flourishing and languishing (opposite state of flourishing). The study by Rautenbach (2015) validated a scale for flourishing at work, but did not research the relation of measuring instruments to individual and organisational outcomes. A gap for
research towards different relations between flourishing at work and aspects such as person-environment fit, intentions to leave and supervisory support is therefore undeveloped. This research will be able to add valuable information towards flourishing at work literature.

Flourishing of employees can be cultivated, developed and facilitated by understanding work and organisation context, as well as supporting individual characteristics (Bono, Davies, & Rasch, 2012). Rothmann (2013) reported that flourishing in the organisational context (compared to flourishing in general life) was predicted by job and organisational factors and in turn better predicted organisational outcomes. Various job and organisational antecedents of flourishing at work could therefore be identified, namely work role fit of employees, the availability of physical, emotional and intellectual resources to perform tasks, supporting and trusting relationships with leaders and managers, work overload, sound relationships among co-workers, challenging and interesting roles and responsibilities, advancement opportunities, clearly defined goals and role clarity, fair remuneration, career development opportunities, negative work-home interaction, authentic leadership and job security (Rautenbach, 2015; Rothmann, 2013). For the purpose of this study person-environment (P-E) fit, resources and supervisory support will be targeted to better understand job and organisational factors, as no research was done before in this relation.

Person-environment fit attempts to understand and predict employees’ attitudes and behaviour by comparing internal aspects of the person (e.g. values, goals and abilities) with conceptually relevant elements of the external environment (e.g. organisational values, culture, climate and goals) (Kristoff-Brown & Billsberry, 2013). When fit exists, employees typically report more favourable attitudes, perform more effectively and experience greater well-being (Hoffman & Woehr, 2006; Kristof-Brown, Zimmerman, & Johnson, 2005; Verquer, Beehr, & Wagner, 2003).

Numerous studies have supported the dual pathways to employee well-being proposed by the job demands-resources theory and have shown that the model predicts important organisational outcomes (Bakker & Demerouti, 2014). The assumption is that job demands and resources could exhibit a positive or negative effect on work well-being. An organisational environment offering many resources can also nurture employees’ willingness to dedicate their efforts and abilities to the work task (Meijman & Muller, 1998), thus contributing towards individual performance.
Employee-supervisor relationships are vital drivers for employees’ decisions to remain in their jobs (Gu & Day, 2013), and contribute to the well-being of employees (Fouché, 2015). The self-determination theory (SDT; Deci & Ryan, 1985, 2008) indicates that supervisors affect work behaviour of employees through autonomy, competence and relatedness aspects. Other studies found that supportive supervisor behaviour encourages flourishing behaviours such as performance, learning and development, affective support, connectedness to purpose and meaningfulness (Deci & Ryan, 2011; Grant, 2012; Kahn & Heaphy, 2014; Karami & Ismail, 2013).

1.2 PROBLEM STATEMENT

Although flourishing is highly relevant for work and organisational contexts, few scientific studies were found regarding the conceptualisation thereof in these contexts. Huppert and So (2011) indicated that the scientific study of flourishing requires an accepted definition and good quality scales to measure it in work and organisational context.

The concept flourishing (Keyes, 2005) was developed to indicate emotional well-being (presence of positive/negative emotions and a feeling that one is satisfied/dissatisfied with life), psychological well-being (positive evaluations of the self, including a sense of satisfaction with one’s achievements, having a purpose in life and developing/growing as an individual), and social well-being (quality of the relationships one has with others, including positive appraisals of others and believing that one is making a constructive contribution to the larger system) (Keyes, 2005). Individuals who flourish feel satisfied with their lives (and different life domains), experience positive emotions, and are psychologically and socially well. Research indicated that outcomes of flourishing in organisations are better predicted by experiences of flourishing in work contexts (Rothmann, 2013, 2014a, 2014b), where job satisfaction (rather than life satisfaction), work engagement, meaning and purpose at work and other work-related dimensions can be studied, instead of emotional and psychological well-being in general. Furthermore, flourishing can be associated with various benefits for organisations, including fewer workdays lost, more effective learning, healthier relationships, high levels of organisational commitment, and decreased turnover rates (Diedericks & Rothmann, 2014; Keyes, 2004, 2011; Seligman, 2011). Despite these benefits, less than a quarter of the general adult population in countries such as the United States of America
(Keyes, 2002; Keyes, Satvinder, Dhingra, & Simoes, 2010) and South Africa (Diedericks & Rothmann, 2014; Khumalo, Temane, & Wissing, 2012) is flourishing.

In the South African literature, well-being in work and organisational contexts has been studied in terms of constructs such as work engagement, job satisfaction, psychological well-being, coherence, optimism and meaning at work, psychological strengths, and resilience. Analyses of peer-reviewed journal articles concerning flourishing and well-being in South Africa using the electronic databases for Psychology (PsycINFO, PsycARTICLES and SOCIndex), EBSCOHOST, ScienceDirect, ISI Web of Knowledge, and SAEPublications, showed that limited research (Diedericks & Rothmann, 2014; Fouché, 2015; Rautenbach, 2015; Swart & Rothmann, 2012) could be found on the constructs or dimensions of flourishing in the work context. This may be due to the fact that research by Rothmann only integrated the dimensions of flourishing of people in work and organisational contexts during 2013.

Rothmann (2013) integrated the dimensions of work from the theoretical frameworks of Keyes (2005), Fisher (2010), Huppert and So (2011), Seligman (2011) and Bono et al. (2012). These dimensions indicated job satisfaction and positive affect at work as part of emotional well-being (i.e. feeling good) in the work context, while psychological well-being (i.e. functioning well) in the work context included autonomy, engagement, competence, learning, relatedness, self-acceptance, purpose and meaning. Social well-being included social acceptance, social growth, social contribution, social coherence and social integration. The flourishing dimensions relevant to this study follows.

*Job satisfaction* is defined as “a pleasurable or positive emotional state resulting from the appraisal of one’s job or job experiences” (Locke, 1976, p. 1304). Job satisfaction embraces two components, namely the cognitive component, which refers to attitudes towards the job (an evaluation of concrete and abstract aspects of the job), and the affective component, which refers to feelings and emotions related to a job (Rothmann, 2014a). Original research of job satisfaction has been largely psychological and individualistic in orientation (Taber & Seashore, 1975). Nowadays job satisfaction is seen as a component that affects work-related well-being (Rothmann, 2008).

*Positive affect* (or emotions), an aspect of emotional well-being, is a critical ingredient for human flourishing, because it is associated with positive functioning (Fredrickson, 2006,
However, it is not argued that negative affect does not occur in a work and organisational context. Indeed, it has been demonstrated that negative affect is characteristic of human functioning, especially under conditions of change and stress (Keyes, 2000) as experienced during times of structural transformation in organisations.

Work engagement is considered to have great significance for both employees and organisations. Two perspectives define work engagement, i.e. engagement as an extension of the self to a role (Kahn, 1990), and employees’ work activities as a reference for engagement (Bakker, Schaufeli, Leiter, & Taris, 2008). Schaufeli and Bakker (2004) define work engagement as a positive and fulfilling work-related state of mind, characterised by vigour, dedication, and absorption. Research regarding the antecedents of employee engagement has primarily been conducted from two models, namely the Job Demands-Resources Model (JD-R; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Schaufeli & Bakker, 2004), and the personal engagement model (Kahn, 1990). The JD-R model pointed out that every occupation has specific characteristics associated with well-being. The personal engagement model argues that relations are shaped through three psychological conditions, namely psychological meaningfulness, psychological safety and psychological availability. The four factors of psychological meaningfulness are work role fit, the inherent task characteristics, the nature of relations with co-workers, and work beliefs (May, Gilson, & Harter, 2004; Pratt & Ashforth, 2003; Steger & Dik, 2010), which deepen individuals’ experiences of their work. Psychological safety is experienced in trusting and supporting relationships (May et al., 2004). Psychological availability includes the availability of cognitive, emotional and physical resources, perceived organisational support, rewards and recognition (Olivier & Rothmann, 2007). By studying the results of these conditions of work engagement, researchers can predict positive organisational outcomes such as productivity, job satisfaction, motivation, commitment, low turnover intention, customer satisfaction, organisational commitment, return on assets and profits (Bakker, Demerouti, & Schaufeli, 2003; Bakker et al., 2008; Harter, Schmidt, & Hayes, 2002; May et al., 2004; Schaufeli & Bakker, 2004; Swart & Rothmann, 2012; Rothmann, 2014a). Thus, analysing work engagement is important to understand the circumstances leading to improved employee engagement and enhanced organisational performance (Rothmann, Jorgensen, & Hill, 2011).
Today’s workers want much more from their job than simply the exchange of labour for a pay cheque. Research suggests that individuals will seek out work roles that allow them to express their true selves (May et al., 2004; Olivier & Rothmann, 2007). This “self-expression” will contribute to aspects of employee meaningfulness and purpose, especially because people spend a large part of their lives at work (Holbeche & Springett, 2004). Meaning at work relates to the significance of an individual’s experiences in the work and organisational environment, while purpose at work is where people feel that their work is important to them and they care about what they are doing (May et al., 2004; Thomas & Velthouse, 1990). It is therefore important for researchers to determine to what extent academics’ higher education environment impacts on their experience of meaning and purpose at work.

Certain aspects of flourishing of employees can be explained by the SDT theory (Deci & Ryan, 1985). This theory describes the three dimensions of psychological need satisfaction, i.e. autonomy, competence, and relatedness. Autonomy satisfaction refers to 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 (Deci & Ryan, 2011). Relatedness satisfaction refers to the innate need of individuals to feel cared for or to have others on whom they can rely, where one experiences giving and receiving, mutual caring, and safety in times of distress (Dutton & Ragins, 2007). Learning can be seen as personal growth and thriving of employees in the work environment and can be linked to psychological needs of employees (Ryff, 1989). Work climates that promote satisfaction of psychological needs will enhance employees’ intrinsic motivation, promote internalisation of extrinsic motivation and lead to work engagement and organisational citizenship behaviour (Gagné & Deci, 2005), which will contribute to flourishing.

According to Keyes (2007), social well-being in life includes five dimensions, namely social acceptance (being positive towards and accepting of diversity in people), social actualisation (believing in the potential of others), social coherence (finding society and social life meaningful and comprehensible), social contribution (regarding one’s own daily activities as adding value to society and others), and social integration (experiencing a sense of relatedness, comfort, and support from the community). In the work context, social well-being of employees can be linked to aspects of organisational support, such as supervisor relations, co-worker relations, positive communication and role clarity (Rothmann, 2014a). Concurrently, the social exchange theory of Blau (1964) suggests that employees
have social expectations from their employers. Social connections between individuals (co-workers) in organisations are necessary to perform their work. Connections, interactions and relations create a sense of belonging and a stronger sense of social identity. The opposite is also true: a loss of social identity can lead to meaninglessness in the work environment (Rothmann, 2014a).

The above information on work flourishing dimensions provides compelling evidence of the need for research in work and organisational contexts, such as academia. Ultimately, higher education institutions cannot expect their students (customers) to flourish and perform well if academics do not display flourishing behaviour. However, assessment of flourishing at work was difficult due to the fact that no measurement instrument existed. In order to fill this gap, Rautenbach (2015) designed the FAWS and FAWS-SF scales to investigate and measure work flourishing dimensions established by Rothmann (2013). Additional research is now needed on the psychometric properties of these two scales. Furthermore, scientific information is needed regarding relationships that may exist with work flourishing. The next sections describe the need for flourishing research on relationships with P-E fit, job demands and resources, as well as supervisor support.

**Person-environment Fit**

The P-E fit theory suggests that well-being is a function of people’s interactions with their environments (Shipp & Jansen, 2011). Research specified various levels of fit, but this study will only focus on three types of fit in the organisational context, namely person-organisation (P-O) fit, person-group (P-G) fit and person-job (P-J) fit. P-O fit is seen as the congruence between personal and organisational goals, norms and values. P-G fit refers to interdependence and social interactions. P-J fit emphasises the match between personal characteristics and job characteristics (Su, Murdock, & Rounds, 2015). Regardless of the fit concept being considered, good fit leads to beneficial outcomes for both the individual and organisation (Gabriel, Diefendorff, Chandler, Moran, & Greguras, 2014). If employees lack a sense of “fit” in their environment, they may leave their employment (HESA, 2011). Academics deal with a substantial amount of ongoing occupational stress, and the academic profession has been identified as one of the most stressful careers (Barkhuizen & Rothmann, 2008). Research showed that despite widespread complaints about career stressors and obstacles, many academics are engaged in their work, obtain a significant degree of challenge and intrinsic
motivation from their jobs, and derive their identity from their work (Kinman, 2001; Winter, Taylor, & Sarros, 2000). These favourable outcomes may be due to feelings and experiences of fit with the academic environment, and should therefore be researched.

**Job Demands and Resources**

Some of the typical career obstacles which influence the performance of academics in higher education institutions are work overload (Monnapula-Mapesela, 2002), role conflict (Miller, 2003) and poor remuneration (Anderson, Richard, & Saha, 2002). These obstacles are seen as part of job demands and may have a direct or indirect influence on how academics experience their work environment. According to the JD-R model (Demerouti et al., 2001), various job demands and job resources are present in work environments. These demands and resources could lead to increased or decreased well-being, due to their positive or negative effects. This study focused on workload as a job demand, and on four job resources, namely role clarity, remuneration, advancement, and co-worker support.

Research found that increased workload in higher education in South Africa places pressure on academics (National Planning Commission, 2012), affecting employee well-being negatively (Bowling, Alarcon, Bragg, & Hartman, 2015). Academic employees who lack role clarity may experience a lack of control in their jobs, which can contribute to non-flourishing (Barkhuizen, Rothmann, & Van de Vijver, 2013). Perceived fair remuneration was found to stimulate desirable employee behaviours and increase performance (De Gieter & Hofmans, 2015), while the opposite scenario may have an adverse impact on employees’ well-being (Deci, Koestner, & Ryan, 1999). Advancement is vital for employee flourishing. It was found that a lack of advancement opportunities is a major source of emotional distress, which impacts negatively on employee well-being (De Villiers & Steyn, 2009). Co-worker support helps employees to develop an understanding of their social reality and identity in an organisation (Rothmann, 2014a, 2015), and also influences well-being at work through the effects of social relations (Blau, 1964). From the mentioned job resources and job demand (workload), it is clear that a link does exist with well-being in the work context. Various studies researched the JD-R model in relation to specific aspects of well-being at work and flourishing, but only one study (Rautenbach, 2015) was found that related job demands and resources to flourishing at work. More research is therefore needed regarding the effects of job demands and resources on flourishing contexts in different occupations, such as academia.
Supervisor Support

Academics’ work is done in a social and service environment where students need constant attention and guidance. Pienaar (2009) reiterated that the context of the diverse South African student population brings unique needs, values, attitudes and skills, which require substantial attention from academics. In order to cope with these demands, employees will need organisational support. One mechanism of organisational support is that of supportive supervisor relations, which is essential towards promoting well-being. Through supervisor relations, the supervisor should be sensitive to the specific needs and expectations of the individual and should create a supportive work environment (Saks, 2006; Tekleab & Chiaburu, 2011). Supportive supervision is characterised by showing concern for the individual, providing feedback, inspiring employees and allowing employees to voice their views and opinions (Deci & Ryan, 2011; Harter & Adkins, 2015; Rothmann, 2014b). In contrast, studies showed that unsupportive supervisor behaviours significantly affect the retention of employees (Harter & Adkins, 2015); and some research found that many employees want to leave their organisations because of the nature of their work relationships (Gu & Day, 2013; Janik & Rothmann, 2015). Although supervisor support was researched in relation to well-being and flourishing, no research on supervisor support and the combined dimensions of flourishing at work could be found. An investigation into a holistic flourishing approach in relation to supervisor support is therefore necessary.

Specific Research Problems

Based on the discussion above, the research problems could be summarised as follows: Various studies have been conducted on the concept of flourishing in general life. However, limited evidence is available regarding flourishing in the work and organisational contexts. First, scientific information is needed regarding the psychometric properties (validity and reliability) of measuring instruments of flourishing, specifically applied to the world of work. Second, this study should look at existing knowledge gaps regarding work flourishing, person-environment fit and intention to leave. Third, scientific information is needed regarding antecedents of flourishing and/or languishing. It is not clear whether job demands and resources, such as workload, role clarity, advancement, remuneration, and co-worker support, will impact on flourishing (in terms of feeling well and functioning well). Academics perform complex tasks in an increasingly demanding environment, and contribute towards addressing the skills
development needs of South Africa. Identified antecedents can assist with relevant changes, development and support in HEIs. Clearly HEIs should invest in research supporting flourishing of academic employees in order to preserve the intellectual health and talent of our South African nation. Fourth, new information should be gathered regarding the relationship between work flourishing, supervisor support and intention to leave in order to fill the gap of limited knowledge on empirical evidence regarding these relationships.

The main research question in this study was:

How can flourishing in the work context be conceptualised and measured and which work and organisational factors affect the flourishing of academic employees?

The following more specific research questions were posed:

- Is a long form of a measure of flourishing at work reliable and valid for academic staff members at universities of technology?
- What is the relationship between person-environment fit, flourishing at work and intention to leave via flourishing at work?
- Is a short form of a measure of flourishing at work reliable and valid for academic staff members at universities of technology?
- What is the relationship between job demands and resources, flourishing at work and individual performance?
- What is the relationship between supervisor support, flourishing at work and intention to leave?

This study will make the following contributions to the field of Industrial and Organisational Psychology: Firstly, it will result in validated models of flourishing for employees in the work and organisational context. Secondly, scientific information will be provided regarding the relationship between work flourishing, person-environment fit and intention to leave. Thirdly, this study will contribute to the literature by exploring the relationship between job demands and resources (such as workload, role clarity, remuneration, advancement and co-worker support), work flourishing and individual performance. Fourthly, it will result in new scientific
information on the relationship between work flourishing, supervisor support and intention to leave.

1.3 RESEARCH OBJECTIVES

1.3.1 General Aim

The general aim of this study was to validate assessments that measure flourishing in work and organisational context; and to further investigate the impact of various factors in the work environment on flourishing and the effect thereof on academic employees in UoTs. The main aim of this study was to suggest flourishing interventions targeted at individuals in the work context.

1.3.2 Specific Objectives

Following from the general aim, the specific objectives of this study were to:

- Study the reliability and validity of a long form of a measure of flourishing at work for academic staff members at universities of technology.
- Investigate the relationship between person-environment fit, flourishing at work and intention to leave via flourishing at work.
- Study the reliability and validity of a short form of a measure of flourishing at work for academic staff members at universities of technology.
- Investigate the relationship between job demands and resources, flourishing at work and individual performance.
- Investigate the relationship between supervisor support, flourishing at work and intention to leave.

1.4 RESEARCH METHOD

The research consisted of a literature study and an empirical study.
1.4.1 Research Design

This study followed a quantitative method, more specifically a cross-sectional design. The quantitative design was chosen to embrace the approach of positive psychology. Positive psychology has originated from humanistic psychology of the 20th century and is concerned with positive emotions, positive individual traits, and positive institutions. Positive psychology can be seen as the branch of psychology that uses scientific understanding and effective intervention to aid achievement (Seligman & Csikszentmihalyi, 2000). In the study, flourishing, person-environment fit, the JD-R model and the SDT could be linked to positive psychology. Flourishing was conceptualised through original research of happiness and well-being in the positive psychology field (Seligman, 2011). The generally assumption is that P-E fit leads to positive outcomes, such as satisfaction, performance, and overall well-being (Ostroff & Schulte, 2007), which can be associated with positive psychology. Research by Bakker and Demerouti (2007) explained that the JD-R model was introduced as an alternative to other models of employee well-being which contribute to positive psychology. Positive psychology is well-known to use the quantitative design, which could disclose further interesting results. This study therefore chose to use a quantitative survey to obtain the various views and opinions in a chosen sample, in order to understand flourishing aspects of the humanistic experience.

With relation to cross-sectional design, surveys allow comparisons between groups measured at one point in time (Gravetter & Forzano, 2006). Within the cross-sectional design, the following aspects were utilised (Byrne, 2012; Muthén & Muthén, 1998-2016):

- A latent variable design was used to assess the psychometric properties of the measures.
- Latent variable modelling was used to investigate the fit of the hypothesised models as well as indirect effects. Latent variable modelling reduces bias that originates from measurement error and makes it possible to test direct and indirect effects.
1.4.2 Participants

This study was undertaken with academics at the Central University of Technology, the Tshwane University of Technology and the Vaal University of Technology in the Free State and Gauteng provinces, South Africa.

The environments in UoTs are characterised by stressful factors such as increasing student numbers, diverse students, skills shortages in South Africa, community involvement, required researched outputs and pressure to improve qualifications. These factors pose challenges regarding how to obtain, develop and retain relevant talent. In this study, the academic environment was studied from a positive context, focusing on changeable aspects of work, in order to transform UoTs into better companies that can contribute to a better South Africa, through flourishing employees.

Stratified random sampling was used in this study. The sample was stratified in the sense that three different UoTs were selected. Within these universities, all academic departments were targeted for this study and the researcher tried to incorporate both male (50%) and female (50%) participants.

1.4.3 Measuring Instruments

In this research, the following measuring instruments were used:

The Flourishing-at-Work Scale (FAWS; Rautenbach, 2015) consists of 40 questions which measured the three dimensions of flourishing (emotional, psychological and social well-being) in the work context. The respondents had to answer questions regarding the frequency with which they experienced specific symptoms during the past month. Emotional well-being consists of three dimensions, namely positive affect (three items, e.g. “How often did you feel grateful?”), negative affect (three items, e.g. “How often did you feel bored?”), and job satisfaction (two items, e.g. “How often did you feel real enjoyment of your work?”). Psychological well-being consists of nine dimensions, namely autonomy satisfaction (three items, e.g. “How often did you feel you can be yourself at your job?”), competence satisfaction (three items, e.g. “How often did you feel that you really master your tasks at your job?”), relatedness satisfaction (three items, e.g. “How often did you really connect with other people
at your job?”), learning (three items, e.g. “How often did you find that you are developing a great deal as a person?”), meaning and purpose (six items, e.g. “How often did you feel that you sense what makes your job worthwhile?”), cognitive engagement (three items, e.g. “How often did you concentrate a lot on your work?”), emotional engagement (three items, e.g. “How often did you feel passionate about your job?”), physical engagement (three items, e.g. “How often did you feel energised when you work?”), and social well-being (five items, e.g. “How often did you feel you had something important to contribute to your organisation?”). Responses are measured on a six-point scale ranging from 1 (never) to 6 (every day). Confirmatory factor analysis was done (Rautenbach, 2015) and the scale reliability ranged from \( \rho = .74 \) to .94.

The *Flourishing-at-Work Scale – Short Form* (FAWS-SF; Rautenbach, 2015) was administered. The FAWS-SF was derived from the Flourishing-at-Work Scale (FAWS; Rautenbach, 2015). The FAWS-SF consists of 17 items that were chosen as the most archetypal items expressive of the construct definition of each of three dimensions of well-being at work, namely emotional, psychological and social well-being. The respondents had to answer questions regarding the frequency with which they experienced specific symptoms during the past month. Emotional well-being was measured by three items indicating two dimensions, namely job satisfaction (e.g. “How often did you experience satisfaction with your job?”) and positive affect (e.g. “How often did you feel happy?”). Psychological well-being was measured by nine items indicating autonomy (e.g. “How often did you feel confident to think or express your own ideas and opinions?’’), competence (e.g. “How often did you feel good at managing the responsibilities of your job?’’), relatedness (e.g. “How often did you feel really connected with other people at your job?’’), learning (e.g. “How often did you find yourself learning?’’), meaning (e.g. “How often did you feel your work is meaningful?’’), purpose (e.g. “How often did you feel that the work you do serves a greater purpose?’’), cognitive engagement (e.g. “How often did you find that when you are working, you are totally absorbed by your work?’’), emotional engagement (e.g. “How often did you get excited when you perform well on your job?’’), and physical engagement (e.g. “How often did you feel energised when you work?’’). Social well-being was measured by five items indicating social contribution (e.g. “How often did you feel you had something important to contribute to your organisation?’’), social acceptance (e.g. “How often did you feel that you really belong to your organisation?’’), social growth (e.g. “How often did you feel that your organisation is becoming a better place for people like you?’’), social coherence (e.g. “How often did you feel that people in your
organisation are basically good?”), and social integration (e.g. “How often did you feel that the way your organisation works, makes sense to you?”). Responses were measured on a six-point scale ranging from 1 (never) to 6 (every day), indicating the frequency with which respondents experienced each identified symptom of well-being. This response option allows for the categorisation of levels of well-being similar to the three classes used to assess positive mental health (Keyes, 2002, 2005, 2007).

To be classified as flourishing, individuals must experience at least one of the three symptoms of emotional well-being and at least eight of the fourteen signs of positive functioning (psychological well-being and social well-being) “every day” or “almost every day”. To be classified as languishing, individuals must “never” or “once or twice” during the last month have experienced at least one of the symptoms of emotional well-being and at least eight of the signs of positive functioning (psychological well-being and social well-being). Individuals who are neither flourishing nor languishing are diagnosed with moderate well-being. The internal consistencies range from .82 to .90, indicating acceptable reliabilities.

P-E fit questions from three perceived fit scales from Greguras and Diefendorff (2009) were applied to determine P-E fit aspects of P-O fit, P-G fit and P-J fit. The questions comprised 9 items. Three items of P-O fit (e.g. “My personal values match my organisation’s values and culture”), P-G fit (e.g. “The things I value in life are similar to the things my co-workers value”) and P-J fit (e.g. “The match is very good between the demands of my job and my personal skills”) measured how well employees perceive their abilities to fit with these aspects. The reliability of these scales was between $\alpha = .82$ and $\alpha = .88$. All the fit items were rated on a five-point scale ranging from 1 (not at all) to 5 (completely).

A slightly modified version of the Turnover Intention Scale (TIS; Sjöberg & Sverke, 2000) was utilised to measure intention to leave, in the first and third article. The adapted TIS consists of three items (e.g. “I frequently think of quitting my job”) and a .83 Cronbach alpha coefficient was reported. Response options ranged from 1 (strongly disagree) to 5 (strongly agree).

Items from the Job Demand-Resources Scale (JDRS; Rothmann, Strydom, & Mostert, 2006) were administered. Respondents had to answer questions regarding the frequency with which they experienced specific symptoms during the past month. Workload was measured by three
items (e.g. “How often do you feel that you have too much work to do?”). Role clarity was measured by three items (e.g. “How often do you feel that you know exactly what other people expect of you in your work?”). Remuneration was measured by three items (e.g. “How often do you feel that your organisation pays good salaries?”). Advancement was measured by three items (e.g. “How often do you feel that your company gives you opportunities to attend training courses aligned to your job?”). Co-worker support was measured by two items (e.g. “How often do you feel that your co-workers value your input?”). Each item required the respondent to answer on a scale ranging from 1 (never) to 6 (every day). Internal consistencies ranged from .76 to .92, indicating acceptable reliability.

To measure job performance, this study adopted the ‘in-role’ performance scale of Goodman and Svyantek (1999). Respondents had to rate their perceptions regarding their job performance. Six questions were used (e.g. “I fulfil all the requirements of my job”) and were scored on a Likert-type scale ranging from 1 (low) to 10 (high). The internal reliability was .90 (Goodman & Svyantek, 1999).

The Supervisor Behaviour Scale (SBS; Fouché, 2015) was applied to measure participants’ perceptions of the behaviours of their supervisors. Autonomy support was measured using five items (e.g. “My supervisor encourages me to speak up when I disagree with a decision”). Competence support was measured using five items (e.g. “My supervisor gives me helpful feedback about my performance”). Relatedness support was measured by five items (e.g. “My supervisor can be trusted”). All items were rated on an agreement-disagreement Likert format ranging from 1 (strongly disagree) to 5 (strongly agree). The internal consistencies ranged from .72 to .93, indicating acceptable reliabilities.

A biographical questionnaire was developed to measure control variables pertaining to participants. Variables to be measured included age, gender, race, marital status, current position at the company, tenure, language of choice, education level, type of contract, and years working in education.

1.4.4 Research Procedure

Permission to conduct the study was obtained from the management of the participating organisations. Ethical clearance was also obtained from the Ethics Committee at the university.
from where the research was undertaken (Ethics number: NWU-HS-2014-0126). A cover letter explaining the purpose of the study and emphasising the confidentiality of the research project accompanied the questionnaire. Participation in the project was voluntary, and respondents had the option to withdraw at any time. Participants completed an online questionnaire in English via the myresearchsurvey.com platform, from the end of August until mid-October 2015. Responses to the items were captured in an Excel sheet; responses were then prepared for analysis with the Mplus and SPSS software programs.

1.4.5 Statistical Analysis

Measurement and structural models were tested using latent variable modelling with Mplus 7.4 (Muthén & Muthén, 1998-2016). WLSMV or MLR were used as estimator where applicable. To assess model fit, the following fit indices were used: the Chi-square statistic (the test of absolute fit of the model), Standardised Root Mean Residual (SRMR), Root Mean Square Error of Approximation (RMSEA), Tucker-Lewis Index (TLI) and Comparative Fit Index (CFI) (West, Taylor, & Wu, 2012). TLI and CFI values higher than 0.90 are regarded as acceptable. RMSEA and SRMR values lower than 0.08 indicate a close fit between the model and the data. The Akaike Information Criterion (AIC) and Bayes Information Criterion (BIC) were used in addition to other fit indices to assess the fit of competing models. The AIC, which is a comparative measure of fit, is meaningful when one estimates different models. The lowest AIC is the best fitting model. The BIC provides an indication of model parsimony (Kline, 2010).

Mplus 7.4 (Muthén & Muthén, 1998-2016) was also used to compute a confirmatory factor analysis-based estimate of scale reliability ($\rho$) for each scale (Raykov, 2009). Indirect effects were computed to determine whether any relationships are indeed indirectly affected by independent variables, the procedure explained by Hayes (2009) was used. Bootstrapping was used to construct two-sided bias-corrected 95% confidence intervals (CIs) so as to evaluate indirect effects. Lower CIs and upper CIs were reported.
1.5 ETHICAL CONSIDERATIONS

All participants were briefed about the research project and afforded the opportunity to inquire and raise concerns about any issues before considering participation. A clear outline of the roles and responsibilities of all the parties involved was given. It was clearly stated that participation in the project was voluntary and anonymous, and participants were required to tick an electronic consent box confirming that the information obtained via the research would be used for research purposes only. Upon completion of the study, feedback will be shared with the management of the participating organisations and provided to participants, if requested. All data collection was done confidentially.

1.6. CHAPTER LAYOUT

Chapter 1: Introduction
Chapter 2: Person-environment fit, flourishing and intention to leave in universities of technology
Chapter 3: Job demands and resources, flourishing and performance in universities of technology
Chapter 4: Supervisor support, flourishing and intention to leave in universities of technology
Chapter 5: Conclusions, limitations and recommendations
References


CHAPTER 2

ARTICLE 1
Person-Environment Fit, Flourishing and Intention to Leave in Universities of Technology

Abstract
Retaining staff is vital to ensure that universities accomplish their missions. In order to optimise the potential of staff members and retain staff, it is necessary to study their flourishing and fit in their jobs and organisations. The aim of this study was to investigate the relationship between person-environment fit, flourishing at work and intention to leave. A cross-sectional survey design was used with a convenience sample of 339 academic employees from three universities of technology in South Africa. Three Perceived Fit Scales, the Flourishing-at-Work Scale, and the Turnover Intention Scale were administered. Findings supported a three-factor model of flourishing at work, consisting of emotional, psychological and social well-being. The highest mean frequencies on flourishing dimensions were obtained for competence and emotional engagement. The lowest mean frequencies were obtained from relatedness and social well-being. Person-environment fit predicted intention to leave, both directly and indirectly, via flourishing. The findings support the internal consistency and validity of the Flourishing-at-Work Scale. Managers and human resource practitioners should consider the use of a multi-dimensional measure to assess flourishing at work. Considering certain dimensions of well-being at work (e.g. work engagement and competence of employees) without considering other dimensions (e.g. job satisfaction, affect balance and meaning at work) will not be sufficient to assess and promote the subjective well-being of employees. This study contributes to knowledge regarding the reliability and validity of a measure of flourishing at work. It confirms that person-environment fit has a strong positive effect on flourishing of employees and a strong negative effect on their intentions to leave.

Key terms: Flourishing, work, well-being, person-environment fit, intention to leave
The academic environment in South African higher education institutions, and specifically universities of technology (UoTs), has been affected by significant restructuring and transformation (Du Pré, 2009). These changes have had adverse effects on the morale of staff. Higher Education South Africa (HESA) has confirmed that it is currently facing challenges in retaining key and talented academic staff (HESA, 2011) due to the “brain drain” phenomenon where staff members leave to other sectors. Retaining staff is vital to ensure that universities accomplish their visions and missions, and become centres of excellence (Ng’ethe, Iravo, & Namusonge, 2012). Academics who are not flourishing may decide to resign (Theron, Barkhuizen, & Du Plessis, 2014). In order to optimise the potential of staff members and retain staff, it is necessary to study their flourishing and fit in their jobs and organisations.

Flourishing describes subjective well-being, which focuses on how individuals evaluate their experiences in different contexts. The notion of subjective well-being emerged during the 1950s and initially focused squarely on hedonic or emotional well-being, such as happiness, life satisfaction, or affect balance (Diener, 1984). Later, the two aspects of psychological well-being (Ryff, 1989) and social well-being (Keyes, 1998) were incorporated, also known as eudaimonic well-being. The Mental Health Continuum (MHC) and the Mental Health Continuum - Short Form (MHC-SF) were developed to measure these well-being components, also known as flourishing (Keyes, 2002; 2009). Keyes (2005) conceptualised flourishing in life as a multi-dimensional perspective of emotional well-being (feeling well), psychological and social well-being (functioning well). Rothmann (2013) extended these concepts to the work context.

Research is needed regarding flourishing at work. A study by Rothmann (2013) identified a framework for flourishing at work, while a study by Rautenbach (2015) validated a scale, the Flourishing-at-Work (FAWS) scale, that measures flourishing at work. Although the factorial validity and reliability of the FAWS were confirmed by Rautenbach (2015), the relations of the measuring instrument to individual and organisational outcomes were not studied. Therefore, more research is needed to validate the FAWS. Intention to leave and flourishing at work were previously studied in relation to flourishing in life (Diedericks, 2012; Swart, 2012). Hence, the aim of this study was to analyse the reliability and validity of the FAWS by exploring not only its psychometric properties, but also its relations with person-environment fit and intentions to leave.
Flourishing at Work

Psychological studies increasingly use the concept of flourishing to describe well-being and/or hedonic and eudaimonic components of happiness (Seligman, 2011). Flourishing is a state in which individuals experience emotional well-being, psychological and social well-being (Keyes & Annas, 2009). Flourishing can be linked to several theoretical models that conceptualise flourishing aspects through research done by Keyes (2002), Diener et al. (2010), Seligman (2011), Huppert and So (2013), and Noble and McGrath (2015), as indicated in Table 1.

Table 1
Five Different Conceptualisations of Flourishing

<table>
<thead>
<tr>
<th>Keyes</th>
<th>Diener et al.</th>
<th>Seligman et al.</th>
<th>Huppert &amp; So</th>
<th>Noble &amp; McGrath</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive relationships</td>
<td>Positive relationships</td>
<td>Positive relationships</td>
<td>Positive relationships</td>
<td>Relationships</td>
</tr>
<tr>
<td>Positive affect</td>
<td>Engagement</td>
<td>Engagement</td>
<td>Engagement</td>
<td>Engagement</td>
</tr>
<tr>
<td>Purpose in life</td>
<td>Purpose &amp; meaning</td>
<td>Meaning &amp; purpose</td>
<td>Meaning</td>
<td>Purpose</td>
</tr>
<tr>
<td>Self-acceptance</td>
<td>Self-acceptance and Self-esteem</td>
<td>Self-esteem</td>
<td>Self-esteem</td>
<td>Social contribution</td>
</tr>
<tr>
<td>Positive affect</td>
<td>Competence</td>
<td>Competence</td>
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<td>Social contribution</td>
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- Emotional stability
- Vitality
- Resilience
- Strengths

33
Keyes (2002, 2007) developed the Mental Health Continuum (MHC). Individuals’ well-being on the MHC vary from flourishing, moderately mentally healthy, to languishing. Languishing individuals experience low levels of emotional, psychological, and social well-being. Moderately mentally healthy individuals are neither flourishing nor languishing. Flourishing individuals experience high levels of emotional, psychological, and social well-being. Keyes (2009) developed the Mental Health Continuum - Short Form (MHC-SF), a brief questionnaire which allows individuals to rate frequency of occurrence of the three well-being components.

Other researchers also conceptualised flourishing and developed measures of flourishing. For example, Diener et al. (2010) conceptualised flourishing in terms of self-perceived success regarding relationships, self-esteem, purpose, and optimism. They developed a one-dimensional scale (consisting of eight items) to measure flourishing.

Seligman (2011) conceptualised flourishing in terms of five dimensions in the PERMA model: positive emotions (P), engagement (E), relationships (R), meaning (M), and Accomplishment (P). In line with the MHC, the PERMA model suggests that well-being consists of feeling and functioning dimensions. The PERMA-profiler was created to provide a brief measure of the five well-being dimensions (Forgeard, Jayawickreme, Kern, & Seligman, 2011).

Huppert and So (2013) conceptualised flourishing in terms of positive emotions, positive characteristics (including emotional stability, vitality, optimism, resilience and self-esteem), and positive functioning (including engagement, competence, meaning and positive relationships). In their PROSPER model, Noble and McGrath (2015) suggested that positivity (P), relationships (R), outcomes (O), strengths (S), purpose (P), engagement (E), and resilience (R) are essential elements of flourishing in educational contexts. Although the abovementioned models suggest important dimensions of flourishing, they were not developed for work contexts.

Rothmann (2013) extended the MHC of Keyes (2002, 2005) to the work context. He suggested that flourishing is a multi-dimensional concept that includes dimensions of both feeling well (i.e. emotional well-being) and functioning well (i.e. psychological and social well-being) in work contexts. Emotional well-being consists of job satisfaction and a positive affect balance and was conceptualised based on the research of Keyes (2002, 2005) and Rojas and Veenhoven (2013). Psychological well-being consists of autonomy, competence, relatedness, learning

Concerning emotional well-being, job satisfaction relates to employees’ perceptions of all aspects of their current jobs in relation to their wants and expectations. Positive affect in the work environment refers to pleasant experiences such as joy, gratitude, serenity, hope, pride, and amusement. Negative affect refers to unpleasant emotions experienced in the work context, because of events such as anger, sadness, anxiety, boredom, frustration, and guilt. Subsequently, the most salient affective experiences affect work life through need gratification (Rojas & Veenhoven, 2013).

The self-determination theory (Deci & Ryan, 2011; Ryan, Huta, & Deci, 2008) provides a theoretical justification for the inclusion of three psychological needs individuals have: autonomy, competence, and relatedness. The need for autonomy concerns the desire to experience freedom of choice when making decisions. Competence (referred to as environmental mastery in the model of Ryff, 1989) refers to the individual’s inherent desire to control outcomes and to experience mastery in an environment. Relatedness indicates the need to connect to others, to interact with them and to care for others. The concept of learning is included based on the concepts of “personal growth” in the psychological well-being model of Ryff (1989) and “learning” in the model of thriving (Spreitzer et al., 2010). Individuals experience learning when they sense that they are acquiring and applying the knowledge and skills they need to do their work. Meaning and purpose at work can be viewed as employees’ subjective experiences that their work is significant, valuable, and purposeful (May, Gilson, & Harter, 2004; Steger et al., 2012). Work engagement refers to employees’ connections to work (Kahn & Heaphy, 2014), investing their energies into role behaviours and expressing their selves in roles by exhibiting authenticity (Rothbard & Patil, 2012). Work engagement consists of a cognitive component (being alert at work, feeling absorbed and involved in one’s work), an emotional component (being dedicated and connected to one’s work and colleagues, and experiencing a sense of worth) and a physical component (being physically involved in a task and displaying energy) (Kahn, 1990; Kahn & Heaphy, 2014).
Five features described social well-being in the work context (Rautenbach, 2015) based on Keyes’ (2005) conceptualisation of social well-being in life. a) Social acceptance refers to a positive attitude towards and acceptance of diversity; b) Social growth signifies whether individuals believe in the potential of development of colleagues, groups and organisations; c) Social contribution refers to whether individuals think that their daily actions add value to the organisation and others; d) Social coherence indicates whether employees find their institutions and social lives meaningful and understandable; and e) Social integration reveals whether employees are experiencing a sense of relatedness, comfort and support from the organisation.

In summary, flourishing at work consists of three dimensions, namely emotional, psychological, and social well-being. Emotional well-being consists of positive affect, negative affect, and job satisfaction. Psychological well-being consists of autonomy, competence, relatedness, learning, meaning and purpose and engagement. Social well-being consists of social acceptance, social growth, social contribution, social coherence, and social integration.

**Person-Environment Fit**

Person-environment (P-E) fit can be defined as the compatibility between employees and the environments in which they find themselves (Kristof-Brown & Guay, 2011). Edwards (2008) describes the theoretical foundations of P-E fit in the organisational context through the matching model of career decision-making of Parson (1909), the need-press model of Murray’s (1938, 1951) and Lewin’s (1935, 1951) field theory. P-E fit is considered as a multidimensional construct as individuals experiencing fit are simultaneously nested in multiple aspects of an environment (Kristof-Brown & Guay, 2011). Therefore, several levels of fit have been specified, such as the fit between persons and the entire organisation or their group or their job (Su, Murdock, & Rounds, 2015). The current research focuses on these three types of fit in the organisational context, namely person-organisation fit (P-O fit), person-group fit (P-G fit) and person-job fit (P-J fit).

P-O fit is defined as the correspondence between personal goals and values of employees and the goals, norms and values of their organisation (Su et al., 2015). If people experience this correspondence, a perception of social inclusion and intention to stay emerges (Van Vianen, Stoelhorst, & De Goede, 2013). P-G fit entails the compatibility between the values, goals, personality, and interpersonal styles of employees and their work groups (Su et al., 2015). P-G
fit includes interdependence (i.e. extent to which employees are required to work together) and social interactions (i.e. work-based relationships) (Glew, 2012). P-J fit refers to the congruence between employees’ personal characteristics and their job characteristics. P-J fit includes demands-abilities fit and need-supplies fit. Demands-abilities fit occurs when an employees have the knowledge, skills, and abilities to meet the demands of their jobs. Need-supplies fit occurs when a job satisfies employees’ needs (Kristof-Brown & Guay, 2011).

According to P-E fit theory, well-being of individuals is affected by their interactions with their environments, as well as the match between individual characteristics (e.g. knowledge, abilities, skills, needs and values) and environmental characteristics (e.g. role characteristics, organisational values and structures) (Shipp & Jansen, 2011). Research by Schneider (1987) and Su et al. (2015) showed that people perform better and remain in organisations that match their personal characteristics.

Research by Kristof-Brown and Billsberry (2013) has shown that P-E fit is positively associated with favourable work attitudes and behaviours (e.g. job satisfaction and performance) and negatively associated with unfavourable outcomes (e.g. organisational withdrawal and turnover). Gabriel, Diefendorff, Chandler, Moran, and Greguras (2014) found that P-O fit and P-J fit relate positively to positive affect and job satisfaction, and negatively to negative affect in the work environment.

Johnson, Taing, Chang, and Kawamoto (2013) state that a self-regulation processes underlies the attainment of fit. Through action identification, individuals become aware of and connect to their jobs. The connection with their jobs gives meaning and purpose in the work context (Dik, Byrne, & Steger, 2013). According to Van Vianen et al. (2013), people experience a fundamental need to belong and therefore develop collaborative relationships with others to become socially included; thus defining natural P-O fit outcomes in terms of relatedness and social integration.

Studies (Diedericks & Rothmann, 2014; Seligman, 2011) showed that higher levels of positive emotions, engagement, meaning, positive relations and social well-being are negatively related to intention to leave. Intention to leave refers to an employee’s decision or choice to leave an organisation to seek a position elsewhere (Theron et al., 2014).
**Aim and Hypotheses**

This study implies that P-E fit can influence flourishing at work, and that P-E fit can impact on intention to leave via flourishing at work.

Hypothesis 1: Emotional well-being, psychological well-being, and social well-being load on one factor (namely flourishing versus languishing).

Hypothesis 2: P-E fit predicts flourishing at work.

Hypothesis 3: Flourishing at work inversely predicts intention to leave.

Hypothesis 4: P-E fit relates negatively to intention to leave.

Hypothesis 5: P-E fit indirectly affects intention to leave via flourishing.

**Method**

**Research Design**

A descriptive, cross-sectional and quantitative approach was followed (De Vos, Strydom, Fouché, & Delport, 2011). Questionnaires were utilised to gather data regarding P-E fit, flourishing and turnover intention of academic employees.

**Participants**

A total of 339 employees were recruited from three universities of technology in Gauteng and the Free State. The response rate was 23%. Most participants (91.4%) were on the levels from junior lecturer to senior lecturer, and the largest group (50.9%) comprised of lecturers. Most of the participants (85%) were permanently appointed.

General biographical characteristics of the participants are described in Table 2. This table shows that a total of 46.2% of the sample were males, while 53.8% were females. The ages of the participants ranged from 24 years to 74 years. The largest group of the participants was married (71.4%), white South Africans (64.6%) and spoke Afrikaans (56.3%).
Table 2

*Characteristics of the Participants (n=339)*

<table>
<thead>
<tr>
<th>Item</th>
<th>Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>156</td>
<td>46.2</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>182</td>
<td>53.8</td>
</tr>
<tr>
<td>Age</td>
<td>24 to 35 years</td>
<td>69</td>
<td>20.4</td>
</tr>
<tr>
<td></td>
<td>36 to 45 years</td>
<td>115</td>
<td>33.9</td>
</tr>
<tr>
<td></td>
<td>46 to 55 years</td>
<td>92</td>
<td>27.1</td>
</tr>
<tr>
<td></td>
<td>56 to 65 years</td>
<td>56</td>
<td>16.5</td>
</tr>
<tr>
<td></td>
<td>66 to 74 years</td>
<td>7</td>
<td>2.1</td>
</tr>
<tr>
<td>Home language</td>
<td>Afrikaans</td>
<td>191</td>
<td>56.3</td>
</tr>
<tr>
<td></td>
<td>English</td>
<td>65</td>
<td>19.2</td>
</tr>
<tr>
<td></td>
<td>African language</td>
<td>83</td>
<td>24.5</td>
</tr>
<tr>
<td>Highest qualification</td>
<td>Diploma</td>
<td>4</td>
<td>1.2</td>
</tr>
<tr>
<td></td>
<td>Postgraduate diploma</td>
<td>8</td>
<td>2.4</td>
</tr>
<tr>
<td></td>
<td>Degree</td>
<td>44</td>
<td>13.0</td>
</tr>
<tr>
<td></td>
<td>Honours degree</td>
<td>27</td>
<td>8.0</td>
</tr>
<tr>
<td></td>
<td>Master’s degree</td>
<td>148</td>
<td>43.6</td>
</tr>
<tr>
<td></td>
<td>Doctoral degree</td>
<td>108</td>
<td>31.8</td>
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<tr>
<td>Tenure</td>
<td>Less than 5 years</td>
<td>111</td>
<td>32.7</td>
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<tr>
<td></td>
<td>5 to 10 years</td>
<td>99</td>
<td>29.2</td>
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<td></td>
<td>11 to 15 years</td>
<td>66</td>
<td>19.4</td>
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<td>16 to 20 years</td>
<td>37</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>21 to 25 years</td>
<td>20</td>
<td>5.9</td>
</tr>
<tr>
<td></td>
<td>More than 25 years</td>
<td>6</td>
<td>1.8</td>
</tr>
</tbody>
</table>

The results in Table 2 show that almost half of the respondents (43.7%) held a master’s degree, while most respondents (67.3%) had served more than five years in an academic profession.

**Measuring Instruments**

Three perceived fit scales from Greguras and Diefendorff (2009) were applied to determine P-E fit aspects of P-O fit, P-G fit and P-J fit. The Flourishing-at-Work Scale (FAWS; Rautenbach, 2015) was used to measure flourishing at work, and questions from the Turnover Intention Scale (TIS; Sjöberg & Sverke, 2000) were utilised to measure intention to leave.
*P-E fit* questions from three perceived fit scales from Greguras and Diefendorff (2009) were used. Three items of P-O fit (e.g. “My personal values match my organisation’s values and culture”), P-G fit (e.g. “The things I value in life are similar to the things my co-workers value”) and P-J fit (e.g. “The match is very good between the demands of my job and my personal skills”) measured how well employees perceive their abilities to fit with these aspects. The reliability of these scales was between $\alpha = .82$ and $\alpha = .88$. All the fit items were rated on a five-point scale ranging from 1 (*not at all*) to 5 (*completely*).

The *Flourishing-at-Work Scale* (FAWS; Rautenbach, 2015) consists of 40 questions which measured the three dimensions of flourishing (emotional, psychological and social well-being) in the work context. The respondents had to answer questions regarding the frequency with which they experienced specific symptoms during the past month. Emotional well-being consists of three dimensions, namely positive affect (three items, e.g. “How often did you feel grateful?”), negative affect (three items, e.g. “How often did you feel bored?”), and job satisfaction (two items, e.g. “How often did you feel real enjoyment of your work?”). Psychological well-being consists of eight dimensions, namely autonomy satisfaction (three items, e.g. “How often did you feel you can be yourself at your job?”), competence satisfaction (three items, e.g. “How often did you feel that you really master your tasks at your job?”), relatedness satisfaction (three items, e.g. “How often did you really connect with other people at your job?”), learning (three items, e.g. “How often did you find that you are developing a great deal as a person?”), meaning and purpose (six items, e.g. “How often did you feel that you sense what makes your job worthwhile?”), cognitive engagement (three items, e.g. “How often did you concentrate a lot on your work?”), emotional engagement (three items, e.g. “How often did you feel passionate about your job?”), physical engagement (three items, e.g. “How often did you feel energised when you work?”), and social well-being (five items, e.g. “How often did you feel you had something important to contribute to your organisation?”). Responses were measured on a six-point scale ranging from 1 (*never*) to 6 (*every day*). Confirmatory factor analysis was done (Rautenbach, 2015) and the scale reliability ranged from $\rho = .74$ to .94.

A slightly modified version of the *Turnover Intention Scale* (TIS; Sjöberg & Sverke, 2000) was utilised to measure intention to leave. The adapted TIS consist of three items (e.g. “I frequently think of quitting my job”) and a .83 Cronbach alpha coefficient was reported. Response options ranged from 1 (*strongly disagree*) to 5 (*strongly agree*).
Data Analysis

Mplus 7.4 (Muthén & Muthén, 1998-2016) and SPSS23 (IBM Corp, 2016) were used to analyse the data. The maximum likelihood estimation with robust standard errors (MLR) was used as an estimator. Various indices were used to assess model fit for measurement and structural models, namely a) absolute fit indices: the chi-square statistic, standardised root mean residual (SRMR), root mean square error of approximation (RMSEA), and b) incremental fit indices: the Tucker-Lewis index (TLI) and comparative fit index (CFI) (West, Taylor, & Wu, 2012). TLI and CFI values higher than .90 indicate acceptable fit of a model to the data. RMSEA and SRMR values lower than .08 indicate a close fit between the model and the data. Furthermore, the Akaike information criterion (AIC) and Bayes information criterion (BIC) were used to compare alternative measurement models. The AIC is a comparative measure of fit and is meaningful when one estimates different models. The lowest AIC indicates the best-fitting model. The BIC provides an indication of model parsimony (Kline, 2010). Scale reliability ($\rho$) was computed using the procedure suggested by Raykov (2009).

Research Procedure

The researcher contacted the managements of three universities of technology in Gauteng and the Free State and obtained permission and ethical clearance to conduct the study. Ethical clearance was also obtained from the Ethics Committee at the university from where the research was undertaken (Ethics number: NWU-HS-2014-0126). The researcher administered the online electronic questionnaire in English via the myresearchsurvey.com platform. A cover letter explaining the purpose of the study and emphasising the confidentiality and anonymity of the research project accompanied the survey. Participation in the project was voluntary, and respondents had the option to withdraw at any time. Participants completed an online questionnaire from the end of August until mid-October 2015. Responses to the items were captured in an Excel spreadsheet, whereafter it was converted to an SPSS dataset for analysis.
Results

Testing the Measurement Model

Four measurement models were tested using confirmatory factor analysis (CFA).

Model 1 consisted of three latent variables: P-E fit, flourishing at work, and intention to leave. P-E fit consisted of three first-order latent variables: P-O fit (measured by three items), P-G fit (measured by three items), and P-J fit (measured by three items). Flourishing at work consisted of three first-order latent variables: emotional, psychological and social well-being. Emotional well-being was divided into three second-order latent variables: positive affect (measured by three items), negative affect (measured by three items), and job satisfaction (measured by two items); psychological well-being consisted of eight second-order latent variables: autonomy satisfaction (measured by three items), competence satisfaction (measured by three items), relatedness satisfaction (measured by three items), learning (measured by three items), meaning and purpose (measured by six items), cognitive engagement (measured by three items), emotional engagement (measured by three items), physical engagement (measured by three items), and social well-being (measured by four items). Intention to leave was measured by three items. All the latent variables in model 1 were allowed to correlate.

Model 2 followed the same template as model 1, except that all the flourishing at work items of emotional well-being loaded on a single latent variable (measured by eight items), psychological well-being loaded on a single latent variable (measured by 27 items), and social well-being loaded on a single latent variable (measured by four items). Model 3 followed the same template, but the flourishing at work items consisted of two latent variables: hedonic well-being (feeling well) and eudaimonic well-being (functioning well). Hedonic well-being was divided into three second-order latent variables: positive affect (measured by three items), negative affect (measured by three items), and job satisfaction (measured by two items). Eudaimonic well-being consisted of two second-order latent variables: psychological well-being (measured by 27 items) and social well-being (measured by four items). Model 4 followed the same template, but all the items loaded on three latent variables: P-E fit (measured by nine items), flourishing at work (measured by 39 items) and intention to leave (measured by three items).
Table 3 shows the fit statistics for the competing measurement models.

Table 3

*Fit Statistics of Competing Measurement Models*

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>df</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA</th>
<th>SRMR</th>
<th>AIC</th>
<th>BIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2726.20</td>
<td>1253</td>
<td>.87</td>
<td>.88</td>
<td>.06*</td>
<td>.09</td>
<td>45468.60</td>
<td>46145.80</td>
</tr>
<tr>
<td>2</td>
<td>4263.75</td>
<td>1265</td>
<td>.80</td>
<td>.74</td>
<td>.08*</td>
<td>.10</td>
<td>47335.59</td>
<td>47966.88</td>
</tr>
<tr>
<td>3</td>
<td>2718.20</td>
<td>1252</td>
<td>.88</td>
<td>.87</td>
<td>.06*</td>
<td>.09</td>
<td>45461.14</td>
<td>46142.17</td>
</tr>
<tr>
<td>4</td>
<td>4825.02</td>
<td>1268</td>
<td>.70</td>
<td>.69</td>
<td>.09*</td>
<td>.09</td>
<td>48026.15</td>
<td>48645.97</td>
</tr>
</tbody>
</table>

$\chi^2$, chi-square statistic; df, degrees of freedom; TLI, Tucker-Lewis index; CFI, comparative fit index; RMSEA, root mean square error of approximation; SRMR, standardised root mean square residual; AIC, Akaike information criterion; BIC, Bayes information criterion

AIC and BIC fit statistics were used, in addition to other fit indices in this study, to compare alternative measurement models. Although the AIC and BIC values of Model 3 were the lowest, they were not significantly different from the values of Model 1. For theoretical reasons, as well as in the interest of parsimony, it was decided to use Model 1 ($AIC = 45468.60$, $BIC = 46145.80$).

**Model Development**

The analysis continued in an exploratory mode to improve the fit of model 1. Based on modification indices (MIs), two items, items 18 (“Feel you had something important to contribute to your organisation?”) and 38 (“Devote a lot of energy to your job?”), from the FAWS were removed because they significantly reduced the model fit. The fit statistics for the first adapted model (model 1.2) were as follows: $AIC = 43483.90$, $BIC = 44138.15$. Although the fit of model 1.2 improved ($\Delta AIC = 1984.70$, $\Delta BIC = 2007.65$), the MI (89.10) for the error covariance of items 30 (“Feel your work helps you make sense of the world around you?”) and 31 (“Feel that your work helps you to better understand yourself?”) indicated that the fit of model 1.2 could be improved. In model 1.3, the errors of item 30 and item 31 were allowed to correlate. The AIC and BIC values for model 1.3 were as follows: $AIC = 43376.91$, $BIC = 44034.98$. A large error covariance (MI = 56.37) was indicated for items 23 (“Find yourself
learning often?”) and 24 (“Find that you continue to learn more as time goes by?”). In model 1.4, the errors of item 23 and item 24 were also allowed to correlate. The AIC and BIC values for model 1.4 improved slightly, as follows: AIC = 43312.15, BIC = 43974.05. In the final model, the MI (26.57) for the error covariance of items 8 (“Experience real enjoyment in your work?”) and 9 (“Feel free to express your ideas and opinions in your job?”) indicated that the model fit could be improved by allowing an error correlation between the two items. The fit statistics for model 1.5 further improved as follows: AIC = 43281.88, BIC = 43947.61. Hence, Hypothesis 1 is accepted.

The relationship between each manifest variable and its respective latent variable was statistically significant ($p < 0.01$). Therefore, the posited relationships among indicators and constructs were established (Hair, Black, Babin, & Andersen, 2010).

**Descriptive Statistics and Correlations of the Scales**

Table 4 shows the reliabilities and correlations for the scales.
Table 4

Reliability Coefficients and Correlations of the Scales (n=339)

<table>
<thead>
<tr>
<th>Variable</th>
<th>( \rho )</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
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<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Person-organisational fit</td>
<td>.87</td>
<td>2.98</td>
<td>.91</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Person-group fit</td>
<td>.94</td>
<td>2.98</td>
<td>.94</td>
<td>.69</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>3. Person-job fit</td>
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<td>4.09</td>
<td>.69</td>
<td>.39</td>
<td>.29</td>
<td></td>
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<td>4. Positive affect</td>
<td>.79</td>
<td>4.23</td>
<td>1.08</td>
<td>.60</td>
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<td>.25</td>
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<tr>
<td>5. Negative affect</td>
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<td>2.52</td>
<td>1.04</td>
<td></td>
<td>- .38</td>
<td>- .29</td>
<td>- .16</td>
<td>- .59</td>
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<tr>
<td>6. Job satisfaction</td>
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<td>4.13</td>
<td>1.30</td>
<td>.59</td>
<td>.44</td>
<td>.25</td>
<td>.90</td>
<td>- .57</td>
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<td>7. Autonomy</td>
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<td>.47</td>
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<td>- .42</td>
<td>.64</td>
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<tr>
<td>8. Competence</td>
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<td>4.56</td>
<td>0.98</td>
<td>.43</td>
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<td>.88</td>
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<td>9. Relatedness</td>
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<td>3.86</td>
<td>1.16</td>
<td>.40</td>
<td>.30</td>
<td>.17</td>
<td>.56</td>
<td>- .36</td>
<td>.54</td>
<td>.83</td>
<td>.75</td>
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<tr>
<td>10. Learning</td>
<td>.86</td>
<td>4.08</td>
<td>1.35</td>
<td>.51</td>
<td>.38</td>
<td>.22</td>
<td>.71</td>
<td>- .45</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>11. Meaning and purpose</td>
<td>.94</td>
<td>4.27</td>
<td>1.27</td>
<td>.54</td>
<td>.40</td>
<td>.23</td>
<td>.75</td>
<td>- .48</td>
<td>.73</td>
<td>.75</td>
<td>.67</td>
<td>.63</td>
<td>.80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Cognitive engagement</td>
<td>.89</td>
<td>4.24</td>
<td>1.18</td>
<td>.38</td>
<td>.28</td>
<td>.16</td>
<td>.52</td>
<td>- .33</td>
<td>.51</td>
<td>.52</td>
<td>.47</td>
<td>.44</td>
<td>.56</td>
<td>.59</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Emotional engagement</td>
<td>.93</td>
<td>4.47</td>
<td>1.26</td>
<td>.54</td>
<td>.40</td>
<td>.23</td>
<td>.74</td>
<td>- .48</td>
<td>.73</td>
<td>.74</td>
<td>.67</td>
<td>.63</td>
<td>.80</td>
<td>.84</td>
<td>.59</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Physical engagement</td>
<td>.90</td>
<td>4.26</td>
<td>1.25</td>
<td>.49</td>
<td>.37</td>
<td>.21</td>
<td>.69</td>
<td>- .44</td>
<td>.67</td>
<td>.68</td>
<td>.62</td>
<td>.58</td>
<td>.74</td>
<td>.78</td>
<td>.54</td>
<td>.77</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Social well-being</td>
<td>.90</td>
<td>3.44</td>
<td>1.30</td>
<td>.57</td>
<td>.42</td>
<td>.24</td>
<td>.79</td>
<td>- .50</td>
<td>.77</td>
<td>.62</td>
<td>.56</td>
<td>.53</td>
<td>.67</td>
<td>.70</td>
<td>.49</td>
<td>.70</td>
<td>.65</td>
<td></td>
</tr>
<tr>
<td>16. Intention to leave</td>
<td>.71</td>
<td>2.47</td>
<td>1.24</td>
<td></td>
<td>- .33</td>
<td>- .24</td>
<td>- .14</td>
<td>- .54</td>
<td>.35</td>
<td>- .53</td>
<td>- .43</td>
<td>- .39</td>
<td>- .36</td>
<td>- .46</td>
<td>- .49</td>
<td>- .34</td>
<td>- .48</td>
<td>- .44</td>
</tr>
</tbody>
</table>

Note: All correlations are statistically significant (\( p < .01 \)
The results from Table 4 showed that respondents scored high on P-J fit (mean = 4.09; SD = 0.69), but low on P-G fit (mean = 2.98; SD = 0.94) and P-O fit (mean = 2.98; SD = 0.91), which reflect a perception that individuals fit with their jobs, but not with organisations and groups they are working in. Table 4 shows scale reliabilities range from .58 to .94. The reliability of the P-J fit scale was somewhat lower than the prescribed value, but still above .55 and sufficiently acceptable for basic research (Nunnally, 1978). The other scales have acceptable internal consistencies (Raykov, 2009).

Figure 1 shows the mean scores of the total sample on the 12 dimensions of flourishing over the last month.

![Figure 1. Mean scores on 12 dimensions of flourishing.](chart)

Figure 1 shows that the lowest scores were obtained on relatedness and social well-being. Although a low score was also obtained on negative affect, it should be noted that negative affect is on a reversed scored scale. The highest scores were obtained on competence and emotional engagement. Concerning intention to leave, approximately 25% of the responses...
were received on scales 4 and 5, which indicate that almost a quarter of the respondents had intentions to leave their organisation.

**Testing the Structural Model**

The structural model was tested based on the measurement model. Table 5 gives an account of the fit statistics and standardised regression coefficients for the three competing structural models. The final measurement model showed a chi-square value of 2169.45 and the best-fitting structural model showed a chi-square value of 2169.45. There was no difference between the chi-square of the best-fitting measurement and structural models, which suggests that the model specification was acceptable.

**Table 5**

*Fit Indices and Standardised Path Coefficients of the Structural Models*

<table>
<thead>
<tr>
<th>Measures</th>
<th>Direct effects (Model 2)</th>
<th>Direct and indirect effects (Model 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fit Indices</td>
<td>$\chi^2$</td>
<td>2226.29*</td>
</tr>
<tr>
<td></td>
<td>df</td>
<td>1152</td>
</tr>
<tr>
<td></td>
<td>TLI</td>
<td>.90</td>
</tr>
<tr>
<td></td>
<td>CFI</td>
<td>.91</td>
</tr>
<tr>
<td></td>
<td>RMSEA</td>
<td>.05</td>
</tr>
<tr>
<td></td>
<td>RMSEA 90% CI</td>
<td>[.049, .056]</td>
</tr>
<tr>
<td></td>
<td>SRMR</td>
<td>.08</td>
</tr>
<tr>
<td></td>
<td>AIC</td>
<td>43342.85</td>
</tr>
<tr>
<td></td>
<td>BIC</td>
<td>44004.74</td>
</tr>
<tr>
<td>Direct effects of</td>
<td>Flourishing</td>
<td>.81*</td>
</tr>
<tr>
<td>P-E fit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct effects of</td>
<td>Intention to leave</td>
<td>-</td>
</tr>
<tr>
<td>Flourishing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct effects of</td>
<td>Intention to leave</td>
<td>-.51*</td>
</tr>
<tr>
<td>P-E fit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$p < .01$

$\chi^2$, chi-square statistic; df, degrees of freedom; TLI, Tucker-Lewis index; CFI, comparative fit index; RMSEA, root mean square error of approximation; SRMR, standardised root mean square residual; AIC, Akaike information criterion; BIC, Bayes information criterion
This model yielded the following fit statistics: $\chi^2 = 2169.45$, $df = 1151$; $p < .001$; TLI = .91; CFI = .91; RMSEA = .05 [90% CI .048, .054]; SRMR = .08. These statistics show a good fit for the hypothesised model. Given the cross-sectional nature of the data, another model was tested (see Table 5). Model 2 (the direct effects model) included paths from PE-fit to flourishing and intention to leave. However, the path from flourishing to intention to leave was constrained to zero. The following changes in chi-square ($\Delta \chi^2$) were found: Models 1 and 2 ($\Delta \chi^2 = 33.69$, $\Delta df = 1$, $p < .001$). Table 5 shows the standardised path coefficients estimated by Mplus for the hypothesised model.

Next, the obtained relations of the best-fitting and most parsimonious structural model (model 1) are discussed regarding the hypotheses of this study.

For the portion of the model predicting flourishing at work, the path coefficient of P-E fit ($\beta = .68$, $p < .06$) was statistically significant and had the expected sign. P-E fit therefore predicts flourishing at work. Hypothesis 2 is accepted.

For the portion of the model predicting intention to leave, the path coefficient of flourishing ($\beta = -.59$, $p < .08$) was statistically significant and had the expected sign. Flourishing predicts intention to leave. Hypothesis 3 is accepted.

Figure 2. The structural model (standardised solution with standard errors in parentheses)
Note: All regression coefficients are statistically significant ($p < 0.01$)
Indirect Effects

Hayes’s (2013) procedure was followed to investigate the indirect effect of PE fit on intentions to leave. Bootstrapping (with 10,000 samples) was used to construct two-sided bias-corrected 95% confidence intervals (CIs) to evaluate indirect effects. The indirect effect was \(-.47 [-.65, -.34]\) and shows that the person-environment fit had a significant negative effect on intention to leave via flourishing at work. Hypotheses 4 and 5 are supported.

In terms of the effect sizes (Cohen, 1988), the indirect effects model accounts for the following percentages of the variance: Person-environment fit explained 47% of the variance in flourishing, which shows that the person-environment fit has a large influence on flourishing. Flourishing explained 36% of the variance for intention to leave, which confirms that a lack of flourishing (i.e. languishing) does have a large effect on the tendency of individuals to leave organisations.

Discussion

The aim of this study was to investigate the relationship between P-E fit, flourishing at work and intention to leave. The results confirmed the internal consistency and construct validity of the long form of a measure of flourishing at work. The results provided support for a model in which P-E fit predicted flourishing at work, which in turn predicted intention to leave. P-E fit had a large effect on flourishing. A lack of flourishing had a large effect on the tendency of individuals to leave organisations.

The multi-dimensional perspective of flourishing at work confirmed the inclusion of the feeling well (emotional well-being) and functioning well (psychological and social well-being) dimensions, as adopted in the model of Keyes (2005). A three-factor model of flourishing at work was found to be superior to the one- and two-factor models. This finding corresponds with the findings of Rautenbach (2015) supporting the three well-being dimensions of the FAWS. These results support the construct validity of the FAWS. The reliabilities of the flourishing dimension scales were acceptable ($\rho > .70$), except for the subscale that measures negative affect. Thus, the FAWS provided a useful assessment of self-reported flourishing at work.
Findings revealed that almost a quarter of academics had intentions to leave their organisation. The loss of human capital might hold severe cost and productivity implications for these institutions (Son, Kim, & Kim, 2014). The manifestation of intention to leave by academics, the so-called “brain drain”, was found in studies in higher education (Theron et al., 2014). The results of this study supported the multi-dimensionality of the scale which was used to measure P-E fit. P-O fit was strongly related to P-G fit, while P-J fit was moderately related to P-O fit and P-G fit. Unexpectedly the reliability of P-J fit subscale was lower than the guidelines of .70.

P-E fit predicted a large percentage of the variance in flourishing. Therefore, individuals who perceived that they fit into their work and organisational environment were more inclined to feel and function well. Previous studies (Dik et al., 2013; Gabriel et al., 2014; Kristof-Brown & Billsberry, 2013; Van Vianen et al., 2013) also showed that dimensions of P-E fit had a close connection to dimensions of flourishing at work. Su et al. (2015) found that people who perceive a fit between their personal goals and the organisation goals are motivated towards positive behaviours and career outcomes. These positive behaviours and career outcomes support flourishing at work and might, therefore, be seen to play a bigger role in defining P-E fit. Results from the structural model showed that academics who feel that they fit in their environment are also individuals who experience positive affect, feel satisfied with their jobs, experience meaning, purpose and emotional engagement in work and their social well-being is higher. The results showed that the P-O and P-G contributed more to explaining the variance in P-E fit than P-J fit. However, the poor reliability of the P-J fit subscale probably contributed to this finding.

Academics who feel they fit with their group members experienced positive affect, job satisfaction and social well-being. These results concurred with findings on experiences of employees in previous studies (Dik et al., 2013; Gabriel et al., 2014; Johnson et al., 2013; Van Vianen et al., 2013).

The indirect effect showed that person-environment fit had a significant negative effect on intention to leave via flourishing at work. Flourishing at work predicted a large percentage of variance in intention to leave, which suggests that employees who do not flourish might think of leaving their organisations. This result is supported by findings that low intentions to leave are explained by flourishing at work (Diedericks & Rothmann, 2014; Swart & Rothmann,
The current challenges in retaining key and talented academic staff (HESA, 2011) can thus be addressed by focusing on the increment of flourishing behaviour.

The study had several limitations. Firstly, self-reports were used to gather data, which might cause inflated results. This is especially true for the relation between PE fit and flourishing. Future studies could consider alternatives for self-reports of fit assessment, such as co-worker and supervisor ratings. Secondly, the sample was restricted to three universities of technology in the Free State and Gauteng, and therefore external generalisation cannot be made from this study. Thirdly, given the cross-sectional design of the study, it was not possible to study the stability of flourishing over time. Lastly, only one item was used to measure each facet of social well-being in this study. Future studies should include at least three items per facet (Kline, 2010).

**Recommendations**

This study showed that relationships between P-E fit, flourishing at work and intention to leave do exist. The fact that P-O and P-G fit showed high results in relation to flourishing gives an indication that human resource practitioners and industrial psychologists should consider interventions focusing on the promotion of P-O and P-G fit in order to increase flourishing of employees, which will in turn curb intentions to leave.

Interventions to address fit aspects should focus on recruitment and selection practices to ensure that the right person is appointed in the right job; provide substantial coaching and orientation programmes for newly appointed staff to create a sense of belonging and engagement, and initiate diversity training workshops to provide a better perspective and understanding of differences between people.

Flourishing-specific interventions of employees could focus on the implementation of training programmes to enhance personal growth and development, provide counselling opportunities, initiate resilience training, and build and promote positive social relationships. By promoting healthy social relations, social well-being in the environment will enable employees to positively contribute to individual, group and organisational success. Coupled with the theoretical perspectives, the belief is that there is compelling evidence to show that efforts to improve fit on organisational and group levels, as well as to enrich social well-being, will
enhance P-E fit and flourishing at work. Consequently, higher levels of flourishing at work will reduce intentions to leave.

Although most of the findings were encouraging and an important step towards understanding the nature of flourishing at work, more research is needed in different organisational environments. Work-related factors associated with the flourishing of employees should be investigated and intervention programmes should be developed and implemented to promote flourishing in the work context.
References


Job Demands and Resources, Flourishing and Performance in Universities of Technology

Abstract
The aim of this study was to investigate the construct validity of a short form of the Flourishing-at-Work Scale and to study the relations between job demands and resources, flourishing at work and individual performance. A cross-sectional survey design was used with a convenience sample of 339 academic employees from three universities of technology based in Gauteng and the Free State. The Job Demands-Resources Scale, Flourishing-at-Work Scale (Short Form) and a Performance Scale were administered. Findings supported a three-factor model of flourishing at work, comprising of emotional, psychological and social well-being. The results confirmed the internal consistencies and validity of the Flourishing-at-Work (Short Form). The mean frequencies showed that 12.4% of academics were languishing, 44.5% were experiencing moderate well-being at work, and 43.1% were flourishing. Role clarity as a job resource had a large positive effect on flourishing at work. Flourishing at work had moderate positive effect on individual job performance. Workload, as job demand, was not associated with flourishing.

Key terms: Flourishing, work, well-being, job demands, job resources, performance
Studies increasingly use the concept of flourishing to describe well-being (Seligman, 2011). According to Keyes (2005), emotional, psychological and social well-being can be combined to describe well-being of individuals on a continuum which varies from languishing to flourishing. Higher Education South African (HESA, 2011) confirmed that universities in sub-Saharan Africa continue to operate under conditions that are under-resourced, and that universities experience high workloads, which ultimately affect their well-being and performance negatively. Barkhuizen, Rothmann, and Van de Vijver (2013) recommended that interventions for academic staff aim at decreasing particular job demands and increasing job resources to reduce burnout, increase work engagement and enhance physical and psychological well-being.

Although flourishing in life and at work share a significant percentage of the variance (50%), it would be beneficial to study flourishing and antecedents thereof in the work context (Rothmann, 2013). An increase from 39% to 72% in the percentage of variance explained was recorded when flourishing was measured as a work-related rather than a general state of well-being. Two South African studies used the Mental Health Continuum – Short Form (MHC-SF; Keyes, 2009) to study flourishing in the work context. The results showed that, respectively, 48.5% and 37.6% of the participants were flourishing, 48.5% and 58.5% were moderately mentally healthy, while 3% and 3.9% were languishing (Diedericks & Rothmann, 2014; Swart & Rothmann, 2012). However, the MHC-SF instrument was not tailored to work and organisational contexts, and this constituted a gap for a brief self-rating assessment tool that combines all three components of flourishing at work. To bridge this gap, the Flourishing-at-Work Scale – Short Form (FAWS-SF; Rautenbach, 2015) was developed and this research found that 8% of the sample were languishing, 65.15% demonstrated moderate levels of flourishing, while 34.9% were flourishing. The current study therefore utilised the work-related FAWS-SF scale to investigate flourishing at work.

Job demands and resources might affect the flourishing or languishing of academic staff. The Job Demands-Resources (JD-R; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001) model assumes that both job demands and job resources are present in work environments. These demands and resources could exhibit a positive (motivational) or a negative effect, leading to increased or decreased well-being. Job demands are not necessarily negative, but they may cause distress once high demands (overload) are perceived (Xanthopoulou, Sanz-Vergel, & Demerouti, 2014). Sufficient job resources either play an intrinsic motivational role through
fostering employees’ growth, learning, and development, or an extrinsic motivational role by being instrumental in achieving work goals – or both (Deci & Ryan, 1985; Nahrgang, Morgeson, & Hofmann, 2011).

Various studies researched the JD-R model in relation to specific aspects of flourishing, such as engagement (Diedericks & Rothmann, 2014), job satisfaction (De Gieter & Hofmans, 2015), autonomy (Bagraim, 2011), learning and connectedness (Demerouti & Bakker, 2011). However, only one study was found that related job demands and resources to flourishing at work. Rautenbach (2015) studied the impact of specific job-related demands (workload, negative work-home interaction, and job insecurity) and job resources (compensation, advancement, and leadership) on flourishing at work. However, more research is needed regarding the effects of job demands and resources on flourishing contexts in different occupations.

Individual job performance is defined as what a staff member implements and achieves in the job setting (Awang, Ibrahim, Nor, Razali, Arof, & Rahman, 2015). Individual performance is also sometimes called in-role performance and measures the proficiency and competence with which employees perform their job tasks (Koopmans, Bernaards, Hildebrandt, Schaufeli, De Vet, & Van der Beek, 2011). Organisations need high-performing and productive staff members, as they are valuable assets for the organisations and assist in fulfilling organisational expectations and offering excellent services. Oswald, Proto, and Sgroi (2014) found that people classified as flourishing at work were 12% more inclined to be productive at work. Wolhuter (2013) states that any education sector is only as good as its teaching corps; individual performance can, therefore, be seen as vital in universities.

No research could be found on flourishing and languishing of academics at work, and this will only be the second study to utilise the FAWS-SF (Rautenbach, 2015) scale to measure flourishing at work. This scale is derived from the longer version called the Flourishing-at-Work Scale (FAWS; Rautenbach, 2015). The FAWS-SF consists of only 17 items that were chosen as the most archetypal items expressive of the construct definition of each of the three dimensions of well-being at work (namely emotional, psychological and social well-being). The FAWS-SF allowed for categorisation of levels of well-being similar to the three classes used by Keyes (2002, 2005, 2007) to assess positive mental health. Rautenbach (2015) investigated the impact of work-related factors of demands (work overload, negative work-
home interaction, and job insecurity) and resources (compensation, advancement, and leadership) on flourishing at work. More information is needed regarding the psychometric properties of a short measuring instrument of flourishing at work and possible job demands and resources that relate to flourishing or languishing levels in the academic work context. Furthermore, no studies could be found relating the multi-dimensional flourishing-at-work concepts to individual performance for academics, and this study attempts to address this deficit in flourishing research.

Therefore, this study seeks to contribute to the literature on flourishing by investigating the psychometric properties of the FAWS-SF, the associations among job demands and resources and flourishing, and the effects of job demands and resources and flourishing on the individual performance of academic staff.

**Flourishing at Work**

Flourishing at work can be defined as an employee’s desirable state of well-being, achieved through positive experiences and effective management of work-related factors (Rautenbach, 2015). Researchers (Keyes & Annas, 2009; Porath, Spreitzer, Gibson, & Garnett, 2012; Rothmann, 2013; Seligman, 2011) have suggested various criteria for a model of flourishing: First, a multi-dimensional model of well-being is necessary, which contains indicators of feeling and functioning well. Second, flourishing dimensions should have a state-like rather than a dispositional nature. Third, each element of flourishing should contribute to well-being in work and organisational contexts. Fourth, each element of the flourishing model can be defined and measured independently of the others. Fifth, many people should pursue the element of flourishing for its own sake.

Keyes (2002) developed the Mental Health Continuum (MHC) to determine a person’s level of flourishing or languishing, or a value in-between. Flourishing was described as an opposite of mental illness (negative end), and languishing was seen as a neutral state characterised by the absence of mental illness, with individuals experiencing hollowness and emptiness. Contrary to languishing employees, flourishing employees show optimism and engagement in their work, experience meaning and purpose in their work, and experience high levels of work-related emotional well-being (Diedericks & Rothmann, 2014; Swart & Rothmann, 2012).
Rothmann (2013) extended the MHC of Keyes (2002, 2005) to a work-related context. Table 1 describes the flourishing definitions in the work context.

Table 1

*Flourishing at Work* (adapted from Rautenbach, 2015)

<table>
<thead>
<tr>
<th>Component</th>
<th>Dimensions</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional well-being</td>
<td>Job satisfaction</td>
<td>Employee’s perceptions of like or dislike of a job.</td>
</tr>
<tr>
<td></td>
<td>Positive affect</td>
<td>Pleasant experiences such as joy, gratitude, serenity, hope, pride and amusement.</td>
</tr>
<tr>
<td></td>
<td>Negative affect</td>
<td>Unpleasant experiences such as anger, sadness, anxiety, boredom, frustration and guilt.</td>
</tr>
<tr>
<td>Psychological well-being</td>
<td>Autonomy satisfaction</td>
<td>Satisfaction of the desire to experience freedom and choice in carrying out an activity.</td>
</tr>
<tr>
<td></td>
<td>Competence satisfaction</td>
<td>Satisfaction of the desire to feel effective in interacting with the environment.</td>
</tr>
<tr>
<td></td>
<td>Relatedness satisfaction</td>
<td>Satisfaction of individuals’ needs to feel connected to others, to care for others, and to be cared for.</td>
</tr>
<tr>
<td></td>
<td>Learning</td>
<td>A sense that one is developing and can apply knowledge and skills to one’s work.</td>
</tr>
<tr>
<td></td>
<td>Meaning and purpose</td>
<td>Experiences at work are meaningful and significant, sense what makes a job worthwhile, feels that the work he/she does serves a greater purpose and helps him/her make sense of the world around them.</td>
</tr>
<tr>
<td></td>
<td>Engagement</td>
<td>Engagement comprises three components: physical (vitality), cognitive (absorption) and emotional (dedication) during role performance:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vitality: being physically involved in a task and showing vigour.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Absorption: being alert at work and experiencing absorption and involvement.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dedication: being connected to job/others while working and showing dedication and commitment.</td>
</tr>
<tr>
<td>Social well-being</td>
<td>Social acceptance</td>
<td>Positive attitude towards and accepting of diversity in people in the organisation.</td>
</tr>
<tr>
<td></td>
<td>Social growth</td>
<td>Believes in potential of individuals, groups and organisations.</td>
</tr>
<tr>
<td></td>
<td>Social contribution</td>
<td>Regards own daily activities as adding value to the organisation and others.</td>
</tr>
<tr>
<td></td>
<td>Social coherence</td>
<td>Finds the organisation and social life meaningful and comprehensible.</td>
</tr>
<tr>
<td></td>
<td>Social integration</td>
<td>Experiences sense of relatedness, comfort and support from the organisation.</td>
</tr>
</tbody>
</table>
Table 1 shows that the various dimensions of work flourishing incorporate elements of positive feelings and positive functioning, and summarise the dimensions under emotional, psychological and social well-being.

**Job Demands and Resources**

The Job Demands-Resources (JD-R) model constitutes an overarching model that may be applied to various occupational settings with its job characteristics, which can be classified according to two general categories, namely job demands and job resources (Demerouti et al., 2001).

Job demands refer to those physical, psychological, social or organisational aspects of a job that require sustained cognitive and emotional effort or skills and are associated with physiological and/or psychological costs. Examples include work pressure, a hostile physical environment, role conflict and ambiguity, reduced commitment, burnout and irregular working hours (Bakker, Demerouti, & Sanz-Vergel, 2014; Demerouti & Bakker, 2011). Job resources refer to those physical, psychological, social or organisational aspects of the job that are fundamental in achieving work goals, reducing job demands, diminishing the associated physiological and psychological costs, and stimulating personal growth, learning and development (Demerouti & Bakker, 2011; Salmela-Aro & Upadyaya, 2014). The JD-R model suggests that job resources are the most significant predictors of well-being at work, e.g. work engagement, learning and commitment (Bakker & Demerouti, 2012).

The Conservation of Resources Theory (COR; Hobfoll, 1989, 1998) can be regarded as the foundation for the JD-R model. The basic tenet of COR is that people strive to retain, protect, and build resources. This theory also provides a conceptual foundation for understanding the effects of job resources and well-being. COR theory predicts that well-being will be compromised if (a) a person experiences the threat of a potential loss of resources; (b) a person experiences an actual loss of resources; or (c) when an investment of existing resources fails to result in the acquisition of new resources. This study focused on workload as a job demand, and on four job resources, namely role clarity, remuneration, advancement, and co-worker support.
Workload is defined as a term that includes any variable reflecting the number of hours or difficulty of one’s work (Bowling & Kirkendall, 2012). Increased workload in higher education in South Africa affects and places pressure on academics (National Planning Commission, 2012). Additional activities such as writing proposals, developing contracts, elaborating e-learning programmes, and engaging in technology transfers, are recognised as important aspects of academic work, demanding more efforts from academia (Awang et al., 2015). Academics who experience too many demands on their time, attention and energy run the risk of being exhausted and of being alienated from their work lives (Barkhuizen et al., 2013). Research by Khan, Rosman, Yusoff, and Khan (2014) showed that the increase in the workload of educators leads to declined job satisfaction and increased affective events such as absence and burnout, which influence job performance of the individuals negatively. Bowling, Alarcon, Bragg, and Hartman (2015) found that work overload leads to excessive negative psychological strain (including job dissatisfaction) and affects employee well-being negatively. Rothmann (2013) showed that excessive workload impairs psychological well-being and causes a lack of feelings of competence, energy, and engagement, which in turn affects flourishing.

Clarity of roles enables people to have a clear sense of purpose, to know what their organisation expects of them, and it assists employees in understanding how their jobs fit into the wider environment (Barkhuizen et al., 2013; Panaccio & Vanderberghe, 2011). The academic landscape has shifted dramatically over the past 20 years, and academics now find themselves trailing uncertain avenues across unfamiliar territory (Mathison, 2015). During 2003, the transformation of technikons into universities of technology (UoTs) pressured less qualified academics to upgrade their professional status by improving their qualifications, and building research track records through publication in peer-reviewed journals, conference presentations and postgraduate degree programmes (Jansen, 2003).

According to Kogan and Teichler (2007), the roles of academic employees extend beyond teaching and research into changing roles that shape academic organisations into a conflict of academic freedom against institutional autonomy. Subsequently, academics observed a gradual loss of professional autonomy, pressures to consider external less related social expectations, loss of power in shaping their organisational environment and increasing control over their performance. Awang et al. (2015) recommended that organisational objectives should be clarified and that academic tasks such as administration, research, training and social work should be planned separately from teaching for enhanced role clarity. In the academic context,
role clarity refers to feelings of certainty or the availability of information in carrying out academic duties and responsibilities (Rizzo, House, & Litzman, 1970). Employees who know what their organisations expect of them can engage in the expected behaviour and are more likely to experience meaning at work and a purpose within the organisation (Steger, Littman-Ovadia, Miller, Menger, & Rothmann, 2013). Conversely, employees who lack role clarity may experience a lack of control in their jobs, which can contribute to non-flourishing (Barkhuizen et al., 2013). According to Griffin, Neal, and Parker (2007), role clarity includes work responsibilities and incorporates both employee work behaviour and the organisational context. They postulate that employee behaviour is directly related to the work performance; and understanding the determinants of employees’ role behaviour at work would allow organisations to improve employees’ performance.

The job resource of remuneration in this study refers to extrinsic (financial) rewards, such as salary and benefits (Wärnich, Carrell, Elbert, & Hatfield, 2015). Remuneration can be linked to extrinsic and intrinsic motivation through the self-determination theory (SDT; Deci & Ryan, 1985, 2000). Intrinsic motivation is described as the pursuit of an activity for its own sake and interest (e.g. growth), while extrinsic motivation refers to the pursuit of activities for instrumental reasons (e.g. monetary value).

Regarding extrinsic motivation, it was found that employees compare their work-related efforts with the anticipated result, namely remuneration in the form of financial rewards (Wärnich et al., 2015). Employees therefore expect fair remuneration in relation to the work activities they perform. This idea of extrinsic motivation is underpinned by the conceptual framework of the expectancy theory, whereby it is suggested that employees may perceive their remuneration as fair or not (Vroom, 1964). Perceived fair remuneration provides positive behaviours. De Gieter and Hofmans (2015) found that fair remuneration stimulates desirable employee behaviours of competence, engagement and job satisfaction (which form part of flourishing), as well as increased performance. However, financial reward could also have an adverse impact on employees’ well-being, engagement and turnover if not perceived to be fair (Deci, Koestner, & Ryan, 1999). Employees may also perceive their remuneration as adequate or not. Robitschek and Keyes (2009) state that employees perceive adequate remuneration as an important means to social well-being, i.e. being able to afford the comforts of the social environment, such as a house, vehicles and holidays. HESA (2011) confirmed that higher
education had lost academic staff due to uncompetitive remuneration packages, which are obviously not regarded as fair or adequate.

Another job resource, advancement also provides interesting information in the work context. Advancement means to move forward and being able to grow within an organisation (Rothmann, Mostert, & Strydom, 2006). Advancement includes learning, through training and development opportunities, as well as potential future career progression (Rothmann, 2014). Training and development give employees the opportunity to expand their physical, cognitive and social skills, which can be integrated into the workplace and can lead to individual benefits, such as competence, better performance and satisfying personal growth need (Wärnich et al., 2015). Training further improves employees’ motivation for self-actualisation, empowerment, autonomy in their work and acceptable organisational behaviour (Bagraim, 2011). Advancement opportunities play a vital role in employee flourishing. De Villiers and Steyn (2009) found that a lack of advancement opportunities is a major source of emotional distress, influencing employees’ job satisfaction and well-being.

Co-worker support entails the extent to which co-workers provide work-related social support, and includes awareness of others, empathy and sociability (Flint-Taylor & Davda, 2015). Social support is more than an act of giving or receiving help; it creates a sense of belonging, enhances employees’ functioning and generates meaningful interpretations through which employees develop an understanding of their social reality and identity in an organisation (Rothmann, 2014a, 2015). Empirical findings indicate that co-worker support benefits employees by increasing their job satisfaction, enhancing their performance and contributing to their work engagement (Nielsen, 2014, 2015; Schutte & Loi, 2014). Co-worker support is maintained through social interactions and relationships. The effects of social relationships at work on well-being can be explained in light of the social exchange theory (Blau, 1964). This theory states that if relationships prove to be mutually beneficial over time, both parties (e.g. employer and employee) gradually increase their contributions to a point where there is an equitable balance between each party’s contributions and the value thereof. For example, if an organisation provides support economic and emotional (i.e. social) resources, employees will feel obliged to respond and repay the organisation. One way of repaying an organisation can be by means of higher levels of engagement (Saks, 2006), which may lead to well-being.
Job Demands and Resources, Flourishing and Individual Performance

The Job Demands-Resources Model (JD-R; Demerouti et al., 2001) describes specific work characteristics associated with well-being of employees. This model contains dual processes (Bakker & Demerouti, 2007) which explain the impact on employee well-being. The first is a process of health impairment, which suggests that demanding jobs or jobs with chronic demands (e.g. work overload) exhaust employees’ mental and physical resources and may therefore lead to the depletion of energy (Bakker, Demerouti, & Schaufeli, 2003; Demerouti et al., 2001; Leiter, 1993). The second process proposed by the JD-R model is motivational by nature, whereby it is assumed that job resources have motivational potential and lead to high work engagement and excellent performance (Bakker & Demerouti, 2007; Bakker et al., 2014). Subsequently, the dual processes of job demands and resources may either have a positive or a negative impact on flourishing and employee performance.

Individual performance is defined and understood differently in various scholarly articles. Researchers (Campbell, 1990; Reijseger, Schaufeli, Peeters, & Taris, 2013; Sonnentag & Frese, 2002) confirmed two relevant dimensions of performance in the work context, namely process and outcome performance. Process performance refers to the actions or behaviours employees engage in to achieve the goals of their job (i.e., what they do at work), whilst outcome performance refers to the products or services that are produced and whether these are consistent with the overall strategic goals of the organisation. Taris and Schaufeli (2015) found that process performance is more relevant in work psychology, because of the closer and inherent links with employee behaviour, as compared to the more distal outcome performance that depends on a multitude of external factors that are far beyond the employee’s control.

In a review of conceptual frameworks of work performance, Koopmans et al. (2011) distinguished between three types of individual process performance at work, namely in-role performance (task performance), extra-role performance (contextual performance) and counterproductive work behaviour. In-role performance refers to the proficiency and competency with which workers perform their job tasks, or to the degree to which employees achieve the central goals of their jobs. This dimension often refers to issues such as productivity (quantity) and quality of the goods produced or services delivered by the workers (i.e. the goals that are often part of formal job descriptions). Extra-role performance can be defined as behaviours or actions that help to bring about the organisation’s goals while not being part of...
a worker’s formal job description (Organ, Podsakoff, & MacKenzie, 2006). Examples are helping others at work, functioning with integrity and showing respect towards others. Counterproductive work behaviour involves destructive or hazardous behaviours that are harmful to the organisation and that impede achieving organisational goals (Koopmans et al., 2011). Examples include being late for work, theft, absenteeism, and knowingly violating rules and procedures. According to Koopmans et al. (2011), in-role performance is the central dimension of job performance; all conceptual frameworks included in their review included this aspect. Subsequently, this study focused on self-assessment measuring of in-role performance as individual performance.

Self-assessment is a rating by individuals through means of self-perception. The self-perception theory (SPT) asserts that people develop their attitudes by observing their own behaviour. Furthermore, the theory suggests that people interpret their overt behaviours rationally in the same way they attempt to explain others’ behaviours (Bem, 1972). Therefore, the self-perception of one’s performance can be seen as an accurate version of actual performance. However, Taris (2006) states that a limitation of self-assessment might be that results can be inflated.

At present, a variety of theoretical viewpoints exist that examine individual performance in relation to worker well-being (Taris & Schaufeli, 2015). According to Taris and Schaufeli (2015), the most important reasons for examining work performance and well-being are the assumption that satisfied and happy workers will be more productive (Lucas & Diener, 2002), the fact that many psychologists believe that high productivity should not be obtained at the cost of worker well-being, and the currently flourishing field of occupational health psychology that focuses on sustainable performance. Research found that employee performance are affected by emotional well-being, job satisfaction and affective well-being (Khan et al., 2014; Taris, 2006; Taris & Schaufeli, 2015), which can be seen as aspects of flourishing. According to Keyes and Grzywacz (2005), employee well-being can provide a competitive edge for organisations. A study by Oswald and colleagues (2014) found that well-being and happiness in the workplace result in productivity, confirming a causal link between human well-being and human performance. It is therefore important for organisations to invest in the flourishing of their employees, to ensure superior performance.
Aim and Hypotheses

This study investigates the construct validity of a short form of the Flourishing-at-Work Scale and to study the relations between job demands and resources, flourishing at work and individual performance at work. The following hypotheses were formulated for this study:

Hypothesis 1: A short form of the scale that measures flourishing at work consists of three separate yet related and internally consistent factors, namely emotional-, psychological- and social well-being.
Hypothesis 2: Workload is negatively associated with flourishing at work.
Hypothesis 3: Job resources (role clarity, remuneration, advancement and co-worker support) are positively associated with flourishing at work.
Hypothesis 4: Flourishing at work is positively related with individual performance.
Hypothesis 5: Workload is negatively associated with individual performance.
Hypothesis 6: Job resources (role clarity, remuneration, advancement and co-worker support) are positively associated with individual performance.

Method

Research Design

A descriptive, cross-sectional and quantitative approach was used to gather data regarding job demands and resources, flourishing at work and individual performance of academic employees, through the utilisation of questionnaires (De Vos, Strydom, Fouché, & Delport, 2011).

Participants

A total of 339 employees from the Vaal University of Technology (28.9%), the Tshwane University of Technology (46.9%) and the Central University of Technology (24.2%) in the Free State and Gauteng provinces in South Africa participated in the study. The response rate was 23% (n=339). Table 2 shows the characteristics of the participants.
The majority of the participants were permanently appointed (85%), white South Africans (64.6%) and 71.4% were married. A total of 46.2% of the sample constituted males, while 53.8% were females. The ages of the participants ranged from 24 years to 74 years.

Table 2

Characteristics of the Participants (n=339)

<table>
<thead>
<tr>
<th>Item</th>
<th>Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>156</td>
<td>46.2</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>182</td>
<td>53.8</td>
</tr>
<tr>
<td>Age</td>
<td>24 to 35 years</td>
<td>69</td>
<td>20.4</td>
</tr>
<tr>
<td></td>
<td>36 to 45 years</td>
<td>115</td>
<td>33.9</td>
</tr>
<tr>
<td></td>
<td>46 to 55 years</td>
<td>92</td>
<td>27.1</td>
</tr>
<tr>
<td></td>
<td>56 to 65 years</td>
<td>56</td>
<td>16.5</td>
</tr>
<tr>
<td></td>
<td>66 to 74 years</td>
<td>7</td>
<td>2.1</td>
</tr>
<tr>
<td>Home language</td>
<td>Afrikaans</td>
<td>191</td>
<td>56.3</td>
</tr>
<tr>
<td></td>
<td>English</td>
<td>65</td>
<td>19.2</td>
</tr>
<tr>
<td></td>
<td>African language</td>
<td>83</td>
<td>24.5</td>
</tr>
<tr>
<td>Highest qualification</td>
<td>Diploma</td>
<td>4</td>
<td>1.2</td>
</tr>
<tr>
<td></td>
<td>Postgraduate diploma</td>
<td>8</td>
<td>2.4</td>
</tr>
<tr>
<td></td>
<td>Degree</td>
<td>44</td>
<td>13.0</td>
</tr>
<tr>
<td></td>
<td>Honours degree</td>
<td>27</td>
<td>8.0</td>
</tr>
<tr>
<td></td>
<td>Master’s degree</td>
<td>148</td>
<td>43.6</td>
</tr>
<tr>
<td></td>
<td>Doctoral degree</td>
<td>108</td>
<td>31.8</td>
</tr>
<tr>
<td>Tenure</td>
<td>Less than 5 years</td>
<td>111</td>
<td>32.7</td>
</tr>
<tr>
<td></td>
<td>5 to 10 years</td>
<td>99</td>
<td>29.2</td>
</tr>
<tr>
<td></td>
<td>11 to 15 years</td>
<td>66</td>
<td>19.4</td>
</tr>
<tr>
<td></td>
<td>16 to 20 years</td>
<td>37</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>21 to 25 years</td>
<td>20</td>
<td>5.9</td>
</tr>
<tr>
<td></td>
<td>More than 25 years</td>
<td>6</td>
<td>1.8</td>
</tr>
<tr>
<td>Position</td>
<td>Junior lecturer</td>
<td>53</td>
<td>15.7</td>
</tr>
<tr>
<td></td>
<td>Lecturer</td>
<td>172</td>
<td>50.9</td>
</tr>
<tr>
<td></td>
<td>Senior lecturer</td>
<td>84</td>
<td>24.8</td>
</tr>
<tr>
<td></td>
<td>Professor/Associate professor</td>
<td>12</td>
<td>3.6</td>
</tr>
<tr>
<td></td>
<td>Head of department</td>
<td>17</td>
<td>5.0</td>
</tr>
</tbody>
</table>
The results in Table 2 show employee-related characteristics of the participants and reported that 56.3% of the respondents were Afrikaans speaking, 43.6% possessed a master’s degree, and 67.3% indicated that they had served more than five years in an academic profession. Most of the participants (91.4%) were on the levels ranging from junior lecturer to senior lecturer, and the majority of this group (50.9%) were appointed in lecturer positions.

**Measuring Instruments**

The *Flourishing-at-Work Scale – Short Form* (FAWS-SF; Rautenbach, 2015) was administered. The FAWS-SF was derived from the Flourishing-at-Work Scale (FAWS; Rautenbach, 2015). The FAWS-SF consists of 17 items that were chosen as the most archetypal items expressive of the construct definition of each of three dimensions of well-being at work, namely emotional, psychological and social well-being. The respondents had to answer questions regarding the frequency with which they experienced specific symptoms during the past month. Emotional well-being was measured by three items indicating two dimensions, namely job satisfaction (e.g. “How often did you experience satisfaction with your job?”) and positive affect (e.g. “How often did you feel happy?”). Psychological well-being was measured by nine items indicating autonomy (e.g. “How often did you feel confident to think or express your own ideas and opinions?”), competence (e.g. “How often did you feel good at managing the responsibilities of your job?”), relatedness (e.g. “How often did you feel really connected with other people at your job?”), learning (e.g. “How often did you find yourself learning?”), meaning (e.g. “How often did you feel your work is meaningful?”), purpose (e.g. “How often did you feel that the work you do serves a greater purpose?”), cognitive engagement (e.g. “How often did you find that when you are working, you are totally absorbed by your work?”), emotional engagement (e.g. “How often did you get excited when you perform well on your job?”), and physical engagement (e.g. “How often did you feel energised when you work?”).

Social well-being was measured by five items indicating social contribution (e.g. “How often did you feel you had something important to contribute to your organisation?”), social acceptance (e.g. “How often did you feel that you really belong to your organisation?”), social growth (e.g. “How often did you feel that your organisation is becoming a better place for people like you?”), social coherence (e.g. “How often did you feel that people in your organisation are basically good?”), and social integration (e.g. “How often did you feel that the way your organisation works, makes sense to you?”).
Responses were measured on a six-point scale ranging from 1 (*never*) to 6 (*every day*), indicating the frequency with which respondents experienced each identified symptom of well-being. This response option allows for the categorisation of levels of well-being similar to the three classes used to assess positive mental health (Keyes, 2002, 2005, 2007). To be classified as *flourishing*, individuals must experience at least one of the three symptoms of emotional well-being and at least eight of the 14 signs of positive functioning (psychological well-being and social well-being) “every day” or “almost every day”. To be classified as *languishing*, individuals must “never” or “once or twice” during the last month have experienced at least one of the symptoms of emotional well-being and at least eight of the signs of positive functioning (psychological well-being and social well-being). Individuals who are neither flourishing nor languishing are diagnosed with moderate well-being. The internal consistencies range from .82 to .90, indicating acceptable reliabilities.

Items from the *Job Demand-Resources Scale* (JDRS; Rothmann et al, 2006) were administered. Respondents had to answer questions regarding the frequency with which they experienced specific symptoms during the past month. Workload was measured by three items (e.g. “How often do you feel that you have too much work to do?”). Role clarity was measured by three items (e.g. “How often do you feel that you know exactly what other people expect of you in your work?”). Remuneration was measured by three items (e.g. “How often do you feel that your organisation pays good salaries?”). Advancement was measured by three items (e.g. “How often do you feel that your company gives you opportunities to attend training courses aligned to your job?”). Co-worker support was measured by two items (e.g. “How often do you feel that your co-workers value your input?”). Each item required the respondent to answer on a scale ranging from 1 (*never*) to 6 (*every day*). Internal consistencies ranged from .76 to .92, indicating acceptable reliability.

To measure *job performance*, this study adopted the ‘in-role’ performance scale of Goodman and Svyantek (1999). Respondents had to rate their perceptions regarding their job performance. Six questions were used (e.g. “I fulfil all the requirements of my job”) and were scored on a Likert-type scale varying from 1 (*low*) to 10 (*high*). The internal reliability was .90 (Goodman & Svyantek, 1999).
Research Procedure

Management of three universities of technology in Gauteng and the Free State was contacted by the researcher in order to obtain permission and ethical clearance for the study. Ethical clearance was also obtained from the Ethics Committee at the university from where the research was undertaken (Ethics number: NWU-HS-2014-0126). An online electronic questionnaire was administered in English via the myresearchsurvey.com platform. A cover letter explaining the purpose of the study and emphasising the confidentiality and anonymity of the research project accompanied the survey. Participants had the option to withdraw from the project at any time, as the project was voluntary. Participants completed an online questionnaire from the end of August until mid-October 2015. An Excel spreadsheet was used to capture the responses to the items, where after it was converted to an SPSS dataset for analysis.

Data Analysis

The data were analysed using Mplus 7.4 (Muthén & Muthén, 1998-2016) and SPSS23 (IBM Corp, 2016). The mean and variance adjusted weighted least square (WLSMV) estimator was used to test the measurement and structural models. The following indices were used to assess model fit: a) absolute fit indices, including the chi-square statistic (the test of absolute fit of the model), weighted root mean square residual (WRMR), root mean square error of approximation (RMSEA), and b) incremental fit indices, including Tucker-Lewis index (TLI) and comparative fit index (CFI) (West, Taylor, & Wu, 2012). For acceptability, TLI and CFI values should be higher than .90. RMSEA values lower than .08 indicates a close fit between the model and the data.

The SPSS23 program (IBM Corp, 2016) was utilised to analyse the descriptive statistics. Mplus 7.4 (Muthén & Muthén, 1998-2016) was used to compute a confirmatory factor analysis-based estimate of scale reliability (ρ) for each scale (Raykov, 2009). The statistical significance was set at $p < .01$. The practical significance of correlations and percentages of variance explained were assessed by using the guidelines developed by Cohen (1988). A correlation of .5 is large, .3 is moderate, and .1 is small. Cohen (1988) provides the following guidelines regarding the practical significance of $R^2$: .25 – large effect; .09 – medium effect, and $< .09$ – small effect.
Results

Testing the Measurement Model

Four measurement models were tested by using confirmatory factor analysis (CFA).

Model 1 consisted of three latent variables: job resources and demands, flourishing at work and individual performance. Job resources and demands consisted of five first-order latent variables: role-clarity (measured by three items), remuneration (measured by three items), advancement (measured by three items), co-worker support (measured by two items) and workload (measured by three items). Flourishing at work consisted of three first-order latent variables: emotional well-being (measured by three items), psychological well-being (measured by nine items), and social well-being (measured by five items). Individual performance was measured by six items. All the latent variables in Model 1 were allowed to correlate. Model 2 followed the same template, except that for Model 2 all the job resources items loaded on a single latent variable (measured by 11 items). Model 3 followed the same template, but the flourishing at work items loaded on one single latent variable (measured by 17 items). In Model 4 all the items loaded on one single latent variable (measured by 37 items).

Table 3 shows the fit statistics for the competing measurement models.

Table 3
Fit Statistics of Competing Measurement Models

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>df</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA</th>
<th>WRMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1942.51</td>
<td>615</td>
<td>.93</td>
<td>.94</td>
<td>.08*</td>
<td>1.65</td>
</tr>
<tr>
<td>2</td>
<td>3395.71</td>
<td>620</td>
<td>.85</td>
<td>.86</td>
<td>.12*</td>
<td>2.45</td>
</tr>
<tr>
<td>3</td>
<td>2118.88</td>
<td>618</td>
<td>.92</td>
<td>.93</td>
<td>.09*</td>
<td>1.74</td>
</tr>
</tbody>
</table>

$\chi^2$, chi-square statistic; df, degrees of freedom; TLI, Tucker-Lewis index; CFI, comparative fit index; RMSEA, root mean square error of approximation; WRMR, weighted root mean square residual

Another one-factor model (model 4) was also tested, but an item caused a problem and the one-factor model could therefore not be used. The fit indices in this study were used to compare
alternative measurement models. Model 1 indicated the best fit statistics: $\chi^2 = 1942.51, df = 615; p < .001; TLI = .93; CFI = .94; RMSEA = .08 [90% CI .076, .084]; \text{WRMR} = 1.65.$

**Descriptive Statistics and Correlations of the Scales**

The mean scores on the 17 items of the *Flourishing-at-Work Scale – Short Form* (FAWS-SF) are described in Figure 1.

Figure 1 shows that the lowest scores were obtained on social well-being. Detailed frequency analysis showed that 12.4% of academics were languishing, 43.1% were flourishing, and 44.5% were experiencing moderate well-being at work.

![Figure 1. Mean scores on 17 items of flourishing at work.](image)

The descriptive statistics (means and standard deviations), reliability and correlations of the scales are reported in Table 4.

The results showed that respondents scored high on role clarity (mean = 4.46; $SD = 1.11$) and co-worker support (mean = 4.21; $SD = 1.22$), which reflects a perception that individuals feel
that they are clear as to what is expected of them in their jobs, and enjoy the support of their co-workers. Lower ratings were found for workload (mean = 3.68; SD = 1.29), remuneration (mean = 3.54; SD = 1.64) and advancement (mean = 3.12; SD = 1.38), which gives an indication that academic staff do not feel overloaded with tasks, feel that remuneration is not sufficient and that there are not enough advancement opportunities.

Table 4 shows scale reliabilities ranging from .73 to .90, which indicates acceptable internal consistencies of all the scales (Raykov, 2009). The results of all scales could, therefore, be interpreted. Correlations between the flourishing subscales ranged from .78 to .87. Emotional, psychological and social well-being were not statistically significantly related to workload.

Table 4

*Reliability Coefficients and Correlations of the Scales (n=339)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>( \rho )</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Workload</td>
<td>.88</td>
<td>3.68</td>
<td>1.29</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2. Role clarity</td>
<td>.73</td>
<td>4.46</td>
<td>1.11</td>
<td>-.05</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3. Remuneration</td>
<td>.90</td>
<td>3.54</td>
<td>1.64</td>
<td>-.12*</td>
<td>-.18**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4. Advancement</td>
<td>.81</td>
<td>3.12</td>
<td>1.38</td>
<td>-.13*</td>
<td>.26**</td>
<td>.50**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5. Co-worker support</td>
<td>.82</td>
<td>4.21</td>
<td>1.22</td>
<td>-.06</td>
<td>.60**</td>
<td>.18**</td>
<td>.33**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>6. Emotional well-being</td>
<td>.82</td>
<td>3.17</td>
<td>1.08</td>
<td>-.04</td>
<td>.53**</td>
<td>.25**</td>
<td>.42**</td>
<td>.57**</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>7. Psychological well-being</td>
<td>.90</td>
<td>3.32</td>
<td>1.00</td>
<td>-.05</td>
<td>.57**</td>
<td>.27**</td>
<td>.45**</td>
<td>.62**</td>
<td>.87**</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>8. Social well-being</td>
<td>.88</td>
<td>2.63</td>
<td>1.19</td>
<td>-.04</td>
<td>.51**</td>
<td>.24**</td>
<td>.41**</td>
<td>.55**</td>
<td>.78**</td>
<td>.84**</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>9. Performance</td>
<td>.84</td>
<td>8.37</td>
<td>1.21</td>
<td>.08</td>
<td>.39**</td>
<td>-.04</td>
<td>-.04</td>
<td>.28**</td>
<td>.31**</td>
<td>.34**</td>
<td>.30**</td>
<td>.35**</td>
</tr>
</tbody>
</table>

*Correlation is significant at the .05 level (2-tailed)*

**Correlation is significant at the .01 level (2-tailed)**

Emotional well-being (i.e. job satisfaction and positive affect), psychological well-being (autonomy, relatedness, competence, engagement, learning, meaning and purpose) and social well-being (i.e. social contribution, social acceptance, social growth, social coherence and social integration) were statistically significantly and positively related to role clarity (practically significant, large effect), remuneration (practically significant, small effect), advancement (practically significant, medium effect) and co-worker support (practically significant, large effect).
The flourishing dimensions of emotional, psychological and social well-being were statistically significantly and positively related (practically significant, medium effect) to individual performance. This gives an indication that flourishing at work predicts individual performance.

Individual performance was statistically significantly and positively related to the role clarity job resource (practically significant, small effect), but did not have any statistically significant impact on the other job resources (namely remuneration, advancement and co-worker support). Individual performance was negatively associated with the job demand workload, but showed no statistically significant impact.

One of the aims of this study were to evaluate the psychometric properties of a short scale which measures flourishing at work and to investigate antecedents of flourishing in the work context. The analysis conducted supported a three-factor structure of flourishing at work. The three dimensions were emotional well-being, psychological well-being, and social well-being. The reliability of the three scales of a short measure of flourishing was highly acceptable. This aligns to Keyes’s theoretical model of well-being (Keyes, 2002) and confirms the flourishing model suggested by Rothmann (2013). Hypothesis 1 can therefore be accepted.

**Testing the Structural Model**

The structural model was tested based on the measurement model. The fit statistics of the structural model shows a good fit of the structural model to the data on most of fit indices: \( \chi^2 = 1942.51, df = 615, p > 0.0001; \) CFI = .94; TLI = .93; RMSEA = .08 [.076, .084], \( p < .01. \)

Table 5 shows the standardised regression coefficients for when flourishing and performance were considered as dependent variables.
Table 5  
Standardised Regression Coefficients for Job Demands and Resources on Flourishing and Performance

<table>
<thead>
<tr>
<th>Variable</th>
<th>Estimate</th>
<th>SE</th>
<th>Estimate/SE</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flourishing ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workload</td>
<td>.03</td>
<td>.04</td>
<td>0.81</td>
<td>0.418</td>
</tr>
<tr>
<td>Role clarity</td>
<td>.30</td>
<td>.05</td>
<td>5.65</td>
<td>0.000**</td>
</tr>
<tr>
<td>Remuneration</td>
<td>.03</td>
<td>.05</td>
<td>0.66</td>
<td>0.508</td>
</tr>
<tr>
<td>Advancement</td>
<td>.25</td>
<td>.05</td>
<td>5.01</td>
<td>0.000**</td>
</tr>
<tr>
<td>Co-worker relations</td>
<td>.37</td>
<td>.05</td>
<td>7.56</td>
<td>0.000**</td>
</tr>
<tr>
<td>Performance ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flourishing</td>
<td>.30</td>
<td>.07</td>
<td>4.39</td>
<td>0.000**</td>
</tr>
<tr>
<td>Workload</td>
<td>.07</td>
<td>.05</td>
<td>1.59</td>
<td>0.112</td>
</tr>
<tr>
<td>Role clarity</td>
<td>.28</td>
<td>.07</td>
<td>4.06</td>
<td>0.000**</td>
</tr>
<tr>
<td>Remuneration</td>
<td>-0.06</td>
<td>.06</td>
<td>-1.03</td>
<td>0.305</td>
</tr>
<tr>
<td>Advancement</td>
<td>-0.21</td>
<td>.07</td>
<td>-3.18</td>
<td>0.001</td>
</tr>
<tr>
<td>Co-worker relations</td>
<td>0.00</td>
<td>.08</td>
<td>0.03</td>
<td>0.974</td>
</tr>
</tbody>
</table>

** p < 0.01

Next, the obtained relations of the structural model are discussed regarding the hypotheses of this study. Workload (β = .03, p < .0001) did not have a significant effect on flourishing and did not indicate a negative association. Hypothesis 2 is not accepted.

Role clarity (β = .30, p < .0001), advancement (β = .25, p < .0001) and co-worker support (β = .37, p < .0001) had a significant effect on flourishing. Job resources therefore showed a positive association with flourishing at work. Hypothesis 3 is accepted.

Flourishing had a significant effect on individual performance (β = .30, p < .0001). The regression coefficient was statistically significant and had the expected sign. Hence, hypothesis 4 is accepted. Workload did not have a significant effect on individual performance (β = .07, p > .005) and did not show a negative association. Hypothesis 5 is not accepted.
Role clarity (β = .28, p < .0001) and advancement (β = -0.21, p < .0001) had statistically significant regression coefficients, but the coefficient of advancement was not in the expected direction. Remuneration (β = -0.06, p > .0001) and co-worker support (β = .00, p > .0001) did not have a significant effect on individual performance.

Given that the sign of advancement was not in the expected direction (and the fact that advancement did not have a statistical significant correlation with individual performance), the structural model was re-specified without advancement. The reason for this decision was that multi-collinearity could have affected the size and direction of regression coefficients. The three other insignificant variables (workload, remuneration, and co-worker relations) were also removed. The fit statistics of the structural model shows a good fit of the adapted structural model to the data on most of fit indices: $\chi^2 = 1908.27, df = 607, p > .0001$; CFI = .94; TLI = .93; RMSEA = .08 [.076, .084, p < .01].

The adapted structural model is given in Figure 2.
Figure 2 shows that flourishing and role clarity were statistically significant predictors of performance. Hence, hypothesis 6 is partially accepted.

Job resources explained 78% of the variance in flourishing, which confirms that job resources have a large positive effect on flourishing at work. Flourishing explained 14% of the variance in individual performance, which confirms that flourishing does have a small positive effect on the trend of individual performance.
Discussion

The aim of the study was to investigate the construct validity of a short form of the Flourishing-at-Work Scale and to study the relations between job demands and resources, flourishing at work and individual performance at work. The results provided support for the model with job resources positively predicting flourishing. The results showed that job resources have a large positive effect on flourishing and that flourishing has a small positive effect on individual performance. Job demands (workload) related negatively to flourishing, but did not predict flourishing in the organisational environment in the structural model. The correlation between the three flourishing dimensions ranges from .78 to .87. Most of the flourishing antecedents had significant correlations with all three flourishing dimensions.

According to the JD-R model, workload is seen as a job demand and work overload impairs employee well-being (Bowling et al., 2015). Workload in this study had almost no statistical significant impact on flourishing, but did show a small negative correlation to the three flourishing dimensions. This confirms that demands may be negatively related with well-being at work (Bakker & Demerouti, 2012; Xanthopoulou et al., 2014), but in this instance demands did not have a major negative impact on the flourishing or languishing of the academics in the researched organisations.

The results showed that three job resources, i.e. role clarity, advancement, and co-worker support, predicted flourishing at work. Individuals who experience role clarity have a clear sense of what their organisations expect of them, and can engage in the expected behaviour (Barkhuizen et al., 2013; Panaccio & Vanderberghe, 2011). Co-worker support entails more than an act of giving or receiving help; it creates a sense of belonging and empathy, awareness of others, enhances proper functioning and generates meaningful interpretations (Flint-Taylor & Davda, 2015; Rothmann, 2014a; 2015). Advancement gives employees a prospect to move forward and to grow within an organisation through training and development opportunities and/or career progression (Rothmann, 2014). Thus, academics in the researched organisation believe that they do have sufficient advancement opportunities, and this will be beneficial to their job satisfaction and well-being (De Villiers & Steyn, 2009). This confirms that these job resources reinforce employee flourishing.
Remuneration did not predict flourishing or languishing in this study. According to the SDT (Deci & Ryan, 1985, 2000), extrinsic motivation, such as remuneration, does not modify the emotional or cognitive desires that underlie behaviour in a desirable direction. Academic staff is aware of the fact that they can earn higher salaries outside the higher education sector (HESA, 2011). However, the study did found that there was a correlation between remuneration and the three flourishing dimensions which indicates that there is an effect on flourishing and that further research is needed in this regard.

Results of this study showed that 43.1% of academics were flourishing, 44.5% were experiencing moderate levels of flourishing, and 12.4% were languishing. Two other South African work-related studies (Diedericks & Rothmann, 2014; Swart & Rothmann, 2012) found that fewer individuals were languishing (3% and 3.9% respectively), about the same percentage was flourishing (48.5% and 37.6%), while 4 8.5% and 58.5% were not flourishing or languishing. The comparison indicated that more academics were languishing in contrast to specialist participants and managers. Interventions to curtail languishing and increase the flourishing of academics should therefore be considered.

Job resources explained 78% of variance in flourishing. Akkermans, Schaufeli, Bremminkmeijer, and Blonk (2013) argued that every work environment has job demands and job resources characteristics which exhibit a positive or negative effect, leading to increased or decreased well-being. The results of this study found that role clarity (a job resource) revealed a high level of correlation with all three dimensions (emotional, psychological and social well-being) of flourishing. The highest correlation was with psychological well-being, therefore supporting a link with psychological aspects such as engagement, meaning and purpose. Research (Barkhuizen et al., 2013; Panaccio & Vanderberghe, 2011; Steger et al., 2013) backed these findings with affirmative results. Co-worker support showed a high correlation with psychological well-being. Several studies (Bakker & Demerouti, 2012; Christian, Garza, & Slaughter, 2011; Demerouti & Bakker, 2011) confirmed this result that social support is positively associated with work engagement and learning. Remuneration (job resource) indicated a medium level correlation with all three dimensions of flourishing; the highest correlation was with psychological well-being, which indicated experiences of psychological reward such as competence, autonomy and engagement. Other studies (Anitha, 2014; De Gieter & Hofmans, 2015; Mowday, Porter, & Steers, 2013) found that satisfactory compensation stimulates desirable employee behaviours and attitudes (e.g. performance, competence, performance, competence,
engagement, job satisfaction), supporting the above-mentioned findings. Advancement (job resource) also revealed high correlations with all three flourishing dimensions; the highest correlation was with psychological well-being, which is an indicator that employees may feel competent; and experience growth, development, meaning and purpose through their work environment. Various studies found that advancement leads to benefits such as competence, career progression, better performance, growth and autonomy (Bagraim, 2011; Rothmann, 2014; Wärnich et al., 2015; Youssef & Luthans, 2012), confirming a clear linkage between advancement and flourishing. These findings support the Conservation of Resources (COR) framework (Hobfoll, 1989), which suggests that the well-being of an individual is dependent on the gain or maintenance of resources.

Flourishing and role clarity explained 14% of the variance in individual performance, which confirms that flourishing does have a positive effect on the trend of individual performance, though it is small. Taris and Schaufeli (2015) concurred with this result by revealing that individual well-being and performance at work affect each other, although no single overarching theoretical framework for the effects of worker well-being on work performance exists. Thus, if employees flourish, they will function and perform on higher levels.

The study had several limitations. Firstly, the short version of the FAWS which measured flourishing at work is a newly developed questionnaire. More research is needed regarding the reliability and validity of this measurement. Secondly, self-reports were used to gather data, which might cause inflated results. Thirdly, the sample was restricted to three UoTs and therefore external generalisation cannot be inferred from this study. Fourthly, given the cross-sectional design of the study, it was not possible to study the stability of flourishing over time. Lastly, only a small number of resources and demands were measured in this study.

**Recommendations**

Flourishing at work research is still in its infancy. Employers need to recognise the key role that flourishing can play in the workplace. Employers should invest in the holistic promotion of flourishing of individuals by implementing organisational interventions focusing on increasing job resources, such as an orientation and coaching programme for newcomers, assessment and evaluation of employees through a performance feedback system, provision of up to date job descriptions, career conversations, participation in large group meetings, job
redesign, job related training, employee empowerment, career development, interaction with co-workers and job crafting. Job crafting training teaches employees how to proactively change their own work environment and is an effective tool for coping with organisational stress and other work pressures (Wrzesniewski, 2012). By focusing on these interventions, flourishing at work could be increased and will increase individual performance in the long term.

It is of great importance for future studies to investigate the factors associated with the flourishing of employees, to engage in longitudinal studies to determine the lasting effects of flourishing and to implement interventions to promote flourishing in the workplace. More research is also needed regarding the FAWS-SF measurement in different work environments. It is recommended for future studies to research other resources and demands that exist in the workplace.
References


Kogan, M., & Teichler, U. (2007). Key challenges to the academic profession and its interface with management: Some introductory thoughts. In M. Kogan, & U. Teichler (Eds.), *Key challenges to academic profession* (pp. 9–15). Kassel, Germany: Jenior.


Supervisor Support, Flourishing and Intention to Leave in Universities of Technology

Abstract
The purpose of this study was to investigate the relationship between supervisor support, flourishing at work and intention to leave. A cross-sectional survey design was used with a convenience sample of 339 academic employees from three universities of technology based in Gauteng and the Free State provinces. The Supervisor Support Scale, Flourishing-at-Work Scale (Short Form) and the Turnover Intention Scale were administered. The results showed that supervisor support had a small influence on flourishing at work, and that a lack of flourishing at work had a large effect on intentions to leave. Social well-being showed the strongest correlation with autonomy, competence and relatedness support. Supervisor support was statistically significantly and negatively related to the intention to leave.

Key terms: Flourishing, work, well-being, supervisor support, intention to leave
Supervisor behaviours play a significant role in affecting the well-being and retention of employees (Fouché, 2015; Harter & Adkins, 2015). Over the past decades, studies have confirmed the positive relationship between supervisor support and employees’ job outcomes, as well as work experiences. However, the intricacies embedded within the relationship are not been fully understood. Karami and Ismail (2013) suggest supportive supervisors are important agents in creating a supportive climate, because they are the ones who make rules and regulations for the employees. Supportive climates are part and parcel of institutional climates and cultures. The problems associated with institutional cultures at universities were recognized by the National Plan for Higher Education. The inadequate erosion of class-based, racialized and gendered institutional cultures also obstructs the forging of greater social cohesion. Aspiring and new black and women academics may find environments and cultures alienating. They have to be prepared and supported if they are to remain at universities for extended periods (HESA, 2011). One way of backing these newcomers is to create a conducive working environment and to encourage supportive supervisor-employee relations.

Supportive relationships with managers seem important to satisfying psychological needs. The self-determination literature acknowledges the role of the supervisor in affecting psychological need satisfaction (i.e. autonomy, competence and relatedness), and a study by Graves and Luciano (2013) showed how leader-member exchange evokes psychological need satisfaction. Gilbert and Kelloway (2014) found that supervisor behaviours that prevent need satisfaction will likely lead to negative outcomes such as intention to leave, whereas behaviours that promote psychological need satisfaction produce positive outcomes (Hetland, Hetland, Andreassen, Pallesen, & Notelaers, 2011). Subsequently, these positive outcomes may lead to flourishing.

Keyes (2002) initially researched flourishing in general life from a subjective well-being viewpoint. Rothmann (2013) extended flourishing to include aspects of the work environment. The research on the flourishing of people within a work context also included the subjective well-being viewpoint and incorporated emotional, psychological and social well-being components; thus supporting other research in this regard (Huppert & So, 2011; Keyes & Annas, 2009; Seligman, 2011). Various studies (Barkhuizen, Rothmann, & Van de Vijver, 2014; Catalino & Fredrickson, 2011; Deci & Ryan, 2011; Fouché, 2015; Grant, 2012; Kahn & Heaphy, 2014; Karami & Ismail, 2013; Rothmann, 2014) found that supervisor support influences the organisational climate through the various dimensions of flourishing at work.
Supervisor support was researched in relation to well-being, but no research between supervisor support and the combined dimensions of flourishing at work could be found. Supervisor behaviours also play a significant role in the retention of employees (Harter & Adkins, 2015). According to Janik and Rothmann (2015), the retention of skilled employees is a major challenge for educational organisations. It is therefore necessary to identify the underlying mechanisms through which supervisor behaviours affect academic employees’ intention to leave.

Although antecedents of flourishing in life have been studied (Keyes, 2013), scientific information is needed regarding the factors that contribute to flourishing in work and organisational contexts. The study therefore seeks to contribute to the limited literature on flourishing in the work context, and specifically regarding the influence of supervisor support on flourishing and intention to leave of academic staff at universities of technology.

**Supervisor Support and Psychological Need Satisfaction**

Perceived supervisor support refers to the degree to which the supervisors value employees’ contributions and care about their well-being (Rasheed, Khan, & Ramzan, 2013). The contributions and role of supervisor support are acknowledged by the self-determination theory (SDT; Deci & Ryan, 1985, 2008a) which explains how supervisors affect work behaviour of employees through competence, relatedness and autonomy aspects of psychological need satisfaction.

*Competence* is defined as employees’ inherent desire to feel effective in interacting with the environment. It results from mastering a task and allows employees to adapt to complex and changing environments (Deci & Ryan, 2011). Competence-support of the supervisor is evident from behaviours such as providing challenges, supporting employees to learn and acquire new skills, showing confidence in them, giving helpful feedback and coaching on performance, inspiring employees, praising good work, showing confidence in the abilities of employees, supporting education and training, making sure that they get the credit for accomplishments, and allowing them to learn from their mistakes (Deci & Ryan, 2011; Harter & Adkins, 2015; Rothmann, 2014).
Relatedness is the need to feel connected to others (Deci & Vansteenkiste, 2004). Relatedness-support behaviours of supervisors include regular communication, accessibility, treating employees fairly, showing commitment to protecting employees’ interests, being trustworthy, helping to solve work-related problems, contributing to employees feeling appreciated and respected, and building genuine and trusting relationships with them (Harter & Adkins, 2015; Kahn, 1990; Kahn & Heaphy, 2014; Rothmann, 2014).

Autonomy refers to satisfying the need to experience freedom and choice when carrying out an activity (Deci & Ryan, 2011). Autonomy-supportive supervisors are supportive without being controlling and allow individuals to make choices about their work, give employees influence over their workplace, understand what motivates employees, provide feedback, care about employees, eliminate excessive rules, and acknowledge employees’ talents (Fernet, Guay, Senécal, & Austin, 2012; Gilbert & Kelloway, 2014; Rothmann, 2014).

If a work environment provides adequate support for satisfying the three psychological needs, it will contribute to the well-being (i.e. flourishing). Frustration of the three needs will contribute to the prediction of ill-being (i.e. languishing) (Chen et al., 2014). With relation to supervisor support, Hetland et al. (2011) found that supervisor behaviours that promote psychological need satisfaction produce positive outcomes, whereas behaviours that prevent need satisfaction will likely lead to negative outcomes such as intention to leave (Gilbert & Kelloway, 2014).

Consequently, the basic premise of the SDT motivational theory is that autonomy, competence and relatedness satisfaction are prerequisites for intrinsic motivation, internalising of extrinsic motivation and thriving (Deci & Ryan, 2008a, 2008b; Gagné & Deci, 2005). Intrinsic motivation is a form of autonomous motivation, which occurs when people engage in an activity voluntarily if they find it interesting (Gagné & Deci, 2005; Ryan & Deci, 2002). Extrinsic motivation is when a person engages in an activity to achieve an external goal. The internalisation thereof is an attempt to transform the extrinsic motive into personally endorsed value and thus assimilate behavioural regulations that originally were external (Deci & Ryan, 1985; Ryan, 1995). SDT proposes that extrinsic motivation can vary in the degree to which it is autonomous or controlled. Contrary to other motivational theories, the motivational distinction is not external versus internal motivation, but is concerned with whether the behaviour was motivated autonomously or controlled. This highlights the importance of the
degree to which individuals experience a sense of ability, choice in domains and social connectedness. When the psychological needs are fully satisfied, they enhance self-motivation and well-being; and when these needs are thwarted, individuals experience diminished motivation and well-being (Deci & Ryan, 2000).

Supportive relationships with managers seem important to satisfying psychological needs. Supervisor relations can have a major influence, positive or negative, on employees’ work lives. They have a large impact on work demands, control, and social support (e.g. Gilbreath & Benson, 2004; Harris & Kacmar, 2006). Social support can link supervisor relations to leadership in the social context of the working environment. Several leadership theories, including transformational leadership (Hetland et al., 2011), leader-member exchange (Graves & Luciano, 2013) and authentic leadership, have linked follower needs to leadership. Research (Hetland et al., 2011; Kovjanic, Schuh, & Jonas, 2013) showed that transformational leadership has positive effects on psychological need satisfaction. According to Bass (1985), transformational leadership creates connections with followers in the context of shared missions that enlarge the meaning of their collective efforts. Four elements of transformational leadership are: individualised consideration (leaders attend to, communicate with, and challenge individual followers), intellectual stimulation (leaders challenge assumptions, take risks, solicit followers’ ideas, and develop others’ independent thinking), inspirational motivation (leaders articulate visions that are appealing and inspiring to followers), and idealised influence (leaders provide role models for high ethical behaviour, instil pride, gain respect and trust).

As leaders perform these behaviours, they create relationships that usher followers into deeper levels of connectivity – not simply with the leaders themselves, but with the work, with colleagues, and ultimately with the selves that they discover and bring forth through their efforts (Kahn & Heaphy, 2014). These supportive supervisor relations will contribute to job satisfaction, work engagement and well-being of employees (Barak, Travis, Pyun, & Xie, 2009; May, Gilson, & Harter, 2004; Wright, Cropanzano, & Bonett, 2007). In contrast, it was found that supervisors who behave unpredictably, inconsistently or hypocritically indeed have a negative effect on the well-being of individuals (May et al., 2004; Saks, 2006; Tekleab & Chiaburu, 2011).
Supervisor Support, Flourishing at Work and Intention to Leave

Supportive supervisor relations enhance various flourishing characteristics. Swart and Rothmann (2012) found that supervisor relations as part of subjective well-being impact job satisfaction as an individual outcome in the work context, while positive supervisor support yields positive affective outcomes (Karami & Ismail, 2013). A study by Barkhuizen and colleagues (2014) revealed that supportive supervisors can motivate employees to become more engaged in their work, if they provide them with the necessary job resources. Kahn and Heaphy (2014) pointed out that leaders create meaning when connections are formed through individualized consideration, intellectual stimulation, inspirational motivation and idealized influence. Tekleab and Chiaburu (2011) confirmed the importance of supervisor-directed social exchanges for social well-being in the work environment. The aforementioned supports the idea that social exchanges at work provide benefits for both parties contributing to a relationship, which is in line with the social exchange theory of Blau (1964). Furthermore, supportive supervisor behaviour encourages performance, supports learning and development of new skills, relates to affective support, and provides a sense of connectedness to purpose and meaningfulness of work (Deci & Ryan, 2011; Grant, 2012; Kahn & Heaphy, 2014; Karami & Ismail, 2013). On the other hand, studies found that unsupportive supervisor behaviours play a significant role in affecting the retention of employees (Harter & Adkins, 2015) and some research found that many employees want to leave their organisations because of the nature of their work relationships (Gu & Day, 2013; Janik & Rothmann, 2015).

Fouché (2015) found that supervisors contribute to the well-being of employees, because they encourage them to participate in important decisions and to develop new skills, give them helpful feedback on their performance, and help employees to solve work-related problems. Numerous other studies found that supervisor support influences the dimensions of flourishing mentioned by the FAWS-SF scale measuring instrument, namely job satisfaction (Ng & Sorensen, 2008; Swart & Rothmann, 2012), positive affect (Karami & Ismail, 2013; Ng & Sorensen, 2008), autonomy, competence and relatedness (Deci & Ryan, 2011; Hetland et al., 2011), learning (Deci & Ryan, 2011; Gilbert & Kelloway, 2014; Kahn & Heaphy, 2014), meaning and purpose (Grant, 2012; Janik & Rothmann, 2015; Kahn & Heaphy, 2014), engagement (Barkhuizen et al., 2014; Harter & Adkins, 2015; Kahn & Heaphy, 2014) and social well-being (Catalino & Fredrickson, 2011; Gu & Day, 2013; Liu, Siu, & Shi, 2010). Evidently, the mentioned findings of supportive supervisor behaviour support the definition of
perceived supervisor support, which incorporates caring about the well-being of employees; thus showing an interest in the flourishing of employees.

Flourishing behaviour in the work environment includes aspects of emotional, psychological and social well-being (Rothmann, 2013). Emotional well-being showed that individuals that flourish at work are satisfied with their jobs and experience positive affect and low negative affect at work. Regarding the psychological well-being, flourishing employees experience autonomy, competence, and relatedness satisfaction (self-determination), learning, meaning and purpose in their work, and are engaged. Concerning social well-being, they experience social contribution, social acceptance, social growth, social coherence, and social integration. Flourishing at work therefore constitutes both positive feeling and positive functioning. Research showed that more than 80% of people in the general population, and more than 50% of employees in organisations, are not flourishing (Rothmann, 2013). This raises the question as to why such a high percentage of people are not flourishing and what role supervisor support may play in increasing flourishing behaviour? Flourishing behaviour also seems important in reducing turnover among academic staff (Awang, Ibrahim, Nor, Razali, Arof, & Rahman, 2015), and higher levels of flourishing should therefore be beneficial to curtail turnover propensity.

Some academics fail to perform to the required standard and have high intentions to leave (Narimawati, 2007). Intention to leave signifies a person’s perceived likelihood of staying or leaving an organisation and is seen as a predictor of actual turnover behaviour (Chan & Mai, 2015; Bothma & Roodt, 2013). Actual turnover leads to direct costs such as loss of expertise, recruitment costs, training cost of new hires, induction cost, overtime to cover vacated positions, as well as indirect costs such as loss of social networks, increased use of inexperienced and/or tired staff, insufficient staff and decreased morale (Lambert & Hogan, 2009). According to Dalessio, Silverman, and Schuck (1986), intention to leave is a more important phase than the actual act of turnover. This means that, if the sources of intention to leave are better understood, the employer could possibly remedy the situation to affect the intention.

The self-determination theory (SDT; Deci & Ryan, 1985, 2008a) might explain why manager relations affect employees’ intentions to leave. Most employees fundamentally strive to develop and actualise their potential. According to the SDT, this is subordinate to employees’
ability to satisfy their three inborn psychological needs for autonomy, relatedness and competence (Deci & Ryan, 1985, 2008a). Supervisors can support employees to obtain psychological need satisfaction experiences through supportive relations. If these needs are satisfied, it leads to motivation and better functioning, while non-satisfaction impedes motivation and optimal functioning (Deci & Ryan, 2000). Supportive supervisor relations also showed a negative association with intentions to leave (Fouché, 2015), which confirms that high levels of supervisor support will curb turnover. Furthermore, research (Karatepe & Ngeche, 2012) found that employees with intentions to leave tend to render poor service and corrode organisational effectiveness, while high turnover disrupts productivity, causes loss of skilled employees and significant replacement costs (Son, Kim, & Kim, 2014). Higher education institutions in South Africa have become vulnerable to losing their highly qualified knowledge workers to the better-paying private sector, and headhunting from other higher education institutions internationally (Ngobeni & Bezuidenhout, 2011). Some studies found that managers can directly and indirectly control facets that influence talent retention and turnover tendencies in organisations (Costigan, Insinga, Berman, Kranas, & Kureshov, 2011; Nienaber & Masibigiri, 2012). Subsequently, organisations can reap benefits if supervisors understand and manage the factors that influence employees’ intentions to leave.

This study investigates supervisor behaviours that support psychological need satisfaction, and how these variables affect work flourishing and the retention of employees. The focus is on employees’ perception and interpretations of supervisors’ support, with the intention to escalate the knowledge base on the important role of the supervisor in the work place. The call for the study is due to little knowledge and empirical evidence regarding relationships between supervisor support, the full multi-dimensional range of flourishing at work and intention to leave.

Aim of the Study

This study implies that supervisor support can impact on flourishing at work, and supervisor support can influence intention to leave via flourishing at work.

Hypothesis 1: Supervisor support (of autonomy, competence and relatedness needs) predicts flourishing at work.
Hypothesis 2: Flourishing at work inversely predicts intention to leave.
Hypothesis 3: Supervisor support relates negatively to intention to leave.
Hypothesis 4: Supervisor support indirectly affects intention to leave via flourishing.

Method

Research Design

A cross-sectional survey design with questionnaires as method of data collection was used to obtain information from the target population (De Vos, Strydom, Fouché, & Delport, 2011).

Participants

The study focused on the higher education environment, specifically universities of technology, in South Africa. Stratified random sampling was used to collect data. A total of 339 employees were recruited from Vaal University of Technology (28.9%), Tshwane University of Technology (46.9%) and Central University of Technology (24.2%). A response rate of 23% (n=339) was attained.

General biographical characteristics of the participants are described in Table 1. A total of 46.2% of the sample were males, while 53.8% were females. The ages of the participants varied from 24 years to 74 years, with only 20.4% aged 35 or younger. The largest group of the participants were married (71.4%), white South Africans (64.6%), spoke Afrikaans (56.3%) and were permanently employed (85%). The majority of participants (91.4%) were on the levels ranging from junior lecturer to senior lecturer, and the largest group (50.9%) comprised lecturers.

The information in Table 1 shows that almost half of the respondents (43.7%) held a master’s degree, and that most respondents (67.3%) had served more than five years in an academic profession.
Table 1
*Characteristics of the Participants (n=339)*

<table>
<thead>
<tr>
<th>Item</th>
<th>Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>156</td>
<td>46.2</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>182</td>
<td>53.8</td>
</tr>
<tr>
<td>Age</td>
<td>24 to 35 years</td>
<td>69</td>
<td>20.4</td>
</tr>
<tr>
<td></td>
<td>36 to 45 years</td>
<td>115</td>
<td>33.9</td>
</tr>
<tr>
<td></td>
<td>46 to 55 years</td>
<td>92</td>
<td>27.1</td>
</tr>
<tr>
<td></td>
<td>56 to 65 years</td>
<td>56</td>
<td>16.5</td>
</tr>
<tr>
<td></td>
<td>66 to 74 years</td>
<td>7</td>
<td>2.1</td>
</tr>
<tr>
<td>Home language</td>
<td>Afrikaans</td>
<td>191</td>
<td>56.3</td>
</tr>
<tr>
<td></td>
<td>English</td>
<td>65</td>
<td>19.2</td>
</tr>
<tr>
<td></td>
<td>African language</td>
<td>83</td>
<td>24.5</td>
</tr>
<tr>
<td>Highest qualification</td>
<td>Diploma</td>
<td>4</td>
<td>1.2</td>
</tr>
<tr>
<td></td>
<td>Postgraduate diploma</td>
<td>8</td>
<td>2.4</td>
</tr>
<tr>
<td></td>
<td>Degree</td>
<td>44</td>
<td>13.0</td>
</tr>
<tr>
<td></td>
<td>Honours degree</td>
<td>27</td>
<td>8.0</td>
</tr>
<tr>
<td></td>
<td>Master’s degree</td>
<td>148</td>
<td>43.6</td>
</tr>
<tr>
<td></td>
<td>Doctoral degree</td>
<td>108</td>
<td>31.8</td>
</tr>
<tr>
<td>Tenure</td>
<td>Less than 5 years</td>
<td>111</td>
<td>32.7</td>
</tr>
<tr>
<td></td>
<td>5 to 10 years</td>
<td>99</td>
<td>29.2</td>
</tr>
<tr>
<td></td>
<td>11 to 15 years</td>
<td>66</td>
<td>19.4</td>
</tr>
<tr>
<td></td>
<td>16 to 20 years</td>
<td>37</td>
<td>11.0</td>
</tr>
<tr>
<td></td>
<td>21 to 25 years</td>
<td>20</td>
<td>5.9</td>
</tr>
<tr>
<td></td>
<td>More than 25 years</td>
<td>6</td>
<td>1.8</td>
</tr>
</tbody>
</table>

**Measuring Instruments**

*The Supervisor Behaviour Scale* (SBS; Fouché, 2015) was applied to measure participants’ perceptions of the behaviours of their supervisors. Autonomy support was measured by using five items (e.g. “My supervisor encourages me to speak up when I disagree with a decision”). Competence support was measured by using five items (e.g. “My supervisor gives me helpful feedback about my performance”). Relatedness support was measured by five items (e.g. “My supervisor can be trusted”). All items were rated on an agreement-disagreement Likert format varying from 1 (strongly disagree) to 5 (strongly agree). The internal consistencies range from .72 to .93, indicating acceptable reliabilities.
The Flourishing-at-Work Scale–Short Form (FAWS-SF; Rautenbach, 2015) was administered. The FAWS-SF was derived from the Flourishing-at-Work Scale (FAWS; Rautenbach, 2015). The FAWS-SF consists of 17 items that were chosen as the most archetypal items expressive of the construct definition of emotional, psychological and social well-being at work. The respondents had to answer questions regarding the frequency with which they experienced specific symptoms during the past month.

- Emotional well-being was measured by three items indicating two dimensions, namely job satisfaction (e.g. “How often did you experience satisfaction with your job?”) and positive affect (e.g. “How often did you feel happy?”).

- Psychological well-being was measured by nine items indicating autonomy (e.g. “How often did you feel confident to think or express your own ideas and opinions?”), competence (e.g. “How often did you feel good at managing the responsibilities of your job?”), relatedness (e.g. “How often did you feel really connected with other people at your job?”), learning (e.g. “How often did you find yourself learning?”), meaning (e.g. “How often did you feel your work is meaningful?”), purpose (e.g. “How often did you feel that the work you do serves a greater purpose?”), cognitive engagement (e.g. “How often did you find that when you are working, you are totally absorbed by your work?”), emotional engagement (e.g. “How often did you get excited when you perform well on your job?”), and physical engagement (e.g. “How often did you feel energised when you work?”).

- Social well-being was measured by five items indicating social contribution (e.g. “How often did you feel you had something important to contribute to your organisation?”), social acceptance (e.g. “How often did you feel that you really belong to your organisation?”), social growth (e.g. “How often did you feel that your organisation is becoming a better place for people like you?”), social coherence (e.g. “How often did you feel that people in your organisation are basically good?”), and social integration (e.g. “How often did you feel that the way your organisation works, makes sense to you?”).

A six-point scale, ranging from 1 (never) to 6 (every day), was used to measure responses. This allowed for the categorisation of well-being similar to the three classes used by Keyes (2002, 2005, 2007) to assess positive mental health. To be classified as flourishing, individuals must experience at least one of the three symptoms of emotional well-being and at least eight of the
14 signs of positive functioning (psychological well-being and social well-being), “every day” or “almost every day”. To be classified as languishing, individuals must, during the last month have experienced at least one of the symptoms of emotional well-being and at least eight of the signs of positive functioning (psychological well-being and social well-being), “never” or “once or twice”. Individuals who are neither flourishing nor languishing are diagnosed with moderate well-being. The internal consistencies ranged from .82 to .90, indicating acceptable reliabilities.

A slightly modified version of the Turnover Intention Scale (TIS; Sjöberg & Sverke, 2000) was utilised to measure intention to leave. The adapted TIS consists of three items (e.g. “I frequently think of quitting my job”) and a .83 Cronbach alpha coefficient was reported. Response options ranged from 1 (strongly disagree) to 5 (strongly agree).

Data analysis

The data was analysed using Mplus 7.4 (Muthén & Muthén, 1998-2016) and SPSS23 (IBM Corp, 2015). The maximum likelihood estimation with robust standard errors (MLR) was used. The following indices were used to assess the fit of measurement and structural models: a) absolute fit indices, including the chi-square statistic, standardised root mean residual (SRMR), root mean square error of approximation (RMSEA), and b) incremental fit indices, including Tucker-Lewis index (TLI), and comparative fit index (CFI) (West, Taylor, & Wu, 2012). TLI and CFI values should be higher than .90. Both SRMR and RMSEA values lower than .08 indicate a close fit between the model and the data. In addition, two fit indices, namely the Akaike information criterion (AIC) and the Bayes information criterion (BIC), were used. The AIC, which is a comparative measure of fit, is meaningful when one estimates different models. The lowest AIC is the best fitting model. The BIC provides an indication of model parsimony (Kline, 2010). Mplus 7.4 (Muthén & Muthén, 1998-2016) was used to compute a confirmatory factor analysis-based estimate of scale reliability (ρ) for each scale (Raykov, 2009).

Research Procedure

Permission was obtained from the managements of the three participating universities of technology in Gauteng and the Free State. Ethical clearance for this study was obtained from
the Ethics Committee at the university from where the research was undertaken (Ethics number: NWU-HS-2014-0126). The researcher administered the online electronic questionnaire in English via the myresearchsurvey.com platform. The questionnaire was accompanied by a cover letter explaining the purpose of the study and emphasising the confidentiality and anonymity of the research project. Participation in the project was voluntary, and respondents had the option to withdraw at any time. Participants completed an online questionnaire from the end of August until mid-October 2015. An Excel spreadsheet was used to capture the responses to the items, after which it was converted to an SPSS dataset for analysis.

Results

Testing the Measurement Model

Using confirmatory factor analysis (CFA), four measurement models were tested using Mplus 7.4 (Muthén & Muthén, 1998-2016).

Model 1 consisted of three latent variables: supervisor support, flourishing at work, and intention to leave. Supervisor support consisted of three first-order latent variables: autonomy support (measured by five items), competence support (measured by five items) and relatedness support (measured by five items). Flourishing at work consisted of three first-order latent variables: emotional well-being (measured by three items), psychological well-being (measured by nine items), and social well-being (measured by five items). Intention to leave was measured by three items. All the latent variables in model 1 were allowed to correlate.

Model 2 was the same as Model 1, except that supervisor support was modelled as a second-order latent, consisting of three first-order latent variables: autonomy support (measured by five items), competence support (measured by five items) and relatedness support (measured by five items).

Model 3 followed the same template, except that all the supervisor support items loaded on a single first-order latent variable (i.e. supervisor support), measured by 15 items. Model 4 followed the same template, except that all the flourishing items loaded on a single latent variable (measured by 17 items). Model 5 consisted of one latent variable, namely flourishing (measured by 35 items).
Table 2 shows the fit statistics for the competing measurement models.

Table 2

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>df</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA</th>
<th>SRMR</th>
<th>AIC</th>
<th>BIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1206.68</td>
<td>547</td>
<td>.90</td>
<td>.91</td>
<td>.06*</td>
<td>.07</td>
<td>30614.59</td>
<td>31066.06</td>
</tr>
<tr>
<td>2</td>
<td>1209.61</td>
<td>551</td>
<td>.90</td>
<td>.91</td>
<td>.06*</td>
<td>.07</td>
<td>30610.28</td>
<td>31046.45</td>
</tr>
<tr>
<td>3</td>
<td>1460.00</td>
<td>554</td>
<td>.87</td>
<td>.87</td>
<td>.07*</td>
<td>.24</td>
<td>30920.37</td>
<td>32345.06</td>
</tr>
<tr>
<td>4</td>
<td>1391.83</td>
<td>550</td>
<td>.88</td>
<td>.87</td>
<td>.07*</td>
<td>.07</td>
<td>30847.04</td>
<td>31827.03</td>
</tr>
<tr>
<td>5</td>
<td>3816.38</td>
<td>560</td>
<td>.55</td>
<td>.52</td>
<td>.13</td>
<td>.18</td>
<td>33850.84</td>
<td>34252.57</td>
</tr>
</tbody>
</table>

$\chi^2$, chi-square statistic; df, degrees of freedom; TLI, Tucker-Lewis index; CFI, comparative fit index; RMSEA, root mean square error of approximation; SRMR, standardised root mean square residual; AIC, Akaike information criterion; BIC, Bayes information criterion

The results in Table 2 show that a $\chi^2$ value of 1209.61 ($df = 551$) was obtained for model 2. Model 2 fitted the data the best and was the most parsimonious of the three alternative models (AIC = 30610.28 and BIC = 31046.45). The fit statistics on four fit indices were acceptable: TLI = .90, CFI = .91, RMSEA = .06 and SRMR = .07. Model 2 therefore had an acceptable fit with the data on all the fit indices.

Model Development

Analysis continued in an exploratory mode to improve the fit of the selected model.

A large error covariance (MI = 70.65) was indicated for items 7 (“Encourages me to speak up when I disagree with a decision?”) and 8 (“Encourages everyone to speak about what they feel?”) of the SBS questionnaire. Correlated errors may represent respondent characteristics that reflect bias, social desirability, as well as a high degree of overlap in item content (Byrne, 2012). In model 2.1, the errors of items 7 and 8 were also allowed to correlate. The AIC and BIC values for model 2.1 were as follows: AIC = 30509.01, BIC = 30969.01. Model 2.1 showed a significant reduction in the AIC and BIC values ($\Delta$AIC and $\Delta$BIC > 10, Wang & Wang, 2012).
The modification index (MI = 45.18) for items 26 (“Feel your work is meaningful?”) and 29 (“Feel that the work you do serves a greater purpose?”) of the FAWS-SF showed an error covariance. In model 2.2, the errors of items 26 and 29 were also allowed to correlate. The AIC and BIC values for model 2.2 were as follows: AIC = 30478.62, BIC = 30922.43. Model 2.2 showed a significant reduction in the AIC and BIC values ($\Delta$AIC and $\Delta$BIC > 10, Wang & Wang, 2012).

The modification index (MI = 32.69) for items 37 (“Get excited when you perform well on your job?”) and 40 (“Feel energised when you work?”) of the FAWS-SF showed an error covariance. In model 2.3, the errors of items 37 and 40 were also allowed to correlate. The AIC and BIC values for model 2.3 were as follows: AIC = 30408.68, BIC = 30888.33. Model 2.2 showed a significant reduction in the AIC and BIC values ($\Delta$AIC and $\Delta$BIC > 10, Wang & Wang, 2012).

**Descriptive Statistics and Correlations of the Scales**

Table 3 shows the reliabilities and correlations for the scales.
Table 3

Reliability Coefficients and Correlations of the Scales (n=339)

<table>
<thead>
<tr>
<th>Variable</th>
<th>ρ</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Autonomy support</td>
<td>.91</td>
<td>3.51</td>
<td>1.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2. Competence support</td>
<td>.92</td>
<td>3.42</td>
<td>1.02</td>
<td>.90</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3. Relatedness support</td>
<td>.94</td>
<td>3.67</td>
<td>0.96</td>
<td>.92</td>
<td>.87</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4. Emotional well-being</td>
<td>.82</td>
<td>3.17</td>
<td>0.91</td>
<td>.37</td>
<td>.34</td>
<td>.31</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5. Psychological well-being</td>
<td>.88</td>
<td>3.32</td>
<td>0.96</td>
<td>.37</td>
<td>.34</td>
<td>.32</td>
<td>.91</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>6. Social well-being</td>
<td>.88</td>
<td>2.63</td>
<td>0.68</td>
<td>.48</td>
<td>.43</td>
<td>.44</td>
<td>.81</td>
<td>.82</td>
<td>-</td>
</tr>
<tr>
<td>7. Intention to leave</td>
<td>.76</td>
<td>2.46</td>
<td>1.03</td>
<td>-.34</td>
<td>-.32</td>
<td>-.32</td>
<td>-.60</td>
<td>-.49</td>
<td>-.51</td>
</tr>
</tbody>
</table>

Note: All correlations are statistically significant ($p < 0.01$)

Table 3 shows scale reliabilities ranging from .76 to .94, which indicate acceptable internal consistencies for the scales (Raykov, 2009). The flourishing subscales’ correlations ranged from .81 to .91.

Supervisor support, namely autonomy, competence and relatedness support, was statistically significantly (practically significant, medium effect) and positively related to emotional well-being (i.e. job satisfaction and positive affect), psychological well-being (autonomy, relatedness, competence, engagement, learning, meaning and purpose) and social well-being (i.e. social contribution, social acceptance, social growth, social coherence and social integration) components of flourishing.

All dimensions of autonomy, competence and relatedness support showed the strongest correlations towards the social well-being component of flourishing. This gives an indication that supervisor support had a large effect on the social component in the work environment. Among three dimensions of support, autonomy showed the highest correlation with flourishing.

The flourishing dimensions of emotional, psychological and social well-being were statistically significantly and negatively related (practically significant, large effect) to intention to leave. It shows that intention to leave has a strong relation with all three the dimensions of flourishing and also gives an indication that flourishing at work inversely predicts intention to leave.
Supervisor support was statistically significantly and negatively related to intention to leave (practically significant, medium effect). Autonomy supervisor support showed the strongest correlation towards the intention to leave. This gives an indication that when employees feel a lack of autonomy, they are more prone to leaving an organisation.

**Testing the Structural Model**

The structural model was tested based on the measurement model. The measurement model showed a chi-square value of 1209.61 and the structural model showed a chi-square value of 1209.17 ($df = 548, p < .001$). However, the other fit statistics show an acceptable fit of the structural model to the data: $CFI = .93$, $TLI = .92$, $RMSEA = .05 [.04, .05], p > .15$, $SRMR = .07$. Table 4 shows the standardised regression coefficients of the variables.

**Table 4**

*Standardised Regression Coefficients*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Estimate</th>
<th>SE</th>
<th>Estimate/SE</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flourishing ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supervisor support</td>
<td>.42</td>
<td>.06</td>
<td>6.88</td>
<td>0.0001**</td>
</tr>
<tr>
<td>Intention to leave ON</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supervisor support</td>
<td>-.12</td>
<td>.06</td>
<td>-1.93</td>
<td>0.0500*</td>
</tr>
<tr>
<td>Flourishing</td>
<td>-.53</td>
<td>.06</td>
<td>-9.35</td>
<td>0.0001**</td>
</tr>
</tbody>
</table>

* $p < .05$

** $p < .01$

Next, the structural model is discussed regarding the hypotheses of this study (Table 4 and Figure 1).

For the portion of the model predicting *flourishing at work*, the path coefficient of supervisor support was statistically significant ($\beta = .42, p < .0001$). Supervisor support therefore predicts flourishing at work. Hypothesis 1 is accepted.
For the portion of the model predicting \textit{intention to leave}, the path coefficients of flourishing ($\beta = -0.53, p < .0001$) and supervisor support ($\beta = -0.12, p < .05$) were statistically significant and had the expected signs. Low flourishing and poor supervisor support predict intention to leave, and supervisor support relates negatively to intention to leave. Hypothesis 2 and 3 is therefore accepted.

\textbf{Figure 1.} The structural model (standardised solution with standard errors in parentheses)

\begin{itemize}
  \item $* p < .05$, $** p < .01$
\end{itemize}

\textbf{Indirect Effects}

The Hayes’s (2009) procedure was followed to determine whether any relations in the model were indirectly affected. Indirect effects was also evaluated through bootstrapping (with 10 000 samples), in order to construct two-sided bias-corrected 95\% confidence intervals (CIs). The lower and upper CIs are reported as 2.5\%. The total effect was -.34 [-.44, -.22]. The indirect effect was -.22 [-.32, -.15] and shows that supervisor support had a significant negative effect on intention to leave via flourishing at work. Hypothesis 4 is supported.

In terms of the effect sizes (Cohen, 1988), the indirect effects model accounts for the following variance: Supervisor support explained 18\% of the variance in flourishing, which shows that supervisor support has a small influence on flourishing at work. Flourishing explained 35\% of the variance in intention to leave, which confirms that a lack flourishing has a large effect on the tendency of individuals to leave organisations.
Discussion

The aim of this study was to investigate the relationship between supervisor support, flourishing at work and intention to leave. The results provided support for a model in which supervisor support predicted flourishing at work, which in turn predicted intention to leave. The results showed that supervisor support explained a relatively small percentage of the variance in work flourishing, but a lack of flourishing had a large effect on the tendency of individuals to leave organisations.

Supervisors contribute to the well-being of employees through supportive behaviour (Fouché, 2015). Supportive supervisors are those who help employees solve work-related problems, who encourage them to develop new skills, who stay informed about what employees think and feel, who praise good work, who are trusting, who encourage employees to speak up when they disagree with decisions, who treat them fairly, and who are committed to protecting employees’ interests and doing what they say they would. Findings of this study indicate that supportive supervisors can create a climate of flourishing. Supervisor support explained 18% of the variance in flourishing, and elements of supervisor support, namely autonomy, competence and relatedness support revealed a medium level of correlation with all three dimensions (i.e. emotional, psychological and social well-being) of flourishing. The highest correlation was shown towards social well-being. Social well-being is obtained through aspects of social acceptance, social growth, social contribution, social coherence and social integration – which are reinforced by social support by co-workers, supervisors and organisations. This gives an indication that supervisors should focus more on the elements of social well-being to increase intrinsic motivation and to improve relations with their subordinates, which will ultimately lead to flourishing behaviour. Various studies (Deci & Ryan, 2011; Gilbert & Kelloway, 2014; Harter & Adkins, 2015; Kahn & Heaphy, 2014; Rothmann, 2014) supported findings of supportive supervisor behaviour which could be linked to social well-being aspects. These behaviours included in supportive supervisor behaviour include providing feedback and caring about employees (autonomy support); coaching, inspiring and praising good work (competence support); and regular communication, fair treatment and building trusting relationships (relatedness support).

The results confirmed that supervisor autonomy support is crucial to predict flourishing at work. Autonomy satisfaction implies that employees perceive that they direct and determine
their own behaviour (Deci & Ryan, 2000). Academic participants therefore prefer autonomy in their work environment to enable them to flourish. Through autonomy, individuals have the freedom to make choices about their work and have influence over their workplace (Rothmann, 2014). However, it does not mean that competence and relatedness support is not important, it just indicated that these three types of support are closely related. Sufficient supervisor support will therefore assist academic staff to flourish in the academic environment.

Flourishing predicted a large percentage of the variance for intention to leave. Therefore, individuals who flourish were more inclined to remain with their organisations. This result is supported by previous research which found that low intentions to leave are explained by flourishing behaviour (Diedericks & Rothmann, 2014; Swart & Rothmann, 2012). The current challenges to retain skilled employees in higher education (HESA, 2011) can thus be addressed through interventions to increase flourishing in the work context.

Findings confirmed that supervisor support has negative relations with the intention to leave. Autonomy supervisor support showed the strongest correlations with the intention to leave, and indicates that when academics lack autonomy, they are more prone to leave an organisation. Previous research (Fouché, 2015) supported this finding and even argued that employees leave managers rather than organisations (Kouzes & Posner, 2002). If employees feel that supervisors are not supportive, they will experience less work engagement (Takawira, Coetzee, & Schreuder, 2014) and meaning in the workplace (Janik & Rothmann, 2015), which will increase their intention to leave. Supervisors should therefore focus on creating a supportive atmosphere, through especially autonomy support, in order to optimise the retention of staff.

This study confirms the value of supportive supervisor behaviour (i.e. to satisfy the need for autonomy, competence and relatedness) in understanding the association between supervisor support, work flourishing and intention to leave. Supervisors contributed to the flourishing of employees, because they provide support by listening to employees’ different points of view; they provide feedback to improve interaction; encourage employees to participate in important decisions, to speak up when they disagree with a decision, and to express their feelings. Supervisor support affected flourishing at work positively and intention to leave negatively.

Limitations of the study include the following. Firstly, the included sample only concentrated on academics; work experiences in other occupations might affect flourishing in a different
way. Secondly, the samples used to study flourishing at work in southern Africa were not representative of all cultural groups. Thirdly, data was gathered through self-reports and could possibly inflated the results. Fourthly, it was not possible to establish causality due to the usage of the cross-sectional design. Fifthly, this study may be limited by the nature of the sample and cause non-generalization. Lastly, the study only focused on employees’ perceptions of supervisors’ behaviour, and did not consider the supervisors’ perceptions of their own behaviour. Aside these limitations, the findings of this study still propose that supervisor support is beneficial in understanding the flourishing and intentions to leave of employees.

Recommendations

Supervisor support plays an important role in flourishing and the retention of employees. Addressing the needs of workers and providing them with support can assist in their flourishing and retention. Based on the results of this study, the authors recommend that organisations should invest in interventions to increase supervisor support, to have a positive effect on flourishing at work and to reduce intentions to leave.

These interventions incorporate organisational investment in training for supervisors in order to understand the importance of flourishing of employees. Supervisors need to articulate their visions and expectations to employees, and should be available to assist, support, and encourage them. Supervisors also need to consider the perspectives of employees, encourage initiative and an awareness of choice, promote learning and competence, create a sense of belonging, and be responsive to the ideas, questions and initiatives of employees (Deci & Ryan, 2008a, 2008b). Furthermore, supervisors should be prepared to improve flourishing and curb intentions to leave of employees by focusing on better support systems through different managerial practices and policies. These practices and policies include fostering open communication, enriching jobs, promoting fairness, instilling identification with the organisation, and supporting family life (Cho & Lewis, 2012; Cotton & Tuttle, 1986; Griffeth, Hom, & Gaertner, 2000; Moynihan & Landuyt, 2008; Selden & Moynihan, 2000). By focusing on these interventions, practices and policies, supportive supervisor behaviour could be enhanced, which will lead to increased flourishing and decreased intentions to leave.

Future research studies should include larger samples and be more representative in terms of cultural group diversity. Supervisor support practices should be further investigated regarding
their contribution to and impact on flourishing. Furthermore, research should focus on the designing of custom-made interventions to promote flourishing in the work environment.
References


CHAPTER 5

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

Chapter 5 draw conclusions from the study in line with the research objectives, limitations of this study are discussed and recommendations are made for the organisations. Furthermore, research opportunities stemming from this study are presented.

5.1 Conclusions

The conclusions that can be drawn from the empirical studies are documented in relation to the three research articles.

*Person-environment fit, flourishing and intention to leave in universities of technology*

The first objective of this study was to validate a multi-dimensional model of flourishing at work. The results supported a three-factor, multi-dimensional model of flourishing at work and confirmed the inclusion of the feeling well (emotional well-being) and functioning well (psychological and social well-being) dimensions. This supports the research of Keyes (2005, 2007) regarding flourishing in life and the conceptualisation of Rothmann (2013) regarding flourishing at work.

The second objective of this study was to investigate the relationship between person-environment (P-E) fit, flourishing at work and intention to leave. Flourishing has become an increasingly important concept of focus on employee well-being, which refers to both feeling well and functioning well (Keyes & Annas, 2009; Seligman, 2011). The flourishing at work concept is still relevantly new and needs to be comprehended in relevant contexts. To work towards positive employee and organisational outcomes, flourishing needs to be promoted holistically in the work environment (Keyes & Grzywacz, 2005; Keyes, 2007).

P-E fit is the interaction of the degree to which individual and environmental characteristics match. Positive outcomes such as satisfaction, performance, and overall well-being are obtained through this interaction (Ostroff & Schulte, 2007). The results confirmed that P-E fit findings related to overall well-being through flourishing at work, whereby academic
employees who experienced fit also experienced positive affect, job satisfaction and social well-being.

Flourishing at work predicted that almost a quarter of academics had intentions to leave their organisation. High turnover may be harmful to a company’s productivity if skilled and knowledgeable workers are lost on a regular basis, leaving the worker population with a high percentage of novices (Wärnich, Carrell, Elbert, & Hatfield, 2015). The manifestation of the so-called “brain drain” of academics in higher education in South African can be seen as an unquestionable aspect of concern.

The conclusion of this study is that flourishing at work comprises of holistic perspectives of emotional well-being, psychological well-being and social well-being, which can be measured with reliable and valid assessments. P-E fit predicted flourishing at work and flourishing at work inversely predicted intention to leave. Convergent validity could therefore be confirmed. Flourishing at work includes the dimensions of positive affect, negative affect, job satisfaction, autonomy satisfaction, competence satisfaction, relatedness satisfaction, learning, meaning and purpose, cognitive engagement, emotional engagement, physical engagement, social contribution, social acceptance, social growth, social coherence and social integration (Rautenbach, 2015). Flourishing at work was contextualised from comprehensive research on theoretical models of flourishing done by various researchers (Diener et al., 2010; Huppert & So, 2013; Keyes, 2002; Noble & McGrath, 2015; Seligman, 2011), which confirmed the conceptualisation of flourishing as a multi-dimensional phenomenon. The mean score descriptive statistics on flourishing dimensions showed that the lowest scores were obtained on relatedness and social well-being. On the other hand, the highest scores were obtained on competence and emotional engagement. Approximately a quarter of academics showed an intention to leave. The best-fitting measurement model 1 showed a chi-square value of 2726.20 and the best-fitting structural model 2 showed a chi-square value of 2169.45. The scale reliabilities indicated acceptable internal consistencies for the scales and ranged from .58 to .94. Person-environment fit explained 47% of the variance in flourishing, while flourishing explained 36% of the variance for intention to leave. Evidence thus shows that P-E fit makes an important contribution to the flourishing of academics in higher education, and flourishing can assist in the challenge to retain skilled staff.
The third objective of the study was to investigate psychometric properties of the Flourishing-at-Work Scale–Short Form (FAWS-SF; Rautenbach, 2015).

Like the previous finding, the FAWS-SF scale of flourishing at work also supported a three-factor structure, namely emotional, psychological and social well-being. The three dimensions confirmed the findings of similar dimensions on the long questionnaire of work flourishing. Subsequently, this aligns to Keyes’ theoretical model of well-being (Keyes, 2002) and confirms the flourishing model suggested by Rothmann (2013). Results from this study revealed that 12.4% of the sample was languishing, 44.5% demonstrated moderate levels of flourishing, while the remaining 43.1% was flourishing in the work context. Another study (Rautenbach, 2015) done with the FAWS-SF scale on work flourishing found that 8% of the sample was languishing, 65.15% demonstrated moderate levels of flourishing, while 34.9% was flourishing. Two other studies done on flourishing at work used the Mental Health Continuum–Short Form (MHC-SF; Keyes, 2009), designed to measure flourishing in general life. These results showed that, respectively, 3% and 3.9% were languishing, 48.5% and 58.5% were moderately mentally healthy, while 48.5% and 37.6% of the participants were flourishing (Diedericks & Rothmann, 2014; Swart & Rothmann, 2012). Compared to the studies done with MHC-SF, both this study and the Rautenbach (2015) study showed that fewer employees flourished and more employees languished.

The fourth objective was to investigate the associations among job demands and resources and flourishing, and the effects of job demands and resources on the individual performance of employees. Job demands and job resources incorporate a wide range of working conditions into the analysis of organisations and employees. The Job Demands-Resources (JD-R) model includes both negative and positive indicators and outcomes of employee well-being (Bakker, Demerouti, & Sanz-Vergel, 2014; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Demerouti & Bakker, 2011). The findings of the study confirmed some of these different indicators and outcomes.

The results showed that workload (as job demand) did not predict work flourishing or languishing, but did show a small negative correlation to emotional, psychological and social well-being (flourishing) dimensions. This affirms the finding of Bowling, Alarcon, Bragg, and
Hartman (2015) that workload negatively relates to psychological well-being, which deemed workload as a stressor that may impair well-being.

Role clarity as resource predicted flourishing at work. Employees, who comprehend their role clarity, experience meaning at work and a purpose within the organisational context (Steger, Littman-Ovadia, Miller, Menger, & Rothmann, 2013). Role clarity helps academics to adapt to the dynamic environment of higher education and assists them to take control of their work performance.

Remuneration (as a job resource) did not predict flourishing of the participants. The outcome can be clarified by the self-determination theory of Deci and Ryan (1985, 2000). This theory explains that extrinsic motivation does not modify the emotional or cognitive desires that underlie behaviour in a desirable direction, and therefore does not always have a direct impact on a person’s well-being.

Another interesting finding was that the resource of advancement predicted flourishing. Advancement is the ability to move forward and grow within an organisation (Rothmann, Mostert, & Strydom, 2006). Evidently, academics of the researched organisations experience sufficient advancement opportunities, which may prove beneficial in the long run.

Co-worker support (as job resource) predicted flourishing at work. Co-worker support was found to increase job satisfaction, enhance performance and functioning, generate meaning and contribute to work engagement (Nielsen, 2015; Rothmann, 2014, 2015). This supports the social exchange theory of Blau (1964), which explains the effects that relationships at work have on well-being and shows that relationships can be mutually beneficial. This confirms that the co-worker support resource is beneficial to both the individual and the organisation, thus reinforcing employee flourishing.

Flourishing at work predicted individual performance. This finding is supported by Taris and Schaufeli (2015) who found that individual well-being and performance at work affect each other, while Oswald, Proto, and Sgroi (2014) found that people classified as flourishing at work were more productive at work. Thus, if employees flourish, they will achieve higher levels of individual performance.
The conclusion of this study is that work flourishing consists of emotional well-being, psychological well-being and social well-being that can be measured with reliable and valid assessments. The availability of various job resources, such as role clarity and co-worker support, empowered academic employees to flourish. The mean score descriptive statistics on flourishing dimensions showed that the lowest scores were obtained on social well-being. Analysis showed that 12.4% of academics were languishing, 43.1% were flourishing, and 44.5% were experiencing moderate well-being at work. The best-fitting measuring model 1 and the structural model both showed a chi-square value of 1942.51. The scale reliabilities indicated acceptable internal consistencies for the scales and ranged from .73 to .90. Job resources explained 78% of variance in flourishing, while flourishing explained 14% of the variance in individual performance. Understanding human well-being allows for a better understanding of how to generate positive workplace returns, such as higher performance and productivity (Oswald et al., 2014; Taris & Schaufeli, 2015). Organisations should therefore be willing to invest in resources to increase flourishing.

**Supervisor support, flourishing and intention to leave in universities of technology**

The fifth objective of the study was to investigate the associations between supervisor support and flourishing, and the effects of supervisor support and flourishing on intentions to leave. Supervisor support was found to affect psychological need satisfaction and well-being of employees, as well as having an impact on their intentions to leave (Fouché, 2015; Graves & Luciano, 2013; Harter & Adkins, 2015).

Findings revealed a positive relationship between supervisor support (i.e. autonomy, competence and relatedness) and flourishing at work. Supervisor autonomy support showed the largest positive effect on flourishing. If academics feel they have more freedom to direct and determine their work and work environment, they will experience higher levels of flourishing. This will further support developing their social identity within higher education. On the other hand, a lack of support will lead to negative outcomes such as lower levels of satisfaction, engagement, meaningfulness and commitment of employees (Danielson, 2002; Janik & Rothmann, 2015; Takawira, Coetzee, & Schreuder, 2014).

Flourishing at work inversely predicted intention to leave, which indicated that employees who flourish were more inclined to remain with their organisations. High attrition rates within the
academic profession have been identified as a major concern in higher education in South Africa (HESA, 2011). Some research (Diedericks & Rothmann, 2014; Seligman, 2011) showed that higher levels of certain aspects of flourishing lead to a decrease in intention to leave. Findings also showed that supervisor support has negative relations with intention to leave. This is supported by studies (Gu & Day, 2013; Harter & Adkins, 2015; Janik & Rothmann, 2015) that found that low levels of supervisor support lead to an increase in intention to leave. However, studies on the retention of academics, in particular the effects of supervisor support, work flourishing and intention to leave higher education, are very limited. This lack of information may therefore be seen as a challenge to establish practices and interventions to retain skilled employees in higher education.

The conclusion for this study confirms that supervisor support (i.e. autonomy, competence and relatedness) affects flourishing at work, while both aforementioned aspects also affect intentions to leave. Autonomy, competence and relatedness supervisor support showed the strongest correlation with social well-being. Supervisor support was significantly and negatively related to the intention to leave. Supervisor support also indirectly affects intention to leave via flourishing. The best-fitting measurement model 3 showed a chi-square value of 1068.14 and the structural model showed a chi-square value of 1068.13. The scale reliabilities indicated acceptable internal consistencies for the scales and ranged from .76 to .94. Supervisor support explained 18% of the variance in flourishing, while flourishing explained 35% of the variance for intention to leave. Although diagnosing the motivation and support of employees is complex and challenging (Bono & Judge, 2003; Thomas, 2000), the study confirms that the availability of supervisor support inspires academic employees to flourish. It is therefore believed that supervisor support is of the utmost importance to keep academics flourishing and to ensure that good academics are retained.

5.2 Integration and Contribution of this Study

This study made the following contributions to the field of positive psychology, a concept that focuses on more positive aspects such as positive organisations and individual characteristics which improve well-being (Seligman, 2002).

First, it resulted in validated models of flourishing for employees. This validation is deemed important due to the fact that measuring scales for flourishing at work (i.e. FAWS, FAWS-SF)
were only recently developed by Rautenbach (2015). Hence, reliability and validity of these scales need to be analysed and explored further by not only exploring their psychometric properties, but also convergent and divergent validity. Work flourishing is also measured and tested in a different environment than general life flourishing. Flourishing at work requires scales which can measure work-related factors and dimensions applicable to the work environment and not general life. Measurement of these work-related dimensions will make it easier to recommend relevant interventions to employers. Furthermore, research on the validation of models of work flourishing is crucial because very little empirical knowledge on outcomes, relations and variables exists in relation to the multi-dimensional concept of flourishing at work. The current study is also only the second study to utilise the FAWS-SF (Rautenbach, 2015) scale to allow for categorisation of levels of well-being (i.e. languishing, moderating and flourishing), similar to the three classes used by Keyes (2002, 2005, 2007) to assess positive mental health.

Second, new information was created regarding the relationship between work flourishing, person-environment fit and intention to leave. Only one study (Rautenbach, 2015) could be found on research relating to the full spectrum of work flourishing dimensions measured through a work-related measurement scale. In this research, the author focused on the psychometric properties of the measurement scale (i.e. FAWS), but did not study outcome variables such as intention to leave in relation to flourishing at work. Hence, the current study aimed to analyse the reliability and validity of the FAWS further by exploring not only its psychometric properties, but also convergent and divergent validity. Higher education in South Africa is experiencing challenges in retaining key and talented academic staff (HESA, 2011); therefore new knowledge to optimise the potential of staff members and to retain staff will be beneficial for universities. Thus, this study is necessary to study the flourishing and fit of academics in their jobs and organisations.

Third, it resulted in new scientific information regarding the relationship between work flourishing, antecedents (demand and resources) in the workplace and individual performance. Only one study was found that related job demands and resources to flourishing at work. In this study Rautenbach (2015) studied the impact of specific job-related demands (workload, negative work-home interaction, and job insecurity) and job resources (compensation, advancement, and leadership) on flourishing at work. Due to the limited available research, more research in different environments and occupations is needed regarding the effect of job
demands and resources, which will prove beneficial in the understanding of work flourishing relations. This study therefore contributed to literature on the relationship between work flourishing and workload as a job demand, and on four job resources, namely role clarity, remuneration, advancement, and co-worker support of academic employees. Furthermore, no studies relating the multi-dimensional flourishing-at-work concepts to individual performance for academics could be found, and this study addressed this shortcoming in flourishing research.

Fourth, new information was created regarding the relationship between work flourishing, supervisor support and intention to leave. Over and above the studies on antecedents of flourishing in life (Keyes, 2013), scientific information is needed regarding the factors that contribute to flourishing in work and organisational contexts. No research between supervisor support and the combined dimensions of flourishing at work could be found; scientific information, such as obtained in the current study, was therefore needed. It is known that supervisor behaviours and flourishing play a significant role in the retention of employees (Awang, Ibrahim, Nor, Razali, Arof, & Rahman, 2015; Harter & Adkins, 2015), which is a major challenge for higher educational organisations in South Africa (HESA, 2011). Subsequently, it will be beneficial to identify the underlying mechanisms through which supervisor and flourishing behaviours affect academic employees’ intention to leave. The current study therefore sought to contribute to the limited literature on flourishing in the work context, and specifically regarding the influence of supervisor support on flourishing and intention to leave of academic staff in universities of technology.

5.3 Limitations

Firstly, this study was conducted at only three higher education institutions in South Africa and generalization to the entire South African workforce could not be reached. Different types of organisations should be included to assess the validity, reliability and invariance of the measurement of flourishing in organisational contexts, in order to ensure generalizability.

Secondly, ongoing research is needed to refine the validity and reliability of a new measurement tool, due to the fact that limited information and research findings is available in this regard.
Thirdly, the study relied on self-report to measure the intended variables. Inflation of results may occur (Taris, 2006), due to the subjective nature of self-reporting.

Fourthly, as a result of the cross-sectional research design, the causality of relationships cannot be assumed or determined. This study, however, viewed the cross-sectional design as a good design to measure the validity and reliability of newly developed measuring instruments, as this design is favourable in such instances. In future, other designs may be used to do more in-depth, longitudinal and qualitative research.

Finally, only a limited number of resources and demands in the workplace were measured. Other potential factors of resources and demands should be investigated.

5.4 Recommendations

5.4.1 Recommendations to Solve the Research Problems

Various aspects should be addressed to ensure the promotion of flourishing among employees in the workplace. Investigating flourishing from a holistic perspective is crucial. The effects of the work environment on employee flourishing represent a critical focus area that can result in benefits for the employee, the organisation, and the country (Russell, 2008). A shift in attitudes is therefore necessary to ensure that employers and employees recognise the key role the workplace can play in promoting flourishing of employees.

Firstly, ongoing research on the psychometric properties of the Flourishing-at-Work Scale (FAWS) and FAWS-SF is needed. Although this research yielded satisfactory results, studies regarding the convergent, discriminant and criterion-related validity of the FAWS and FAWS-SF are also essential.

Secondly, to stimulate flourishing, the focus should be on interventions that will create a work environment that is favourable towards promoting P-E fit, job resources, supervisor support and flourishing of employees.

• With relation to P-E fit, human resource practitioners and industrial psychologists should consider interventions focusing on recruitment and selection practices, coaching and
orientation programmes for newly appointed staff, and diversity training workshops. When employees experience fit, they sense organisational belongingness, congruence with their own values, better social interaction and, ultimately, experience well-being (Shipp & Jansen, 2011; Su, Murdock, & Rounds, 2015).

- Regarding job demands and resources, employers should invest in interventions to increase job resources. The JD-R model shows that job resources are motivational in nature; if resources are increased, employees will be more engaged and perform better (Bakker & Demerouti, 2007; Bakker et al., 2014). Increased job resources will therefore have a positive impact on flourishing and performance of employees.

- Interventions towards supervisor support should include the investment in training for supervisors to understand employees better, to encourage initiatives and an awareness of choice, to promote learning and competence, to create a sense of belonging, and to be responsive to the ideas and questions of employees (Deci & Ryan, 2008a, 2008b). Furthermore, supervisors should be prepared to utilise proven effective managerial practices and policies, such as fostering open communication, enriching jobs, promoting fairness, instilling identification with the organisation, and supporting family (Cho & Lewis, 2012; Cotton & Tuttle, 1986; Griffeth, Hom, & Gaertner, 2000; Moynihan & Landuyt, 2008; Selden & Moynihan, 2000), to increase flourishing and decrease intentions to leave.

- Flourishing-specific interventions of employees should focus on training programmes, counselling opportunities, assessment and evaluation, career conversations, resilience training, and positive social relationships. Higher levels of flourishing will enable employees to positively contribute to individual, group and organisational success.

**5.4.2 Recommendations for Future Research**

The following recommendations are made for future research:

- Continuous studying of the psychometric properties of the FAWS and the FAWS-SF is imperative for refining purposes.
• The ongoing research of the psychometric properties of the FAWS and FAWS-SF should further be studied within the different work environments to assess the validity and generalisation thereof.

• Flourishing in the workplace should also include longitudinal studies to determine the lasting effects of flourishing behaviours.

• Larger and more culturally diverse samples could be included to be more representative of the South African context.

• Work-related outcomes as a result of flourishing should be further investigated.

• Future studies should investigate the relationship between more work antecedents (job demands and resources) and work flourishing.

• Supervisor support practices should be further investigated regarding their impact on and contribution to flourishing.

• Future studies should focus on the design of interventions specifically tailored for promoting flourishing in the workplace.
References


ADDENDUM A
DECLARATION FROM LANGUAGE EDITOR

REVISION OF THESIS

I, WH Cloete, SATI-accredited translator and text editor, hereby declare that I have edited Christine Janse van Rensburg’s thesis entitled

*Flourishing of academics in universities of technology.*

Certain alterations and corrections have been suggested.

Yours faithfully

WH CLOETE

BBibl, MA, APTrans & APEd (SATI)
ADDENDUM B: ETHICAL APPROVAL CERTIFICATE

24 March 2015

Dear Prof. S Rothmann

ETHICS APPLICATION: J V RENSBURG [NWU-HS-2014-0126]

“FLOURISHING OF ACADEMICS IN UNIVERSITIES OF TECHNOLOGY”

Ethical approval is recommended.

Best regards,

Prof. L.C. Theron
CHAIR: OREC

Prof. T Khumalo
Co-Chair: OREC
ADDENDUM C: PERMISSION LETTERS FOR THE STUDY

Research Ethics Committee

The TUT Research Ethics Committee is a registered Institutional Review Board (IRB 0000039X6) with the US Office for Human Research Protections (DHHS 0801-1651) (Expires 9 Jan 2017). Also, it has Federal Wide Assurance for the Protection of Human Subjects for International Institutions (FWA 0011551) (Expires 31 Jan 2018). In South Africa it is registered with the National Health Research Ethics Council (REC 44020139-E1).

February 23, 2015

Ms C Janse van Rensburg
C/o Prof S Rothmann
Vaal Triangle Campus
North-West University

Dear Ms Janse van Rensburg,

Decision: Final Approval

Name: Janse van Rensburg C
Project title: Flourishing of academics in Higher Education Institutions
Qualification: PhD Industrial Psychology, North-West University
Supervisor: Prof S Rothmann
Co-supervisor: Dr E Diedericks

Thank you for submitting the revised project documents and clarifications for ethics clearance by the Research Ethics Committee (REC), Tshwane University of Technology (TUT). In reviewing the documents, the comments and notes below are tabled for your consideration, attention and notification:

- **Work-related Wellbeing Questionnaire**
  - Biographical Survey, Item 7, Organisation. The clarification on the inclusion of this item is in order and duly noted.
  - Biographical Survey, Item 11, Ethnicity. The adjustment of the Race categories in accordance with guidelines of Statistics South Africa (Black African, White, Coloured, Indian, Asian) is in order and duly noted.

We empower people.
Biographical Survey, Item 12, Home Language. The revised item in which all eleven official languages have been included as response options is in order and duly noted.

Informed Consent Document

"Explanation of procedures": The substitution of the construct latent variable design with survey is in order and duly noted.

NWU Ethics Clearance

The Committee took note that a copy of the final NWU ethics approval will be submitted to the TUT REC as soon as it is available.

The Chairperson of the Research Ethics Committee (REC) of Tshwane University of Technology (TUT) reviewed the Notifications and revised project documents on Feb 23, 2015. Final approval is granted to the project. The decision will be tabled at the next REC meeting on March 16, 2015 for ratification.

The proposed research project may now continue with the following provisions that:

1) The researcher(s) will conduct the study according to the procedures and methods indicated in the approved proposal, particularly in terms of any undertakings and/or assurances made regarding the confidentiality of the collected data.
2) The proposal will again be submitted to the Committee for prospective ethical clearance if there are any substantial changes from the approved proposal.
3) The researcher will act within the parameters of any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.
4) The current ethics approval expiry date for this project is December 31, 2017. No research activities may continue after the ethics approval expiry date. Submission of a duly completed Research Ethics Progress Report (available at: http://www.tut.ac.za/Other/minews/ResearchEthicsCommittee/Pages/default.aspx) will constitute an application for renewal of REC ethics approval.

Note: The reference number (top right corner of this communiqué) should be clearly indicated on all forms of communication (e.g. Webmail, E-mail messages, letters) with the intended research participants.

Yours sincerely,

WA HOFFMANN (Dr)
Chairperson: Research Ethics Committees
(Ref#2014-06-001=JohannesburgC)

We empower people
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<th>** Applicant:**</th>
<th>Me Christine Janse van Rensburg</th>
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<td><strong>Project:</strong></td>
<td>Flourishing of Academics in Universities of Technology</td>
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<td><strong>Institution:</strong></td>
<td>Vaal University of Technology</td>
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Approved by: [Signature]  
Date: 26/02/15  
Chairperson: Research & Innovation Ethics Committee
TO: MRS CHRISTINE JANSE VAN Rensburg (Student number: 25602616)

COMPiled BY: ACADEMIC PLANNING

SUBMITTED BY: DR DARYL BALIA

DATE: 04 JUNE 2014

SUBJECT: PERMISSION TO CONDUCT RESEARCH: FLOURISHING OF ACADEMICS
IN HIGHER EDUCATION INSTITUTIONS

Dear Mrs C Janse van Rensburg

This is to confirm that you have been granted permission for research/study and access to data at the CUT in connection with your registered study programme.

The conditions of the permission are:

- The survey will not interrupt any of the official activities at the CUT;
- You will supply us with the copy of your report;
- The cost of all related activities will be covered by yourself;
- Recruitment of participants is the sole responsibility of yourself;
- Voluntary nature of the potential participant's decision to consent to participate should be strictly observed;
- You should not disclose a potential participant's decision to participate or otherwise to any other party;
- Permission does not compel, in any sense, participation of staff members or students in your survey.

DIRECTOR: ACADEMIC PLANNING

DR DM BALIA