Validation and investigation of the Quality of Work-Life Scale within selected South African manufacturing organisations

V Els

orcid.org/0000-0002-7059-2262

Dissertation accepted in fulfilment of the requirements for the degree Master of Commerce in Human Resource Management at the North-West University

Supervisor: Dr M Brouwers

Co-Supervisor: Ms RB Lodewyk

Graduation: May 2020

Student number: 23461322

COMMENTS

The following remarks should be acknowledged in advance:

- The editorial style and references of this dissertation made use of the Publication Manual of the American Psychological Association (APA, 6th edition). The practice is aligned with the policy of the Program in Human Resources Management of the North-West University (Potchefstroom Campus) in all scientific documents since January 1999.
- The dissertation was submitted in the form of two articles. The editorial style is quantified in accordance with the *South African Journal of Human Resource Management* (*SAJHRM*), as it associates with a large part of the APA style. The APA guidelines were followed when constructing the tables.

DECLARATION

I, Vernise Els, hereby declare that, **Validation and investigation of the Quality of Work-Life Scale within selected South African manufacturing organisations** is my own work and that the opinions, views and feelings expressed in this dissertation are those of the authors and extracted from relevant literature references as presented in in the reference list.

Furthermore, I declare that this dissertation was not and will not be submitted for another qualification at any other tertiary institute.

Vernise Els

November 2019

DECLARATION FROM LANGUAGE EDITOR

WELLINGTON

7655
18 November 2019

TO WHOM IT MAY CONCERN:

I hereby confirm that the MCom dissertation *Validation and investigation of the Quality of Work-Life Scale within selected South African manufacturing organisations* by Ms V Els (student no: 23461322) was edited and groomed to the best of my ability. The processing included recommendations to improve the language and logical structure, guide the line of argument as well as to enhance the presentation. I am satisfied that, provided my changes to the text and my recommendations are implemented, the language would be of a standard fit for publication.

Rev Claude Vosloo
Language and knowledge practitioner and consultant

Home of Creativity/Kreatiwiteitshuis
http://homeofcreativity.co.za/info

ID: 590806 5146 085
South African Translator's Institute reference no: 100 2432
Associate Member of PEG (Professional Editor's Guild)

Home of Creativity ULTD

Don't think outside the box, reinvent the box

ACKNOWLEDGEMENTS

First and foremost, I want to give thanks to my heavenly Father: thank you Lord for blessing me with the wisdom, strength and guidance to complete the dissertation. Without You nothing would be possible.

I would like to show gratitude to the following individuals who guided and supported me through my dissertation:

- My supervisor, Dr Marissa Brouwers, a special thank you for your assistance, patience, support, time and shared knowledge throughout this journey and for guiding and encouraging me until the end. I am extremely grateful to have you as supervisor.
- My co-supervisor, Ms Roslyn Lodewyk, thank you for your time in assisting with all the chapters.
- My parents, Vernon and Denise Els, thank you for all the love, support and motivation over the years and providing me with the opportunity to pave my road to success. It is appreciated.
- My Loving friend, Dimitri Lombaard, thank you for the love and support you have given me over the years. From day one you encouraged and believed in me. For that I will be forever grateful.
- To Modiri Health Employees, thank you for the encouragements and prayers you have given me over the past year to complete my mini dissertation.
- To all participants and organisations that participated in the study, your contributions are highly appreciated.
- Prof Suria Els, thank you for helping me with my statistical procedures for this study.
- Rev Claude Vosloo, thank you for the professional language and technical editing of this mini dissertation.

TABLE OF CONTENTS

LIST OF FIGURES

CHAPTER 3: RESEARCH ARTICLE 2

LIST OF TABLES

CHAPTER 2: RESEARCH ARTICLE 1

CHAPTER 3: RESEARCH ARTICLE 2

SUMMARY

Title:

Validation and investigation of the Quality of Work-Life Scale within selected South African manufacturing organisations

Keywords: Quality of work life, Quality of Work Life scale, turnover intention, organisational commitment, affective commitment, normative commitment, continuance commitment, mediator, reliability, validity, manufacturing organisation, South Africa

Quality of work life plays a vital role in the performance and growth of an organisation and its employees. Quality of work life entails the degree to which employees' personal and working needs are met while working in the organisation. There is criticism that the manufacturing industry does not provide opportunities for employees to fulfil their personal and working needs. Thus, by improving the quality of work life of employees, the organisation will be able to deal with the stressors surrounding the criticism. However, to date there are no evidence that a measurement for quality of work life was validated in the South African context. As a result, the applicability of this construct and the impact of improving the quality of the work life for employees within selected South African organisations is unknown.

The present study postulated that organisations implementing strategies and interventions to improve quality of work life and organisational commitment, will decrease the level of turnover intention, which may lead to improved performance, higher profitability and increased growth of the organisation – and benefit employees. Therefore, it is important to create awareness on quality of work life, organisational commitment and turnover intention among organisations and employees alike. Currently, however, there is a lack of research on the relationship between quality of work life, organisational commitment and turnover intention among employees within selected South African manufacturing organisations. Therefore, it is important to investigate these relationships.

The general objective of this study initially was to determine the psychometric properties of the Quality of Work Life scale, in terms of its validity and reliability, in the South African context. A further aim was to determine the relationship between quality of work life, organisational commitment and turnover intention; and whether organisational commitment mediates the relationship between quality of work life and turnover intention among employees within selected South African manufacturing organisations. The study used a cross-sectional research design. A combined convenience and purposive non-probability sampling technique was utilised (N = 400) to collect data within manufacturing organisations. Descriptive statistics (i.e. means standard deviation, skewness and kurtosis) as method was used to analyse the data. Exploratory factor analysis was done to determine whether the Quality of Work Life scale was valid in the South African context, through investigating the item loading. Furthermore, convergent validity was

determined by investigating the relationship between all nine dimensions of the mentioned scale. The reliability of the constructs was also calculated through Cronbach's alpha coefficients. The data were analysed through inferential statistics (i.e. confirmatory factor analyses, correlations, multiple regression analyses and structural equation modelling) as tested by the IBM SPSS and AMOS programmes.

The results indicated that not all 50 items of the Quality of Work Life scale have high corrected item - total correlations, therefore, three of the 50 items were removed. From the Quality of Work Life scale, (with 47 items), all nine dimensions were investigated further, namely: working environment, organisational culture and climate, relations and co-operations, training and development, compensation and rewards, facilities, job satisfaction and job security, autonomy of work and adequacy of resources. For all these dimensions, acceptable levels of reliability were found, as well as positive interrelationships.

The results provided evidence that all the mentioned nine dimensions of quality of work life have a significant negative relationship (with large effect) with turnover intention. Furthermore, it was found that quality of work life significantly predicts organisational commitment and turnover intention. The results also indicated that organisational commitment partially mediates (with medium effect) the relationship between quality of work life and turnover intention. The findings thus confirmed that organisations developing strategies and interventions to increase the levels of quality of work life and organisational commitment, will not only experience increased performance among employees; the organisation's performance as a whole will improve significantly.

To round off the study, conclusions were drawn, and recommendations made for future research and practice.

OPSOMMING

Titel:

Validering en ondersoek na die Gehalte-van-werklewe-skaal by werknemers in geselekteerde Suid-Afrikaanse ondernemings.

Sleutelwoorde:

Gehalte van werklewe, Kwaliteit-van-werkslewe-skaal, omsetintensie, organisatoriese toewyding, affektiewe toewyding, normatiewe toewyding, deurlopende toewyding, bemiddelaar, betroubaarheid, geldigheid, onderneming, Suid-Afrika.

Gehalte van werklewe speel 'n belangrike rol in die prestasie en groei van 'n organisasie en die werknemers daarvan. Gehalte van werklewe verwys na die mate waartoe in werknemers se persoonlike en werkbehoeftes voldoen word terwyl hulle by die organisasie in diens is. Daar is kritiek dat die ondernemings nie geleenthede bied vir werknemers om hulle persoonlike en werkbehoeftes te bevredig nie. Gevolglik sal organisasies die gehalte in werknemers se werkslewe kan verhoog en die stressors hanteer waarop die kritiek wys. Nogtans is daar tot dusver geen bewyse dat 'n skaal metingsinstrument in die Suid-Afrikaanse konteks geldig gevind is om gehalte van werkslewe te meet nie. Gevolglik is die toepaslikheid van hierdie konstruk en die uitwerking van verhoogde gehalte in die werkslewe binne 'n Suid-Afrikaanse konteks tot dusver onbekend.

Die huidige studie postuleer dat organisasies wat strategieë en intervensies instel om die gehalte van werkslewe van werknemers en hulle organisatoriese toewyding te verbeter, die omsetintensie sal verlaag, wat bydra tot prestasie, winsgewendheid en groei van die organisasie – wat ook die werknemers sal baat. Daarom is dit belangrik om bewustheid te skep oor gehalte van werkslewe, organisatoriese toewyding en omsetintensie onder beide organisasies en werknemers. Tans is daar egter 'n gebrek aan navorsing oor die verhouding tussen gehalte van werklewe, organisatoriese toewyding en omsetintensie onder werknemers binne Suid-Afrikaanse ondernemings. Gevolglik is dit belangrik om hierdie verhoudings te ondersoek.

Die algemene doelstelling van hierdie studie was om die psigometriese eienskappe van die Gehalte-van-werklewe-skaal vas te stel in die Suid-Afrikaanse konteks, betreffende die geldigheid en betroubaarheid daarvan. Die studie het verder beoog om die verhouding tussen gehalte van werklewe, organisatoriese toewyding en omsetintensie vas te stel asook of organisatoriese toewyding die verhouding tussen gehalte van werklewe en omsetintensie bemiddel onder werknemers binne die genoemde Suid-Afrikaanse konteks. Hiervoor is 'n dwarssnitnavorsingsontwerp gebruik. 'n Gekombineerde tegniek van gerieflikheids- en doelgerigte nie-waarskynlikheidsteekproefneming is gebruik (N = 400) om die data te versamel binne die genoemde ondernemings. Beskrywende statistiek (d.w.s. standaardafwyking, gemiddeld, skeefheid en kurtose) is gebruik om die data te analiseer. Ondersoekfaktoranalise is gedoen

om vas te stel of die Gehalte-van-werklewe-skaal geldig in die Suid-Afrikaanse konteks is, deur die lading van elke item te ondersoek. Voorts is konvergente geldigheid gebruik om die verhouding tussen al nege dimensies van die genoemde skaal vas te stel. Die betroubaarheid van die konstrukte is ook deur Cronbach se alfa-koëffisiënte bereken. Die data is geanaliseer deur inferensiële statistiek (d.w.s. bevestigende faktoranalise, korrelasie, meervoudige regressie-analise en strukturele vergelykingsmodellering) soos getoets deur die programme van IBM SPSS en AMOS.

Die resultate het aangedui dat nie al 50 items van die genoemde skaal hoë gekorrigeerde item-totale korrelasie het nie, daarom is drie van die 50 items verwyder. Al nege dimensies van die Gehalte-van-werkslewe-skaal (met 47 items) is verder ondersoek, naamlik: werksomgewing, organisasiekultuur en -klimaat, verhouding en samewerking, opleiding en ontwikkeling, vergoeding en belonings, fasiliteite, werktevredenheid en werksekuriteit, outonomie van werk en voldoende hulpbronne. Aanvaarbare vlakke van betroubaarheid en positiewe tussenverhoudings is gevind.

Die resultate bewys dus dat ál nege dimensies van die konstruk gehalte van werkslewe 'n aansienlik negatiewe verhouding (met groot effek) met omsetintensie het. Voorts is bevind dat gehalte van werkslewe aansienlike vlakke voorspel van organisatoriese toewyding en omsetintensie. Die resultate toon ook dat organisatoriese toewysing die verhouding tussen gehalte van werklewe en omsetintensie bemiddel (met 'n medium-effek). Die bevindings bevestig dus dat organisasies wat strategieë en intervensies ontwikkel om die gehalte van werkslewe en organisatoriese toewyding te verhoog, nie slegs verhoogde prestasie onder werknemers sal ervaar nie; die organisasie se prestasie in geheel sal aansienlik verbeter.

Om af te rond, is gevolgtrekkings gemaak en aanbevelings vir toekomstige navorsing en die praktyk gelewer.

CHAPTER 1

INTRODUCTION

INTRODUCTION

The present study assessed the validity and reliability of the Quality of Work Life scale within the South Africa context. Furthermore, the study investigated the relationship between quality of work life and turnover intention, mediated by organisational commitment, among employees within the South African manufacturing industry.

This chapter introduces the problem statement and discusses the research objectives and expected contributions of the present study. The chapter explains the research methods that was used and conclude by outlining the chapter division.

1.1 Problem statement

The manufacturing industry plays a vital role in the current global market and can be considered as the fourth-largest sector within South Africa (Rodseth, 2016). According to the Industrial Development Cooperation (IDC) report ending March 2016, the manufacturing industry contributes 13% of the gross domestic product (GDP). In terms of trading economics, the South African manufacturing production shortened 3.6% in February 2017, after a market fall of 0.45% (Trade Economics, 2017). The manufacturing industry represents this country's economic engine and serves as the catalyst for prosperity (Rodseth, 2016). However, the mentioned industry is faced with certain challenges centred on productivity, labour issues, skills, efficiency, costs and new technology, which may cause a decline in growth within this industry (Makhene, 2015). Most jobs in the manufacturing industry can be considered as simple, repetitive in nature, lacking innovation and do not require high levels of mental effort. Therefore, such jobs are viewed as less creative and employees do not experience challenges in their work (Ashwini & Varma, 2016).

Since the beginning of the 21st century, organisations in South Africa developed rapidly, which implied that employees were impacted by stressors such as job insecurity, change, insufficient knowledge, lack of control, discomfort in the work environment and inadequate communication (Islam, 2012). Kiriago and Bwisa (2013) identify restructuring and work reengineering as basis of development to improve the organisation. Employees contribute a certain amount of their life time to the organisation, seeking to achieve personal as well as organisational goals (Rose, Beh, Uli & Idris, 2006). Therefore, it is important that employees experience a sound balance between their personal and professional goals while dealing with stressors from within the organisation (Kiriago & Bwisa, 2013).

In practice, employees are unable to balance their work and personal goals while having to deal with stressors. Therefore, the Human Resource Department (HRD) of an organisation has the responsibility to ensure individual employees enjoy quality of work life (Srivastava & Kanpur, 2014). This mentioned quality

entails the degree employees, while working in an organisation, can satisfy their personal and basic needs through their experience of the particular organisation (Brindha, 2013). The HRD can secure quality of work life through various methods such as employee training, communication, feedback on an attitude survey, assisting on personal development and by winning the support of key managers (Srivastava & Kanpur, 2014). The HRD is responsible to help improve firm-level performance and the well-being of individual employees – in this case, the quality of work life among employees within the manufacturing industry (Macduffie, 2011). The latter industry presents a wide spectrum and must have an HRD available to improve the quality and satisfaction of individual employees (Arthur, 2015).

The majority of employees feel that their needs are not met in the manufacturing industry, an attitude which may cause the industry severe harm (Rodríguez & Ventura, 2003). According to Pickering (2016), all employees should feel fully engaged in their workplace and have opportunities to accomplish personal as well as work goals. The industry has been accused of a tendency that they fail to provide employees with optimum opportunities to fulfil their personal and work needs (Samanufacturing, 2016). It is important to measure the quality of work life, which will help the industry improve and gain knowledge on helping individual employees fulfil personal and work needs (Layer, Karwowski & Furr, 2009). The manufacturing industry must be able to improve the quality of work life of each employee. In other words, the industry must engage in the process that enables its employees at the various levels to participate actively in forming the organisation's environment and methods (Havlovic, 1991). The aim of the mentioned process is to improve the effectiveness of the organisation and enhance employees' quality of life at work (Havlovic, 1991).

Employees who experience a high level of quality in their work life will demonstrate a positive attitude towards people, their job and the organisation (Saraji & Daragahi, 2006). The right way of thinking would be concern for former employees and the organisation's effective functioning. The appropriate focus would also be to participate in positive problem solving and decision-making for the organisation (Saraji & Daragahi, 2006). High levels of work life quality are described in a general and organisational approach (Afsar, 2014). The general approach focuses on the physical, social, psychological and economical satisfaction of individual employees within the organisation (Afsar, 2014). On the other hand, the organisational approach concerns the effective operation of working goals that each employee reaches (Afsar, 2014). Quality of work life can be understood as satisfying employees' higher needs in the organisation, compared to their basic needs. In this regard, it is imperative that the organisation develops an environment and climate in which employees feel the need to succeed and perform in their work (Yadav & Khanna, 2014). Quality of work life can also influence certain job outcomes such as employees' job effort, productivity, low absenteeism and performance of the organisation as a whole (Danna & Griffin, 1999).

It is clear that, quality of work provides individual employees satisfaction in their job and work environment. As a result, employees will spread their wholeheartedness throughout the company (Gupta, 2014). Furthermore, the experience of quality in the work life in an organisation can improve productivity, employees' loyalty and the company's reputation (Gupta, 2014). Organisations that focus on the mentioned quality, improve their relationship with stakeholders and employees alike (Louis, 1998). A positive communication channel develops between stakeholders and employees, which makes the organisation function more effectively (Louis, 1998). There is evidence that organisations' approaches have lowered absenteeism among employees who felt more drawn towards the organisation when their quality of work life was improved (Gifford, Zammato, Goodman & Hill, 2002). Such quality experienced in work life, also contributes to employees' job satisfaction and job involvement, and their willingness to contribute positively towards the organisation (Yadav & Khanna, 2014). Regarding the present study, the above-mentioned factors play a vital role by underlining the importance to measure employees' quality of work life in the manufacturing industry.

In most manufacturing organisations, it can be assumed that employees have to cope with a high workload that must be completed in a short period, with the result that they are not focusing on their personal needs (Brindha, 2013). In this sense, quality of work life can also be viewed as the work environment that employees experience in their organisation (Almalki, FitzGerald & Clark, 2012a). Therefore, the Human Resource Department (HRD) has the responsibility to provide a work environment that increases performance (Almalki et al., 2012a). Evidently, it is important that organisations strive continually to improve each employee's quality of work life. The reason is that low quality in this regard, can cause uncommitted, unsatisfied employees who may hamper the organisation's productivity and performance (Swamy, Nanjundeswaraswamy & Rashmi, 2015).

Ellis and Pompli (2002) identify various factors contributing to quality, and which are linked to the specific aspects of individual employees' work life. The questionnaire, assessing quality of work life, incorporates these mentioned factors related to particular aspects of individual employees' work lives (Saraji & Dargahi, 2006).

Swamy et al. (2015) provide the most recent questionnaire that was developed to investigate quality of work life. The components assess the various aspects of such quality and can thus be used to obtain the best results. Swamy et al. (2015) identify nine dimensions by which to measure quality of work life: (1) Work environment, (2) Organisation culture and climate, (3) Relation and co-operation, (4) Training and development, (5) Compensation and Rewards, (6) Facilities, (7) Job satisfaction and Job security, (8) Autonomy of work, and (9) Adequacy of resources. The scale to measure quality of work life was developed

and validated with a reliability of 0.88 and 82.24% of the total variance was explained by the nine dimensions (Swamy et al., 2015).

However, to date, this scale has not been applied to the South African context. The Employment Equity Act of 1998 states that a psychometric tool must be valid and reliable, avoid discriminating against any employee in an organisation and should be fair towards all employees (Buitendach & Rothmann, 2009). It is therefore important to validate this questionnaire within the South African context. In this way studies can open the field for quality of work life, allowing researchers to use the most recent reliable and valid measurements for organisations.

An assessment tool can be considered reliable when it produces stable and consistent results (Phelan & Wren, 2005). Thus, when a scale is found to be reliable, it will be consistent for future measurement (Phelan & Wren, 2005). For Trochim (2006) validity occurs when the measurement assesses what it is supposed to do. There are various types of validity that can be investigated; however, the present research will focus only on construct validity. The latter can be defined as a form of validity where the items measure what it intends to do (Jenkinson, Chandola, Coulter & Bruster, 2001).

Quality of work life may be observed differently between demographical groups (e.g. age). Almalki et al. (2012a) found in their study of primary healthcare nurses, that quality of work life differs significantly according to the different age groups. Mosadeghrad, Ferlie and Rosenberg (2011) also found significant differences based on age in their studie on quality of work life. Yusoff, Rimi and Meng (2015) confirm that age have a significant difference in the quality of work life. Therefore, it is crucial to have a reliable and valid measurement (Yadav & Khanna, 2014).

From the discussion above, it is evident that improvement in quality of work life is extremely important to organisations. As a result, the attention has shifted to HRD, which has to find solutions to develop employees' quality of work life (Normala, 2010). Normala (2010) points out that for organisations to be successful, the quality of each employee's work life should be high, which naturally will deliver other positive outcomes. However, in current organisations, the quality of work life is in a critical condition due to overload in work and home structures (Akdere, 2006).

Previous studies have pointed out that quality of work life impacts employees' turnover intention and organisational commitment (Almalki et al., 2012b; Krueger, Brazil, Lohfield, Edward, Lewis & Tjam, 2002; Louis, 2006; Mosadeghrad, Ferlie & Rosenberg, 2011). According to Lee, Dai, Park and McCreary (2013), quality of work life indicates a negative relationship with turnover intention. In other words, when employees experience high levels of quality in their work life, the result is low levels of turnover intention. Bothma and

Roodt (2013) define turnover intention as wilfulness to leave or remain in the organisation. This means an employee is considering quitting and is therefore searching for new job opportunities. Previous studies found that turnover intention has a negative relationship with quality of work life (Almalki, FitzGerald & Clark, 2012b; Mosadeghrad et al., 2011)

Regarding employees' commitment, it was found that quality of work life has a positive relationship with organisational commitment, in three ways: affective, continuance and normative (which will be discussed later). This finding shows that when employees experience high levels of work life quality, they will demonstrate high levels of organisational commitment (Normala, 2010). This form of commitment refers to the manner in which employees form an attachment with or tie towards their company of employment (Shanawaz & Jafri, 2009).

Organisational commitment is considered as one of the most important factors for performance in the workplace (Chiu & Francesco, 2002). Normala (2010) points out that the sources of organisational commitment and how employees perceive such commitment may vary between individuals. Employees' commitment to their organisation is important for understanding their behaviour in the workplace (Mahmoudi, 2015). Such commitment is also related to an organisation's overall productivity. Therefore, it is essential to identify the underlying factors for employees' commitment, such as quality of work life (Mahmoudi, 2015). According to Normala (2010), organisational commitment and quality of work life have a close relationship. Thus, low levels of work life quality will lead to decreased organisational commitment, which will impact the organisation's performance and productivity.

Afsar (2014) found that quality of work life has a positive relationship with both affective and normative commitment; and a low and negative relationship with continuance commitments. Chang, Chi & Miao (2006) found that organisational commitment indicates a negative relationship with turnover intention. This is due to the changeable nature of this relationship. Yusoff et al. (2015) examined the relationship between quality of work life and turnover intention with a mediator of organisational commitment. They found that affective and normative commitment partially mediates the relationship between quality of work life and turnover intention, whereas continuance commitment does not mediate the relationship at all. Mediator can be described as a variable that measures the following relationships: between a dependent and independent variable; between the dependent variable and mediator; and between the independent variable and mediator (Bennett, 2000). To date, there is a lack of research on using organisational commitment as a mediator for quality of work life. Therefore, further investigation is necessary on the possible mediating effect of organisational commitment between quality of work life and turnover intention.

Based on the explanation above, the aim of the present study was to validate the Quality of Work Life scale within the South African context to ensure the measurement tool can be used in a reliable and valid manner. The aim further was to measure the relationship between quality of work life, turnover intention and organisational commitment among employees in selected manufacturing organisations of South Africa.

Quality of work life and the Quality of Work Life scale

According to Swamy et al. (2015), quality of work life can be defined as the degree to which employees' working and personal needs are satisfied by achieving their job tasks in the organisation. Srivastava and Kanpur (2014) view quality of work life as the level of motivation, involvement and commitment employees experience in their work at the organisation. Since the first decade of the 21st century, quality of work life is considered as an important factor in organisations to help create sustainability and enhance performance (Koonmee, Singhapakdi, Virakul & Lee, 2010). In another sense, quality of work life protects the organisation from unnecessary possible crises such as destructive working conditions, negative attitude, low productivity, decreased commitment from employees, low performance and the inability to achieve goals (Beauchamp & Bowie, 2004). In this regard, Chinomona and Dhurup (2013) point out that quality of work life also describes employees' response to objectives and characteristics within the working environment.

Swamy et al. (2015) developed the Quality of Work Life scale to assess the various aspects of quality that employees experience in their work life. The scale by Swamy et al. (2015) is based on nine components related to quality of work life: (1) Work environment: the social and professional environment in which employees must work and interact with fellow employees (Swamy et al., 2015); (2) Organisation culture and climate: the culture entails a set of properties, and the climate implies employees' behaviour, which demonstrates norms, values and vision (Swamy et al., 2015); (3) Relation and co-operation: the communication between managers and employees about certain actions such as decision-making, conflict management and problem solving (Swamy et al., 2015); (4) Training and development: activities focused on improving employees' performance, knowledge and skills (Swamy et al., 2015); (5) Compensation and rewards: motivational factors provided to employees who preform and reach set goals (Swamy et al., 2015); (6) Facilities: items and structures that satisfy the physical and emotional needs of employees – for example transportation or food stations (Swamy et al., 2015); (7) Job satisfaction and job security: satisfaction occurs when employees view their work as favourable, and security means employees feel secure in their work (Swamy et al., 2015); (8) Autonomy of work: employees have the freedom of decision-making and may plan, co-ordinate and control work- related tasks (Swamy et al., 2015); (9) Adequacy of resources: the proper resources, time, information and equipment to complete goals and assignments (Swamy et al., 2015).

Psychometric properties of the Quality of Work life scale

As mentioned previously, the Quality of Work life scale was developed by Swamy et al. in 2015. They based their scale on nine dimensions, which combined; explain 82.24% of the total variance. These nine dimensions can be considered highly effective, providing a comprehensive perspective of the phenomenon, quality of work life. Furthermore, the dimensions can produce detailed results when assessing the quality of work life for individual employees. Swamy et al. (2015) introduced the scale with a final questionnaire that consists of 50 items in total. The variables in the scale of Swamy et al. (2015) indicate a loading of at least 0.05 on a single factor. Swamy et al. (2015) made use of factor analyses to measure the validity and used Cronbach's alpha coefficients to measure the internal reliability of the questionnaire. They found that the alpha value for the questionnaire is 0.88. This score can be considered reliable, seeing that the cut-off points for scale reliability is 0.70 to 0.95 (Tabachnick & Fidell, 2001). Reliability can be accepted when the assessment tool produces stable and consistent results each time the instrument is used (Phelan & Wren, 2005).

The relationship between quality of work life, turnover intention and organisational commitment

Turnover intention

As explained previously, Bothma and Roodt (2013) define turnover intention as the wilfulness to leave or remain in the organisation, thus considering leaving and seeking new job opportunities. According to Griffeth, Hom and Gaertner (2000), quality of work life has a close relationship with turnover intention – the more quality employees experience in their work life, the less turnover there will be in the organisation, Studies also showed that quality of work life has a negative relationship with turnover intention (Almalki et al., 2012b; Mosadghrad et al., 2011).

Organisational commitment

Allen and Meyer (1990) define organisational commitment as a model process where each type of commitment has its own impact on an individual. In this sense, employees' experience their commitment to the organisation is as a three-dimensional synchronised mind-set: affective, normative and continuance commitment.

Affective commitment refers to circumstances where employees identify emotionally with their particular place of employment. Thus, when this form of commitment develops, employees stay on in a company or remain loyal since they earnestly have a personal desire to do so (Allen & Meyer 1996).

Continuance commitment means employees feel they have invested optimum time and abilities in the organisation. This experience of being invested overshadows other options or choices they have of leaving.

In other words, employees perceive they have more to lose by not staying, than to gain by leaving the company (Allen & Meyer, 1990).

Normative commitment entails feelings of accountability employees experience towards their company; they remain loyal regardless of their interests and happiness (Allen & Meyer, 1996).

According to Passarelli (2011), if employees experience organisational commitment they will become more aware of the company's requirements and understand how they can contribute personally to help fulfil them. In other words, organisational commitment refers to the manner in which employees form an attachment to their workplace (Shanawaz & Jafri, 2009).

Afsar (2014) found that quality of work life indicates a positive relationship with both affective and normative commitment and a low, negative relationship with continuance commitment. Thus, the findings show that low levels of continuance commitment will lead to high levels in employees' quality of work life (Afsar, 2014). Furthermore, Gupta (2014) and Almarashad (2015) found a positive relationship between employees' quality of work life and organisational commitment in terms of all three dimensions: affective, normative and continuance. Thus, it can be inferred that when individuals experience high levels of quality in their work life, this will result in high levels of organisational commitment (for all three dimensions). Furthermore, when quality of work life increases, organisational commitment will follow suit.

Organisational commitment can be used as mediator in future research on several variables (Suliman, 2001). Therefore, it is necessary to investigate the influence or mediating effect of organisational commitment between quality of work life and turnover intention.

The research questions for the proposed study in terms of the two articles can be formulated as follows:

Article 1:

1. How is quality of work life and the Quality of Work Life scale conceptualised, according to the literature?
2. What is the reliability of the Quality of Work Life scale for employees within selected South African manufacturing organisations?
3. What is the validity of the Quality of Work Life scale for employees within selected South African manufacturing organisations?
4. What recommendations can be made for future research and practice?

Article 2:

1. How is quality of work life, turnover intention, organisational commitment and the relationship between quality of work life, turnover intention and organisational commitment conceptualised according to the literature?
2. What is the relationship between quality of work life and turnover intention among employees from selected South African manufacturing organisations?
3. Will quality of work life have an effect on turnover intention and organisational commitment among employees within selected South African manufacturing organisations?
4. Does organisational commitment (i.e. affective, continuance and normative) mediate the relationship between quality of work life and turnover intention among employees within selected South African manufacturing organisations?
5. What recommendations can be made for future research and practice?

1.2 Expected contributions of the study

It was expected that the present study will contribute to the individual, organisation and literature on human resource management, as explained below.

1.2.1 Contribution for the individual

The present study made employees aware of the benefits to gain when they experience high levels of quality of work life and the components contributing to such quality. The study intended to provide individuals with knowledge to identify possible resources which may help improve the quality of their work life, thus influencing their productivity and motivation (Srivastava & Kanpur, 2014). The resources that were made available through this study empowered individual employees to adapt in their work situation and handle challenging situations more effectively. The study provides the information that quality of work life contributes significantly to individual employees' lives. Thus, by understanding this factor, employees can improve their performance as well as that of the organisation. In this regard, employees become aware of the impact quality of work life have on their commitment to the organisation and their intention to leave or remain with the company.

1.2.2 Contribution for the organisation

The present study helps organisations gain a better understanding of quality of work life and possible benefits for the company. Such an understanding will help organisations improve their performance and attainment of goals (Rose et al., 2006). In the process, organisations are guided to create the most conducive work environment and apply the most effective methods to enhance the quality of individual employees' work life

(Rose et al., 2006). This study indicated that valuing each employee's contribution to the organisation will help to increase the productivity.

The Quality of Work Life scale was used as a tool to identify how employees experience their working and personal needs and to what extent the organisation satisfies these needs while employees are working in the company (Swamy et al., 2015). The organisation could benefit significantly from the outcomes that were measured, where the findings delivered new information. By using organisational commitment as mediator between quality of work life and turnover intention, the organisation is provided with necessary guidelines on developing interventions or programmes to help improve each employee's quality of work life. The present study contributes to the importance of organisational commitment as mediator between quality of work life and turnover intention, and how organisations could apply these findings to create a conducive work environment.

1.2.3 Contribution for the Human Resource Management literature

The concept, quality of work life, is new, thus limited research is available on this aspect within the South African context. The present study adds to the existing literature on quality of work life and its relationships with certain outcomes (e.g. turnover intention). The study increased knowledge on how to improve quality of work life and indicated clearly which constructs play a vital role in the process. This leads to a deeper understanding of the organisational outcomes, which helps expand the study in Human Resource Management.

Furthermore, the Quality of Work Life scale developed by Swamy et al. (2015) was validated in terms of its reliability and construct validity for the South African context, which provides a workable instrument to measure the quality of employees' work lives in organisations. The information collected in this study, contributed to the field of Human Resource Management. In addition, knowledge and information about quality of work life and the mediation effect of organisational commitment add value to the literature. This information could help human resource managers understand the positive outcomes when the quality of work life of an employee is improved.

1.3 Research objectives

The objectives for the present research can be dived into a general objective and specific objectives.

1.3.1 General objective

The general objective for each study is presented below.

Article 1:

The general objective of article 1 was to determine the psychometric properties of the Quality of Work Life scale, developed by Swamy et al. (2015), within the South African Context.

Article 2:

The general objective of article 2 was to investigate the relationship between quality of work life and turnover intention, furthermore, to examine whether organisational commitment mediates the relationship between quality of work life and turnover intention.

1.3.2 Specific objectives

The specific objectives flowing from the general one for each study are outlined below.

Article 1:

- Conceptualise quality of work life and the Quality of Work Life scale according to the literature.
- Determine the reliability of the Quality of Work Life scale for employees within selected South African manufacturing organisations.
- Determine the validity of the Quality of Work Life scale for employees within selected South African manufacturing organisations
- Draw conclusions and make recommendations for future research and practice.

Article 2:

- Conceptualise quality of work life, turnover intention and organisational commitment and the relationships between these outcomes according to the literature.
- Establish the relationship between quality of work life and turnover intention among employees within selected South African manufacturing organisations.
- Determine whether the quality of work life has an effect on turnover intention and organisational commitment among employees within selected South African manufacturing organisations.
- Determine whether organisational commitment (affective, normative and continues commitment) mediate the relationship between quality of work life and turnover intention among employees within selected South African Manufacturing organisations.
- Draw conclusions and make recommendations for future research and practice.

1.4 Research hypotheses

The hypotheses for each study can be formulated as follows:

Article 1:

H1: The Quality of Work Life scale (QWLS) is a nine-factor construct, consisting of *work environment, organisational culture and climate, relations and co-operations, training and development, compensations and rewards, facilities, job satisfaction and job security, autonomy of work and adequacy of resources.*

H2: The Quality of Work Life scale (QWLS) is a reliable and valid scale within the South African context.

Article 2:

H1: There is a significant negative relationship between quality of work life and turnover intention among employees within selected South African manufacturing organisations.

H2: Quality of work life significantly predicts lower levels of turnover intention and higher levels of organisational commitment among employees within selected South African manufacturing organisations.

H3: Organisational commitment (affective, normative and continuance) mediated the relationship between quality of work life and turnover intention among employees within selected South African manufacturing organisations.

1.5 Research design

1.5.1 Research approach

The present study was based on a quantitative research approach. De Vos, Strydom, Fouche and Delport (2011) define quantitative research as a social or human problem comprising variables that can be examined through statistical procedures and numbers in order to determine whether the predictive generalisation is true. A characteristic of quantitative research is items that must be answered about relationships between measured variables with the intention of predicting, explaining and controlling phenomena (Leedy & Ormrod, 2005).

The present research furthermore followed a descriptive approach, using a cross-sectional survey design. Punch (2005) views cross-sectional survey as a method to describe a sample based on different responses to the posed questions. According to De Vos et al. (2011), cross-sectional survey designs examine groups of people at a single point in time. Such a design is appropriate for calculating correlations between measured variables and describing the population (Maree & Pieterson, 2007). The advantages of a cross-sectional

survey are that it is cost efficient and easier to use when dealing with a large number of participants (De Vos et al., 2011). A further advantage of such a design is that data can be collected over a brief period, thus, the interaction between the researcher and the participants does not require a longer period (Maree & Pieterson, 2007).

1.5.2 Literature review

The main topics used for a comprehensive literature review in **Article 1** are: quality of work life, psychometric properties of the Quality of Work Life scale, constructs validity, convergent validity and reliability. The topics investigated in **Article 2** for a comprehensive literature review are: quality of work life, organisational commitment, turnover intension and the relationships of these outcomes.

The following keywords were used during literature searches: *Quality of Work Life scale, quality of work life, construct validity, convergent validity, reliability, psychometric properties, organisational commitment, turnover intention, mediation, South Africa and manufacturing industry.*

Numerous databases were accessed to conduct a thorough literature review, namely: Sabinet online, SA e-Publications, Google Scholar, Journals, Books and the North-West Library.

The relevant scholarly journals that were consulted are: *The Business Review, Journal of Occupational Psychology, Journal of Vocational Behaviour, Human Resources for Health, International Journal of Innovative Research in Science, Engineering and Technology, South African Journal of Human Resource Management, South African Journal of Economics and Management Science, International Journal of Manpower, Journal of Management, Development Journal, Advanced Management Journal, Questions Geographical, Reviewed Electronic Journal, International Journal of Academic Research in Business and Social Sciences, Journal of Business Research, BMC Health Service Research, Entrepreneurship and Innovation Management Journal, Global Journal of Management and Business Research, Organisational Behaviour and Human Performance, Leadership & Organization Development Journal, International Journal of Research, Policy and Practice, American Psychological Association, Journal of Applied Psychology, International Journal of Business and Management, South African Journal of Industrial Psychology, Journal of the Indian Academy of Applied Psychology, Problems and Perspectives in Management.*

1.5.3 Research participants

For both Articles 1 and 2, a population of 400 was targeted that involved employees from various job departments within selected manufacturing organisations. A combined convenience and purposive non-

probability sampling technique was utilised in both articles. The participants who were easy reachable and conveniently located were selected for the study (Maree & Pieterson, 2007). According to Sturwig and Stead (2001), a clear advantage of convenient sampling is that it is cost-effective and time-efficient. Purposive sampling is also known as judgement sampling, where participants are selected based on certain qualities (Palys, 2008). It was required of participants involved in the present study, to understand, read and write the English language. The bottom- and first-line managers as well as middle and top management were targeted in the selected South African manufacturing organisations. The sample consisted of employees from the age of 18 to the age of 65 years. The characteristics of the participants were diverse and entailed age, highest qualification and job level.

1.5.4 Research procedure

After the scientific clearance and ethical approval (Ethical approval number: NWU-00604-17-S4) was gained from the respective university committees, possible manufacturing organisations were approached through their Human Resource Departments to participate in the study. A meeting was scheduled to inform the selected organisations about details of the study. A presentation explained the nature and aim of this study to the selected organisations. Once permission was granted, consent forms and the questionnaire booklet were developed and distributed. To ensure the privacy as well as anonymity of each participant, the questionnaire booklet was tracked with a number. The questionnaire did not allow participants to write their name, surname or ID number. The consent forms were distributed to the participants, after they have received the letter (i.e. the participants' information leaflet) explaining the nature and aims of the study.

The Human Resource Department was responsible for sending the selected participants an email containing a leaflet explaining the objectives of the study and how the questionnaires are to be distributed, completed and collected. Participants who did not have an email address were given a formal letter providing the mentioned information about the study. The involvement of the Human Resource Department in the research procedure only involved the following actions: determining whether the study could commence in the organisation, inform the employees of their choice to participate in the study or withdraw at any stage, and distributing the participants' information leaflet. Once the employees were notified of the study, the researcher took the responsibility to find participants in the organisation and manage the procedure further.

The researcher was accountable by personally distributing the consent forms to selected participants and collects these personally from the participants after they have completed it. Each consent form was given the same number as the questionnaire booklet to ensure each participant was protected. The consent form indicated that participants have read and understood the information provided to them. They also had to confirm the following: the booklet was written in a language with which they were comfortable; they were

given a chance to pose questions, which had been answered adequately; taking part in the study was voluntary and they were not pressurised. Furthermore, they had to acknowledge that they were given a choice to leave the study at any time and would not be penalised or suffer bias in any way; they could also be asked to leave the study before completion, if the researcher considered it in their best interests, or if they did not follow the agreed study plan. Once the candidates agreed to participate and have signed the consent form, the questionnaire booklet was sent to each.

The compiled questionnaire consisted of the following elements: (1) biographical questionnaire (age, current job level and highest qualification), in order to describe the sample population of the study for future readers of the dissertation or future research publications; (2) the Quality of Work Life scale; (3) the Turnover Intention scale and; (4) the Organisational Commitment scale. These scales were included to answer the proposed hypotheses and research questions, which direct the study. The questionnaire entailed a paper-and-pen booklet that each participant received.

The participants were given a maximum of three weeks to complete the questionnaire booklet. Each participant was informed through email by the researcher four days prior to submission. Those with no email address, was given a formal letter of notice by the researcher. The researcher collected the questionnaire booklets personally from the participants after three weeks. The researcher ensured the results were kept confidential and no ethical guidelines were transgressed. The questionnaire booklets with the informed consent forms are stored in a safe, which only the researcher and supervisor could open. After the questionnaires were collected, the data capturing process began. The data were captured on a password-protected Excel sheet, to which only the researcher and supervisor had access. After capturing the data, it were analysed in a scientific and ethical manner.

1.5.5 Measuring instruments

The measuring instrument that was used in the present study is expounded below.

Biographical questionnaire

A biographical questionnaire was included determining age, job level and highest qualification. The aim was to gather information on the demographic characteristics of the participants. The information was used to compile a thorough description of the target population.

The Quality of Work Life scale

As indicated previously, the research used the Quality of Work Life scale developed by Swamy, et al. (2015). This scale was chosen since it was not yet validated in a South African context. The questionnaire was

applied to measure the quality of work life of individual employees, based on nine components: (1) Work environment (e.g. “My company work environment is good and highly motivating”); (2) Organisation culture and climate (e.g. “There is cooperation among all the departments for achieving the goals”); (3) Relation and co-operation (e.g. “There is a harmonious relationship with my colleagues”); (4) Training and development (e.g. “The training programs aim at improving interpersonal relationships among employees”); (5) Compensation and rewards (e.g. “I feel that I am given an adequate and fair compensation for the work I do”); (6) facilities (e.g. “Fringe benefits provided are good”); (7) Job satisfaction and job security (e.g. “I feel comfortable and satisfied with my job”); (8) Autonomy of work (e.g. “My job lets me use my skills and abilities”); and (9) Adequacy of resources (e.g., “There are much defined channels for information exchange and transfer”). The measurement consists of 50 items where participants indicate their level of agreement to each statement. The Quality of Work Life scale can be measured through a five-point Likert scale (1 – *strongly disagree*, 2 – *disagree*, 3 – *uncertain*, 4 – *agree* and 5 – *strongly agree*). Swamy et al. (2015) found that the overall reliability coefficient of the questionnaire scored 0.88, which indicate that the reliability coefficient is high.

The Turnover Intension scale

The Turnover Intention scale (TIS-6) applied to measure the intention to leave or remain in the organisation (turnover intention) of an individual, was developed by Bothma and Roodt (2013). They adapted the 6-item scale from the 15-item instrument originally developed by Roodt (2004). An example of an item used in the 6-item scale is: “How often do you look forward to another day at work?” the turnover intention scale can be measured through a five-point Likert scale (1 – *never* to 5 – *always*). Bothma and Roodt (2013) found the reliability coefficient of the questionnaire to be 0.80.

The Organisational Commitment scale

The Organisational Commitment scale, developed by Allen and Meyer (1990), was applied to measure the organisational commitment of employees based on three constructs: (1) Affective commitment (e.g. “I enjoy discussing my organization with people outside it”); (2) Continuance commitment (e.g. “It wouldn't be too costly for me to leave my organization now”); and (3) Normative commitment (e.g. “I think that people these days move from company to company too often”). The scale consists of 24 items and can be measured through a seven-point Likert scale (1, 2 and 3 – *strongly, moderately* and *slightly disagree*; 4 – *neither agree nor disagree*; and 5, 6 and 7 – *slightly, moderately,* and *strongly agree*). Allen and Meyer (1990) found the reliability coefficient for the three constructs scored as follows: affective commitment – 0.87; continuance commitment – 0.75; and normative commitment – 0.79, which all can be considered high.

1.5.6 Statistical analyses

The statistical analyses used in the study for both Articles 1 and 2 are expounded below.

Statistical analyses for Article 1

The SPSS (IBM 23, 2016) and AMOS programme (Arbuckle, 2007) was used to determine the statistical analyses for Article 1. The descriptive statistics, validity and reliability of the 50 items of the Quality of Work Life scale were investigated separately. Descriptive statistics were used to explore the data in terms of mean, standard deviations, skewness and kurtosis. The distribution of the items was determined in order to evaluate whether questions were answered in a consistent or random manner.

To determine the internal validity of the Quality of Work Life scale, exploratory factor analysis (EFA) was used. The method of EFA can be defined as observing a set of variables to determine which are related strongly to each other (Tabachnick & Fidell, 2001). The Kaiser-Meyer Olkin (KMO) test must have values greater than 0.50; Barlett's test of sphericity must indicate that items correlated adequately with another; and Kaiser's criterion factor must indicate eigenvalues greater than 1 (Field, 2003). The above-mentioned requirements had first to be met before the EFA could commence.

The statistical analyses of Article 1 did produce significant levels of the above-mentioned requirements, therefore, the EFA was carried out on the Quality of Work Life scale. The principal component analyses (PCA) was applied followed by a direct oblimin rotation to examine the data more accurately (Field, 2003). Corrected item-total correlations were applied to examine whether a response to an item, correlates with the response to the overall scale (Furr & Bacharach, 2008). Items that correlated with a value greater than 0.20, were retrained and those with a value less than 0.20 was discarded (Furr & Bacharach, 2008).

Confirmatory factor analysis (CFA) was used to determine whether the theoretical model fits the data of the complete sample. The following indices were used to determine the goodness of fit for the measurement: the RAMSEA (root-mean-square-error), where levels of 0.05 or less indicate a good fit (Hoyle, 1995). However, Cudeck and Browne (1993) found that levels of 0.08 and lower can also be an acceptable fit. Acceptable levels of goodness of fit for the CFI (comparative fit index) and TLI (Tucker-Lewis index) are accepted as 0.90 and higher (Byrne, 2010). Mueller (1996) suggests that levels < 5 of the CMIN/DF (minimum sample discrepancy divided by degrees of freedom) can be considered as a good model fit.

Cronbach's alpha coefficients were used to measure the reliability of the scale's dimensions. If the coefficient was greater the 0.70, the measured variables are considered as reliable (Tabachnick & Fidell, 2001). Product-moment coefficient was used to determine the convergent validity of the Quality of Work

Life scale. The cut-off point for statistical significance was set at $p < 0.1$ level (*) (Berkman & Reise, 2012). The significant cut-off points for practical significance of the correlations was $r < 0.30$ (small effect), $0.30 < r > 0.50$ (medium effect) and $r > 0.50$ (large effect) (Berkman & Reise, 2012).

Statistical analysis for Article 2

The SPSS (IBM 23, 2016) and AMOS programme (Arbuckle, 2007) was used for statistical analyses of Article 2. Descriptive statistics were employed to measure the distribution of the data. Furthermore, the mean, standard deviation, skewness and kurtosis were analysed. Cronbach's alpha coefficients were calculated to determine the reliability of the concepts to be measured, for which values larger than 0.70 is considered reliable (Tabachnick & Fidell, 2001).

Product-moment correlation was utilised to establish the relationship between the variables. In product-moment correlation the variables are positive or negative, depending on the difference between them (Hauke & Kossowski, 2011). A negative relationship means the decrease in one variable leads to an increase in the other one. Pearson's correlation coefficient (r) was used since the descriptive statistics did not show a skew correlation. The cut-off points for practical significance of the correlations was set at $r < 0.30$ (small effect), $0.30 < r > 0.50$ (medium effect) and $r > 0.50$ (large effect). The cut-off points for statistically significant was $p < 0.1$ level (*) or $p < 0.5$ level (**) (Hauke & Kossowski, 2011).

Multiple-regression analyses were done to determine the relationship between the independent variable (quality of work life) and the dependent variables (turnover intention and organisational commitment). Multiple-regression analyses are used to determine the relationships between an independent variable and the dependent variables and ascertain which variable is the strongest predictor of the dependent variable (Maxwell, 2000).

Structure equation modelling (SEM) was used with the AMOS programme to test the proposed mediation model of organisational commitment in the relationship between quality of work life and turnover intention. The main goal of SEM is to investigate the extent to which a hypothesised model fits the proposed mediation model (Hoyle, 1995). To measure the fit, the $\chi 2$ statistic is commonly used (Hoyle, 1995). Other values that were used to measure the fit was: comparative fit index (CFI), with values close to 0.90 or 0.95; adjusted GFI, with values of 0.90 or 0.95; root-mean-square-residual (RMSEA), showing values of 0.50 to 0.80); and the Tucker-Lewis index (TLI), with values close to 0.90 or 0.95. (Hoyle, 1995).

1.5.7 Ethical consideration

The researcher had a duty to ensure all procedures were ethical. Possible ethical issues that may emerge were dealt with appropriately (Struwig & Stead, 2001). The participants were provided with a formal informed consent form, which confirmed their participation in a fair, honest and ethical manner. The researcher ensured all questionnaires were anonymous and that each participant's identity was protected (Struwig & Stead, 2001). The completed questionnaires are stored in a safe place, if proof of findings must be made available. The researcher-maintained objectivity, integrity, carefulness and openness when conducting the research (Gajjar, 2013). Furthermore, there was no bias towards participants, promises were kept and the researcher avoided errors or negligence (Gajjar, 2013).

The researcher strived to respect each participant in the study and treat each individual fairly (Sturwig & Stead, 2001). Furthermore, care was taken that participants suffer no physical or emotional harm. No participant was forced or coerced; throughout, participation to the study was voluntary (Sturwig & Stead, 2001). The researcher did not mislead participants in any way during the study and did not withhold information from them (Sturwig & Stead, 2001).

1.6 Overview of chapters

The chapters in the dissertation are outlined as follows:

Chapter 1: Introduction

Chapter 2: Research article 1

Chapter 3: Research article 2

Chapter 4: Conclusions, limitations and recommendations.

1.7. Chapter summary

This chapter introduced a problem statement and discussed the research objectives as well as expected contributions to the present study. Thereafter, the utilised research methods were explained and the division of the chapter outlined.

REFERENCES

Afsar, S. T. (2014). Impact of quality of work life on organisational commitment: A comparative study on academicians working for state and foundation universities in Turkey. *International Journal of Social Science, 3*(4), 124-152.

Akdere, M. (2006). Improving quality of work life: Implications for human resources. *The Business Review, 6*(1), 173-177.

Allen, N. J., & Meyer, J. P. (1990). The measurement and antecedents of affirmative, continues and normative commitment to the organisation. *Journal of Occupational Psychology, 63*, 1-18.

Allen, N. J., & Meyer, J. P. (1996). Affective, continuance and normative to the organisation: An examination of the construct validity. *Journal of Vocational Behaviour, 49*, 252-276.

Almalki, M. J., FitzGerald, G., & Clark, M. (2012a). Quality of work life among primary healthcare nurses in the Jazan region, Saudi Arabia: A cross-sectional study. *Human Resources for Health, 10*(30), 1-13.

Almalki, M. J., FitzGerald, G., & Clark, M. (2012b). The relationship between quality of work life and turnover intention of primary healthcare nurses in Saudi Arabi. *BMC Health Services Researchers, 12*(1), 314.

Almarshad, S. O. (2015). Quality of work life and organisational commitment in Saudi Arabia: The role of job involvement and sense of efficacy. *European Journal of Business & Social Science, 4*(2), 141-158.

Arbuckle, J. L. (2007). *Amos 18 user's Guide*. Crawfordville: Amos Development Corporation.

Arthur, J. B. (2015). Effects of human resource systems on manufacturing performance and turnover. *The Academy of Management Journal, 37*(3), 670-687.

Ashwini, J., & Varma, A. (2016). A study of review of literature on quality of work life – manufacturing sector. *Journal of Business and Management, 18*(7), 93-97.

Beauchamp, T. L., & Bowie, N. E. (2004). *Ethical theory and business*. Upper Saddle River, NJ: Pearson.

Bennett, J. A. (2000). Mediator and moderator variables in nursing research: Conceptual and statistical differences. *Research in Nursing & Health, 23*(5), 415-420.

Berkman, E. T., & Reise, S. P. (2012). *A conceptual guide to statistics using SPSS.* Thousand Oaks, CA: SAGE

Bothma, C. F. C., & Roodt, G. (2013). The validation of the turnover intention scale. *South African Journal of Human Resource Management, 11*(1), 1-12.

Brindha, G. (2013). A study on quality of work life of the employees at Baxter (India). *International Journal of Innovative Research in Science, Engineering & Technology, 2*(3), 612-615.

Buitendach, J. H., & Rothmann, S. (2009). The validation of the Minnesota Job Satisfaction questionnaire in selected organisations in South Africa. *Journal of Human Resource Management, 7*(1), 1-8.

Chang, H. T., Chi, N. W., & Miao, M. C. (2006). Testing the relationship between three-component organisational/occupational commitment and organisational/occupational turnover intention using a non-recursive model. *Journal of Vocational Behaviour, 70*(2), 352-368.

Chinomona, R., & Dhurup, M. (2013). The influence of the quality of working life on employee job satisfaction, organisational commitment and tenure intention in the SME sector in Zimbabwe. *South African Journal of Economics & Management Science, 17*(4), 363-378.

Chiu, R. K., & Francesco, A. M. (2002). Dispositional traits and turnover intention: Examining the mediating role of job satisfaction and affective commitment. *International Journal of Manpower, 24*(3), 284-298.

Cudeck, R., & Browne, M. W. (1993). *Testing structural equation models.* Newbury Park, NY: SAGE.

Danna, K., & Griffin, R. W. (1999). Health and well-being in the workplace: A review and synthesis of the literature. *Journal of Management, 25*(3), 357-384.

De Vos, A. S., Strydom, H., Fouche, C. B., & Delport, C. S. L. (2011). *Research at grass roots: Social Science and human service professions* (4th ed.). Pretoria: Van Schaik

Ellis, N., & Pompli, A. (2002). *Quality of working life for nurses*. Canberra: Commonwealth Dept of Health and Ageing.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics* (4th ed.). London: Pearson.

Furr, R.M., & Bacharach, V.R. (2008). *Psychometrics: An introduction.* Thousand Oaks, CA: SAGE.

Gajjar, N. B. (2013). Ethical consideration in research. *International Journal of Research in Education, 2*(1), 8-15.

Gifford, B. D., Zammuto, R. F., Goodman, E. A., & Hill, K. S. (2002). The relationship between hospital unit culture and nurses 'quality of work life. *Journal of Healthcare Management, 47*(1), 13-25.

Griffeth, R. W., Hom, P. W., & Gaertner, S. (2000). A meta-analysis of antecedents and correlates of employee turnover: Update, moderator tests, and research implications for the next millennium. *Journal of Management, 26,* 463-488.

Gupta, B. (2014). A study of impact of quality of work life and organisational commitment in the manufacturing Sector. *Pacific Business Review International, 7*(3), 27-32.

Gupta, B. (2016). Factors affecting quality of work life among private bank employees. *Pacific Business Review International, 8*(9), 1-10.

Hauke, J. & Kossowski, T. (2011). Comparison of value of Pearson's and Spearman's correlation coefficient on the same sets of data. *Questions Geographicae, 30*(2), 87-93.

Havlovic, S. J. (1991). Quality of work life and human resource outcomes. *Journal of Economy & Society, 30*(3), 469-479.

Hoyle, R. H (1995). *Structural equation modelling: Concepts, issues and applications*. Thousand Oaks, CA: SAGE.

IDC (Industrial Development Corporation). (2016). Economic trends: Key trends in the South African economy. Retrieved from http://www.idc.co.za/images/download-files/economic-overviews/RI-publication-Keytrends-in-SA-economy_March2016.pdf

Islam, M. B. (2012). Factors affecting quality of work life: An analysis on employees of private limited companies in Bangladesh. *Global Journal of Management & Business Research, 12*(18), 27-56.

Jenkinson, C., Chandola, T., Coulter, A., & Bruster, S. (2001). An assessment of the construct validity of the SF-12 summary scores across ethnic groups. *Journal of Public Management, 23*(3), 187-194.

Kiriago, A. N., & Bwisa, H. M. (2013). Working environment factors that affect quality of work life among attendants in petrol stations in Kitale Town in Kenya. *International Journal of Academic Research in Business & Social Sciences, 3*(5), 289.

Koonmee, K., Singhapakdi, A., Virakul, B., & Lee, D. J. (2010). Ethics institutionalisation, quality of work life, and employee job-related outcomes: A survey of human resource managers in Thailand. *Journal of Business Research, 63,* 20-26.

Krueger, P., Brazil, K., Lohfeld, L., Edward, H. G., Lewis, D., & Tjam, E. (2002). Organisation specific predictors of job satisfaction: Findings from a Canadian multi-site quality of work life cross-sectional survey. *BMC Health Service Research, 2*(6), 6.

Layer, J. K., Karwowski, W., & Furr, A. (2009). The effect of cognitive demands and perceived quality of work life on human performance in manufacturing environments. *International Journal of Industrial Ergonomics, 39*(2), 413-421.

Lee, Y. W., Dai, Y. T., Park, C. G., & McCreary, L. L. (2013). Predicting quality of work life on nurse's intention to leave. *Journal of Nursing Scholarship, 45*(2), 160-168.

Leedy, P. D., & Ormrod, J. E. (2005). *Practical research: Planning and design.* New York, NY: Pearson Merill Prentice Hall.

Louis, K. S. (2006). Effects of teacher quality of work life in secondary schools on commitment and sense of efficacy. *International Journal of Research, Policy & Practice, 9*(1), 1-27.

Macduffie, J. P. (2011). Human resource bundles and manufacturing performance: Organisational logic and flexible production systems in the world auto industry. *Industrial & Labour Relations Review, 48*(2), 197-221.

Mahmoudi, O. (2015). To investigate the relationship between quality of work life and employee's organisational commitment in the governmental agencies Iran. *Academic Journal of Psychological Studies, 4*(4), 206-217.

Makhene, M. (2015). *South Africa could become manufacturing hub on continent.* Retrieved from htpp://www.odgersberndtson.com

Maree, K., & Pieterson, J. (2007). *First steps in research*. Pretoria: Van Schaik.

Maxwell, S. E. (2000). Sample size and multiple regression analyses. *American Psychological Association, 5*(4), 434-458.

Mosadeghrad, A. M. (2013). Quality of work life: An antecedent to employee turnover intention. *International Journal of Health Policy and Management, 1*(1), 43-50.

Mosadeghrad, A. M., Ferlie, E., & Rosenberg, D. (2011). A study of relationship between job stress, quality of working life and turnover intention among hospital employees. *Health Service Management Research, 24*(4), 170-181.

Normala, D. (2010). Investigating the relationship between quality of work life and organisational commitment amongst employees in Malaysian firms. *International Journal of Business & Management, 5*(10), 75.

Palys, T. (2008). *Purposive sampling*. Los Angeles, CA: SAGE.

Passarelli, G. (2011). Employees' skills and organisational commitment. *International Business Research, 4*(1), 28-42.

Phelan, C., & Wren, J. (2005). *Exploring reliability in academic assessment.* Retrieved from http://www.uni.edu/chfasoa/reliabilityandvalidity.htm

Pickering, N. (2016). *Increasing employee engagement in manufacturing.* Retrieved from http://www.manufacturingglobal.com/peopleandskills/162

Punch, K. F. (2005). *Introduction to social research: Quantitative and qualitative approach* (2nd ed.). London: SAGE.

Rodríguez, J. M., & Ventura, J. (2003). Human resource management systems and organizational performance: An analysis of the Spanish manufacturing industry. *International Journal of Human Resource Management, 14*(7), 1206-1226.

Rodseth, P. (2016). *The importance of manufacturing for SA's economic growth.* Retrieved from http://www.ee.co.za/article/the-importance-of-manufacturing-for-sa-economic-growth.html

Rose, R. C., Beh, L. S., Uli, J., Idris, K. (2006) Quality of work life: Implications of career dimensions. *Journal of Social Sciences, 2*(2), 61-67.

SAmanufacturing. (2016). *South African manufacturing industry.* Retrieved from http://www.samanufacturing.co.za

Saraji, N., & Dargahi, H. (2006). Study of quality of work life (QWL): Dept of Health Care Management. *Journal of Public Health, 35*(4), 8-14.

Shahnawaz, M. G. & Jafri, H. (2009). Psychological capital as predictors of organizational commitment and organizational citizenship behaviour. *Journal of the Indian Academy of Applied Psychology, 35*, 78-84.

Srivastava, S., & Kanpur, R. (2014). A study on quality of work life: Key elements and its implications. *IOSR Journal of Business & Management, 16*(3), 54-59.

Struwig, F. W., Stead, G. B. (2001). *Planning, designing and reporting research.* Cape Town: Pearson Education South Africa.

Suliman, M. T. A. (2001). Is it really a mediating construct? The mediating role of organisational commitment in work climate-performance relationship. *Journal of Management Development 21*(3), 170-183.

Swamy, D. R., Nanjundeswaraswamy, T. S., & Rashmi, S. (2015). Quality of work life: Scale development and validation. *International Journal of Caring Sciences, 8*(2), 281.

Tabachnick B. G. & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Boston, MA: Allyn & Bacon.

Trade Economics. (2017). *South Africa Manufacturing Production*. Retrieved from http://www.tradingeconomics.com/south-africa/industrial-production

Trochim, W. M. K. (2006). *Research methods knowledge base*. Retrieved from http://www.socialresearchmethods.net

Yadav, R., & Khanna, A. (2014). Literature review on quality of work life and their dimensions. *Journal of Humanities & Social Science, 19*(9), 71-80.

Yusoff, Y. M., Rimi, N. N., & Meng, C. H. (2015). A study of quality of work life, organisational commitment and turnover intention. *Problems & Perspectives in Management, 13*(2), 2515-2519.

CHAPTER 2

RESEARCH ARTICLE 1

THE VALIDATION OF THE QUALITY OF WORK LIFE SCALE AMONG EMPLOYEES IN VARIOUS MANUFACTURING ORGANISATIONS

Abstract

Orientation: Organisations have to attend with employees, who are unmotivated, dissatisfied and uncommitted to the work, factors which hamper the productivity of the organisation. Therefore, quality of work life has become a concern for organisations with employees who experience low levels of quality in their work life. However, to date no Quality of Work Life scale was validated within a South African context to measure the quality of work life of individuals and its impact on both the employees and organisation.

Research purpose: The objective of the present study was to determine the psychometric properties of the Quality of Work Life scale within the South African context.

Motivation of study: The lack of research and absence for a valid scale measuring quality of work life, makes it challenging to gain knowledge on the concept and measure individuals' level of quality in their work life. The present study will provide researchers and South African manufacturing organisation with a reliable and valid tool to measure employee's quality of work life and gain a better understanding of the concept's applicability within a South African context.

Research design: A cross-sectional research design was used, investigating N=400 employees from the South African manufacturing industry. Cronbach's alpha coefficients were calculated to determine the reliability of the scale. Exploratory factor analysis (EFA) was done to establish the internal validity of the scale by investigating the item loadings. Confirmatory factor analyses (CFA) determined the model fit of the scale and convergent validity was established by investigating the relationships between the nine dimensions of the researched scale.

Main findings: The results confirmed that the scale was a nine-construct example with acceptable levels of reliability and validity within the South African context.

Practical implications: The study provided a reliable and valid questionnaire that researchers and managers can utilise to measure individual employees' quality of work life in the manufacturing organisations within a South African context.

Contribution: The study contributes to the limited research available on quality of work life and the validation of this measuring instrument.

Keywords: Quality of work life, manufacturing industry, reliability, internal validity, convergent validity, structural equation modelling, South Africa

Introduction

The business environment in the South African context has changed since the beginning of the 21st century. As a result, organisations face increasing challenges centred on productivity, efficiency, cost, labour issues, skills shortages and new technology. (Mahhene, 2015). Due to the mentioned challenges, new developments are set in place to improve the various aspects of organisations, making them globally more competitive. Developments include improved technology, organisational downsizing, globalisation and organisational restructuring (Islam, 2012). Organisations strive from the new developments; however, when investigated closer, the employees are impacted by stressors (Titu & Balan, 2009). These stressors include job insecurity, change, insufficient knowledge, lack of control, discomfort in the work environment and deficient communication (Islam, 2012). Due to these stressors, employees experience increased depression, low motivation and is continually stressed. As a result, productivity decreases among employees and the organisation as a whole (Stayed, 2013).

Over the years, the South African manufacturing industry had to deal with various challenges in organisations such as institutional change, affirmative action programmes, scarce resources, or change management. In this regard, employees experience levels of job insecurity, loss of loyalty, increased turnover intention and absenteeism, factors which ultimately hamper their mental health (Da Silva & Wetzel, 2007). The manufacturing industry contributes 13% to the economic gross domestic product (GDP), after the 3.6% production fall in 2017 (Trade Economics, 2017). Rodseth (2016) elaborates that the manufacturing industry represents the country's economic engine, thus strategies must be planned to help increase the growth of the manufacturing industry. Therefore, it is necessary to explore the manufacturing industry further to develop strategies that could improve growth and profitability – eventually leading to increase in the national economy (Cilliers, 2018).

Employees spend most of their time at their company, striving for and achieving organisational and personal goals (Kiriago & Bwisa, 2013). The stressors that influence employees personally and within the organisation as a whole, make it difficult to balance their organisational and personal goals. As a result, individual employees feel more stressed each day (Kiriago & Bwisa, 2013). An organisation's Human Resource Department (HRD) has the responsibility to develop strategies that help employees deal with these stressors effectively, thus improve the quality of their work life (Sirvastava & Kanpur, 2014). Sirvastava and Kanpur (2014) suggest that the HRD can improve individual employees' quality of work life through the following interventions: employee training, communication, feedback through an attitude survey; assistance and support. Such a strategy can improve employees' performance and well-being in the organisation, thereby leading to growth of the manufacturing industry in the country (Sirvastava & Kanpur, 2014).

Brindha (2013) defines quality of work life as the degree to which employees satisfy their personal and basic needs while performing tasks in the organisation. Kotze (2004) views quality of work life as the well-being employees' enjoys within an organisation. Quality of work life can also entail the work environment as such, which employees experience in the organisation (Almalki, FritzGerald & Clark, 2012). Organisations that implement strategies to improve the quality in employees' work life, will show long-term improvements such as higher productivity of employees, lower turnover, decreased absenteeism, increased loyalty, commitment towards the organisation and higher profitability (Danna & Griffin, 1999). Afsar (2014) points out that employees' can experience high levels in the quality of their work life in general and for the organisation as a whole. The general approach points to the physical, social and psychological satisfaction of employees' work life in the organisation (Afsar, 2014). The organisational approach entails the effective process through which employees reach their working goals in the organisation (Afsar, 2014).

It is evident from the discussion above, that by increasing the quality of each employee's work life; both the employee and organisation will benefit (Normala, 2010). However, in the current global market, organisations are concerned more with the profitability the company achieves than the employees' state of mind. As a result, more stressors are emerging within the industry (Curtis & Upchurch, 2008). If organisations struggle with employees who experience low levels of quality in their work life, such a condition may cause uncommitted, unsatisfied, unmotivated employees, factors which ultimately impede the productivity of the organisation (Swammy, Nanjundeswara & Rashmi, 2015).

In the process, attention shifts to the HRD to develop strategies that may improve the growth of the organisation (Normala, 2010). The HRD can introduce employees and management to the concept of quality of work life. Thereby both organisation and employees can understand the advantage of implementing strategies to improve the quality of work life (Normala, 2010). However, within the South African business environment there is limited knowledge about the quality employees experience in their work life that, especially within the manufacturing industry.

Swamy et al. (2015) recently developed a questionnaire on quality of work life, assessing nine dimensions: *work environment, organisational culture and climate, relations and co-operations, training and development, compensation and rewards, facilities, job satisfaction and job security, autonomy of work and adequacy of resources.* These dimensions measure the various aspects of quality of work life, which may obtain the best results. Several measurements were developed for quality of work life based on certain concepts, for example, psychological growth, job satisfaction, need satisfaction and spillover theories (Hackman & Oldham, 1976; Ellis & Pompli, 2002; Sirgy, Efraty, Siegel & Lee, 2001). The latest scale that Swamy et al. (2015) developed is based only on the aspects that measure the quality of work life of an individual in the workplace, where no other variables influence the measurement process

(Swamy et al., 2015). The present study selected the scale developed by Swamy et al. (2015), measuring quality of work life with no other variables. However, this scale has not yet been validated within the South African context.

According to the Employment Equity Act of 1998, it is mandatory that psychometric measuring instruments should be fair to all participants, scientifically reliable and valid, and avoid bias against any participant (Visser & Viviers, 2010). Therefore, it is necessary within the South African working environment, to determine the reliability and validity of a measuring instrument such as the Quality of Work Life scale. The psychometric properties of the quality of this mentioned scale can be determined through indicators when testing its reliability, construct validity and convergent validity (Foxcroft & Roodt, 2013). By determining reliability and validity as properties, the mentioned scale will align its practice with the South African legal demands. Moreover, such validation will allow South African organisations to assess the quality of work life of each employee accurately – where currently such quality levels are uncertain (Van De Vijver & Rothmann, 2004). It is therefore necessary to establish a valid instrument that could measure the quality of work life that employees experience within a South African context, in particular the manufacturing industry. Thus, the research problem for the present study can be stated as follows:

The main aim of the present study was to validate a quality of work life measuring instrument within the South African context. This will contribute to suggesting ways to enhance employees' levels of quality within their workplace.

Research purpose and objectives

Based on the research problem stated above, the general objective of the present study was to determine the psychometric properties of the Quality of Work Life scale, developed by Swamy et al. (2015), within the South African Context. The following specific objectives, flowing from the general purpose, were investigated:

- Conceptualise quality of work life and the Quality of Work Life scale according to the literature.
- Determine the reliability of the Quality of Work Life scale for employees within selected South African manufacturing organisations.
- Determine the validity of the Quality of Work Life scale for employees within selected South African manufacturing organisations
- Draw conclusions and make recommendations for future research and practice.

Literature review

Quality of work life as a concept

According to various authors, the term ‘quality of work life’ can be traced to the early 1970s. During the 1972 International Labour Relations Conference, the mentioned concept and its meaning was introduced for the first time (Ault, 1983; Skrovan; 1983; Kiernan & Knutson, 1990; Roan & Diamond, 2003). Kiernan and Knutson (1990) report that during this period, the construct of job satisfaction was used to measure the levels of quality in the work life of an individual in the workplace. Since the 1990s, the definition of quality of work life changed continuously and researchers utilised this concept as a variable, which reflects the emotional evaluations of individual employees (Kotze, 2005). Nadler and Lawler (1983) used quality of work life as variable to assess employees’ responses to their work experience. Furthermore, Wilcock and Wright (1991) used the mentioned concept as a variable to assess the satisfaction levels of employees in the workplace.

It is clear from the exposition above, that quality of work life was conceptualised initially to assess the levels of satisfaction that employees experience. In time this concept developed into an approach aiming to improve the performance of individual employees by enhancing their work environment (Kerce & Booth-Kewley, 1993). Brooks and Gawel (2001) point out that to understand the underlying constructs of quality of work life, the theory of socio-technical systems (STS) must be investigated. STS theory reveals that by involving employees in the different aspects of the workplace, they will experience a sense of well-being and fulfilment (Davis & Trist, 1974). Davis and Trist (1974) followed the STS approach to measure the quality of work life of employees. The STS approach have two set goals: 1) involving employees in all aspects of the workplace, thus improving the quality of their work experience; and 2) improving the performance and productivity of the organisation. The overall outcome of the STS approach is to increase the productivity and profitability of the organisation and enhance the well-being of individual employees, thus focusing on both the organisational and personal needs (Davis & Trist, 1974).

According to Stein (1983) the issue is not whether quality of work life and productivity should be coupled, rather what conditions are required for both aspects to be increased within the organisation. Rubinstein (1983) describes quality of work life as the process organisations can follow to involve employees in decision-making on their work life, thereby helping them reach their full potential. Ellinger and Nissen (1987) view quality of work life as the work environment in the organisation that encourages employees to participate, communicate and support different aspects regarding their job, the organisation as such and future self-worth of employees. Since the beginning of the 21st century, adherents of the construct quality of work life became more aware of the employees’ well-being and fulfilment of their needs (Kotze, 2005).

Carayon (1997) developed a measurement for quality of work life based on the balance theory. The balance theory, designed by Smith and Carayon (1989), can be described as a five-system construct where the systems influence one another positively or negatively (Smith & Carayon, 1989). The five-systems construct consists of: 1) the individual, 2) tasks, 3) organisational factors, 4) the physical environment and 5) tools and technology (Smith & Carayon, 1989). Carayon (1997) explain that when these five systems influence each other, either positively, or negatively, this will also impact the quality of an employee's work life in the two ways. The construct quality of work life is developing continuously (Brook & Gawel, 2001).

Sirgy et al. (2001) point out that there is no formal definition for quality of work life. At the most, it can be considered as a construct that involves the well-being of employees. Sirgy et al. (2001) developed a measurement for quality of work life based on theoretical approaches: need satisfaction and spillover theories (Sirgy et al., 2001). The need satisfaction approach is based on models developed by various researchers and focuses on the methods to satisfy basic needs through the work (Alderer, 1972; Hertzberg, 1966; McClelland, 1961). According to Sirgy et al. (2001), spillover occurs when individual employees' job, by satisfying one area in their life, may satisfy another area as well. Sirgy et al. (2001) explain further that job satisfaction and quality of work life differ significantly, and that job satisfaction is a construct based on the concept of quality of work life. In current research, the focus of quality of work life has shifted towards the concern how the organisations gratify employees' working needs. Nevertheless, the conceptualisation differs only from those of 1960 to 1970, by viewing quality of work life as satisfaction in a broader, organisational, sense (Kotze, 2005).

Srivastava and Kanpur (2014) define quality of work life as the extent to which employees experience motivation, involvement and commitment in their organisation. A more recent definition stems from Swamy et al. (2015), who view quality of work life as the extent to which individuals are satisfied with their personal and working needs whilst completing job tasks in the organisation. Consequently, the definition established by Swamy et al. (2015) was used in the present study as the most recent definition recognised for this construct.

The Quality of Work Life scale

The first quality of work life measurement was developed by Hackman and Oldham in 1976, who focused on the psychological growth of individuals that contributes to quality in their work life (Hackman & Oldham, 1976). The measurement consisted of five components: skill variety, task identity, task significance, autonomy and feedback (Hackman & Oldham, 1976).

Kotze (2004) states that since the beginning of the 21st century, the concept quality of work life, became more popular; increasingly researchers developed measurements for this construct. Sirgy et al. (2001) developed a quality of work life scale that focuses on job satisfaction and spillover theories, the scale

comprises four components on which need satisfaction is based: job requirements, work environment, supervisory behaviour and ancillary programmes. Furthermore, Ellis and Pompli (2002) developed a scale that combines job satisfaction and quality of work life and comprising 13 components from poor working environments, resident aggression and lack of involvement in decision-making to role conflict and lack of opportunity to learn new skills.

More recently, as indicated previously, Swamy et al. (2015) developed the Quality of Work Life scale consisting of nine dimensions: work environment, organisational culture and climate, relations and co-operations, training and development, facilities, job satisfaction and job security, autonomy of work and adequacy of resources. These nine dimensions are explained below.

Work environment

Work environment is considered as the physical and emotional condition that individual employees experience in the workplace (Oludeyi, 2015). Physical conditions are factors such as office temperature, equipment and personal computers; emotional conditions refer to factors such as the mood, conflict and relationships among individuals (Oludeyi, 2015).

Organisational culture and climate

Organisational culture can be defined as factors such as beliefs, values, assumptions and networking, which influence the social and psychological situation in the organisation (Schrodt, 2002). Organisational climate points to the behaviour of employees in the organisation that form part of the social and psychological environment (Castro & Martins, 2010).

Relations and co-operations

Relations and co-operations point to the processes in which employees and managers work together to achieve organisational goals, the extent to which these stakeholders communicate and the nature and quality of the relationship between them (Swamy et al., 2015).

Training and development

Training and development entail various methods such as workshops, courses and seminars, which managers can implement to enhance employees' performance, knowledge and skills in the organisation (Nda & Fard, 2013).

Compensation and rewards

Compensation and rewards are used to motivate and award employees for efficient performance and achieving the organisation's goals (Swallow, Leimona, Yatich & Velarde, 2010). When employees are

compensated for their performance, fellow employees are motivated to increase their performance in the workplace as well (Swallow et al., 2010).

Facilities

Facilities play a major role in improving the quality of employees' work life (Swamy et al., 2015). In this regard, facilities entail factors such as work arrangements, transportation, flexible working hours, which may impact the physical and emotional need of employees (Swamy et al., 2015).

Job satisfaction and job security

Job satisfaction implies the degree to which employees experience high levels of satisfaction, motivation and happiness with their job in the organisation (Monga, Flotman & Cilliers, 2018). Job security means employees feel their job is protected and they can remain working at the organisation for an extended period (Lucky, Minai & Rahman, 2013).

Autonomy of work

Employees are afforded the chance to co-ordinate decision-making and their own work activities. Such opportunities will strengthen employees' independence and authority in the organisation, leading to autonomy in their work (Swamy et al., 2015).

Adequacy of resources

Adequacy of resources implies sufficient time, equipment and information available to help employees achieve the organisation's goals and complete assignments successfully (Swamy et al., 2015).

As mentioned previously, the Quality of Work Life scale from Swamy et al. (2015) does not include other variables in the measurement and establishes only the core levels of quality in individual employees' work life. Therefore, the scale of Swamy et al. (2015) was used in the present study and validated within the South African manufacturing industry.

Psychometric properties of the Quality of Work Life scale

The construction and validation of a measuring scale must be evaluated to establish whether it has appropriate psychometric properties. In other words, it should be determined whether the questionnaire is reliable and valid within a certain context (Ginty, 2013). As explained previously, The Employment Equity Act states that it is mandatory for psychometric measurements to be fair to all participants, scientifically reliable and valid as well as avoid bias towards any participant. Therefore, it was necessary for the present study to determine the psychometric properties of the Quality of Work Life scale as developed by Swamy et al. (2015), namely its reliability and validity. It is vital to use measuring

instruments that show evidence of reliability and validity since such instruments have clear implications for relationships with other variables (DeVellis, 2003).

Reliability can be described as the extent to which a measurement is stable and consistent –each time the measurement is used, it will be consequent (Golafshani, 2003). Cronbach's alpha is the most widely-used reliability coefficient to determine the internal-consistency of a measure (Nunnally & Bernstein, 1994). To measure the internal consistency of a scale, Cronbach's alpha coefficients should score 0.70 and higher for the measurement to be considered as reliable (Golafshani, 2003). Swamy et al. (2015) found the Cronbach's alpha coefficient for the scale as 0.88, which is therefore reliable (> 0.70).

An indicator to determine the validity of measuring instruments is construct validity. This form of validity entails the degree to which a scale measures the theoretical construct or item that it is supposed to do (Foxcroft & Roodt, 2013; Silverman, 2016). Factor analytical procedures may be used to determine validity. Factor analysis is a method used to explain unpredictable observed, correlated variables in terms of unobserved variables (Silverman, 2016). Two types of analyses are typically used: exploratory factor analysis (EFA) and confirmatory factor analysis (CFA).

Exploratory factor analyses (EFA): a method to recognise the underlying relationships between the measured variables, thus the analysis determines the latent constructs of the measured variables (Silverman, 2016).

Confirmatory factor analysis (CFA): is a statistical procedure to assess how well the numbers of constructs are represented by the measured variables (Brown, 2004). This analysis is used to confirm the model of the factor loading (i.e. item-factor relationship) and the fundamental elements of the instrument (i.e. factors) (Brown, 2004).

The present study made use of EFA to determine the internal validity of the measurement by exploring the extractions of the factors (Silverman, 2016). Thereafter, CFA was used to determine the goodness of fit of the measurement by analysing how the assessment should be scored (Brown, 2004).

Swamy et al. (2015) used EFA to determine the validity through principle component analysis (PCA). PCA can be defined as a method to convert correlated variables into linear, uncorrelated ones (Silverman, 2016). The criteria which Swamy et al. (2015) applied to retain factors, include eigenvalues greater than 1, explained variance greater than 60% and items that load at 0.5 or greater. The Quality of Work Life scale that Swamy et al. (2015) developed comprises nine dimensions that explained 82.24% of the total variance. Factors were considered which indicated a loading of at least 0.5 on a single factor. Swamy et al. (2015) found that their developed questionnaire was valid and reliable and thus, introduced the final questionnaire consisting of 50 items and nine dimensions. The present study tested the reliability and construct validity of the Quality of Work life scale developed by Swamy et al. (2015).

Based on the discussion above, the following researched hypotheses were formulated:

H1: The Quality of Work Life scale (QWLS) is a nine-factor construct, consisting of *work environment, organisational culture and climate, relations and co-operations, training and development, compensations and rewards, facilities, job satisfaction and job security, autonomy of work and adequacy of resources.*

H2: The Quality of Work Life scale (QWLS) is a reliable and valid scale within the South African context.

Research design

The research design entails the approach and the methods used in the study, and are discussed subsequently.

Research approach

The study followed a quantitative research approach. Such an approach can be described as conclusive research involving a sample fitting to the study. This sample can be examined through statistical procedures and numbers to determine whether the research sample fitting can be true (Struwig & Stead, 2013). A characteristic of quantitative research is questions posed about relationships, thus aiming to predict, explain or control the measured variables (Flick, 2018). Furthermore, the research was descriptive and constructed based on a cross-sectional design. Cross-sectional research enables researchers to investigate a group of people at a single point in time (De Vos, Strydom, Fouche & Delport, 2011). A cross-sectional research design is a method to determine the different responses to each posed question (Flick, 2018).

The present study chose a cross-sectional design since it is suitable to calculate the measured variables in terms of correlations (Flick, 2018). Such a design is easier to use when conducting research on a large population and makes the process more cost-effective (Kumar, 2019). The research design also allows the researcher to collect data over a brief period, requiring minimum interaction with the participants (Maree & Pieterson, 2007).

Research method

Research participants

The target population of the study was selected from bottom-, first-line, middle and top management in organisations within the South African manufacturing industry, investigating a population size of N=400. A combined method of convenience and purposive non-probability sampling was used. The participants who were easily reachable and conveniently located were selected for this study, thus making the process time-efficient and cost-effective (Roller & Lavrakas, 2015) The selection of the participants was based on

their qualities and knowledge, thus, purposive sampling used (Etikan, Musa & Alkassim, 2016). In this regard the researcher selected the participants based on judgement whether they fit the inclusion criteria of the study and were easily reachable for the researcher (Roller & Lavrakas, 2015). The participants differed in terms of age and highest qualifications, which made them suitable for this study. The questionnaires were presented in English, therefore all participants had to have a working knowledge to understand, read and write English. The participants had to be from the age of 18 to the age of 65 years, as well as employed within a manufacturing company in South Africa.

The participants selected for the study, showed diverse characteristics such as age, current job level and highest level of education and are reported in Table 1 below.

TABLE 1: *Characteristics of participants (N = 400)*

Item	Category	Frequency	Percentage
Age	18-29 years	84	21.0
	30-39 years	140	35.0
	40-49 years	78	19.5
	50-59 years	64	16.0
	60-65 years	34	8.5
Current job level	Senior	67	16.8
	Professional qualified	101	25.3
	Skilled	139	34.8
	Semi-skilled	91	22.8
Highest qualification	Grade 12/Matric	117	29.3
	Diploma	117	29.3
	Degree	79	19.8
	Postgraduate degree	66	16.5
	Other:		
	ABET	3	0.8
	Boilermaker	1	0.3
	Certificates	10	2.5
	Grade 11	6	1.5
	NQF 3	1	0.3

As is evident from Table 1 above, 35% of the participants were from the age of 30 to 39 years; 21% from 18 to 29 years; 19.5% from 40 to 49 years; 16% from 50 to 59 years and 8.5% from 60 to 65 years. Of the total sample, 34.8% of participants occupied the following positions: skilled technical, academically qualified, junior management, supervisor, foreman or superintendent. On the other hand, 25.3% of participants stood in the following positions: professional qualified, experienced specialist or mid management. In addition, 22.8% were in a semi-skilled or discretionary decision-making position; and 16.8% occupying a senior management position. The highest qualification indicates that participants with a Grade 12/matric or Diploma comprises 29.3% of the study; 19.8% have a degree; 16.5% have a postgraduate qualification; and 5.4% have other qualifications, for example: ABET, Boilermaker, certificates, Grade 11 and a NQF level 3.

Measuring instruments

The following measuring instruments were used in the study:

A *biographical questionnaire* was included to gather information on the demographical characteristics of the participants. The information enabled a thorough description of the target population. The questionnaire focused on age, job level and highest qualification.

The *Quality of Work Life scale* (QWLS) developed by Swamy, et al. (2015) was used. The questionnaire consists of 50 items. As was indicated previously, the QWLS was measured based on nine dimensions: *Work environment* (e.g. "My company work environment is good and highly motivating"); *Organisation culture and climate* (e.g. "There is good cooperation among all departments for achieving the goals"); *Relation and co-operation* (e.g. "There is harmonious relationships with my colleagues"); *Training and development* (e.g. "The training programs aim at improving Interpersonal relationship among employees"); *Compensation and rewards* (e.g. "I feel that I am given an adequate and fair compensation for the work I do"); *Facilities* (e.g. "Fringe benefits provided are good"); *Job satisfaction and job security* (e.g.
"I feel comfortable and satisfied with my job"); *Autonomy of work* (e.g. "My job lets me use my skills and abilities"); and *Adequacy of resources* (e.g. "There are much defined channels for information exchange and transfer"). A five-point Likert scale was used, where participants indicated their level of agreement (1 – *strongly disagree;* 2 – *disagree;* 3 – *uncertain;* 4 – *agree;* and 5 – *strongly agree*). Swamy et al. (2015) found the reliability coefficient of the overall questionnaire scoring 0.80, which means the scale is reliable.

Research procedure and ethical considerations

Ethical clearance for the present study was obtained from the respective university's Scientific and Ethical Committee (Ethical approval number: NWU-00604-17-S4). After permission was granted, the research commenced. Permission was requested to conduct the study at possible manufacturing organisations. This was done by contacting the manufacturing organisations' Human Resource Managers and providing them with a formal letter explaining the aim of the study. After permission was obtained to involve employees, a formal presentation was made to the respective Human Resource Departments. In this presentation the study and procedure were explained in detail and a date established when data collection could take place. The Human Resource Managers sent out an email to inform their employees about the study and questionnaire. These managers thus, fulfilled the role of facilitator and were involved only in granting permission and notifying individual employees in the respective organisations.

After the various manufacturing departments granted permission and access, the researcher distributed the pen-and paper questionnaire booklet to the relevant employees. It was made clear that the questionnaire

booklet is anonymous and participants could withdraw at any stage without repercussions. The consent forms were distributed and signed before the questionnaire booklets were handed to individual employees. The researcher also explained that the employees have three weeks to complete the questionnaire booklet.

In the process, the researcher took responsibility to ensure all participants were treated fairly, and no individual was forced to participate in the study, or caused any physical or emotional harm (Gajjar, 2013). The researcher handled the procedure in an objective and open manner, focusing on integrity, carefulness and avoiding bias against any participants (Christensen, Johnson & Turner, 2014). Furthermore, the researcher treated all participants honestly and did not withhold information from them, which may have led to errors (Christensen, Johnson & Turner, 2014). After participants completed the booklet, it was collected personally by the researcher. Of the 400 questionnaires distributed, all 400 (100% response rate) were returned and used for data analyses. All the completed questionnaires were stored in a safe space to ensure no information was divulged to a third party. After data collection, the information was screened and cleaned (questionnaires with incomplete statements were removed), after which the statistical analysis commenced.

Statistical analyses

The statistical analyses were carried out by using the SPSS (IBM 23, 2016) and AMOS programmes (Arbuckle, 2007). The data were processed and examined using descriptive statistics that explored the data in terms of mean, standard deviations, skewness and kurtosis (Berkman & Reise, 2012). Descriptive statistics is a method to identify how items were distributed and provide a summary of those in accordance with the study (Berkman & Reise, 2012). Skewness are used to measure the regularity, and kurtosis, the weakness of the items' allocations (Nethmini & Ismail, 2019). Those items with a loading of < 2 (skewness) and < 4 (kurtosis) were retained for further investigation in the study (George & Mallery, 2010).

Exploratory factor analysis (EFA) was used to explore the factors of the Quality of Work Life scale (QWLS). Typically, EFA is used to determine the underlying factor structure of the construct validity regarding the scale that is measured (Henson & Roberts, 2006). To determine whether the EFA produced meaningful results, the Kaiser-Meyer Olkin (KMO) and Bartlett's test of sphericity were also applied. The KMO values between 0.8 and 1, indicates that the sampling is satisfactory and the EFA will be useful for the data; KMO values that were less than 0.5, indicated that the sampling is not satisfactory and will not be useful for the data (Field, 2013). Bartlett's test of sphericity indicates whether EFA will also be useful to process the data and the value must be less than 0.05 (Field, 2013). The items of the QWLS were explored through principle component analyses (PCA) to determine the overall factors for the

measurement (Berkman & Reise. 2012). This analysis was followed by a direct oblimin rotation to examine the factors more accurately (Filed, 2013).

Furthermore, Cronbach's alpha coefficients were used to measure the reliability of the scale's dimensions – greater than 0.70 is considered reliable (Tabachnick & Fidell, 2001). Corrected item-total correlations were used to examine each item of the QWLS individually. Item-total correlation determines whether a response given to an item correlates with the response given to the overall scale (Furr & Bacharach, 2008). Item-total correlations of greater than 0.20 must be retained and all those with an item-total correlation of less than 0.20 must be discarded (Furr & Bacharach, 2008).

To test the validity of the scale further, confirmatory factor analysis (CFA) was used. CFA examines the theoretical model, in order to fit it to the data of the complete sample. Several indices were used to determine the goodness of fit for the measurement: the comparative fit index (CFI), Tucker-Lewis Index (TLI), the root-mean-square-error of approximation (RMSEA), minimum sample discrepancy divided by degrees of freedom (CMIN/DF) and the X^2 statistic. The RMSEA levels which indicate a good fit should be 0.05 or less (Hoyle, 1995). However, Cudeck and Browne (1993) found that levels of 0.08 and lower can also be considered as acceptable fit. Acceptable levels of goodness of fit of the CFI and TLI are viewed as 0.90 and higher (Byrne, 2001). Mueller (1996) suggests that levels < 5 of the CMIN/DF can be considered a good model fit.

Product-moment coefficient was used to determine the relationships between the variables and test the convergent validity of the measurement. The cut-off points for statistical significance was set at $p < 0.1$ level (*) (Berkman & Reise. 2012). The significant cut-off points for practical significance of the correlations was set at $r < 0.30$ (small effect), $0.30 < r > 0.50$ (medium effect) and $r > 0.50$ (large effect) (Berkman & Reise. 2012).

Results

Descriptive statistics of items for the Quality of Work Life scale

The first step of the analysis was to examine all 50 items from the Quality of Work Life scale (QWLS) by means of descriptive statistics. Such statistics provided an overall, coherent and straightforward outlook of the summarised data, which included the mean, standard deviation, range of scores (skewness and kurtosis) of the mentioned 50 items (Pallant, 2016; Struwig & Stead, 2010). Descriptive statistics were thus used to identify the distribution of the items, and determine whether certain items were answered consistently or randomly. The skewness and kurtosis were analysed according to DeCarlo (1997)'s suggestion that items with a skewness < 2 and kurtosis < 4 are acceptable for further analysis. In descriptive statistics, the skewness is an indicator of the symmetry in the distribution, whereas kurtosis

describes the weakness of the distribution (Pallant, 2016). Table 2 below indicates the quality of the data for the scale, by examining the skewness and kurtosis of the items.

TABLE 2: *Descriptive statistics examining QWLS*

Code	Items of the QWLS	Mean	*SD*	Skewness	Kurtosis
C1	My company work environment is good and highly motivating	3.66	1.14	-0.68	-0.45
C2	Working conditions are good in my company	3.71	1.15	-0.74	-0.50
C3	It is hard to take time off during our work to take care of personal or family matters	3.06	1.36	-0.73	-1.30
C4	My company offers sufficient opportunities to develop my own abilities	3.36	1.29	-0.42	-1.01
C5	My company provides enough information to discharge my responsibilities	3.27	1.23	-0.33	-0.96
C6	I am given a lot of work empowerment to decide about my own style and pace of work	3.26	1.35	-0.28	-1.23
C7	There is cooperation among all the departments for achieving the goals	3.32	1.26	-0.27	-1.05
C8	I feel free to offer comments and suggestions on my performance	3.39	1.35	-0.51	-1.07
C9	I am proud to be working for my present company	3.78	1.20	-0.87	-0.18
C10	I am involved in making decisions that affect my work	3.30	1.39	-0.35	-1.21
C11	I am discriminated on my job because of my gender	2.05	1.19	0.85	-0.45
C12	The wage policies adopted by my company are good	3.24	1.24	-0.37	-0.95
C13	The company communicates every new change that takes place	3.27	1.30	-0.36	-1.12
C14	There is a harmonious relationship with my colleagues	3.82	1.12	-0.89	-0.04
C15	There is a strong sense of belongingness in my organisation	3.52	1.21	-0.42	-0.84
C16	I am unable to attend to my personal work due to the demands made by my job	3.00	1.29	-0.06	-1.20
C17	The relationship between managers and employees are very good	3.34	1.25	-0.41	-0.93
C18	There is a very cordial relationship with my immediate superior	3.68	1.16	-0.70	-0.39
C19	I will get good support from my sub-ordinates	3.66	1.23	-0.76	-0.48
C20	Training programs in our company help employees to achieve the required skill for performing the job effectively	3.51	1.25	-0.50	-0.89
C21	The training programs aim at improving interpersonal relationship among employees	3.31	1.24	-0.26	-1.04
C22	My company offers sufficient training opportunities to perform my job competently	3.41	1.27	-0.46	-0.94
C23	I feel that the training programs should be conducted frequently	4.20	0.87	-1.46	2.56

C24	I feel that I am given an adequate and fair compensation for the work I do	3.34	1.30	-0.40	-1.04
C25	Organisation will pay salaries by considering responsibilities at work	3.31	1.30	-0.39	-1.04
C26	Company does a good job of linking rewards to job performance	3.13	1.32	-0.13	-1.16
C27	Promotions are handled fairly	3.00	1.36	-0.02	-1.27
C28	When I do my job well, I am praised by my superiors	3.38	1.30	-0.45	-0.98
C29	Fringe benefits provided are good	3.26	1.23	-0.36	-0.91
C30	Company provides the social security benefits like EPF/medical Reimbursement and so on	3.41	1.21	-0.50	-0.77
C31	Good transportation facilities are provided by the company	2.89	1.42	0.07	-1.39
C32	Safety measures adopted by the company are good	3.63	1.20	-0.78	-0.34
C33	Good welfare activities are provided by our company	3.31	1.24	-0.37	-0.94
C34	I feel comfortable and satisfied with my job	3.50	1.35	-0.55	-0.98
C35	I feel quite secure about my job	3.29	1.35	-0.31	-1.15
C36	Conditions of my job allow me to be as productive as I could be	3.56	1.25	-0.59	-0.77
C37	A strong trade union is required to protect employee's interests	3.24	1.30	-0.31	-1.01
C38	The job security is good	3.40	1.22	-0.53	-0.73
C39	My earnings are fair when compared to the others doing the same type of work in other companies	3.16	1.36	-0.20	-1.23
C40	The procedure followed for job rotation is good	3.08	1.22	-0.18	-0.94
C41	I feel that my work allows me to do my best in a particular area	3.64	1.21	-0.73	-0.53
C42	My job lets me use my skills and abilities	3.78	1.20	-0.93	-0.14
C43	My company allows a flexi-time option	2.55	1.27	0.46	-0.86
C44	A part of my job is allowed to be done at home	2.32	1.34	0.65	-0.88
C45	I find my work quire stressful	3.51	1.24	-0.51	-0.88
C46	I am ready to take on additional responsibility with my job	3.63	1.09	-0.71	-0.19
C47	In our company there is a balance between stated objectives and resources provided	3.30	1.19	-0.24	-1.01
C48	There are much defined channels for information exchange and transfer	3.28	1.22	-0.29	-0.98
C49	My company provides resources to facilitate my performance	3.24	1.28	-0.29	-1.01
C50	Communication and information flow between the departments is satisfactory	3.27	1.26	-0.29	-1.06

It is evident from Table 2 above, that all the items of the QWLS are relatively normally distributed, as stipulated by the guidelines of skewness (<2) and kurtosis (<4) (George & Mallery, 2010). Therefore, all

items of the QWLS were included in the exploratory factor analysis (EFA) to determine the factor structure of the scale.

Validity and reliability

Exploratory factor analysis (EFA) was utilised to examine the dimension structure of the QWLS. A principle component analysis (PCA) with a direct oblimin rotation was used to examine the original nine dimensions of the QWLS, which included all 50 original items. This oblique rotation method was used since it allows a more accurate inter-correlation of dimensions (Fabrigar, Wegener, MacCallum & Strahan, 1999; Field, 2013). Certain assumptions need to be met for an EFA to produce meaningful results, namely sample size, Kaiser-Meyer Olkin (KMO), Bartlett's test of sphericity and eigenvalues. These assumptions are expounded below.

Firstly, the sample size should exceed a ratio of ten cases per independent variable (Field, 2013). Given that this assumption was met, it was suitable to conduct factor analysis. Secondly, the KMO had a value of 0.97, namely more than 0.50. This indicated that the KMO produced a value that was appropriate for factor analysis (Williams, Onsman &, Brown 2012). Thirdly, Bartlett's test of sphericity produced a significant result (P = 0.000), while nine dimensions explained 69.93% of the variance, with a goodness-of-fit value of 14882.28 (chi-square). Therefore, this assumption was met that the scale items correlated adequately (Field, 2013). Finally, Kaiser's criterion factors produced eigenvalues larger than 1.00 (Kaiser, 1970).

In light of the findings above, the original nine-dimension model with 50 items as proposed by Swamy et al. (2015), were found to fit the data best. This nine-dimensional model was examined further by determining whether each of the mentioned nine dimensions shows reliable internal consistency (Foxcroft & Roodt, 2018).

To investigate the internal consistency of the nine-dimensional items of the QWLS, Cronbach's alpha coefficients were calculated. As explained previously, for a scale to be reliable, coefficient alpha values of greater than 0.70 are considered, which indicates a high internal consistency among items (George & Mallery, 2003; Struwig, & Stead, 2013). If a scale does not show this reliability, the items have low correlations with other items and should be discarded (Dewberry, 2004). To assess whether the responses provided on a given item were consistent with those given on the overall scale, all corrected item-total correlations were examined. As a rule of thumb, Field (2013) recommends that only items with item-total correlations of greater than 0.20 should be retained.

TABLE 3: *Descriptive statistics and internal consistency of the QWLS*

	Mean	*SD*	Skewness	Kurtosis	Number of items	*α*	Corrected Item-total correlation
Work environment	3.37	0.91	-0.52	-0.52	6	0.83	$0.22 < r > 0.73$
Organisation culture and climate	3.46	0.96	-0.53	-0.57	7	0.87	$0.31 < r > 0.75$
Relation and co-operation	3.50	0.88	-0.41	-0.45	6	0.83	$0.34 < r > 0.70$
Training and development	3.61	0.91	-0.47	-0.54	4	0.78	$0.23 < r > 0.74$
Compensation and rewards	3.23	1.11	-0.43	-0.78	5	0.90	$0.69 < r > 0.77$
Facilities	3.30	0.97	-0.42	-0.57	5	0.82	$0.55 < r > 0.70$
Job satisfaction and job security	3.38	1.06	-0.59	-0.63	7	0.92	$0.66 < r > 0.85$
Autonomy of work	2.99	0.96	-0.15	-0.71	4	0.76	$0.51 < r > 0.64$
Adequacy of resources	3.26	1.11	-0.34	-0.86	3	0.87	$0.70 < r > 0.78$

As Table 3 above indicates, Cronbach's alpha coefficients for each of the QWLS's nine dimensions were greater than the 0.70 value, therefore all nine dimensions were considered reliable (Tabachnick & Fidell, 2001). However, three of the items in the scale did not show acceptable item-total correlations as set out by Field's (2013) recommendations; thus, it was decided to discard these items. For the dimension *Job satisfaction and job security*, item 37 specifically, was omitted as it showed an item-total correlation of -0.02. Furthermore, two items from the dimension *Autonomy of work* (item 45, item-total correlation = -0.06 and item 46 item-total correlation = 0.09) were omitted from the scale. Additionally, as is evident from Table 3 above, all corrected correlations were above the recommended 0.20 cut-off (Field, 2013). The nine dimensions were also examined to test whether the data were distributed normally (Field, 2013). Table 3 shows clearly that most variables were distributed normally as both values were close to zero (Field, 2013). The nine dimensions of the QWLS were measured on a 5-point Likert scale and Table 3 above indicates that the respondents experienced relatively high levels of *Training and development* as a quality of work life dimension ($M = 3.61$; $SD = 0.91$).

To examine the validity and the model fit further of the QWLS's sample, a confirmatory factor analysis (CFA) was done. This model included the nine dimensions of the QWLS with only 47 items (as 3 items were discarded during the reliability analysis). CFA has the advantage of statistically testing a hypothesised structure based on the postulated relationship between the observed measure and the underlying factors (Byrne, 2001). Structural equation modelling (SEM) methods, as implemented by AMOS (Arbuckle, 2007) were used to analyse the goodness-of-fit of the nine-dimensional model for the QWLS. The goodness-of-fit for this model was determined by the following indicators: 1) values of the comparative fit index (CFI), which includes values 0.90 and above; 2) chi-square (Cmin/df) values < 5; 3) root-mean-square-residual (RMSEA), where values of 0.05 or less indicate a good fit, but those of 0.08 and lower can also be considered as an acceptable fit (Browne & Cudeck, 1993); 4) the Tucker-Lewis Index (TLI), includes values of 0.90 and above (Hooper, Coughlan & Mullen, 2008).

The result of CFA conducted on the nine-dimensional model is presented in Table 4 below.

TABLE 4: *Goodness-of-fit statistics for the nine-dimensional model of the QWLS*

Model	χ^2	χ^2/df	IFI	TLI	CFI	RMSEA	*p*
Nine-dimensional model	3348.36	3.36	0.84	0.82	0.84	0.08	0.00*

*$p < 0.05$ is significant

As is evident from Table 4 above, the CFI value of the model was 0.84 and the TLI value was 0.82, which indicates that the values do not fall within the cut-off points of the CFI and TLI. However, the RMSEA value of 0.08 did fall within the cut-off point, which expresses a moderately good fit. According to Browne and Cudeck (1993), values equal to or lower than 0.08 indicate an acceptable model. Therefore, the RMSEA value of the model indicates a moderately good fit. The CMIN/DF value is 3.36, and must be under 5.0 to be a good fit. Taking all indices into consideration, the QWL model is proven to be a moderately good fit according to the CMIN/DF and RMSEA values.

The standardised regression coefficients for the different items are indicated in Table 5 below.

TABLE 5: *Standardised model results*

Observed variables	Estimates (Standardised)	*P*
Item 1: My company work environment is good and highly motivating	0.83	0.00*
Item 2: Working conditions are good in my company	0.86	0.00*
Item 3: It is hard to take time off during our work to take care of personal or family Matters	0.24	0.00*
Item 4: My company offers sufficient opportunities to develop my own abilities	0.70	0.00*
Item 5: My company provides enough information to discharge my responsibilities	0.72	0.00*
Item 6: I am given a lot of work empowerment to decide about my own style and pace of work	0.73	0.00*
Item 7: There is cooperation among all the departments for achieving the goals	0.74	0.00*
Item 8: I feel free to offer comments and suggestions on my performance	0.82	0.00*
Item 9: I am proud to be working for my present company	0.81	0.00*
Item 10: I am involved in making decisions that affect my work	0.78	0.00*
Item 11: I am discriminated against my job because of my gender	0.32	0.00*
Item 12: The wage policies adopted by my company are good	0.68	0.00*
Item 13: The company communicates every new change that takes place	0.73	0.00*
Item 14: There is a harmonious relationship with my colleagues	0.54	0.00*
Item 15: There is a strong sense of belongingness in my organisation	0.77	0.00*
Item 16: I am unable to attend to my personal work due to the demands made by my job	0.41	0.00*
Item 17: The relationship between managers and employees are very good	0.77	0.00*
Item 18: There is a very cordial relationship with my immediate superior	0.75	0.00*
Item 19: I will get good support from my sub-ordinates	0.78	0.00*
Item 20: Training programs in our company help employees to achieve the required skill for performing the job effectively	0.87	0.00*
Item 21: The training programs aim at improving interpersonal relationship among employees	0.76	0.00*
Item 22: My company offers sufficient training opportunities to perform my job competently	0.83	0.00*
Item 23: I feel that the training programs should be conducted frequently	0.26	0.00*
Item 24: I feel that I am given an adequate and fair compensation for the work I do	0.81	0.00*
Item 25: Organisation will pay salary by considering responsibilities at work	0.79	0.00*
Item 26: Company does a good job of linking rewards to job performance	0.79	0.00*
Item 27: Promotions are handled fairly	0.81	0.00*
Item 28: When I do my job well, I am praised by my superior	0.77	0.00*
Item 29: Fringe benefits provided are good	0.74	0.00*
Item 30: Company provides the social security benefits like EPF/Medical Reimbursements and so on	0.62	0.00*

Item 31: Good transportation facilities are provided by the company	0.57	0.00*
Item 32: Safety measures adopted by the company are good	0.75	0.00*
Item 33: Good welfare activities are provided by our company	0.78	0.00*
Item 34: I feel comfortable and satisfied with my job	0.88	0.00*
Item 35: I feel quite secure about my job	0.85	0.00*
Item 36: Conditions on my job allow me to be as productive as I could be	0.82	0.00*
Item 38: The job security is good	0.82	0.00*
Item 39: A strong trade union is required to protect employee's interest	0.72	0.00*
Item 40: The procedure followed for job rotation is good	0.71	0.00*
Item 41: I feel that my work allows me to do my best in a particular area	0.83	0.00*
Item 42: My job lets me use my skills and abilities	0.77	0.00*
Item 43: My company allows a flexi-time option	0.54	0.00*
Item 44: A part of my job is allowed to be done at home	0.48	0.00*
Item 47: In our company there is a balance between stated objectives and resources provided	0.83	0.00*
Item 48: There are much defined channels for information exchange and transfer	0.80	0.00*
Item 49: My company provides resources to facilitate my performance	0.86	0.00*
Item 50: Communication and information flow between the departments is satisfactory	0.83	0.00*

*$p < 0.05$ is significant

The above-mentioned regression coefficients are based on changes in standard deviation units. In other words, for every increase in standard deviation unit, the respondent's score increases with the similar standard deviation amount (Kelly, 2007). The values for the standardised regression coefficients, which are closer to 1 have a strong effect on the variables, whereas values closer to 0 have a weaker effect (Kelly, 2007). The values presented in Table 5 above, indicate a good regression weight, therefore all the variables can be used in the nine-dimensional model. The p-values of all the items are found to be statistically significant.

Finally, acceptable Cronbach's alpha coefficients were obtained for the nine-dimensional model, which was reported in Table 3 above. These results indicate that the Quality of Work Life scale (QWLS) consists of a nine-dimensional model, is reliable and valid. Therefore, Hypothesis 1 can be confirmed indicating that the QWLS is a nine-factor construct, consisting of work environment; organisational culture and climate; relations and co-operations; training and development; compensation and rewards; facilities; job satisfaction; autonomy of work; and adequacy of resources. Furthermore, Hypothesis 2 is confirmed, namely that the QWLS is reliable and a valid scale within the South African context.

Correlations

The corrleation coeffiecients between the constructs are displayed in Table 6 below.

TABLE 6: *Correlation matrix between nine dimensions of the QWLS*

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
1. Work environment	1.00							
2. Organisational culture and climate	0.78*[c]	1.00						
3. Relation and co-operation	0.74*[c]	0.80*[c]	1.00					
4. Training and development	0.63*[c]	0.66*[c]	0.64*[c]	1.00				
5. Compensation and rewards	0.75*[c]	0.77*[c]	0.75*[c]	0.64*[c]	1.00			

6. Facilities	0.61*[c]	0.68*[c]	0.60*[c]	0.60*[c]	0.69*[c]	1.00		
7. Job satisfaction and security	0.78*[c]	0.83*[c]	0.82*[c]	0.69*[c]	0.84*[c]	0.69*[c]	1.00	
8. Autonomy of work	0.67*[c]	0.67*[c]	0.67*[c]	0.58*[c]	0.66*[c]	0.55*[c]	0.75*[c]	1.00
9. Adequacy of resources	0.68*[c]	0.76*[c]	0.74*[c]	0.58*[c]	0.75*[c]	0.64*[c]	0.78*[c]	0.74*[c]

*$p < 0.01$ for all values; [a] Correlation ≥ 0.20 is practically significant (small effect); [b] Correlation ≥ 0.30 is practically significant (medium effect) [c] Correlation > 0.50 is practically significant (large effect)

Table 6 above indicates strong statistically significant positive correlations between all nine dimensions of the QWLS.

Discussion

The general objective of the present study was to determine the psychometric properties of the Quality of Work Life Scale within the South African context. In the following sections, the outline of the results is provided, practical implications drawn, limitations identified, and recommendations made.

Outline of the results

The first aim of the present study was to investigate whether the QWLS is a nine-factor construct consisting of *work environment, organisational culture and climate, relations and co-operations, training and development, compensations and rewards, facilities, job satisfaction and job security, autonomy of work and adequacy of resources.* The second aim was to establish whether the QWLS was reliable and valid within the South African context.

As was found previously, the QWLS consists of nine dimensions, *Work environment; organisational culture and climate; relations and co-operations; training and development; compensation and rewards; facilities; job satisfaction and job security; autonomy of work; and adequacy of resources* – which, combined, contains 50 items. All 50 items were measured on a 5-point Likert scale where the participants responded to each statement: 1 – *strongly disagree;* 2 – *disagree;* 3 – *uncertain;* 4 – *agree;* and 5 – *strongly agree.*

Item performance and distribution were investigated for the 50 items of the QWLS. The results of the full 50-item scale indicated that all items were distributed normally, according to the guidelines of skewness and kurtosis (DeCarlo, 1997; George & Mallery, 2010). This means that none of the analysed items had deviated from the normal distribution (Asiwe, Jorgensen, & Hill, 2014). In addition, this result indicated that the participants' responses were not inconsistent.

After examining the mean scores of the Likert response scale for the QWLS, it was found that the average mean was around 3.33, which indicates that the participants were leaning towards "uncertain" and "agree" responses. A possible reason may be that the participants were not biased towards either side of the response scale and were uncertain about their emotions towards the statement in the measurement.

Furthermore, a possible reason for participants to respond "uncertain" in the measurement is that they understood the meaning differently from its proposed meaning (Colton & Covert, 2007).

In light of the findings above, all the items were included in the exploratory factor analyses (EFA) for further investigations.

The (EFA) was done to examine the construct validity of the QWLS. Construct validity was indicated by the following: examining the explained variance, the KMO, Bartlett's test of sphericity, goodness-of-fit (chi-squire) and Kaiser's criterion. For each of the mentioned nine dimensions of the QWLS, a principle component analysis (PCA) was used as extraction method. The KMO indicated a value of 0.97, greater than 0.50 – therefore acceptable to conduct the factor analyses (Williams et al., 2012). Bartlett's test of sphericity indicated a *p*-value of 0.00 and the nine dimensions of the QWLS explained 69.93% of the total variance, whilst the goodness-of-fit indicated a value of 14882.28 (chi-square). Finally, Kaiser's criterion factors produced eigenvalues larger than 1.00 (Kaiser, 1970). Therefore, the nine dimensions with the 50 items were found to fit the data best.

After EFA was conducted, the corrected item-total correlations and reliability were examined. Corrected item-total correlations were examined to establish that the response given to an item is dependable on those given to the overall scale. In the process, three items in the QWLS did not show acceptable levels of item-total correlations and were therefore omitted. The dimension: Job satisfaction and job security had 1 item discarded: Item 37: *"A strong trade union is required to protect employee's interest",* seeing that the item-total correlations was -0.02. Two further items were omitted from the dimension Autonomy of work, namely: Item 45: *"I find my work quite stressful"* with a loading of -0.06 and Item 46: *"I am ready to take additional responsibility with my job"* with a loading of 0.09.

According to Field (2013), the cut-off point for item-total correlations is 0.20, thus all values from 0.20 and above should be retained. Furthermore, the levels of the nine dimensions' reliability were all greater than 0.70, thus can be considered as reliable. The recorded values were: Work environment: $\alpha = 0.83$; Organisational culture and climate: $\alpha = 0.87$; Relations and co-operations: $\alpha = 0.83$; Training and development: $\alpha = 0.78$; Compensations and rewards: $\alpha = 0.90$; Facilities: $\alpha = 0.82$; Job satisfaction and job security: $\alpha = 0.92$; Autonomy of work: $\alpha = 0.76$; and Adequacy of resources: $\alpha = 0.87$. The QWLS can be considered reliable since it adheres to the guidelines ($\alpha \geq 0.70$) as set out by Nunnally and Bernstein (1994).

Further analyses were done to determine the validity of the scale by examining the model fit of the remaining 47 items of the nine-dimension QWLS. Confirmatory Factor Analysis (CFA) was done using structural equation modelling (SEM) to confirm the validity of the scale. Goodness-of-fit indices included χ^2, RMSEA, CFI, IFI, TLI and CMIN. Although the results for the CFI, IFI and TLI were just below the cut-off point of 0.9 given as guidelines, the RMSEA value was within the cut-off point for a moderately

good fit. According to Browne and Cudeck (1993), values equal to or lower than 0.08 is an acceptable model. Therefore, the RMSEA value of the model indicates a moderately good fit equal to 0.08. Furthermore, most of the items showed good standardised regression weights above 0.30, which indicates that they can all be used in a nine-dimension model.

The correlation coefficients between the constructs indicated a statistically significant positive correlation between all nine dimensions of the QWLS. This means that the dimensions' measures what it intends to measure, and it can be inferred that the scale measures quality of work life. Based on these results, it can be concluded that the Quality of Work Life scale is a valid and reliable tool to use within the South African manufacturing industry.

Practical implications

The results of the present study contributed to the knowledge about quality of work life and its dimensions. This was done by providing evidence of the validity and reliability regarding the Quality of Work Life scale (QWLS) as developed by Swammy et al. (2015), which can be applied within the South African manufacturing industry. The use of a reliable measuring instrument for quality of work life within South Africa will provide organisations and management with the necessary information to understand the effects of this construct and provide support that will increase employees' performance, organisational commitment and decrease turnover intention. Through this understanding, organisations will be better equipped to adapt certain areas within the work environment.

Management that is aware of quality of work life can apply interventions or organise workshops for the employees to plan and implement strategies that could enhance their experience of quality in their work life. Quality of work life can be used as a tool to help establish a conducive work environment where employees can fulfil their needs. The Quality of Work Life scale will have a positive impact on South African organisations and benefit employees personally and the organisation as a whole.

Limitations and recommendations

The objectives of the present research study were achieved; however certain limitations should be pointed out.

Firstly, convenience sampling was used to collect data in manufacturing industries within South Africa. As a result, individuals were not located evenly across the selected South African context; only those employees who were easily reachable, were approached. Secondly, the collected data involved employees at management level, which excludes other levels of employees in the manufacturing industry. Finally, although the questionnaire was done voluntary and anonymous, there is a chance that the participants were not truthful when completing the questions.

Despite the identified limitations, certain recommendations can be made for future research.

Firstly, as mentioned above, participants were not located evenly throughout the various contexts in South Africa. Therefore, it is recommended that future studies broaden the scope to cover other industries in order to generalise the findings across South African organisations. Secondly, future research should consider other levels of employees as well when conducting a study, not only those on management levels. Thirdly, the psychometric properties of the Quality of Work Life scale should be investigated. The construct equivalence and item-bias of the scale can be examined in the future to determine whether the scale is bias towards certain individuals within the South African industries. Fourthly, where the study limited its research to the manufacturing industry of South Africa, future research should include a broader range of industries. Finally, future research should explore various outcomes associated with quality of work life and the impact it has on individual employees' psychological health.

Conclusions

In conclusion, the present study contributes and adds to the literature in this field, by having investigated the psychometric properties (i.e. reliability and validity) of the Quality of Work Life scale (QWLS). This study provides the first view of the QWLS, developed by Swamy et al. (2015), applied within the South African context. Therefore, it is important that other researchers apply this instrument to different contexts in future studies. Evidence was provided of the construct validity and the reliability of the mentioned scale. Although a few items had to be discarded from the analysis, the remaining items have shown sufficient reliability coefficients.

The present study contributed to literature on and the validation of the QWLS. The outcome is that South African manufacturing organisations can use these findings to help them address potential issues that may impact the quality of South African employees' work life, ultimately influencing the economic progress in the country.

REFERENCES

Afsar, S. T. (2014). Impact of quality of work life on organisational commitment: A comparative study on academicians working for state and foundation universities in Turkey. *International Journal of Social Science, 3*(4), 124-152.

Almalki, M. J., FitzGerald, G., & Clark, M. (2012). Quality of work life among primary healthcare nurses in the Jazan Region, Saudi Arabia: A cross-sectional study. *Human Resource of Health, 10*(30), 1-13.

Arbuckle, J. L. (2007). *Amos 18 user's guide.* Crawfordsville, IN: Amos Development Corporation.

Asiwe, D. N., Jorgensen, L. I., & Hill, C. (2014). The development and investigation of the psychometric properties of a burnout scale within a South African agricultural research institution. *South African Journal of Industrial Psychology, 40*(1), 14.

Ault, R. (1983). *The best times and the worst times: Defining quality of work life*. Reading, MA: Addison-Wesley.

Berkman, E. T., & Reise, S. P. (2012). *A conceptual guide to statistics using SPSS.* Thousand Oaks, CA: SAGE.

Brindha, G. (2013). A study on quality of work life of the employees at Baxter (India). *International Journal of Innovative Research in Science, Engineering & Technology, 2*(3), 612-615.

Brooks, B. A., & Gawel, S. (2001). Development and psychometric evaluation of the quality of nursing work life survey. *Sciences and Engineering, 62,* 13-21.

Brown, T. A. (2004). *Confirmatory factor analysis for applied research.* New York, NY: The Guilford Press.

Byrne, B. M. (2001). *Structural equation modelling with AMOS: Basic concepts, applications and programming*. Mahwah, NJ: Lawrence Erlbaum

Carayon, P. (1997). Temporal issues of quality of working life interaction. *International Journal of Human-Computer Interaction, 9*(4), 325-342.

Castro, M., & Martins, N. (2010). The relationship between organisational climate and employee satisfaction in a South African information and technology organisation. *South African Journal of Industrial Psychology, 36*(1), 1-9.

Christensen, L. B., Johnson, R. B., & Turner, L. A. (2014). *Research methods, design, and analyses* (4th ed.). New York, NY: Pearson Education.

Cilliers, J. (2018). Made in Africa: Manufacturing and the fourth Industrial Revolution. *Institute for Security Studies, 1,* 1-31.

Colton, D., & Covert, R. W. (2007). *Designing and constructing instruments for social research and evaluation.* San Francisco, CA: Jossey-Bass.

Cudeck, R., & Browne, M. W. (1993). *Testing structural equation models.* Newbury Park, NY: SAGE.

Curtis, C. R., & Upchurch, R. S. (2008). A case study establishing a positive service culture: Attachment and involvement in the workplace. *Journal of Retail & Leisure Property, 7*(2), 131-138.

Da Silva, J. R. G., & Wetzel, U. (2007). Organisational change and the meaning of time. *Brazilian Administration Review, 4*(3), 16-30.

Danna, K., & Griffin, R. W. (1999). Health and well-being in the workplace: A review and synthesis of the literature. *Journal of Management, 25*(3), 357-384.

Davis, L. E., & Trist, E. L. (1974). *Improving the quality of working life*. Cambridge, MA: MIT Press.

De Vos, A. S., Strydom, H., Fouche, C. B., & Delport, C. S. L. (2011). *Research at grass roots: Social science and human service professions* (4th ed.). Pretoria, SA: Van Schaik.

DeCarlo, L. T. (1997). On the meaning and use of kurtosis. *Psychological methods, 2*(3), 292.

DeVellis, R. F. (2003). *Scale development: Theory and application* (2nd ed.). Thousand Oaks, CA: SAGE.

Dewberry, C. (2004). *Statistical methods for organisational research: Theory and practice* (2nd ed.). Thousand Oaks, CA: SAGE.

Ellinger, C., & Nissen, B. (1987). A case study of a failed QWL program: Implications for labour education. *Labour Studies Journal, 11*(3), 195-219.

Ellis, N., & Pompli, A. (2002). *Quality of working life of nurses.* Canberra: Commonwealth Dept of Health and Ageing,

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *Journal of Theoretical & Applied Statistics, 5*(1), 1-4.

Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods, 4*(3), 272-299.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics* (4th ed.). London: Pearson.

Flick, U. (2018). *An introduction to qualitative research* (6th ed.). Thousand Oaks, CA: SAGE.

Foxcroft, C., & Roodt, G. (2018). *Introduction to psychological assessment in the South African context* (5th ed.). Cape Town: Oxford University Press.

Furr, R.M., & Bacharach, V.R. (2008). *Psychometrics: An introduction*. Thousand Oaks, CA: SAGE.

Gajjar, N. B. (2013). Ethical consideration in Research. *International Journal of Research in Education, 2*(1), 8-15.

George, D., & Mallery, P. (2010). *SPSS for windows step by step: A Simple guide and reference* (4th ed.). Boston, MA: Allyn & Bacon.

Ginty, A. T. (2013). Psychometric properties. *Encyclopaedia of Behavioural Medicine,* 1563-1564.

Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The Qualitative Report, 8*(4), 597-606.

Hackman, J., & Oldham, G. (1976). *The job diagnostic survey.* New Haven, CT: Yale University.

Henson, R. K., & Roberts, J. K. (2006). Use of exploratory factor analyses in published research: Common errors and some comments on improved practice. *Education & Psychological Measurements, 66,* 393-416.

Hooper, D., Coughlan, J., & Mullen, M. (2008). Structure equation modelling: Guidelines for determining model fit. *Journal of Business Research Methods, 6*(1), 53-60.

Hoyle, R. H. (1995). *Structural equation modelling: Concepts, issues and applications*. Thousand oaks, CA: SAGE.

Islam, M. B. (2012). Factors affecting quality of work life: an analysis on employees of private limited companies in Bangladesh. *Global Journal of Management & Business Research, 12*(18), 27-56.

Kaiser, H. F. (1970). A second-generation little jiffy. *Psychometrika, 35*(4), 401-415.

Kelly, K. (2007). Confidence intervals for Standardized effect sizes: Theory, application and implementation. *Journal of Statistical Software, 20* (8), 464-474

Kerce, W. E., & Booth-Kewley, S. (1993). *Quality of work life surveys in organisations: Methods and benefits*. Thousand Oaks, CA: SAGE.

Kiernan, W. E., & Knutson, K. (1990). *Quality of work life: Perspectives and issues*. Washington, DC: American Association.

Kiriago, A. N., & Bwisa, H. M. (2013). Working environment factors that affect quality of work life among attendants in petrol stations in Kitale Town in Kenya. *International Journal of Academic Research in Business & Social Science, 3*(5), 289.

Kotze, T. (2004). Quality of work life: What managers need to know. *Managers Today, 20*(6), 38-41.

Kotze, T. (2005). The nature and development of the construct "quality of work life". *Acta Academic, 37*(2), 96-122.

Kumar, R. (2019). *Research methodology: A step-by-step for beginners* (5th ed.). Thousand Oaks, CA: SAGE.

Lucky, E. O., Minai, M. S., & Rahman, H. A. (2013). Impact of job security on the organisational performance in a multi-ethnic environment. *Research Journal of Business Management, 7*(1), 64-70.

Makhene, M. (2015). *South Africa could become manufacturing hub on continent.* Retrieved from https://www.odgersberntson.com

Maree, K., & Pieterson, J. (2007). *First steps in research.* Pretoria: Van Schaik.

Monga, J., Flotman, A., & Cilliers, F. (2018). Job satisfaction and its relationship with organisational commitment: A Democratic Republic of Congo organisational perspective. *Independent Research Journal in the Management Science, 18*(1), 1-8.

Mueller, R.O. (1996). *Basic principles of structural equation modelling: An introduction to LISREL and EQS*. New York, NY: Springer.

Nadler, D. A., Lawler, E. E. (1983). Quality of work life: Perspectives and directions. *Organisational Dynamics, 1*(11), 20-30.

Nda, M. M., & Fard, R. Y. (2013). The impact of employee training and development on employee productivity. *Global Journal of Commerce & Management Perspective, 2*(6), 91-93.

Nethmini, L. D. P., & Ismail, M. B. M. (2019). Descriptive statistics of employee performance in Brandix Company. *International Journal on Global Business Management and Research, 8*(1), 51-57

Normala, D. (2010). Investigating the relationship between quality of work life and organisational commitment amongst employees in Malaysian firms. *International Journal of Business & Management, 5*(10), 75.

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York, NY: McGraw-Hill.

Oludeyi, O. S. (20150. A review of literature on work environment and work commitment: Implication for future research in citadels if learning. *Journal of Human Resource Management, 5*(11), 32-46.

Pallant, J. (2016). *SPSS survival manual: A step-by-step guide to data analysis using IBM SPSS* (6th ed.). Maidenhead: Open University Press.

Roan, A. M., & Diamond, D. (2003). Starting out: The quality of working life of young workers in the retail and hospitality industries in Australia. *International Journal of Employment Studies, 11*(2), 91-119.

Rodseth, P. (2016). *The importance of manufacturing for SA's economic growth.* Retrieved from http://www.ee.co.za/article.html

Roller, M. R., & Lavrakas, P. J. (2015). *Applied qualitative research design: A total quality framework approach*. New York, NY: The Guilford Press.

Rubenstein, S. P. (1983). *Quality systems and the principles of quality of work life*. Reading, MA: Addison-Wesley

Sayed, Z. (2013). *The impact of downsizing on the remaining employees*. Retrieved from http://etd.uwc.ac.za/xmlui/bitstream/handle/11394/4515/sayed_MCOM_2013.pdf

Schrodt, P. (2002). The relationship between organisational identification and organisational culture: Employees' perception of culture and identification in retail sales organisations. *Communication Studies, 53*(3), 189-202.

Silverman, D. (2016). *Qualitative research* (4th ed.). Thousand Oaks, CA: SAGE.

Sirgy, M. J., Efraty, D., Siegel, P., & Lee, D. (2001). A new measure of quality of work life (QWL) based on need satisfaction and spillover theories. *Social Indicators Research, 55*(3), 241-302.

Skrovan, D. J. (1983). *A training manager view of quality of work life*. Reading, MA: Addison-Wesley.

Smith, M. J., & Carayon, P. (1989). A balance theory of job design for stress reduction. *International Journal of Industrial Ergonomics, 4*, 67-79.

Srivastava, S., & Kanpur, R. (2014). A study on quality of work life: Key elements and its implications. *IOSR Journal of Business & Management, 16*(3), 54-59.

Stein, B. A. (1983). *Quality of work life in action: Managing for effectiveness*. New York, NY: American Association.

Struwig, F. W., & Stead, G. B. (2013). *Research: Planning, designing and reporting* (2nd ed.). Cape Town: Pearson.

Swallow, B. M., Leimona, B., Yatich, T., & Velarde, S. J. (2010). The conditions for functional mechanisms of compensation and reward for environmental services. *Ecology & Society, 15*(4), 6-15.

Swamy, D. R., Nanjundeswara, T. S., & Rashmi, S. (2015). Quality of work life: Scale development and validation. *International Journal of Caring Science, 8*(2), 281.

Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed). Boston, MA: Allyn & Bacon.

Titu, M. A., & Balan. G. (2009). *Study regarding the influence of organisational climate and the management of modern organisations*. Retrieved from https://www.reasearchgate.net/ publication/44259833.pdf

Trade Economics. (2017). *South African manufacturing production.* Retrieved from http://www.tradingeconomics.com/south-africa

Van de Vijver, A. J. R., & Rothmann, S. (2004). Assessment in multicultural groups: The South African case. *South African Journal of Industrial Psychology, 30*(4), 1-7.

Visser, D., & Viviers, R. (2010). Construct equivalence of the OPQ32n for Black and White people in South Africa. *South African Journal of Industrial Psychology, 36*(1), 1-11.

Wilcock, A., & Wright, M. (1991). Quality of work life in the knit-water sector of the Canadian textile industry. *Public Personnel Management, 20*(4), 457-468.

Williams, B., Onsman, A., & Brown, T. (2012). A Rasch and factor analysis of a paramedic graduate attributes scale. *Evaluation & the Health Professions, 35*(2),148-168.

CHAPTER 3

RESEARCH ARTICLE 2

INVESTIGATION THE RELATIONSHIP BETWEEN QUALITY OF WORK LIFE, TURNOVER INTENTION AND ORGANISATIONAL COMMITMENT AMONG EMPLOYEES WITHIN SELECTED SOUTH AFRICAN MANUFACTURING ORGANISATIONS

Abstract

Orientation: Quality of work life has an important impact on an organisation. Thus, when the organisations ensure the employees' quality of work life improves, this will lead to high levels of organisational commitment and low levels of turnover intention. Therefore, it is important to gain knowledge about quality of work life and the relationship it has with organisational commitment and turnover intention. However, to date there is a lack of information on these relationships. Therefore, it is important to assess these relationships for a better understanding.

Research purpose: The aim of the present study was to investigate the relationship between quality of work life and turnover intention. The further aim was to investigate whether organisational commitment mediates the relationship between quality of work life and turnover intention in the South African manufacturing industry.

Motivation for the study: The lack of research on the relationships between quality of work life, turnover intention and organisational commitment make it challenging to gain knowledge on the concepts and what influences it can have to embrace these relationships in the workplace. This will provide the South African manufacturing organisations and researchers with information about these variables and relationships and what benefits they can endure when employees have a good balance between them.

Research design: A cross-sectional design was used, and a non-probability purposive and convenience sample method. In the South African manufacturing organisations, N=400 employees participated in the study. Cronbach's alpha coefficients were calculated to determine the reliability of the measuring instruments. The methods to analyse the data were: descriptive statistics (i.e. mean, standard deviation, skewness and kurtosis), Pearson's correlations coefficient to examine the relationship, multiple regression analysis for predictions and structure equation modelling (SEM) to determine the mediation effect.

Main Findings: The findings revealed a strong significant negative relationship between quality of work life and turnover intention. The results also indicated that quality of work life significantly predicts lower levels of turnover intention and higher levels of organisational commitment. After analysing the mediating effect, it was found that organisational commitment partially mediated the relationship between quality of work life and turnover intention.

Practical implications: The results provided insight into the effect that high levels of quality of work life has on an individual and the advantages for the organisation. The findings provided evidence that when organisations develop strategies to improve employees' quality of work life, positive outcomes can be expected for both the employee and the organisation.

Contribution: The findings contribute to the existing literature in this field by indicating the relationship between quality of work life and turnover intention in the South African manufacturing industry. In addition, the study contributes by confirming whether organisational commitment mediates the relationship between quality of work life and turnover intention. Finally, the study confirmed whether quality of work life predicts lower levels of turnover intention and higher levels of organisational commitment.

Keywords: Quality of work life, turnover intention, organisational commitment, affective commitment, normative commitment, continuous commitment, manufacturing industry

Introduction

Employees can be considered as the most valuable resource within an organisation (Rose, Beh & Idris, 2006). Rose et al. (2006) states that employees make significant contributions to an organisation's profitability. Thus, such human capital should be handled with respect and dignity, whilst trusting them to reach the organisation's goals on time. The manufacturing industry contributes 13% to the gross domestic product (GDP) and is the fourth largest sector in South Africa (IDC, 2013). The mentioned industry employs approximately 1.7 million people in South Africa, of whom 15% are actively employed (IDC, 2013). Therefore, an employee can be regarded as highly important in the manufacturing industry, contributing to the growth and profitability of the sector (Gabcanova, 2011). Gabcanova (2011) mentions that when employees do not feel needed, wanted or motivated in an organisation, such a company will find it difficult to face challenges regarding individual employees and the growth of the organisation.

The manufacturing industry faces challenges surrounding the global market and employees within the organisation (Campbell, De Beer & Pei, 2011). The challenges involve the global market centres on electricity supply, volatile currency, productivity level and competitors (Campbell et al., 2011). Challenges for the manufacturing industry involving its employees are absenteeism, job insecurity, lack of commitment, low productivity, discomfort in the work environment and insufficient communication (Campbell et al., 2011). It is the responsibility of the human resource department (HRD) to develop strategies that deal with the mentioned challenges, which will help manage other stressors experienced in the industry (Campbell et al., 2011).

To be an asset to the organisation, employees need a positive outlook on both their work and life and strike a positive balance between their work and personal needs and goals (Gabcanova, 2001). Thus, employees who demonstrate high levels of quality in their work life and organisational commitment are considered to experience a healthy balance between their work and personal needs (Gayathiri & Ramakrishan, 2013). In this regard, an organisation's HRD is encouraged to develop strategies, such as interventions, workshops and training for employees. This will help their employees gain knowledge and understanding, thereby increasing the quality in their work life and enhancing their commitment to the organisation (Gayathiri & Ramakrishan, 2013). As employees experience a higher quality of work life, the organisation's productivity and profitability will increase accordingly (Gayathiri & Ramakrishan, 2013). Therefore, if the HRD develops strategies to increase quality of work life and organisational commitment, the employees will feel a sense of belonging and experience that their value in the organisation is appreciated (Normala, 2010).

The manufacturing industry must deal with challenges such as absenteeism in the workplace, or increasing turnover intention in the organisation (Islam, 2012). The reason is that employees often perceive their workload as high and that management does not regard them as special (Hussain & Asif,

2012). Turnover intention can be defined as individuals who are considering leaving the organisation and thus are seeking alternative job opportunities (Bothma & Roodt, 2013). Previous studies made it clear that quality of work life influences the level of turnover intention in an organisation (e.g. Almalki, FritzGerald & Clark, 2012; Kruger, Brazil, Lohfield, Edward, Lewis & Tjam, 2002; Mosadeghrad, Ferlie & Rosenberg, 2011; Mosadeghrad, 2013).

Quality of work life can be described as the degree to which employees satisfy their personal and working needs, whilst performing tasks in that organisation (Swamy, Nanjundeswara & Rashmi, 2015). Previous research indicated that quality of work life has a negative relationship with turnover intention; in other words, when quality in an employee's work life increases, turnover intention in the organisation will decrease (Lee, Dai, Park & McCreary, 2013). The reason is clear: employees then have a positive work environment, motivation to work, their personal and working needs are fulfilled and they experience a sense of joy going to work (Lee et al., 2013). Therefore, it is necessary that organisations develop strategies to improve employees' quality of work life, allowing the company to grow and strive (Normala, 2010).

Extensive prior research has been undertaken to assess the relationship between quality of work life and turnover intention (i.e. Almalki et al., 2012; Kruger et al., 2002; Mosadeghrad et al., 2011; Mosadeghrad, 2013; Lee et al., 2013). However, most of the studies were done outside of South Africa. Therefore, there is a need to investigate the relationship further involving quality of work life and turnover intention within a South African setting.

Organisational commitment contributes to the performance in the workplace. Employees who experience healthy levels of commitment to the organisation, will feel a stronger attachment to the company, which will improve their performance (Chiu & Francesco, 2002). Organisational commitment can be described as the way employees form an attachment to the company where they work (Shanawaz & Jafri, 2009). Employees' behaviour in the organisation is influenced by the levels of organisational commitment these individuals experience (Mahmoudi, 2015). In other words, if employees enjoy high levels of quality in their work life and high levels of commitment to the organisation, they will develop a positive behaviour towards the company, which will increase performance (Mahmoudi, 2015).

Ismail and Alipour (2014) found that quality of work life and organisational commitment has a close relationship. Thus, when employees experience low levels in the quality of their work life, they will also experience decreased levels in their attachment to the organisation. Previous research concluded that quality of work life has a positive relationship with affective and normative commitment, but a negative relationship with continuance commitment (i.e. Afsar, 2014; Risla & Ithrees, 2018; Mahmoudi, 2015; Louis, 2006; Chinomona, Dhurup & Chinomona, 2013; Ismail & Alipour, 2014).

Yusoff, Rimi and Meng (2015) examined the relationship between quality of work life and turnover intention with a mediator of organisational commitment. A mediator can be defined as a method to examine the relationship between an independent variable and dependent variable, and the relationship of both with the mediator respectively (Bennett, 2000). Yusoff et al. (2015) found that quality of work life and turnover intention is mediated partially by affective and normative commitment, however, that continuance commitment has no mediation effect on quality of work life and turnover intention. Currently, there is a lack of research on the mediating effect of organisational commitment on the relationship between quality of work life and turnover intention within the South African context, therefore, it is necessary to investigate the mediating effect.

Research purpose and objectives

The general objective of the present study was to investigate the relationship between quality of work life and turnover intention, furthermore, to examine whether organisational commitment mediates the relationship between quality of work life and turnover intention. The specific objectives that were investigated are as follows:

- Conceptualise quality of work life, turnover intention and organisational commitment and the relationships between these outcomes according to the literature.
- Establish the relationship between quality of work life and turnover intention among employees within selected South African manufacturing organisations.
- Determine whether the quality of work life has an effect on turnover intention and organisational commitment among employees within selected South African manufacturing organisations.
- Determine whether organisational commitment (affective, normative and continues commitment) mediate the relationship between quality of work life and turnover intention among employees within selected South African Manufacturing organisations.
- Draw conclusions and make recommendations for future research and practice.

Literature review

Quality of work life

Since the beginning of the 21st century, quality of work life was discussed and defined by various researchers (Hackman & Oldham, 1976; Ellis & Pompli, 2002; Sirgy, Efraty, Siegel & Lee, 2001, Rose et al., 2006; Kotze, 2004; May, Lau & Johnson, 1999; Srivastava & Kanpur, 2014; Swamy et al., 2015). Swamy et al. (2015) define quality of work life as the extent to which employees are satisfied with their personal and working needs, by the experience to which they are exposed in the organisation. These scholars developed their definition based on the important aspects of previous research on quality of work life and the components contributing to the concept. Therefore, the present study utilised the definition of

Swamy et al. (2015) for quality of work life, since it was developed based on previous research and is the most recently formulated definition.

The concept, quality of work life, was introduced first in 1972, during the International Labour Relations Conference (Jayakumar & Kalaiselvi, 2012). The behavioural scientists indicated during the conference that they believed the term quality of work life encompasses the statistical and psychological factors that employees experience in the workplace (Hain & Einstein, 1990). Furthermore, the scientists suggested that to assess the individuals' quality of work life, research should determine the feeling of responsibility as the subjective factor and other individual's well-being as indicator factors (Hain & Einstein, 1990). As interest increased, researchers began developing measurements for quality of work life (Hackman & Oldham, 1976; Sirgy et al., 2001; Ellis & Pompli, 2002; Bora, Das & Murthy, 2015).

The first measurement for quality of work life was developed by Hackman and Oldham (1976) focusing on the psychological growth and impact of the measured variables on the quality of employees' work life. Sirgy et al. (2001) view quality of work life as a concept that must be measured with job satisfaction and spillover theories. Swamy et al. (2015) developed the latest quality-of-work life scale focusing only on factors contributing to this quality as such, involving no other outcome variable that can impact the results.

Swamy et al. (2015) initially considered 27 components of quality of work life, based on the repeated usage of components in past research. The selected 27 components range from adequacy of resources and career balance to workload (Swamy et al., 2015). After the scholars performed factor analysis, utilising principal component analysis, the components were reduced to only nine. These nine components were analysed and developed to measure quality of work life alone, without independent variables which may influenced the results (Swamy et al., 2015).

Swamy et al. (2015) examined quality of work life based on the mentioned nine components, which are: work environment, organisational culture and climate, relations and co-operations, training and development, compensation and rewards, facilities, job satisfaction and job security, autonomy of work and adequacy of resources. The measurement consists of 50 items (Swamy et al., 2015). The nine dimensions are expounded subsequently.

Work environment

Work environment entails the professional and social environment that employees experience while interacting with one another (Sinha, 2012). A pleasant and healthy working environment will increase the performance, mood and confidence of individual employees (Sinha, 2012).

Organisational culture and climate

Organisational culture can be defined as a set of properties that contribute to the norm and vision of an organisation (Wallace, Hunt & Richards, 1999). Organisational climate points to the behaviour of employees, which forms part of the organisation's values and norms (Wallace, Hunt & Richards, 1999).

Relations and co-operations

Relations and co-operations are the degree to which managers and employees engage in communication, decision-making, problem solving and conflict handling (Bray, Budd & Macneil, 2019). Relations and co-operations focus on the relationship between employees and have turned out to be an important dimension when assessing quality of work life (Swamy et al., 2015).

Training and development

Training and development are a set of methods in which employees can partake to increase or expand their knowledge and skills within the organisation (Noe, 2010). By training and developing its staff, the organisation endeavours to ensure individual employees increase their personal growth and encouragement (Noe, 2010).

Compensation and rewards

Compensation and rewards are a method used to motivate individuals in the organisation (Swamy et al., 2015). If employees excel in their performance, the company will reward those individuals. This strategy inspires fellow employees to work harder in performing and achieving the organisation's goals (Swamy et al., 2015).

Facilities

Facilities can be viewed as resources and infra-structure such as the food service, transportation, security, which help satisfy the physical and emotional needs of an employee at the organisation (Jensen, 2011).

Job satisfaction and job security

Job satisfaction can be described at the positive or negative outlook employees have on their occupation, work environment and workplace (Aziri, 2011). Work-related constructive behavioural elements contribute to employees' experiences of job satisfaction (Aziri, 2011). Employees who experience job insecurity show a sense of concern about the continued existence of their job and whether the organisation will retain them as employee (Moshoeu & Geldenhuys, 2015).

Autonomy of work

Autonomy of work is a method by which organisations afford their employees more freedom by giving them the opportunity to make decisions, control work-related activities and co-ordinate job structures (Swamy et al., 2015).

Adequacy of resources

Adequacy of resources refer to the time, equipment, information and supervisory help to complete assignments in the organisation (Nenadal, 2016). If employees find that the organisation provide insufficient resourced to complete a task, they may experience a decrease in the quality of their work life (Swamy et al., 2015).

The present study focused particularly on the questionnaire compiled by Swamy et al. (2015) and which includes the above-mentioned nine dimensions. This questionnaire was used to measure the quality of work life for employees in the South African manufacturing industry. The measures included the relationship between quality of work life, turnover intention and organisational commitment of the employees within the mentioned industry in South Africa.

Turnover intention

There are several definitions of turnover intention. However, researchers agree on the general meaning that an employee is considering leaving the organisation and seeking other opportunities (Saeed, Waseem, Sikander & Rizwan, 2014). Bothma and Roodt (2013) pronounce turnover intention as employees experiencing negative emotions towards the organisation, and therefore are weighing their options, whether or not to leave the organisation. The present study used the turnover intention scale from Bothma and Roodt (2013) to determine the relationship between variables. The 6-item scale which Bothma and Roodt (2013) constructed, was revised from the 15-item scale developed initially by Roodt (2006). Bothma and Roodt (2013) found that the 6-item scale is more efficient and accurate than the 15-item one and found the overall reliability to be 0.80. Griffeth, Hom and Gaertner (2000) mention that the levels of turnover intention in the organisation will be influenced by the levels of quality in their work life that individual employees experience.

Organisational commitment

Organisational commitment can be defined as the psychological attachment employees form with their organisation (Metin & Asli, 2018). Similarly, Shanawaz and Jafri (2009) define organisational commitment as the level of attachment employees experience towards their organisation. Allen and Meyer (1990) consider a three-construct model, where organisational commitment influences the connection that employees have with their organisation.

Allen and Meyer (1990) developed an organisational commitment scale that measures the level of employees' attachment based on three commitment dimensions, namely affective, normative and continuance. *Affective* commitment occurs when employees identify with the organisation on an emotional level, thus, experience a sense of loyalty and desire to remain at the organisation achieving work goals (Allen & Meyer, 1996). *Normative* commitment refers to when employees feel the obligation to stay on at the organisation, even though they experience discontent (Allen & Meyer, 1996). *Continuance* commitment is observed when employees stay on at the organisation because they invested

skills, knowledge, abilities and time in the company, and risking these efforts are deemed too high (Allen & Meyer, 1996).

The present study used the organisational commitment scale developed by Allen and Meyer (1990), with the reliability of the scale dimensions as follows: affective commitment – 0.87, normative commitment – 0.79; and continuance commitment – 0.75. Quality of work life and organisational commitment indicated a close relationship. Thus, when increasing quality of work life, the level of organisational commitment will also increase, thereby, improving growth and sustainability in the organisation (Afsar, 2014). Yusoff et al. (2015) researched the mediating effect of organisational commitment on the relationship between quality of work life and turnover intention among employees in the manufacturing industry of Malaysia. The scholars found that affective and normative commitment partially mediate the relationship between quality of work life and turnover intention, but continuance commitment does not mediate any relationship (Yusoff et al., 2015). Suliman (2001) suggests that to improve the existing literature, it is necessary to utilise organisational commitment as a mediator between certain variables. Therefore, the present study used organisational commitment as mediator to test the relationship between quality of work life and turnover intention.

The relationship between quality of work life, turnover intention and organisational commitment

The relationship between quality of work life and turnover intention is seen as a significantly negative relationship (Huang, Lawler & Lei, 2007). This means that when employees experience higher levels of quality in their work life, the organisation will face lower levels of turnover intention, contributing to its growth (Korunka, Hoonakker & Carayon, 2008). Huang et al. (2007) investigated the effects of quality of work life on organisational commitment and turnover intention in Taiwan and confirmed a significant negative relationship. Researchers found that quality of work life has a significantly negative relationship with turnover intention in the manufacturing and accounting industries of Malaysia (Ramayah, Lo & Tarmizi, 2013; Yusoff et al., 2015).

Furthermore, quality of work life and turnover intention indicated a significantly negative relationship within the service, technology and hospital sector in Iran, India and Indonesia (Mosadeghrad, 2013; Rostiana, 2017; Kumar & Thomas, 2016; Korunka et al., 2008). A further study investigating the hospital service, especially primary healthcare nurses, established a negative relationship between quality of work life and turnover intention in the Saudi Arabian region (Almalki et al., 2012). The relationship between these variables was tested in Zimbabwe, in the Southern African continent; researchers also found similar outcomes within small and medium enterprises (Chinomona et al., 2014). Although previous research on this topic covered several industries, there is no evidence that the relationship between quality of work life and turnover intention was investigated in the South African context to date; thus, the present study explored this relationship.

The relationship between quality of work life and organisational commitment was found to be close, thus when the quality of employees' work life improves, their commitment to the organisation will strengthen as well (Farid, Izadi, Ismail, & Alopour, 2014). As mentioned previously, Allen and Meyer (1990) identify three dimensions (affective, continuance and normative) of organisational commitment by which individuals can be recognised. Yusoff et al. (2015) investigated the relationship between quality of work life and organisational commitment within manufacturing industries in Malaysia. They found no mutual influence between the two constructs, however, quality of work life as well as continuance and normative commitment indicate a positive relationship. A further study in Malaysia was conducted by Farid et al. (2014) and Yaakob and Ghazali (2015) within public research universities. Their findings showed a positive relationship between quality of work life and organisational commitment (for all three dimensions).

Furthermore, quality of work life and its relationship with organisational commitment was researched involving the manufacturing industry in India and Iran, where a positive relationship was discovered between these variables. The study of Huang et al. (2007) found similar results between the variables within the Taiwanese public sector. The relationship between quality of work life and organisational commitment was also investigated in Nigeria, the West African continent, targeting universities. The studies confirmed a positive relationship between affective, continuance, normative commitment and quality of work life.

Yusoff et al. (2015) and Rostiana (2017) applied organisational commitment as mediator in the relationship between quality of work life and turnover intention within the manufacturing industry and service sector in Malaysia and Indonesia. They found that organisational commitment partially mediates the relationship between quality of work life and turnover intention. The research on relationships between organisational commitment and turnover intention can be useful to help establish the connection between the intention to leave work while forming a psychological bond with the organisation (Chang, Chi & Miao, 2006).

Regarding the South African context, a literature review and studies focused on the relationship between quality of work life and other variables such as perceived service delivery, productivity and organisational trust (Viljoen, Kruger & Saayman, 2014; Kotze, 2005, Kotze, 2004; Van der Berg & Martins, 2013). However, there is no evidence that the relationship between quality of work life and *organisational commitment* was explored, which the present study thus, investigated.

Based on the discussion above, the following research hypotheses were formulated:

H1: There is a significant negative relationship between quality of work life and turnover intention among employees within selected South African manufacturing organisations.

H2: Quality of work life significantly predicts lower levels of turnover intention and higher levels of organisational commitment among employees within selected South African manufacturing organisations.

H3: Organisational commitment (affective, normative and continuance) mediated the relationship between quality of work life and turnover intention among employees within selected South African manufacturing organisations.

Research design

The research approach and the research method which the present study followed are discussed below.

Research approach

The study followed a quantitative research approach. Such an approach is described as statistical procedures and numbers that can be used to determine the sample fitting which the study describes as true (Muijs, 2004). The components of quantitative research design are to determine, predict, explain or measure a variable through questions that examine the required relationships (Bacon-Shone, 2015). The present research was descriptive, and a cross-sectional research design was used. Such a research design suited the study the best since provides the opportunity to measure a group of people at a single point in time, thus making the study more cost-efficient (Muijs, 2004). In addition, a cross-sectional design makes it easier to collect data over a short period and provide the chance to measure variables that can be calculated in terms of correlations (Bronson, 2013). Cross-sectional research designs calculate the different responses of each question posed to a large group of participants (Bronson, 2013).

Research method

Research participants

The target population of this study was selected from the bottom-, first-line, middle and top management involving selected organisations within the South African manufacturing industry with a population size of N = 400. A combined method of convenience and purposive non-probability sampling was used. The participants differed in terms of age and highest qualification, which made them suitable for participating in this study. The questionnaire was compiled in English, therefore candidates able to read, write and understand this language were selected to partake in this study. The participants' ages ranged from 18 to 65 years. The participants who were easily reachable and located were asked to join the study, which implies convenient sampling, used in this study (Bryman, 2012). Furthermore, the qualities and knowledge of participants that would fit to the study were determined as selection criteria based on the judgement of the researcher. This approach can be described as purposive sampling as a further sampling technique employed in the present study (Kaplan, 2004). An advantage of this sampling methods that is it

time and cost efficient (Bryman, 2012). The characteristics of the participants that differ in terms of age, job level and highest qualification can be seen in the table below.

TABLE 1: *Characteristics of participants (N = 400)*

Item	Category	Frequency	Percentage
Age	18-29 years	84	21.0
	30-39 years	140	35.0
	40-49 years	78	19.5
	50-59 years	64	16.0
	60-65 years	34	8.5
Current job level	Senior	67	16.8
	Professionally qualified	101	25.3
	Skilled	139	34.8
	Semi-skilled	91	22.8
Highest qualification	Grade 12/Matric	117	29.3
	Diploma	117	29.3
	Degree	79	19.8
	Postgraduate degree	66	16.5
	Other:		
	ABET	3	0.8
	Boilermaker	1	0.3
	Certificates	10	2.5
	Grade 11	6	1.5
	NQF 3	1	0.3

Table 1 above, indicates that the sample involved diverse participants from several manufacturing organisations who were willing to participate in the study (N = 400). The participants were mostly from the age group of 30 – 39 years (35%). Furthermore, the sample consisted of participants from the age of 18 – 29 years (21%); 40 – 49 years (19.5%); 50 – 59 years (16%); and 60 – 65 years (8.5%). Regarding job level at the manufacturing organisation, 16.8% of participants were at a senior level, 25.3% were professionally qualified; 22.8% were semi-skilled; and most participants were at a skilled job level (34.8%). In addition, 29.3% of participants obtained a high school qualification or diploma; followed by 19.8% who gained a degree; and 16.5% gained a postgraduate degree. Additionally, 5.4% of the participants identified other highest qualifications such as: ABET (0.8%), Boilermaker (0.3%), Certificates (2.5%), Grade 11 (1.5%) and an NQF level 3 (0.3%).

Measuring instruments

The measuring instruments used in the study are expounded below.

Biographical questionnaire: included in the study provided information on the participants' demographical characteristics. This provided the opportunity to investigate the participants age, job level and highest qualification. The questionnaire was used only to describe the data.

The Quality of Work Life scale: developed by Swamy et al (2015). The Quality of work life scale utilises 50 items of which 47 items were used and are divided into nine dimensions. The nine dimensions are as follows: *Work environment* (e.g. "It is hard to take time off during our work to take care of personal or family matters"); *Organisation culture and climate* (e.g. "I am proud to be working for my present company"); *Relation and co-operation* (e.g. "I am unable to attend to my personal work due to the demands made by my job"); *Training and development* (e.g. "I feel that the training programs should be conducted frequently"); *Compensation and rewards* (e.g. "The company does a good job of linking rewards to job performance"); *Facilities* (e.g. "Good transportation facilities are provided by the company"); *Job satisfaction and job security* (e.g. "Conditions on my job allow me to be as productive as I could be"); *Autonomy of work* (e.g. "A part of my job is allowed to be done at home") and *Adequacy of resources* (e.g. "Communication and information flow between the departments is satisfactory"). A five-point Likert scale was used (1 – *strongly disagree;* 2 – *disagree;* 3 – *uncertain;* 4 – *agree;* and 5 – *strongly agree*). Swamy et al. (2015) found the reliability coefficient of the questionnaire to be 0.80, which means that it can be considered as strongly reliable.

Turnover intention scale was developed by Bothma and Roodt (2013). This scale utilises six items, with an example: "How often have you considered leaving your job?". The questionnaire consists of a five-point Likert scale (1 – *never* to 5 – *always*). Bothma and Roodt (2013) found the reliability at 0.80.

The Organisational Commitment scale: was developed by Allen and Meyer (1990). The instrument utilises 24 items, which are divided into three dimensions. The dimensions are: *Affective commitment* (e.g. "I think that I could become as attached to another organisation as I am to this one")' *Continuance Commitment* (e.g. "I feel that I have few options to consider leaving this organisation")' and *Normative commitment* (e.g. "Jumping from organisation to organisation does not seem at all unethical to me"). The questionnaire makes use of a seven-point Likert scale (1 – *strongly disagree* to 7 – *strongly agree*). Allen and Meyer (1990) found the reliability coefficient for the three components are: Affective commitment: 0.87; Continuous commitment: 0.75; and Normative commitment: 0.79.

Research procedure and ethical considerations

Scientific and Ethical clearance for the study (Ethical approval number: NWU-00604-17-S4) was obtained from the particular university committee. Manufacturing companies were contacted through their Human resources department, to consider partaking in the study. The study was explained, and a proposal provided with thorough information. A presentation was held before the managers of the organisations to explain the nature and procedure of the study of the study and to ensure all ethical guidelines were apparent for the employees and company should they partake in the study.

The researcher took the responsibility to ensure participants and the company that no employee would be forced and that participation in the study is voluntary (Simons & Usher, 2000). The researcher was

careful, honest, open and objective towards the participants, taking care that no participants suffer emotional or physical harm (Bell, Bryman & Harley, 2019). The researcher did not hold any information from the participants and treated them fair throughout (Bell et al., 2019). In addition, the researcher ensured all questionnaires were anonymous and that the identity of no participant was revealed during the process. Furthermore, the questionnaires are kept in a safe place with limited access (Simons & Usher, 2000). Thus, only the researcher and study leaders have access to the data.

The procedure of the study was explained to all employees through e-mail; the Human Resource Manager sent a notice to all employees, informing them of the study. The only role the Human Resource manager had was to inform the company of the study and grant permission for the research. Thereafter, the questionnaires were distributed to all participants together with a written consent form. The questionnaire consisted of a pen and paper booklet. Once the consent form was signed, the researcher explained to the participants that they had three weeks to complete the questionnaire. After three weeks, the researcher collected the questionnaires. 400 questionnaires were distributed, and all 400 were returned for data analyses. During data analyses, the data were cleaned (i.e. missing responses were removed), and statistical analyses were conducted.

Statistical analyses

The statistical analyses were carried out using the Statistical Package for Social Science (SPSS) version 25 (IBM Corp, 2017) and AMOS programme (Arbuckle, 2007). The data were examined through descriptive statistics that explored the data in terms of mean, standard deviations, skewness and kurtosis. Cronbach's alpha coefficients were calculated to measure the reliability of the scale's dimensions. Should the coefficient be greater than 0.70, the variables measured were considered reliable (Tabachnick & Fidell, 2001).

Product-moment correlation was used to examine the relationship between variables of the study. The cut-off points for practical significance of the correlations was set at $r < 0.30$ (small effect), $0.30 < r > 0.50$ (medium effect) and $r > 0.50$ (large effect). The cut-off points for statistical significance was set at $p < 0.1$ level (*) or $p < 0.5$ level (**) (Hauke & Kossowski, 2011).

Multiple-regression analysis was used to determine the relationship between the independent variables (i.e. work environment, organisation culture and climate, relation and co-operation, training and development, compensation and rewards, facilities, job satisfaction and job security, autonomy of work and adequacy of resources) and the dependent variables (i.e. affective commitment, continuance commitment, normative commitment and turnover intention). The analysis also determined which variables were the strongest predictors of the independent variables (Maxwell, 2000). The level of statistical significance was $p < 0.05$, therefore the dependent variable that had a statistical significance of $p < 0.05$, is considered a predictor of the independent variable (Maxwell, 2000). The R^2 variable is used to

determine how well the equation fits the data (Maxwell, 2000). The range can be from 0.00 to 1.00, to determine the coefficient of multiple determination.

Structure equation modelling (SEM) using AMOS (Arbuckle, 2007) was employed to measure the proposed mediation model of organisational commitment between quality of work life and turnover intention. Several goodness-of-fit indices were used, namely Chi-square ($\chi 2$), the comparative fit index (CFI) Tucker-Lewis index (TLI), and the root mean square error of approximation (RMSEA). Acceptable cut-off points for goodness-of-fit indices are as follows: non-significant $\chi 2$ values; CFI, and TLI values larger than or equal to 0.90; and RMSEA values smaller than or equal to 0.08 (Byrne, 2010).

Results

Descriptive statistics and Cronbach's alphas

The descriptive statistics and Cronbach's alpha coefficients are displayed in Table 2 below.

TABLE 2: *Descriptive statistics and Cronbach's alpha coefficients of the constructs*

Constructs	Mean	*SD*	Skewness	Kurtosis	*α*
Work environment	3.37	0.91	-0.53	-0.54	0.82
Organisation culture and climate	3.46	0.96	-0.47	-0.63	0.87
Relation and co-operation	3.51	0.89	-0.43	-0.60	0.83
Training and development	3.61	0.92	-0.47	-0.54	0.78
Compensation and rewards	3.23	1.11	-0.43	-0.76	0.90
Facilities	3.30	0.97	-0.42	-0.57	0.82
Job satisfaction and job security	3.38	1.10	-0.59	-0.63	0.92
Autonomy of work	2.99	0.96	-0.15	-0.71	0.76
Adequacy of resources	3.26	1.11	-0.34	-0.86	0.87
Affective commitment	3.95	0.62	0.17	1.11	0.92
Continuance commitment	4.48	1.02	-0.26	-0.20	0.75
Normative commitment	4.24	0.67	-0.09	1.22	0.78
Turnover intention	2.91	1.07	0.16	-1.02	0.90

It is evident from Table 2 above, the Quality of Work Life scale, Commitment scale and Turnover Intention scale was distributed normally, according to the guidelines of skewness (<2) and kurtosis (<4) (Nethmini & Ismail, 2019). Furthermore, the table shows that the reliability coefficient of each construct is above 0.70, therefore all constructs can be considered reliable (Reddy, 2015).

Correlations

The correlation coefficients between the constructs are displayed in Table 3 below.

TABLE 3: *Correlation matrix between QWLS dimensions and Turnover intention*

	1	2	3	4	5	6	7	8	9	10
1. Work environment	1.00									
2. Organisational culture and climate	0.83**c	1.00								
3. Relation and co-operation	0.78**c	0.80**c	1.00							
4. Training and development	0.65**c	0.67**c	0.65**c	1.00						
5. Compensation and reward	0.79**c	0.80**c	0.77**c	0.65**c	1.00					
6. Facilities	0.64**c	0.70**c	0.62**c	0.63**c	0.72**c	1.00				
7. Job satisfaction and job security	0.82**c	0.86**c	0.83**c	0.70**c	0.86**c	0.71**c	1.00			
8. Autonomy of work	0.71**c	0.70**c	0.68**c	0.60**c	0.70**c	0.57**c	0.78**c	1.00		
9. Adequacy of resources	0.71**c	0.78**c	0.74**c	0.59**c	0.77**c	0.66**c	0.79**c	0.76**c	1.00	
10. Turnover intention	-0.72**c	-0.73**c	-0.74**c	-0.60**c	-0.75**c	-0.61**c	-0.79**c	-0.69**c	-0.72**c	1.00

*p< 0.01 for all values, [a] Correlation ≥ 0.20 is practically significant (small effect), [b] correlation ≥ 0.30 is practically significant (medium effect), [c] Correlation > 0.50 is practically significant (large effect)

The first objective of the present study was to determine the relationship between quality of work life and turnover intention. The quality of work life components investigated are: *Work environment* – indicating a statistically negative relationship with turnover intention with a large effect; *Organisation culture and climate* – statistically negative relationship with turnover intention with a large effect; *Relations and co-operation* – statistically negative relationship with turnover intention with a large effect; *Training and development* –statistically negative relationship with turnover intention with a large effect; *Compensation and reward* – statistically negative relationship with turnover intention with a large effect; *Facilities* – statistically negative relationship with turnover intention with a large effect; *Job satisfaction and job security* – statistically negative relationship with turnover intention with a large effect;, *Autonomy of work* – statistically negative relationship with turnover intention with a large effect; and *Adequacy of resources* – statistically negative relationship with turnover intention with a large effect. From the findings, all nine components from quality of work life indicated a statistically significant negative relationship (with a large effect) with turnover intention. In other words, when quality of work life improves the turnover intention will decrease. Therefore, hypothesis 1 is confirmed.

Multiple regression analysis

Multiple regression analysis was done, and the results are described in Tables 4 to 7 below. Tables 4, 5, 6 and 7 indicate which quality of work life components predict organisational commitment (i.e. affective, continuance and normative dimensions), and turnover intention.

TABLE 4: *Multiple regression analysis with Affective commitment as dependent variable*

Model		Unstandardized coefficients		Standardised coefficients	*t*	*p*	F	R	R^2	ΔR^2
		B	SE	Beta						
1	(Constant)	3.20	0.14		22.67	0.00*	8.05	0.40	0.16	0.14
	Work environment	-0.07	0.06	-0.10	-1.03	0.31				
	Organisational culture climate	0.04	0.07	0.06	0.57	0.57				
	Relation and co-operation	0.02	0.06	0.03	0.37	0.71				
	Training and development	-0.07	0.05	-0.10	-1.43	0.15				
	Compensation and rewards	0.08	0.06	0.14	1.35	0.18				
	Facilities	0.06	0.05	0.10	1.32	0.19				
	Job satisfaction and job security	0.06	0.07	0.10	0.75	0.46				
	Autonomy of work	0.09	0.05	0.13	1.60	0.11				
	Adequacy of resources	0.03	0.05	0.06	0.63	0.53				

*$p \leq 0.05$ = statistically significant

Table 4 above summarises the regression analysis done on components of quality of work life as possible predictors of affective organisational commitment. The analysed components are: work environment,

organisation culture and climate, relation and co-operation, training and development, compensation and rewards, facilities, job satisfaction and job security, autonomy of work and adequacy of resources. Entry of the quality of work life components in the regression analysis produced a statistically significant model ($F_{(9.388)} = 8.05$; $p = 0.00$), accounting for approximately 16% of the variance. However, after examining the specific components from quality of work life, none of the components were found to be statistical predictors of affective commitment.

TABLE 5: *Multiple Regression Analysis with Continuance commitment as dependent variable*

Model		**Unstandardised coefficients**		**Standardised coefficients**	***t***	***p***	**F**	**R**	**R^2**	**ΔR^2**
		B	SE	Beta						
1	(Constant)	4.75	0.24		19.62	0.00*	4.26	0.30	0.09	0.07
	Work environment	-0.39	0.11	-0.35	-3.55	0.00*				
	Organisation culture and climate	0.02	0.12	0.02	0.19	0.85				
	Relation and co-operation	-0.10	0.11	-0.09	-0.92	0.36				
	Training and development	0.27	0.08	0.24	3.39	0.00*				
	Compensation and reward	0.22	0.10	0.24	2.25	0.02*				
	Facilities	0.08	0.80	0.08	1.00	0.32				
	Job satisfaction and job security	-0.22	0.13	-0.23	-1.76	0.08				
	Autonomy of work	0.00	0.09	0.00	0.01	1.00				
	Adequacy of resources	0.04	0.09	0.04	0.47	0.64				

*$p \leq 0.05$ = statistically significant

Table 5 above summarises the regression analysis done with quality-of-work life components as predictors of continuance organisational commitment. The components are: work environment, organisation culture and climate, relation and co-operation, training and development, compensation and rewards, facilities, job satisfaction and job security, autonomy of work and adequacy of resources Entry of the mentioned components in the regression analysis produced a statistically significant model ($F_{(9.388)} = 4.26$; $p = 0.00$), accounting for approximately 9% of the variance. More specifically, seemingly lower levels of the work environment quality of work life component (β =-0.35; t =-3.55; $p \leq 0.05$) is a significant predictor of continuance organisational commitment. Higher levels of training and development (β = 0.24; t = 3.39; $p \leq 0.05$) and compensation and rewards (β =0.24; t = 2.25; $p \leq 0.05$) were found to predict continuance organisational commitment.

TABLE 6: *Multiple regression analysis with Normative commitment as dependent variable*

Model		Unstandardised coefficients		Standardised coefficients	*t*	*p*	F	R	R^2	ΔR^2
		B	SE	Beta						
1	(Constant)	3.99	0.16		24.45	0.00*	1.84	0.20	0.41	0.02
	Working environment	-0.05	0.07	-0.07	-0.66	0.51				
	Organisational culture and climate	0.07	0.08	0.10	0.91	0.37				
	Relations and co-operations	-0.16	0.07	-0.21	-2.10	0.04				
	Training and development	0.13	0.05	0.18	2.48	0.01*				
	Compensation and reward	0.01	0.07	0.02	0.14	0.89				
	Facilities	0.04	0.05	0.06	0.70	0.48				
	Job satisfaction and Job security	0.07	0.09	0.11	0.78	0.44				
	Autonomy of work	-0.02	0.06	-0.03	-0.37	0.70				
	Adequacy of Resources	-0.02	0.06	-0.04	-0.40	0.70				

*$p \leq 0.05$ = statistically significant

Table 6 above outlines the regression analysis done with the mentioned nine quality of work life components, namely: work environment, organisation culture and climate, relation and co-operation, training and development, compensation and rewards, facilities, job satisfaction and job security, autonomy of work and adequacy of resources – all as possible predictors of normative organisational commitment. Entry of the mentioned components in the regression analysis produced a statistically significant model ($F_{(9.388)} = 1.84$; $p = 0.00$), accounting for approximately 41% of the variance. More specifically, it seems that higher levels of training and development ($\beta = 0.18$; $t = 2.48$; $p \leq 0.05$) were found to be a predictor of normative commitment.

TABLE 7: *Multiple regression analysis with Turnover intention as dependent variable*

Model		Unstandardised coefficients		Standardised coefficients	*t*	*p*	F	R	R^2	ΔR^2
		B	SE	Beta						
1	(Constant)	6.13	0.15		40.40	0.00*	90.54	0.82	0.68	0.67
	Work environment	-0.10	0.07	-0.09	-1.47	0.14				
	Organisational culture and climate	0.01	0.07	0.01	0.19	0.85				
	Relation and co-operation	-0.20	0.07	-0.07	-2.95	0.00*				
	Training and development	-0.03	0.05	-0.03	-0.65	0.51				
	Compensation and reward	-0.15	0.06	-0.16	-2.53	0.01*				
	Facilities	0.00	0.05	0.00	0.02	0.98				
	Job satisfaction and job security	-0.26	0.08	-0.26	-3.31	0.00*				

Autonomy of work	-0.11	0.06	-0.10	-1.98	0.05
Adequacy of resources	-0.12	0.05	-0.13	-2.24	0.03*

*$p \leq 0.05$ = statistically significant

Table 7 above summarises the regression analysis done with the nine components from quality of work life, namely: work environment, organisation culture and climate, relation and co-operation, training and development, compensation and rewards, facilities, job satisfaction and job security, autonomy of work and adequacy of resources – as possible predictors of turnover intention. Entry of the mentioned components in the regression analysis produced a statistically significant model ($F_{(9.388)} = 90.54$; $p = 0.00$), accounting for approximately 68% of the variance. In particular, seemingly lower levels of the relations and co-operation, (β =-0.07; t =-2.95; $p \leq 0.05$); compensation and reward (β = -0.16; t = -2.53; $p \leq 0.05$); job satisfaction and job security (β =-0.26; t = -3.31; $p \leq 0.05$) and adequacy of resources (β =-0.13; t = -2.24; $p \leq 0.05$) are significant predictors of turnover intention. Therefore, hypothesis 2 is partially confirmed.

Mediation analysis

The results of the mediation analysis are discussed and displayed below.

Structural equation modelling was used to test the proposed mediating effect of organisational commitment between quality of work life and turnover intention. The hypothesised mediation model below tested whether organisational commitment as a latent variable mediates the relationship between quality of work life as a latent variable and turnover intention.

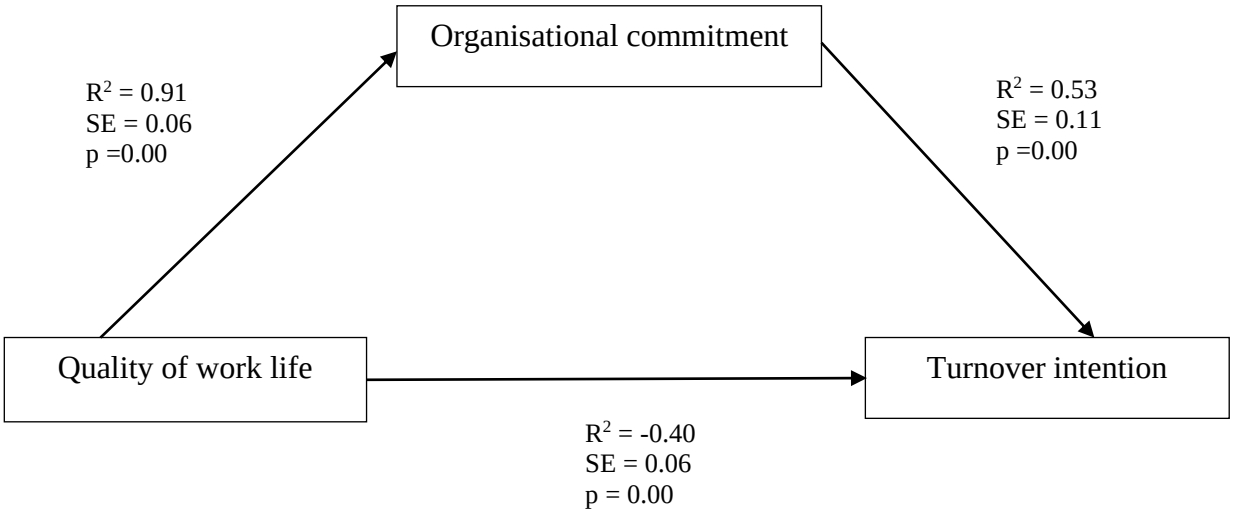

Figure 1: *Organisational commitment mediation over all models*

TABLE 8: *Goodness-of-fit statistics for structural model*

Models	χ^2	χ^2/df	TLI	CFI	RMSEA	*p*
Model (turnover intention)	463.293	3.510	0.94	0.95	0.08	0.00

Structural equation modelling was used to test the proposed mediating effect of organisational commitment between quality of work life and turnover intention. The hypothesised mediation model (as depicted in Figure 1 above) tested whether organisational commitment mediates the relationship between quality of work life and turnover intention. The proposed mediating effect of organisational commitment between quality of work life and turnover intention was tested and it is evident from Table 8 above that the structural mediation model has a good fit. The CFI (0.94) and the TLI (0.94) were both found above the rule of thumb of 0.90, which indicates good model fit (Byrne, 2010). The RMSEA value (0.08) was also aligned with the guideline of 0.08, which confirmed a good model fit (Byrne, 2010). As is clear from Figure 1 above, the results indicate a significant positive relationship between quality of work life and organisational commitment (R^2 = 0.91; SE 0.06; p = 0.00). Furthermore, the findings showed a significant negative relationship between organisational commitment and turnover intention (R^2 = -0.53; SE 0.11, p = 0.00). The results therefore indicated a significant negative relationship between quality of work life and turnover intention (R^2 = 0.40; SE 0.06, p = 0.00). The mediation was found to be partial for the model that was tested and explained 63.1% of the variance in turnover intention. Therefore, hypothesis 3 is confirmed.

Discussion

The general objective of the present study was to investigate the relationship between quality of work life and turnover intention, as well as to determine whether organisational commitment mediates the relationship between quality of work life and turnover intention among employees within selected South African manufacturing organisations. The following section includes the outline of the results, practical implications, limitations and recommendations.

Outline of the results

In South Africa, there is limited research to date on the relationship between quality of work life, turnover intention and organisational commitment (Van der Berg & Martins, 2013; Chinomona et al., 2014; Viljoen et al., 2014). Therefore, the investigation on the relationships between of quality of work life, turnover intention and organisational commitment demonstrated by employees from selected South African manufacturing organisations, will add to existing literature in the field of human resource management. The objectives and accompanying results are outlined below.

Objective 2

The second objective was to establish the relationship between quality of work life and turnover intention among employees within selected South African manufacturing organisations.

The results indicate that all nine components (i.e. work environment, organisation culture and climate, relation and co-operation, training and development, compensation and rewards, facilities, job satisfaction and job security, autonomy of work and adequacy of resources) of quality of work life have a statistically significant negative relationship (with a large effect) with turnover intention. The results suggest that employees who experience higher levels of quality of work life impact the turnover intention within organisations, meaning the turnover intention will decrease (Kumar & Thomas, 2016). Such a result can imply that employees have a positive experience of the constructs contributing to quality of work life, which is accompanied by a positive attitude towards the organisation (Huang, Lawler & Lei, 2007).

Furthermore, the results reveal that employees with high levels of quality of work life will be able to satisfy their personal and working need while working in the organisation. Such a situation implies that those employees are satisfied and have no intention to leave the organisation (Yusoff et al., 2015). Previous studies found similar results indicating that quality of work life has a negative relationship with turnover intention (Haung et al., 2007; Kumar & Thomas, 2016; Ramayah et al., 2014; Mosadeghrad, 2013a; Yusoff et al., 2015; Almalki et al., 2012; Korunka et al., 2008; Chinomona et al., 2014; Mosadeghrad et al., 2011). This finding thus, supports Hypothesis 1:

H1: *There is a significant negative relationship between quality of work life and turnover intention among employees within selected South African manufacturing organisations*.

Objective 3

The third objective of the present study was to determine whether quality of work life has an effect on turnover intention and organisational commitment among employees within selected South African manufacturing organisations.

The findings indicate that quality of work life significantly predicts lower levels of turnover intention. More specifically, the following components are significant predictors of turnover intention: relations and co-operation, compensation and rewards, job satisfaction and job security and adequacy of resources. This result may indicate ways that contribute to lower levels of turnover intention in the organisation. This takes place when organisations use strategies to reward employees for acceptable performance and ensure information, time and resources are available for employees to achieve work-related task. In such cases, the employees' satisfaction with their job and relationship with co-workers increase. Similar studies were conducted in the past, which found related outcomes to quality of work life and turnover intention (Haung et al., 2007; Ramayah, et al., 2014; Mosadeghrad, 2013; Almalki et al., 2012).

Furthermore, the results indicated that quality of work life provides no significant prediction for affective commitment. Such a finding can imply that employees' quality of work life will not influence employees' commitment to the organisation when they are attached to the company on a psychological or emotional level. In other words, even though employees enjoy high or low levels of quality in their work life, they will remain loyal to the organisation (Yusoff, et al., 2015). These results are in line with those of Yusoff et al. (2015), namely that quality of work life does not influence affective commitment. However, Kodikal and Rahiman (2016), Batvandi and Ghazavi (2016) and Farid et al., (2014) found in their research that quality of work life significantly predicts affective commitment; as a result, high levels of quality of work life will influence an employee's affective commitment. Farid et al. (2014) state that if the quality in employees' work life can influence their affective commitment, the organisation will benefit significantly from such outcomes.

The findings of the present study indicated that quality of work life significantly predicts continuance commitment. In particular, the component, work environment (with low levels), significantly predicts continuance commitment. Furthermore, the components, training and development and compensation and rewards (with higher levels) significantly predicts continuance commitment. This result may suggest that if employees experience low levels of work environment, this will influence their continuance commitment. In other words, those employees will feel more willing to leave the organisation since their work environment is not motivating and professional. Moreover, the results indicate that when employees are rewarded for their performance and given the opportunity to expand their knowledge and skills, they employee their continuance commitment towards the organisation will increase. Quality of work life can influence employees' organisational commitment significantly if the organisation is willing to implement strategies to help individuals increase the quality of their work life and commitment to their organisational (Huang et al., 2007). This finding is similar to previous studies on the topic, which found that quality of work life significantly predicts continuance commitment (Huang et al., 2007; Oyewunmi et al., 2019; Yaakob & Ghazali, 2015).

Furthermore, the results revealed that quality of work life significantly predicts normative commitment. In particular, the dimension, training and development, significantly predicts normative commitment. Normative commitment occurs when employees feel obligated to remain at the organisation (Farid et al., 2014). Thus, the results imply that when an organisation implements training for employees to develop their skills and knowledge, those individuals will feel more obligated to remain at the organisation, thus influencing their normative commitment. The organisation can find it useful to enhance each component of quality of work life to influence the levels of organisational commitment of their employees in the workplace (Kodikal & Rahiman, 2016). Increased commitment by employees will contribute to the profitability, performance and growth in the manufacturing organisation (Kodikal & Rahiman, 2016). Similar results were found that quality of work life significantly predicts normative commitment (Kodikal

& Rahiman, 2016; Farid et al., 2014; Huang et al., 2007; Yusoff et al., 2015). The above-mentioned results thus partially support Hypothesis 2:

H2: *Quality of work life significantly predicts lower levels of turnover intention and higher levels of organisational commitment among employees within selected South African manufacturing organisations,* is therefore partially supported.

Objective 4

The fourth objective for the present study was to determine whether organisational commitment (affective, continuance and normative commitment) mediate the relationship between quality of work life and turnover intention among employees within selected South African manufacturing organisations.

The findings confirmed that the mediation model of organisational commitment is a good fit and can provide a mediating effect between quality of work life and turnover intention. Furthermore, the results showed that organisational commitment has a significant positive relationship with quality of work life, but a significant negative relationship with the component turnover intention. Additionally, this indicates that organisational commitment partially mediates (with a medium effect) the relationship between quality of work life and turnover intention. This may suggest that when employee experience both high levels of quality of work life and organisational commitment, the turnover intention in an organisation will decrease. Therefore, it is important that organisations implement strategies to improve the quality in their employees' work life, thus strengthening their commitment to the organisation, thereby improving the growth and sustainability of the company (Yusoff et al., 2015). Organisational commitment is therefore needed in the relationship between quality of work life and turnover intention to enhance the experience of employees at the organisation and influence the need to remain at the organisation (Yusoff et al., 2015).

Yusoff et al. (2015) conducted a study on organisational commitment as mediator between the relationship of quality of work life and turnover intention. These scholars they found similar results that organisational commitment partially mediates the relationship between the two variables. Rostiana (2017) studied organisational commitment as mediator between the two variables and found that organisational commitment mediates the relationship between quality of work life and turnover intention. Therefore, it is confirmed that improvement in employees' organisational commitment will increase the level in quality of their work life and significantly reduce their intention to leave the organisation (Yusoff et al., 2015). This finding, therefore, supports Hypothesis 3:

H3: *Organisational commitment (affective, continuance and normative commitment) mediates the relationship between quality of work life and turnover intention among employees within selected South African manufacturing organisations,* is therefore supported.

Practical implications

The results of the present study contributed to the body of knowledge on quality of work life and the relationship between certain variables. This was done by investigating the relationship between quality of work life, turnover intention and organisational commitment. The findings on the relationship between quality of work life and turnover intention will help organisations understand the importance of increasing each employee's quality of work life and the outcomes it may have for the company. Employees will also be aware that to be more content in the workplace will increase the quality of their workplace, reducing the feeling that they wish to leave the organisation. Furthermore, the findings will help employees and management understand of the influence that organisational commitment can exert on quality of work life. Thus, organisations may include this resource in their strategy to improve performance of employees and the company.

Management will be able to develop strategies or interventions for employees to enhance their quality of work life and strengthen their organisational commitment. As a result, employees will feel more motivated, satisfied and content in the organisation, not wanting to leave. The benefits of being aware of the relationship between these variables will have a positive impact on individual employees and organisations within the South African manufacturing industry.

Limitations and recommendations

Limitations

Despite achieving the objectives of the present study, certain limitations must be mentioned.

Firstly, the study used a cross-sectional research design, which means that the data were collected at a single point in time (Kaplan, 2004). The research also used the method of convenience and purposive sampling; thus, participants were selected who were easily reachable and had the qualities to participate (Kaplan, 2004). As a result, the research could not establish the relationship between variables over an extend period and the participants were not evenly spread to represent the content of the South African manufacturing organisations.

Secondly, the research made use of a questionnaire that participants had to answer on their own. This type of questionnaire improves the quality of information the researcher requires for the study, although, it can cause confusion on the meaning of the questions among participants. Therefore, the results may not be overly accurate for the relationships between certain variables (Bacon-Shone, 2015).

Finally, the research was done only on management level in the manufacturing organisation. The results, therefore, indicate the level of relationship between variables only on management level and do not apply to the manufacturing organisations, therefore, which limited the data.

Recommendations

Recommendations are made with the aim to contribute to future research and literature on the topic for the present study.

Firstly, future research can consider different research designs, such as a longitudinal approach, to assess the relationship between variables over an extended period. Moreover, a study can investigate the relationships between variables, examining certain time gaps between each data collection, to improve the quality of information and obtain better results (Kaplan, 2004). It is recommended further that researchers collect data evenly across South African manufacturing organisations for more accurate results and richer data.

Secondly, future researchers can employ different data-collection techniques for their studies, for example, interviews. Such techniques my help participants understand the meaning of questions more accurately, thereby improving the quality of the results.

Thirdly, it is suggested that future research involve employees from all the different company levels in the manufacturing industry. Such broader participation may improve the understanding of the relationships between variables and its mutual impact within the workplace.

Fourthly, the findings confirmed a positive or negative relationship between quality of work life, turnover intention and organisational commitment among employees within selected South African manufacturing organisations. Thus, it is recommended that the relationship between these variables is investigated in other industries, such as mining or healthcare.

Finally, forthcoming research may consider investigating the relationship between quality of work life and additional variables (e.g. job insecurity), which may influence other aspects involving employees' experience of job-related factors. In addition, researchers can investigate another variable (e.g. job satisfaction) as possible mediator between quality of work life and certain of its components.

Conclusions

In conclusion, the results indicated a significant negative relationship between all nine dimensions from quality of work life and turnover intention. These dimensions are: work environment, organisational culture and climate, relations and co-operations, training and development, compensation and rewards, facilities, job satisfaction and job security, autonomy of work and adequacy of resources. The results also showed that quality of work life significantly predicts turnover intention and organisational commitment (as three dimensions: affective continuance and normative). The results furthermore confirm the mediating effect of organisational commitment in the relationship between quality of work life and

turnover intention. The research also established that organisational commitment functions as mediator between these variables.

In light of the mentioned results, the research study thus contributes and add to existing literature on the relationship between the quality employees experience in their work life and their intention to leave the country, in this case investigated within the South African manufacturing industry.

REFERENCES

Afsar, S. T. (2014). Impact of quality of work life on organisational commitment: A comparative study on academicians working for state and foundation universities in Turkey. *International Journal of Social Science, 3*(4), 124-152.

Allen, N. J., & Meyer, J. P. (1990). The measurement and antecedents of affirmative, continues and normative commitment to the organisation. *Journal of Occupational Phycology, 63*, 1-18.

Allen, N. J., & Meyer, J. P. (1996). Affective continuance and normative to the organisation: an examination of the construct validity. *Journal of Vocational Behaviour, 49*, 252-276.

Almaki, M. J., FritzGerald, G., & Clark, M. (2012). The relationship between quality of work life and turnover intention of primary healthcare nurses in Saudi Arabi. *BMC Health Services Researchers, 12*(1), 314.

Arbuckle, J. L. (2007). *Amos 18 user's guide.* Crawfordsville, IN: Amos Development Corporation.

Aziri, B. (2011). Job satisfaction: A literature study. *Management, Research & Practice, 3*(4), 77-86.

Bacon-Shone, J. (2015). *Introduction to quantitative research method.* Hong Kong: Graduate School, The University of Hong Kong

Batvandi, Z., & Ghazavi, M. (2017). The study of the quality of work life with organisational commitment and job satisfaction among employees using correlation analyses (case study: Aseman carton making factory of Isfahan). *European Online Journal of Nature & Social Sciences, 6*(1), 100-110.

Bell, E., Bryman, A., & Harley, B. (2019). *Business research methods* (5th ed.). Oxford: Oxford University Press.

Bennett, J. A. (2000). Mediator and moderator variables in nursing research: conceptual and statistical differences. *Research in Nursing & Health, 23*(5), 415-420.

Bora, B., Das, S., & Murthy, V. (2015). Quality of work life: A literature review. *International Journal of Management &^ Social Science, 3*(3), 106-115.

Bothma, C. F. C., & Roodt, G. (2013). The validation of the Turnover Intention scale. *South African Journal of Human Resource Management, 11*(1), 1-12.

Bray, M., Budd, J. W., & Macneil, J. (2019). The many meanings of co-operations in the employment relationships and their implications. *British Journal of Industrial Relations, 10*(11), 1-14.

Bronson, C. E. (2013). Understanding quantitative design: a resource for qualitative researchers. *The Qualitative Report, 18*(48), 1-3.

Bryman, A. (2012). *Social research methods* (4th ed.). New York: Oxford University Press.

Byrne, B. M. (2010). *Structural equation modelling with Mplus: basic concepts, applications and programming*. New York, NY: Routledge.

Campbell, R. I., De Beer, D. J., Pei, E. (2011). Additive manufacturing in South Africa: building on the foundation. *Rapid Prototyping Journal, 17*(2), 156-162.

Chang, H. T., Chi, N. W., & Miao, M. C. (2006). Testing the relationship between three-component organisational/occupational commitment and organisational/occupational turnover intention using a non-recursive model. *Journal of Vocational Behaviour, 70*(2), 352-368.

Chinomona, R., Dhurup, M., & Chinomona, E. (2014). The influence of the quality of working life on employee job satisfaction, organisational commitment and tenure intention in the SME sector in Zimbabwe. *South Africa Journal of Economics & Management Science, 17*(4), 363-378.

Chiu, R. K., & Francesco, A. M. (2002). Dispositional traits and turnover intention: examining the mediating role of job satisfaction and affective commitment. *International Journal of Manpower, 24*(3), 284-298.

Ellis, N., & Pompli, A. (2002). *Quality of working life for nurses.* Canberra: Commonwealth Dept of Health and Ageing.

Farid, H., Izadi, Z., Ismail, I. A., & Alipour, F. (2014). Relationship between quality of work life and organisational commitment among lecturers in a Malaysian public research University. *The Social Science Journal, 52*(1), 54-61.

Gabcanova, I. (2011). The employees – the most important asset in the organisation. *Human Resource Management & Economics, 5*(1), 19-32.

Gayarhiri, R., & Ramakrishnan, L. (2013). Quality of work life – linkage with job satisfaction and performance. *International Journal of Business & Management Invention, 2*(1), 1-8.

Griffeth, R. W., Hom, P. W., & Gaertner, S. (2000). A meta-analysis of antecedents and correlates of employee turnover: update, moderate tests, and research implications for the next millennium. *Journal of Management, 26,* 463-488.

Hackman, J., & Oldham, G. (1976). *The job diagnostic survey.* New Haven: Yale University.

Hain, C. C., & Einstein, W. O. (1990). Quality of work life (QWL): what can unions do? *S.A.M Advanced Management Journal, 55*(2),17-22.

Hauke, J., & Kossowski, T. (2011). Comparison of value of Pearson's and Spearman's correlation coefficient on the same sets of data. *Questions Geographical, 30*(2), 87-93.

Huang, T. C., Lawler, J., & Lei, C. Y. (2007). The effects of quality of work life on commitment and turnover intention. *Social Behaviour & Personality: An International Journal, 35*(6), 735-750.

Hussain, T., & Asif, S. (2012). Is employee's turnover intention driven by organisational commitment and perceived organisational support? *Journal of Quality & Technology Management, 8*(2), 1-10.

Industrial Development Corporation of South Africa (IDC). (2013). *2013 integrated report.* Retrieved from http://www.idc.co.za/ir2013/pdfs/intergrated.pdf

Islam, M. B. (2012). Factors affecting quality of work life: an analysis on employees private limited companies in Bangladesh. *Global Journal of Management & Business Research, 12*(18), 27-56.

Ismail, I. A., & Alipour, F. (2014). Relationship between quality of work life and organisational commitment among lectures in Malaysian public research University. *Social Science Journal, 52*(1), 231.

Jayakumar, A., & Kalaiselvi, K. (2012). Quality of work life: an overview. *International Journal of Marketing, Financial Service & Management Research, 1*(10), 140-151.

Jensen, P. A. (2011). Organisation of facilities management in relation to core business. *Journal of Facilities Management, 9*(2), 78-95.

Kaplan, D. (2004). *The SAGE handbook of quantitative methodology for the social sciences*. Thousand Oaks, CA: SAGE.

Kodikal, R., & Rahiman, H. U. (2016). Influence of quality of work life on organisational commitment amongst employees in Manufacturing sector. *International Journal in Multidisciplinary & Academic Research, 5*(5), 30.

Korunka, C., Hoonakker, P. L. T., & Carayon, P. (2008). Quality of working life and turnover intention in information technology work. *Human Factors & Ergonomics in Management, 18*(4), 409-423.

Kotze, T. (2004). Quality of work life: what managers need to know. *Management Today, 20*(6), 38-41.

Kotze, T. (2005). The nature and development of the construct 'quality of work life'. *Acta Academic, 37*(2), 96-122.

Kruger, P., Brazil, K., Lohfeld, L., Edward, H. G., Lewis, D., & Tjam, E. (2002). Organisation specific predictors of job satisfaction: findings from a Canadian multi-site quality of work life cross-sectional survey. *BMC Health Service Research, 2*(6), 6.

Kumar, B., & Thomas, B. (2016). An empirical study on perceived quality of work life and turnover intention among the employees of private hospitals. *International Journal of Latest Trend in Engineering & Technology, 4,* 511-519.

Lee, Y. W., Dai, Y. T., Park, C. G., & McCreary, L. L. (2013). Predicting quality of work life on nurse's intention to leave. *Journal of Nursing Scholarship, 45*(2), 160-168.

Louis, K. S. (2006). Effects of teacher quality of work life in secondary schools on commitment and sense of efficacy. *International Journal of Research, Policy & Practice, 9*(1), 1-27.

Mahmoudi, O. (2015). To investigate the relationship between quality of work life and employee's organisational commitment in the governmental agencies Iran. *Academic Journal of Psychological Studies, 4*(4), 206-217.

Maxwell, S. E. (2000). Sample size and multiple regression analyses. *American Psychology Association, 5*(4), 434-458.

May, B. E., Lau, R. S. M., & Johnson, S. K. (1999). A longitudinal study of quality of work life and business performance. *South Dakota Business Review, 13*(2), 3-7.

Metin, K., & Asli, K. (2018). The relationship between organisational commitment and work performance: a case of Industrial Enterprises. *Journal of Economic & Social Development, 5*(1), 48-59.

Mosadeghrad, A. M. (2013a). Quality of work life and turnover intention: implications for nursing management. *International Journal of Research in Nursing, 4*(2), 47-54.

Mosadeghrad, A. M. (2013b). Quality of work life: an antecedent to employee turnover intention. *International Journal of Health Policy & Management, 1*(1), 43-50.

Mosadeghrad, A. M., Ferlie, E., & Rosenberg, D. (2011). A study of relationship between job stress, quality of working life and turnover intention among hospital employees. *Health Service Management Research, 24*(4), 170-181.

Moshoeu, A. N., & Geldenhuys, D. J. (2015). Job insecurity, organisational commitment and work engagement among staff in an open distance learning institution. *South African Business Review, 19*(1), 22-43.

Muijs, D. (2004). *Doing quantitative research in education.* Thousand Oaks, California: SAGE.

Nenadal, J. (2016). Adequacy, suitability, effectiveness and efficiency of quality management systems: how to perceive and assess them. *Quality Innovation Prosperity (QIP), 20*(2), 39-52.

Nethmini, L. D. P., & Ismail, M. B. M. (2019). Descriptive statistics of employee performance in Brandix company. *International Journal on Global Business Management & Research, 8*(1), 51-57.

Noe, R. A. (2010). *Employee training and development.* (4th ed.). New York, NY: McCraw-Hill/Irwin.

Normala, D. (2010). Investigating the relationship between quality of work life and organisational commitment amongst employees in Malaysian firms. *International Journal of Business & Management, 5*(10), 75.

Oyewunmi, A. E., Abiodun, A. I., & Oyewunmi, O. A. (2019). Quality of work life and organisational commitment among academics in tertiary education. *International Journal of Mechanical Engineering & Technology, 10*(2), 418-430.

Ramayah, T., Lo, E. C., & Tarmizi, A. N. (2014). Quality of work life and turnover intention: a partial least square (PLS) approach. *Social Indicators Research, 119*(1), 405-420.

Reddy, M. V. (2015). *Statistical methods in psychiatric research and SPSS.* Toronto: Apple Academic Press.

Risla, M. K. F., & Ithrees, A. G. I. (2018). The impact of quality of work life on organisational commitment with special reference to Department of Community-based Correction. *Global Journal of Management & Business Research, 18*(1), 20-29.

Rose, R. C., Beh, L., Uli, J., & Idris, K. (2006). Quality of work life: implications of career dimensions. *Journal of Social Science, 2*(2), 61-67.

Rostiana, R. (2017). The quality of work life influence to turnover intention with person-organisation fit and organisational commitment as mediators. *International Journal of Economics & Management, 11*(1), 45-57

Saeed, I., Waseem, M., Sikander, S., & Rizwan, M. (2014). The relationship between turnover intention with job satisfaction, job performance, leader member exchange, emotional intelligence and organisational commitment. *International Journal of Learning & Development, 4*(2), 242-251.

Shahnawaz, M. G., & Jafri, H. (2009). Psychological capital as predictors of organisational commitment and organisational citizenship behaviour. *Journal of the Indian Academy of Applied Psychology, 35*, 78-84.

Simons, H., & Usher, R. (2000). *Situated ethics in educational research.* New York: Routledge.

Sinha, C. (2012). Factors effecting quality of work life: empirical evidence from Indian organisations. *Australian Journal of Business and Management Research, 1*(11), 31-40.

Sirgy, M. J., Efraty, D., Siegel, P., & Lee, D. J. (2001). A new measure for quality of work life (QWL) based on need satisfaction and spill over theories. *Social Indicators Research, 55*(3), 241-302.

Sirvastava, S., & Kanpur, R. (2014). A study on quality of work life: key elements and its implications. *IOSR Journal of Business and Management, 16*(3), 54-59

Suliman, A. M. T. (2001). Work performance: is it one thing or many things? The multidimensionality of performance in a Middle Eastern context. *International Journal of Human Resource Management. 12*(6), 1049-1061.

Swamy, D. R., Nanjundeswaraswamy, T. S., & Rashmi, S. (2015). Quality of work life: scale development and validation. *International Journal of Caring Science, 8*(2), 281.

Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Boston, MA: Allyn & Bacon.

Van der Berg, Y., & Martins, N. (2013). The relationship between organisational trust and quality of work life. *South African Journal of Human Resource Management, 11*(1), 13.

Viljoen, A., Kruger, S., & Saayman, M. (2014). Understanding the role that quality of work life of food and beverage employees plays in perceived service delivery and productivity. *Southern African Business Review, 8*(1), 27-52.

Wallace, J., Hunt, J., & Richards, C. (1999). The relationship between organisational culture, organisational climate and managerial values. *International Journal of Public Sector Management, 12*(7), 548-564.

Yaakob, N. D., & Ghazali, S. N. M. (2015). Quality of work life and organisational commitment empirical investigation among academic in public institution of higher learning. *International Journal of Applied Business Economics & Research, 13*(7), 6129-6146.

Yusoff, Y. M., Rimi, N. N., & Meng, C. H. (2015). A study of quality of work life, organisational commitment and turnover intention. *Problems & Perspectives in Management, 13*(2), 2515-2519.

CHAPTER 4

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

This chapter presents the conclusion on the general aim and specific objectives by explaining the findings of each article. The limitations are discussed that were pointed out in this study, thereafter, recommendations are made for future research and practice.

4.1 Conclusions

For article 1, the general objective was to determine the psychometric properties of the Quality of Work Life scale developed by Swamy, Nanjundeswarswamy and Rashmi (2015), within the South African context. For article 2, the general objective was to investigate the relationship between quality of work life and turnover intention, furthermore, to examine whether organisational commitment mediates the relationship between quality of work life and turnover intention. These general objectives and specific objectives (which is outlined below) were reached through statistical analyses which were in line with the proposed hypotheses for both articles.

Article 1: The validation of the Quality of Work Life scale among employees in various manufacturing organisations.

The general objective for article 1 was to determine the psychometric properties of the Quality of Work Life scale, developed by Swamy et al. (2015) within the South African context. Conclusions were drawn for each specific objective that guide article 1 and are explained below.

Specific objective 1: *Conceptualise quality of work life and the Quality of Work Life scale, according to the literature*

From the literature, various descriptions emerged for the term "quality of work life". According to Brindha (2013), quality of work life is based on the process to gratify one's personal and basic needs while being employed at a certain organisation. In this regard, Afsar (2014) indicates that individuals can experience quality of work life in terms of a general and organisational approach. According to the general approach, employees are psychologically satisfied with their workplace; in terms of the organisational approach employees can reach work goals successfully without encountering obstacles (Afsar. 2014). According to Swamy et al. (2015), employees who experience low levels of quality in their workplace, are unmotivated and unsatisfied in their job, which eventually will contribute to the low levels of productivity and performance in the organisation. Therefore, increasing the quality of employees' work life is essential not only for the organisation, but for the employee as well. Organisations may develop strategies to improve the quality of work life of employees, to enhance the productivity, heighten performance and increase the profitability of the organisation in the industry.

Swamy et al. (2015) define quality of work life as the degree to which employees are pleased with the process to achieve personal and working needs, whilst being employed at a certain organisation. In literature, Swamy et al. (2015) developed the most recent quality-of-work-life scale based on nine dimensions, namely: work environment, organisational culture and climate, relations and co-operations, training and development, compensations and rewards, facilities, job satisfaction and job security, autonomy of work and adequacy of resources. The Quality of Work Life scale is developed to measure only the quality of work life of an individual with no other variables that can influence the outcome.

Specific objective 2: *Determine the reliability of the Quality of Work Life Scale for employees within selected South African manufacturing organisations*

As explained above, the Quality of Work Life scale consists of nine dimensions. It is essential to have a reliable measurement of quality of work life to improve the performance of individual employees and the organisation as a whole. Cronbach's alpha coefficients were calculated to determine the reliability of the scale within the South African context. Furthermore, the item-total correlation was also examined to determine whether the response given to an item was consistent to those given on the overall scale. The rule of thumb set out by Field (2013) was used to retain correlations greater than 0.20.

Three items were omitted from the scale since they did not show acceptable levels of item-total correlations. Item 37: "A strong trade union is required to protect employees' interests" from the dimension job satisfaction and job security were removed; item 45: "I find my work quite stressful" and item 46: "I am ready to take additional responsibility with my job" from the dimension autonomy of work were removed as well. Therefore, the Quality of Work Life scale contained 47 items with 9 dimensions. The evidence showed that all 9 dimensions of the scale have acceptable levels of reliability greater than 0.70: work environment – 0.83; organisational culture and climate – 0.87; relations and co-operations – 0.83; training and development – 0.78; compensation and rewards – 0.90; facilities – 0.82; job satisfaction and job security – 0.92; autonomy of work – 0.76; and adequacy of resources – 0.87. Therefore, it can be concluded that the Quality of Work Life scale is a reliable measuring instrument within the South African context.

Specific objective 3: *Determine the validity of the Quality of Work Life Scale for employees within selected South African manufacturing organisations*

Regarding the third objective, descriptive statistics indicated that the items of the Quality of Work Life scale were distributed normally. Therefore, all items were included in the exploratory factor analysis (EFA) (George & Mallery, 2010). The EFA was used to determine the underlying factor structure of each item in the scale. The principle component analysis (PCA) was used to explore the overall factors of each item using a direct oblimin rotation (Berckman & Reise, 2012). During the EFA no items were extracted, and further analysis commenced.

Confirmatory factor analysis (CFA) was used to investigate the validity of the Quality of Work Life scale further. The analysis included 47 items (three items were omitted during the reliability analysis) with nine dimensions. The CFA produced significant results indicating that the goodness-of-fit of the nine-dimensional model was moderate with a medium effect. This was concluded by investigating the cut-off points of RMSEA (< 0.08) and CMIN/DF (< 5.0) (Brown, 2004).

Furthermore, the standardised regressions coefficients of all 47 items indicated good levels and all items were used in the nine-dimensional model. Additionally, the correlations matrix was also used to determine the validity of the Quality of Work Life scale. This matrix indicated strong statistically significant positive correlations between all nine dimensions in the scale. Thus, the Quality of Work Life scale can be considered as a valid measuring instrument within the South African context.

(The final objective is discussed under 4.3. Recommendations.)

Article 2: Investigating the relationship between quality of work life, turnover intention and organisational commitment among employees within selected South African manufacturing organisations.

The general objective for article 2 was to investigate the relationship between quality of work life and turnover intention. Furthermore, test whether organisational commitment mediates the relationship between quality of work life and turnover intention among employees within selected South African manufacturing organisations. Conclusions were drawn for each specific objective for article 2 and are explained below.

Specific objective 1: *Conceptualise quality of work life, turnover intention and organisational commitment and the relationships between these outcomes according to the literature.*

Regarding the first objective, an in-depth literature review was done on the concept's quality of work life, turnover intention and organisational commitment.

Since the beginning of the 21st century, various researchers defined quality of work life based on different concepts (Hackman & Oldma, 1976; Ellis & Pompli, 2002; Sirgy, Eftray, Siegel & Lee, 2001). Swamy et al. (2015) based their definition on previous researchers' theories and found that quality of work life describes how employees satisfy their personal and working needs within the organisation. Quality of work life was first introduced as a term in 1972, thereafter the interest increased, and various measurements were developed as informed by different theories (Hackman & Oldman, 1976; Ellis & Poompli, 2002; Sirgy et al., 2001). The present study used scale for Quality of work life from Swamy et al. (2015) since it is the most recent developed scale with no other independent variable which may influence the results.

Once employees are considering leaving the organisation, they are experiencing turnover intention (Bothma & Roodt, 2013). Turnover intention is associated with negative feelings towards the organisation and the seeking of alternative job opportunities (Saeed, Waseem, Sikander & Rizwan, 2014). Turnover intention will impact the organisation negatively, hampering its performance and reducing its growth (Bothma & Roodt, 2013).

Organisational commitment entails the emotional bond employees form with the organisation based on three levels: affective, continuance and normative (Allen & Meyer, 1996). *Affective* commitment means employees are emotionally attached to the organisation; *continuance* commitment implies that employees stay on at the organisation since they invested a large amount of skills and knowledge in the company; and *normative* commitment entails employees being attached to the organisation since they feel obligated to (Allen & Meyer, 1996). Organisational commitment contributes to the performance of individual employees as well as the organisation as a whole (Metin & Asli, 2018).

Specific objective 2: *Establish the relationship between quality of work life and turnover intention among employees within selected South African manufacturing organisations.*

The results showed that all nine dimensions (i.e. working environment, organisational culture and climate, relations and co-operations, training and development, compensation and rewards, facilities, job satisfaction and job security, autonomy of work and adequacy of resources) of quality of work life have a statistically significant negative relationship (with a large effect) with turnover intentions. Thus, it can be concluded that when the levels of quality of work life improve, the levels of turnover intention will decrease (Haung, Lawler, & Lei, 2007). These findings can be useful since high levels of quality in their work life will contribute to employee's performance and achievements; they would rather prefer to remain at the organisation than leave (Kumar & Thomas, 2016).

Specific objective 3: *Determine whether the quality of work life has an effect on turnover intention and organisational commitment among employees within selected South African manufacturing organisations.*

The findings indicate that the dimensions; *relations and co-operation*, *compensation and rewards* and *job satisfaction and job security* significantly predict lower levels of turnover intention. Mosadeghrad (2013) indicates that if organisations develop strategies to improve quality of work life for their employees, the organisation will gain positive benefits and represent similar results in the future.

Furthermore, the results showed that quality of work life has no significant predictors with *affective commitment*. This finding can indicate that when employees are emotionally attached to the organisation, quality of work life will not impact that commitment. However, Kodikal and Rahiman (2016) found that

quality of work life will significantly predict the emotional attachment that employees form with their organisation (i.e. affective commitment).

Additionally, the study revealed that the component work environment significantly predicts lower levels of *continuance commitment;* furthermore, *training and development* and *compensation and rewards* significantly predicts higher levels of *continuance commitment*. Thus, quality of work life will influence employees' willingness to remain in the organisation based on the knowledge and skills they invested (Yaakob & Ghazali, 2015).

Furthermore, according to the results, the dimension *training and development* significantly predicts higher levels of normative commitment. Therefore, when employees are given the opportunity to develop their knowledge, abilities and skills, they will feel more obligated to stay in the organisations, thereby improving the growth of the company (Yusoff, Rimi & Meng, 2015). Thus, it will benefit organisations to focus on increasing the levels of quality in employees' work life – this will lead to improving performance and sustainability (Almalki, FritzGerald & Clark, 2012).

Specific objective 4: *Determine whether organisational commitment (affective, normative and continues commitment) mediate the relationship between quality of work life and turnover intention among employees within selected South African Manufacturing organisations.*

Regarding the fourth objective, the findings indicated that organisational commitment functions as a good fit and mediating effect between quality of work life and turnover intention. It was found that organisational commitment partially mediates (with medium effect) the relationship between quality of work life and turnover intention. In addition, organisational commitment indicates a significant positive relationship with quality of work life and a significant negative relationship with turnover intention. These findings imply that when employees' experience high levels of quality in their work life and commitment to the organisation, the levels of turnover intention will decrease significantly. This may indicate that organisations will find it useful to improve the levels of work life quality and organisational commitment, so that employees will feel the need to remain at the organisation, which eventually enhances the performance and increases profitability (Yusoff et al., 2015). These findings correspond with that of previous research, which found that organisational commitment mediates the relationship between quality of work life and turnover intention (e.g. Rostiana, 2017; Yusoff et al., 2015).

(The final objective is discussed under 4.3. Recommendations).

4.2 Limitations

The results for both research articles were significant, however certain limitations were identified during the study.

Firstly, participants were not located evenly across all contexts within South Africa. The participants who were easily reachable were invited to participate in the study. Such a method is known as convenience sampling, which is the fastest and most cost-effective approach (Roller & Lavrakas, 2015). Furthermore, the study took place at a single point in time since a cross-sectional research design was used. Thus, the researcher was unable to establish the relationship between variables over an extended period (Muijs, 2004).

Secondly, the study investigated the relationship between variables on management level in the manufacturing organisation, therefore conclusions could only be drawn for a certain job level and not the manufacturing organisation as a whole.

Finally, a questionnaire was used for data collection where participants had to answer on their own (self-reporting). This method ensures improved quality of the information; however, the possibility may occur that the participants did not answer truthfully or misunderstood the meaning of the questions differently.

4.3 Recommendations

In light of the conclusions drawn and the limitations highlighted above, the following recommendations are made for future research and practice; this includes the final objective for both articles.

4.3.1 Recommendations for the organisations

Recommendations on the researched topic are made with the aim of contributing to the manufacturing organisations.

Firstly, manufacturing organisations should employ the Quality of Work Life scale to measure the levels of quality in their employees' work life. This will also ensure both employees and the organisation are aware of the term "quality of work life" and what it entails for the workplace.

Secondly, by tapping into the present and similar studies, organisations can find the information useful. This would help the Human Resources Department (HRD) to develop strategies, workshops and interventions, aimed to enhance the levels of quality of work life among employees. Such interventions will benefit the organisation and employees significantly in the future, increasing performance, heightening motivation and stimulating growth.

Finally, the HRD are provided knowledge on the topic, thus being able to identify if employees are having difficulties with certain aspects of their quality of work life. Thus, using the measuring instrument

will help the HRD to encourage employees, enhance organisational commitment and decrease turnover intention in the long run.

4.3.2 Recommendations for future research

Recommendations can be made as contribution to future research on the specific topic of research.

Firstly, it is recommended that future research expands the validation of the Quality of Work Life scale in the South African context. More specifically, researchers can validate the scale in terms of construct equivalence and item bias within different organisations. This will contribute to a more valid and reliable scale for a South African working environment, and diverse industries will be able to use the measuring instrument to improve their employees' quality of work life.

Secondly, future research can utilise the scale to measure quality of work life across organisations or industries in South Africa. Furthermore, employees from all levels in the manufacturing industry should participate in the study, not only from the management level. The study may also include employees in other types of industries, for example the mining industry. This can lead to a comparison study between the manufacturing industry and other industries where all employees are included. Future researchers can also investigate other contexts in South Africa such as Kwazulu-Natal or North -West to gain more evenly distributed results.

Thirdly, it is recommended that future studies use a different research design to collect data over an extended period including other research methods. For example, a longitudinal research design would allow researchers to measure the causal relationship between variables in terms of time frames. Such an approach will contribute to more accurate results (Kaplan, 2004).

Fourthly, results confirmed that quality of work life will improve the organisation's growth and performance (Gayathiri & Ramakrishan, 2013). Furthermore, this construct has a significant relationship with organisational commitment and turnover intention (Chinomona, Dhurup & Chinomona, 2014; Farid, Izadi, Ismail & Alopour, 2014). In this regard, future researchers can examine the relationship between quality of work life and other variables that impacts both the individual employees and the organisation as a whole. Such studies will add to the literature on quality of work life and its relationships with work-related variables.

Finally, it is recommended that quality of work life is examined more frequently in South Africa. Limited studies have been done on the topic within a South Africa context. Thus, it would be useful to expand the literature on quality of work life and its associated variables for a diverse demographic setting in a developing country (Viljoen, Kruger & Saayman, 2014, Kotze, 2005; Van der Berg & Martins, 2013).

In conclusion, quality of work life is an important concept and will contribute greatly to existing literature and the organisation. By improving the knowledge on quality of work life, more organisations and employees will be aware of the benefits they can endure through improving the concept. Quality of work life may provide new strategies and ways to improve employee's well-being in the workplace.

REFERENCES

Afsar, S. T. (2014). Impact of quality of work life on organisational commitment: A comparative study on academicians working for state and foundation universities in Turkey. *International Journal of Social Science, 3*(4), 124-152.

Allen, N. J., & Meyer, J. P. (1996). Affective continuance and normative to the organisation: An examination of the construct validity. *Journal of Vocational Behaviour, 49*, 252-276.

Almaki, M. J., FritzGerald, G., & Clark, M. (2012). The relationship between quality of work life and turnover intention of primary health care nurses in Saudi Arabi. *BMC Health Services Researchers, 12*(1), 314.

Berkman, E. T., & Reise, S. P. (2012). *A conceptual guide to statistics using SPSS.* Thousand Oaks, CA: SAGE.

Bothma, C. F. C., & Roodt, G. (2013). The validation of the Turnover Intention scale. *South African Journal of Human Resource Management, 11*(1), 1-12.

Brindha, G. (2013). A study on quality of work life of the employees at Baxter. *International Journal of Innovative Research in Science, Engineering & Technology, 2*(3), 612-615.

Brown, T. A. (2004). *Confirmatory Factor Analysis for applied research*. New York, NY: The Guilford Press.

Chinomona, R., Dhurup, M., & Chinomona, E. (2014). The influence of the quality of working life on employee job satisfaction, organisational commitment and tenure intention in the SME sector in Zimbabwe. *South Africa Journal of Economics & Management Science, 17*(4), 363-378.

Ellis, N., & Pompli, A. (2002). *Quality of working life for nurses.* Canberra: Commonwealth Dept of Health and Ageing.

Farid, H., Izadi, Z., Ismail, I. A., & Alipour, F. (2014). Relationship between quality of work life and organisational commitment among lecturers in a Malaysian public research University. *The Social Science Journal, 52*(1), 54-61.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics* (4th ed.). London: Pearson.

Gayarhiri, R., & Ramakrishnan, L. (2013). Quality of work life – linkage with job satisfaction and performance. *International Journal of Business and Management Invention, 2*(1), 1-8.

George, D., & Mallery, P. (2010). *SPSS for windows step by step: A simple guide and reference* (4th ed.). Boston, MA: Allyn & Bacon.

Hackman, J., & Oldham, G. (1976). *The job diagnostic survey.* New Haven: Yale University.

Huang, T. C., Lawler, J., & Lei, C. Y. (2007). The effects of quality of work life on commitment and turnover intention. *Social Behaviour & Personality: An International Journal, 35*(6), 735-750.

Kaplan, D. (2004). *The SAGE handbook of quantitative methodology for the social sciences*. Thousand Oaks, CA: SAGE.

Kodikal, R., & Rahiman, H. U. (2016). Influence of quality of work life on organisational commitment amongst employees in manufacturing sector. *International Journal in Multidisciplinary & Academic Research, 5*(5), 30.

Kotze, T. (2005). The nature and development of the construct 'quality of work life'. *Acta Academic, 37*(2), 96-122.

Kumar, B., & Thomas, B. (2016). An empirical study on perceived quality of work life and turnover intention among the employees of private hospitals. *International Journal of Latest Trend in Engineering & Technology, 4,* 511-519

Metin, K., & Asli, K. (2018). The relationship between organisational commitment and work performance: A case of industrial enterprises. *Journal of Economic & Social Development, 5*(1), 48-59.

Mosadeghrad, A. M. (2013). Quality of work life and turnover intention: Implications for nursing management. *International Journal of Research in Nursing, 4*(2), 47-54.

Muijs, D. (2004). *Doing quantitative research in education*. Thousand Oaks, CA: SAGE.

Roller, M. R., & Lavrakas, P. J. (2015). *Applied qualitative research design: A total quality framework approach.* New York, NY: The Guilford Press.

Rostiana, R. (2017). The quality of work life influence to turnover intention with person-organisation fit and organisational commitment as mediators. *International Journal of Economics & Management, 11*(1), 45-57.

Saeed, I., Waseem, M., Sikander, S., & Rizwan, M. (2014). The relationship between turnover intention with job satisfaction, job performance, leader member exchange, emotional intelligence and organisational commitment. *International Journal of Learning & Development, 4*(2), 242-251.

Sirgy, M. J., Efraty, D., Siegel, P., & Lee, D. J. (2001). A new measure for quality of work life (QWL) based on need satisfaction and spillover theories. *Social Indicators Research, 55*(3), 241-302.

Swamy, D, R., Nanjundeswaraswamy, T. S., & Rashmi, S. (2015). Quality of work life: Scale development and validation. *International Journal of Caring Science, 8*(2), 281.

Van der Berg, Y., & Martins, N. (2013). The relationship between organisational trust and quality of work life. *South African Journal of Human Resource Management, 11*(1), 13.

Viljoen, A., Kruger, S., & Saayman, M. (2014). Understanding the role that quality of work life of food and beverage employees plays in perceived service delivery and productivity. *Southern African Business Review, 8*(1), 27-52.

Yaakob, N. D., & Ghazali, S. N. M. (2015). Quality of work life and organisational commitment: Empirical investigation among academic in public institution of higher learning. *International Journal of Applied Business Economics and Research, 13*(7), 6129-6146.

Yusoff, Y. M., Rimi, N. N., & Meng, C. H. (2015). A study of quality of work life, organisational commitment and turnover intention. *Problems and Perspectives in Management, 13*(2), 2515-2519.