

THE CHANGING EMPLOYMENT RELATIONSHIP IN THE CHEMICAL INDUSTRY: THE ROLE OF THE EMPLOYMENT- AND PSYCHOLOGICAL CONTRACT

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SUMMARY

Title: The changing employment relationship in the chemical industry: The role of the employment- and psychological contract

Key words: Employment relations, job insecurity, job commitment, job performance, intention to quit, employment- and psychological contract

Understanding the employment relationship in the chemical industry in South Africa and organisational change within it is crucial to the understanding of the changing employment- and psychological contract within this industry. This study focused on the employment- and psychological contracts, as well as employees' work-outcomes (organisational commitment, job insecurity, job performance and intention to quit).

Employees from the chemical industry were targeted and a cross-sectional survey design was used to obtain the research objectives. Descriptive statistics, factor analyses, Cronbach alpha coefficients, correlations, multiple regression analyses were used to analyse the data.

In Article 1 the objectives were to investigate the reliability and validity of the measuring instruments, and to study the relationships between employment- and psychological contracts and other employment relation outcomes. The Psychological Contract Questionnaire (PCQ) and demographical questionnaire were administered. Three internally consistent factors, namely Employer Obligations, Employee Obligations and Status of the Psychological Contract were extracted. Statistically significant differences were found between employee obligations and state of psychological contract. Statistically significant relationships were also found between employee obligations and violation of psychological contract.

In Article 2 the objective was to determine the relationship between employer obligations, employee obligations, and the state of psychological contract, violations of psychological contract and various demographical characteristics of employees in the chemical industry. The PSYCONES were administered. Practically significant relationships with a large effect were found between employer obligations, state of psychological contract and violation of

psychological contract. Gender and age were statistically significantly related to experiences of the psychological contract.

In Article 3 the aim was to assess the relationship between employer obligations, employee obligations, the state of the psychological contract, violations of the psychological contract, work-outcomes and the demographic of employees. The PSYCONES were used as measuring instruments. A practically significant relationship was found between the state of psychological contract, violation thereof (a large effect), job insecurity (a medium effect) and organisational commitment (a medium effect). Regression analyses showed that psychological contract violation predicted organisational commitment. A negative relationship was found between the violation of the psychological contract, as associated with the state of the psychological contract, and intention to quit. Theoretically, it was expected that job insecurity would have a negative impact on organisational commitment, but the results showed that a statistically and practically significant positive relationship exists between job insecurity and organisational commitment. Only the type of contract and qualifications of employees resulted in a statistically increase in the prediction of variance in job insecurity. Demographical characteristics (age, gender, tenure, supervision, qualifications, and type of contract) did not contribute to organisational commitment.

Conclusions, limitations and recommendations of the current research were discussed and recommendations for future research for the chemical industry were made.

OPSOMMING

Titel: Die veranderde indiensenemingsverhouding in die chemiese nywerhede: die rol van die indienseneming- en psigologiese kontrak

Sleutelwoorde: Indiensenemingsverhouding, werksonsekerheid, organisatoriese verbintenis, werksprestasie, bedoeling om te bedank, indienseneming- en psigologiese kontrak

Ten einde die indiensenemingsverhouding in die chemiese bedryf in Suid-Afrika te verstaan, is dit noodsaaklik om die veranderende indienseneming- en psigologiese kontrak binne hierdie industrie, asook die gevolge daarvan op die individuele werknemer te begryp. Die studie fokus verder op die indienseneming- en psigologiese kontrak, asook die verwantskap daarvan met werksuitkomste (werkstoewyding, werksonsekerheid, werksprestasie en bedankingsgeneigdhed).

Werknemers van die chemiese bedryf is genader en 'n dwarsdeursnee ontwerp was gebruik om navorsingsdoelwitte te verkry. Beskrywende statistiek, faktorontleding, Cronbach alfaïkoeffisiënte, korrelasies, en meervoudige regressie-analise is gebruik om die data te ontleed.

Artikel 1 het gefokus op die betroubaarheid en geldigheid van die meetinstrumente, die verband tussen die indienseneming- en psigologiese kontrakte, asook die werksverhouding-uitkomste te bepaal. Die Psigologiese Kontrak Vraelys (PCQ) en biografiese vraelys is afgeneem. Drie interne konsekwente faktore, naamlik Werkgewerwerverpligtinge, Werknemersverpligtinge, en die Status van die Psigologiese Kontrak is onttrek. Statisties beduidende verwantskappe is gevind tussen werknemersverpligtinge en die stand van die psigologiese kontrak. 'n Statistiese beduidende verband is gevind tussen die stand van die psigologiese kontrak en verbreking van die psigologiese kontrak.

Die doelstelling van Artikel 2 was om te bepaal wat die verband is tussen werkgewerwerverpligtinge, werknemersverpligtinge, die aard van die psigologiese kontrak, die verbreking van die psigologiese kontrak en die manifestering daarvan in biografiese groepe. 'n

Dwardeursnee ontwerp is gebruik. Die PSYCONES vraelys is afgeneem. 'n Praktiese betekenisvolle verband met 'n groot effek is gevind tussen werkgewersverpligtinge, die aard van psigologiese kontrak en verbreking van die psigologiese kontrak. Geslag en ouderdom was statisties beduidend verwant aan die beleving van die psigologiese kontrak.

In Artikel 3 was die doelstelling om die verband tussen werkgewerverpligtinge, werknemer-verpligtinge, die stand van die psigologiese kontrak, die verbreking van die sielkundige kontrak, werksonsekerheid, verbintenis aan die organisasie, werknemers se bedoeling om te bedank, asook die biografiese inligting te bepaal. Die PSYCONES is as meetinstrument gebruik. Regressie-analises het aangetoon dat die verbreking van die psigologiese kontrak organisatoriese verbintenis voorspel. 'n Negatiewe verband is gevind tussen die verbreking van die psigologiese kontrak, soos geassosieër met die aard van die psigologiese kontrak, en die intensie om te bedank. Die verwagting was dat werksonsekerheid 'n negatiewe uitwerking op organisatoriese verbintenis sal hê, maar die resultate het die teenoorgestelde getoon. Slegs die tipe kontrak en kwalifikasie van die werknemer het gelei tot 'n statistiese toename in die aanduiding in die variant van werksonsekerheid. Biografiese inligting (ouderdom, geslag, ampsbekleding, toesighouding, kwalifikasies, die aard van die kontrak) het nie bygedra tot organisatoriese verbintenis nie.

Gevolgtrekkings is gemaak, beperkinge is uiteengesit en aanbevelings is gemaak vir die toekomstige navorsing in die chemiese bedryf.

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CHAPTER 1

INTRODUCTION AND PROBLEM STATEMENT

The focus of this thesis is on changing employment relations in the chemical industry with a focus on the role of the employment- and psychological contracts.

The world of work is changing in ways that will require even more adjustment to the paradigms guiding industrial relations research (Kochan, 2000). These changes, which result because of technological, social, and economic transformation that take place in society, affect the relationship between employees and employers (Adler, 1998). The nature of the employment relationship is one critical factor that might impact on the success of organisations (Wang, Tsui, Zhang, & Ma, 2003).

Changes in the world of work impact are perhaps most evident in changes in the psychological contract (Maslach, Schaufeli, & Leiter, 2001). The psychological contract is subjective and is characterised by bounded rationality in that it reflects an employee's incomplete, selective and potentially distorted view of an employment relationship (Rousseau & Ho, 2000). According to Chan, McBey, Basset, O'Donnell, and Winter (2004), the psychological contract both overlaps with and differs from matters codified in a written contract of employment. The psychological contract is often different to legal contracts because not all aspects of employment relations can be addressed in a formal written contract, the psychological contract fills the gap in the relationship (Freese, 2007).

Legal employment contracts and psychological contracts are important aspects of the employment relationship (Sonneberg, 2006). Grogan (2007) explains a contract of employment as an agreement between the employer and employee in terms of which one parties (the employee) makes his/her service available to another party (the employer) for an indefinite or determined period against a remuneration, and which gives the employer the right to define the duties of the employee, and/or to control and discharge him/her. When employees choose to work for an employer in exchange for compensation, their employment

relationship is distinct from traditional roles and forced labour. This is a voluntary agreement between the parties although the parties can interpret their agreement differently, some degree of mutuality is essential for the psychological contract to achieve the interdependent goals each party seeks (Rousseau & Schalk, 2000).

The psychological contract forms the basis of the employment relationship and is embedded in theories on social schemas (Rousseau, 2001; Rousseau, 1995; Shore & Tetrick, 1994). The schema of this contract is individuals' beliefs about their employment relationship (Morrison & Robinson, 1997; Motta, 2006; Rousseau, 1990; Rousseau, 2001; Shore & Tetrick, 1994).

The psychological contract has its roots in the theory of equilibrium (Barnard, 1938). It was earlier defined by Argyris (1960), Levinson, Mandl, Munden, Price, and Solley (1962) and Schein (1980) in order to characterise the subjective nature of employment relationships. The conceptualisation focuses on the individual employees' beliefs and interpretations of a promissory contract (Robinson, 1996).

Historically, the psychological contract can be viewed as an extension of philosophical concept of the social exchange contract theory (Schein, 1980; Roehling, 1997). Contracts are about exchange and the concept of contract can be expanded. Jean Jacques Rousseau (1968) explains that the social contract is an unwritten set of obligations and rights between the parties (individual and the state) and these rights and obligations determine the relationship between them (Rousseau, 1968). The social contract deals with the origin of the state, expect that individuals voluntarily consent to belonging to an organised society.

The social exchange theory and the norm of reciprocity have been apply as theoretical frameworks in explaining the psychological contract and different perceptions between the employer and employee may results in negative consequences (Robinson & Morrison, 1995; Rousseau, 1995). Social exchange theory argues that when one party provides something to another, it expects the other party to reciprocate by providing some contributions in return (Blau, 1964). Management professional like Chris Argyris have expanded on the idca of contract within a employment relationship context, where it covers the obligations and rights

of employees and employers and as mentioned by Schein it can be called the “psychological contract” (Winsemius & Guntram, 2002).

Today research consider the organisations perception of employment relations but “employment relations becoming more and more individual arrangements, making psychological contract management highly relevant for both practitioners and researchers” (Freese, 2007, p. 179). Freese (2007) further mentioned that in times of change it is a challenge to offer individual deals that are fair and beneficial for the employer and employee.

This chapter looks at the problem statement while the research objectives, which include the general objective and specific objectives, are set out. The research method is also explained and the chapter division is given.

1.1 PROBLEM STATEMENT

The nature of the employment relationship underwent profound change over the past three decades (Rasmussen & Lamm, 2005). Changes on societal, organisational and individual perspectives influence the employment relationship between the employer and employee (Schalk, 2004). Bews and Roussouw (2002) explain that employees have reacted to changes within the work environment and that they are changing their attitudes towards work. The external environment influence what the employer and the employee want from each other and what the parties are able to offer each other.

The concept psychological contract is a common use concept in the study of industrial relations and employment relations and is defined in different ways. The first decade after the concept of the psychological contract was develop, only a few researchers were active in this field (Freese, 2007). Kotter (1973) mentions that the psychological contract consists of thousands of items and he put together two lists of expectations to measure the content of the psychological contract. His research revealed a statistical relationship between fulfilment of the psychological contract and job related outcomes. The inspiration for this research derives from observation in the literature concerning the work of Kotter to focus firstly on the

measurement of the psychological contract and also at how do the new psychological contracts influences employees work-related outcomes.

Kaufman (2004) and Latornell (2007) mention that a study of employment relationships includes all of the behaviours, outcomes, practices, and institutions that are interrelated in the employment relationship. During organisational changes, employees can experience a decline in the fulfilment of both employee and employer obligations, which results in an increase in violations of the psychological contract (Robinson & Rousseau, 1994). Amendments to labour legislation in South Africa have negatively impacted on the ability of an employer to adjust to rapid changing circumstances. This is because new provisions are likely to delay retrenchments for an unreasonably long period of time and might impact negatively on an enterprise's competitiveness, as well as put other jobs at risk (Barker, 2003). Current employment trends are characterised by an increase in temporary employment contracts and a loss of job security. These trends also resulted in a redefinition of the nature of the employment relationship (Grimmer & Oddy, 2007).

The legal employment contract between the employer and the employee is a formal one, whether it is in written or verbal. This type of contract is restricted because it is difficult to change without the consent of the other party (Cullinane & Dundon, 2006). Marsden (2003) explains that the employment relationship, on the other hand, is widely recognised and that it is governed by an 'incomplete' and 'open-ended' contract.

This 'incompleteness' of the employment contract has attracted researchers in the fields of labour law field industrial relations and organisational studies and behaviour. In some studies, the psychological contract is also treated as an analytical device to understand how the incompleteness of an employment contract functions in practice, while in other studies (Guest, Conway, Briner, & Dickmann, 1996) it is treated as something that can be measured and tracked over time (Marsden, 2003). The psychological contract is an unwritten set of expectations between everyone in an organisation and it is frequently changing (Rousseau, 1990). Psychological terms associated with psychological contract include, amongst others, employees' expectations about what the employer will provide in return for the employees' contributions in terms of, for example, career development or compensation for performance

(Levinson, Price, Munden, Mandl, & Solley, 1962; Schein, 1965). Unlike a formal employment contract, the psychological contract is revised throughout the employees' tenure in the organisation (Rousseau & McLean Parks, 1993). Within the employment relationship, the psychological contract accounts for the perceived promises that employees believe their employer has made to them (Dulac, Coyle-Shapiro, Henderson, & Wayne, 2008).

From above it is clear that the understanding of how chemical employees' shape the formulation and upholding psychological contract is essential. It is necessary to understand how the employment relationship is experienced in the chemical industry given the changes which have taken place in laws (Constitution of South Africa 108 of 1996, Labour Relations Act 55 of 1995, Basic Conditions of Employment Act 75 of 1997, Employment Equity Act 55 of 1998, Skills Development Act 97 of 1998), as well as the economic and social transformation that have taken place in society. It is necessary to gather information on how the employment relationship affects individual employees' expectations, beliefs, promises, obligations and perceptions about their employer within the chemical industry. Moreover, it is essential to assess whether the state of the psychological contract with its components of trust and fairness (as indicators of violation thereof). Furthermore, it is necessary to investigate how experiences of the psychological contract and violation thereof differ in terms of demographic variables age, gender, qualifications and educational levels.

1.2 LITERATURE REVIEW

Psychological contract

The term *psychological contract* was used in the early 1960's by Argyris (1960), Levinson et al. (1962) and by Schein (1965) and was defined as expectations about the reciprocal obligations that compose an employee-organisation exchange relationship. Argyris (1960) used the term "psychological work contract", while Gibson (1966) states that he need-orientated individual and the goal-orientated organisation negotiate a work-contract" that explains the various rights and duties between the parties. This work contract distinguishes between a formal contract and quasi-components: the formal contract is explicit and in a

written agreement, while the quasi-contract involves an unwritten understanding reached between the parties regarding the rights and duties of both the employer and employee. Roehling (1997) further explains that according to Gibson (1966), the term “psychological contract” is a, less formal term that alludes to the individual’s perception of the quasi-contract aspect of the work contract.

Schein (1965) and Rousseau (1989) explain that the psychological contract consists of employees’ beliefs about reciprocal obligations between employees and their employers that are laid at the foundation of the employment relationship. Rousseau (1989, 1990, 1995, 2001) presents the most analytical presentation of the psychological contract. Here it is presented as a stream of research on the employment exchange relationship and the psychological contract, while it explains the change in the contract’s conceptualisation from its earliest appearances in management literature. Rousseau (1989) is the first researcher to focus on employees’ beliefs and conditions in the reciprocal exchange relationship.

As mentioned by Raeder (2005) the key issues included belief that a promise has been made and a consideration offered in exchange for it, binding the parties to some set of reciprocal obligations. Roehling (1997) that no one prior to Rousseau suggested that perceived promises were the basis for beliefs that constitute the psychological contract. Van Dyne and Ang (1998) and also Robinson and Morrison (2000) and Hornung (2005) have examined the psychological contract as the employee’s perception of obligations derived from promises made by the employer.

Psychological contracts are distinct from formal and implied contracts (Petrick & Furr, 1995) and they develop within the interaction, both formal and informal, between the individual employee and the employer. This may occur during the recruitment process or it can be an ongoing interaction in the employment relationship (relationship between manager and individual employee) (Guzzo & Noonan, 1994; Rousseau, 1995; Rousseau & Greller, 1994; Sims, 1994; Sparrow, 1996).

Lester, Turnley, Bloodgood, and Bolino (2002) explain that the psychological contract is an individual’s belief concerning the obligations that exist between the employer and the

organisation. Furthermore, Lester and Kickul (2001) explain that, unlike formal employee-employer contracts, the psychological contract is inherently perceptual and therefore the employer and employee may have different interpretations of the implied obligations. These obligations are beliefs held by an employee or employer that binds each party by promise to one another (Rousseau, 1990).

Based on the theory of social and economic exchange, Blau (1965), Rousseau (1990), Robinson, Kraatz, and Rousseau (1994) and Sonnenberg (2006) state that the psychological contract consists of relational and transactional obligations. In the industrialised world, the new psychological contract and new employment relationships have resulted in a shift away from the so-called “relational contracts” and have moved to “transactional contracts” (Csoka, 1995; Cavanaugh & Noe, 1999; Rousseau, 1995; Rousseau & Schalk, 2000).

A *transactional contract* is usually short-term and performance-related, whereas *relational contracts* are based on involvement, as well as financial rewards. A transactional psychological contract is characterised by obligations that are more economic in nature. Characteristics include willingness to work overtime, to provide high levels of performance for contingent pay, to give notice before quitting, specific, short-term monetary obligations and less job security and retirement planning (Cavanaugh & Noe, 1999; Turnley, Bolino, Lester & Bloodgood, 2003). It is also characterised by high competitive wage rates and an absence of long term commitment.

Relational psychological contracts are characterised, on the employee’s side, by perceived long term obligations towards their employer and loyalty, while on the employer’s side it is characterised by an obligation to provide job security. Job security is fundamental in many conceptualisations of the psychological contract (Adkins, Werbel, & Farh, 2001). Thornhill, Saunders, and Stead (1997) state that, if the employer violates the implicit contract by removing job security from the employment relationship, it will lead to reduced loyalty and organisational commitment (Capelli, 2000).

McDonald and Makin (2000) explain that the psychological contract, like other contracts, is an important influence on the relationship between the employee and the organisation. It is

important to note, however, that the psychological contract also becomes an important determinant for employees' attitudes and behaviour.

Literature suggests that the relational aspects of the psychological contract have changed. Few studies investigate the relationship between employees' work experiences and their adoption of beliefs or perceptions congruent with the relational component of the new psychological contract. Meanwhile, the old psychological contract can be integrated into a new employment relationship (Linde & Schalk, 2005, 2006). There is currently no compromise on what components the new psychological contract includes (Cavanaugh & Noe, 1999). "In an environment of rapid organisational change, where the ideas of satisfaction and motivation are potentially meaningless, the psychological contract appears to provide a useful integrative concept around which to converge the concerns of the contemporary workplace" (Marks, 2001, p.454). Thus, according to Rousseau (1995), Guest (1998) and Sonnenberg (2006), contemporary literature distinguishes between two schools – the "Rousseau school" (Rousseau, Robinson, Morrison, McLean Parks, Kraatz, Greller, Guzzon, Noonan, Lewis-McClear, Taylor, & Schalk), which focuses mainly on individual employee, and the "traditional school" that focuses on both sides, i.e. the employer and the employee (Guest, Herriot, Pemberton, Coyle-Shapiro, Manning, & Kidd).

Maslach, Schaufeli, and Leiter (2001) mention that the impact of the changing world of work is perhaps most evident in changes in the psychological contract. Employees are expected to give more in terms of time, effort, skills and job security (Bosman, 2005; Laba, Bosman, & Buitendach, 2007; Spies, 2005). The psychological contract is subjective and it is characterised by bounded rationality in that it reflects the employee's incomplete, selective and potentially distorted view of the employment relationship (Rousseau & Ho, 2000). According to Chan, McBey, Basset, O'Donnell, and Winter (2004), the psychological contract overlaps with, but also differs from matters codified in a written contract of employment.

Schuler and Jackson (2000, p.421) explain that, "the psychological contract is portrayed as an open-ended agreement about what the individual and the organisation expect to give and receive in return from the employment relationship". Relational contracts consist of open-

ended relationships (Rousseau, & McLean Parks, 1993; Sonneberg, 2006) and are based on a social exchange theory (Blau, 1965). The dimension of the psychological contract (both relational and transactional) has been studied by researchers in the context of the changing employment relationship (Sonneberg, 2006).

Research also evaluated the state of the psychological contract, assessing the extent to which workers perceive that the organisation they work for has fulfilled its promises and commitments, provided fairness of treatment and engendered trust. Debate among researchers relates to both the definition, the problem of identifying the other party to the deal, and the need to do so in order to give the concept an additional value for research (Guest 1998).

A relational contract stems from an employee's long-term commitment and trust, which is the perception that an individual has as a result of how he/she has been treated by the organisation, management and fellow employees. The relational contract is also dependant on whether an employee perceives that the organisation, management and colleagues have been fair, kept their promises and met their obligations, and whether or not these parties can be trusted to fulfil their promises and obligations in the future (Feldheim & Liou 1999; Morrison & Robinson, 1997; Sharkie, 2005).

The psychological contract today is different from what it was in the 1950's and 1960's. Nowadays, both the employer and employees realise that lifetime job security cannot longer be guaranteed and employees therefore have to be more self-reliant (De Meuse & Tornow, 2007). Gopal (2006) and Stone (2001) compare the 'old' and the 'new' psychological contract. In these comparisons, they illustrate the importance of sustaining the psychological contract. A summary of their comparisons are indicated in Table 1.

Table 1

Old and New Psychological Contract Style

	Old psychological contract	New psychological contract
Security	• Job security	• Employability security
Training	• Firm specific training	• General/transferable training
Skilling	• Deskilling	• Up skilling
Opportunities	• Promotional opportunities	• Networking opportunities
Supervision and control	• Command supervision	• Micro-level job control
Rewards/Pay	• Pay and benefits linked to job tenure • Paid on level, position and status	• Market-based pay • Paid on contribution
Procedures	• Collective bargaining	• Dispute resolution procedures for individual fairness claims
Change environment	• Stable, short term focus	• Continuous change
Culture	• Paternalism, time served, exchange, security for commitment	• Those who perform get rewarded and have contract development
Motivational currency	• Promotion	• Job enrichment, competency development
Promotion basis	• Expected, based on time served and technical competence	• Less opportunities, new criteria, reserved for those who deserve it
Mobility expectations	• Infrequent and on employer's terms	• Horizontal, used to rejuvenate organisations, management process
Redundancy/tenure guarantee	• Job for life if performance is satisfactory	• Lucky to have a job, no guarantee
Responsibility	• Instrumental employees, exchange promotion for more responsibility	• To be encouraged, balanced with more accountability, linked to innovation
Status	• Very important	• To be earned by competence and credibility
Personal development	• The organisation's responsibility	• Individual's responsibility to improve 'employability'
Trust	• High trust possible	• Desirable, but expect employees to be more committed to project or profession

Adapted from Sparrow (1996), Stone (2001) and Gopal (2006).

The "new deal" in the employment relationship shifted away from paternalistic and secure employment towards an emphasis on self-development by the employee (Baruch & Hind, 1999). Van Vuuren (1990) mentions that employees might experience job insecurity differently than in the past, as today this perception is about uncertainty regarding the future and continuation of the job. Also, expectations of job loss decrease with age and education (Manski & Straub, 2000) and older employees experience decreased levels of job insecurity (De Witte, 1999).

Furthermore, an increase in tenure is linked to increased levels of job security (Yousef, 1998). In the past, the feelings of job insecurity were negatively related to organisational commitment (Ashford, Lee, Bobko (1989). Tett and Meyer (1993) also explain that feelings of job insecurity are negatively related to organisational commitment.

Cavanaugh and Noe (1999) found that the relational component of the new psychological contract may translate into reduced organisational commitment or job satisfaction. Expectations of job insecurity have a significant negative relationship with the intention to remain with the employer and organisational commitment to the employer was negatively related to job satisfaction. Marks (2001) stated that the relationship between psychological contract and organisational commitment hold little explanatory or predictive utility over the concept organisational commitment.

Jacobson (1991) explains that part of the population experiencing job insecurity is significantly larger than the number of employees who lose their jobs. *Job insecurity* is consistently associated with a lower trust in management (Ashford, Lee, & Bobko, 1989), lowered organisational commitment (Davy, Kinicki, & Scheck, 1997) and reduced work-related performance (De Witte, 2000). Appelbaum, Baily, Berg, and Kalleberg (1999) state that high-commitment workplaces often provide some degree of employment security to core employees, whereas low level of commitment is linked to a decrease in motivation (DeCotils, & Summers, 1987), job security (Mowday, Porter, & Steers, 1982), an increase of absenteeism, and turnover (an aspect that elevates expenses and lower productivity) (Knight & Kennedy, 2005).

Employees who feel committed to their employer develop a sense of belonging (Romzek, 1990). Reichers (1985) explains that commitment has been significantly and negatively associated with turnover. This is supported by the studies of Porter, Steers, Mowday and Boulian (1974) and Sparrow (2000), who state that employees who leave the organisation were consistently characterised by lower levels of commitment than those that stay. Van Dyne and Ang (1998) further found differences between tenured employees and non-tenured employees in terms of organisational commitment, while different researchers found that temporary workers display lower levels of commitment towards organisations (Coyle-Shapiro & Kessler, 2000). However, Goudswaard, Kraan, & Dhondt (2000) found a higher level of commitment amongst short-term temporary employees with a chance of getting a permanent employment contract.

Work behaviour goes beyond traditional job performance and contractual agreements hold promises for long term organisational success (Coyle-Shapiro & Kessler, 2000). Disciplining an employee for unsatisfactory performance is imprudent, unless management has clearly defined performance (Carrell et al., 1997).

Eaton (2000) explain that most existing industrial relations research analyses occurs within the boundaries of the workplace and focus was given to vertical relationship in the tripartite relationship, or on horizontal relations among workers, managers or functional groups. Studies focus also on interaction among people in the workplace, sometimes in the context of improving their relationship at work. The sociology of work literature focus more on the structure of work, and knowledge but according to her all these studies is not efficient, because work conditions has changed, and working environment and situations of employees doing the work have also changed. She mentioned that because of change in the employment relationship the boundaries of the workplace are no longer clear and delimited as they once were and who work in the workplace has also changed.

Understanding the employment relationship in the chemical industry in South Africa and organisational change within it are crucial to the understanding of changing employment- and psychological contracts within this industry, as well as the consequences thereof on individual employees within the chemical industry. Both theoretical- and research literature show that there is a body of work that deals specifically with different types of employment- and psychological contracts in the employment relationship. Yet, as mentioned by Edwards and Karau (2007), there is little research that examines the implications that the perceptions of different types of contracts have on individual outcomes such as organisational commitment, turnover intention, fairness and justice perceptions, employee effort and performance.

In this study, the focus is on a “contemporary” employment relationship. More specifically, this study seeks to shed light on the implications of individual perceptions (age, gender, tenure, supervision, union-member, qualifications) of the employment relationship. It also focuses on the employment- and psychological contracts and employees’ work-outcomes (organisational commitment, job insecurity, job performance and intention to quit).

In short, it is clear that there is a lack of research on the relationship between the employment- and psychological contracts in South African industries, as well as the implications of these contracts on individual employee outcomes.

On the basis of the above-mentioned problem statement, the following research questions are identified:

- How are employment- and psychological contracts, as well as the relationship between these constructs, conceptualised in the literature?
- What are the reliability and validity of the Psychological Contract Scale measurement for employees in the chemical industry in South Africa?
- What are the relationships between the type of employment- and psychological contracts for employees in the chemical industry in South Africa?
- What are the relationships between employment- and psychological contracts for employees and outcomes in the chemical industry in South Africa?
- What are the relationships between organisational commitment, job insecurity, job performance and intention to quit?
- Do psychological contract predicts the relationship between perception of obligations, violation of the psychological contract and work-outcomes?
- Do violation of the psychological contract result in negative organisational commitment and job insecurity?
- Does job insecurity predict intention to quit?

This thesis will make the following contributions to labour/employment as a science:

- A standardised measuring instrument for the Psychological Contract Scale, which has been proven as valid and reliable, will exist; and
- It will provide scientific information about employment relations for employees in South Africa. It will also show whether employment outcomes (organisational commitment, job insecurity, job performance and intention to quit) are influenced by the different types of contracts in the employment relationship.

1.3 RESEARCH OBJECTIVES

1.3.1 General objective

The general objective of this study is to establish the relationship between the employment- and psychological contract of employees within the chemical industry in South Africa.

1.3.2 Specific objectives

This study consists of three research articles, each with its own specific objectives:

Article 1: Employer- and employee obligations and the state of the psychological contract for employees in the Chemical Industry in South Africa

The specific objective of research Article 1 will be:

- To conceptualise employment- and psychological contracts and the relationship between these constructs from literature;
- To evaluate the new employment relations within the chemical industry and assessing the influence thereof on the employment- and psychological contracts;
- To study the construct validity and internal consistency of the Psychological Contract Questionnaire (PCQ).

Article 2: The psychological contract of employees in the Chemical Industry in South Africa

The specific objective of research Article 2 will be:

- To determine the nature of the changing employment relationship between employer obligations, employee obligations, the state of psychological contract, violation of psychological contract of employees in the chemical industry in South Africa;
- To determine the relationship between employer obligations, employee obligations, the state of the psychological contract, violations of the psychological contract, job

insecurity, organisational commitment, employees' intention to quit and the demographical information of employees;

Article 3: Employment contract, psychological contract, job insecurity, organisational commitment and intention to quit of employees in the Chemical Industry in South Africa

The specific objective of research Article 3 will be:

- To investigate the relationships between organisational commitment, job insecurity and job performance and intention to quit;
- To study if the psychological contract predicts the relationship between perception of obligations, violation of the psychological contract and work-outcomes;
- To determine if violation of the psychological contract results in lower organisational commitment and job insecurity;
- To investigate whether job insecurity predicts intention to quit.

1.4 PARADIGM PERSPECTIVE OF THE RESEARCH

A paradigm refers to established research traditions in a particular research discipline (Mouton & Marais, 1992). It also refer to the design of an experiment, including the way in which the researcher view the world, the type of measurements that are to be used and the manner in which interpretation will be made and applied (Bergh, 2009). A paradigm is a model that alludes the way the researcher views his or her literature. This implies that paradigms and their supporting theory direct the research (De Vos, Strydom, Fouché, & Delport, 2005). A certain paradigm perspective including the intellectual climate and the market of intellectual resources directs the research (Mouton & Marais, 1992).

1.4.1 Intellectual climate

The intellectual climate refers to the selection of non-epistemological value systems/beliefs that are underwritten in any given period in a discipline (Mouton & Marais, 1992). It refers to

ontological collection of beliefs, values and assumptions that do not directly deal with the social research's theoretical views of the scientific research practice as it normally originates in a non-scientific contexts (Mouton & Marais, 1992).

1.4.2 Discipline

This research falls within the boundaries of the behavioural sciences and more specifically focus on the social exchange theory between the employer and employee within the employment relations. "Employee relations" is a term that is commonly used with "industrial relations" and "labour relations". The social-exchange theory focuses on the employment relationship through the lens of exchange (Barnard, 1938; Blau, 1964; Gouldner, 1960). The problems posed in the field of industrial relations cannot be solved within the restrictions of a single discipline, and hence it is bound to be inter-disciplinary in approach.

An employment relation does not occur in a vacuum, but occurs in a range of contexts (Leat, 2001). The growth of employment relations as a scientific discipline depends upon the extent to which it integrates the contribution of established disciplines in the social sciences. It is an interdisciplinary field that includes inputs from sociology, psychology, law, history, politics, economics, accounting and other elements of management studies. Employment relations, has a dual character, it is firstly both an interdisciplinary field and secondly it is a separate discipline in its own right (Adams, 1988).

Employment relations are largely an applied field concerned with practice rather than with theory and measurement. It is thus related to the basic social sciences as engineering is to the physical sciences or medicine is to the biological sciences.

Industrial sociology explains the social background of the employees and industrial psychology elucidate concepts and provides empirical tools in areas such as recruitment, placement, training, fatigue and morale. Labour legislation and their interpretation by courts add to the growth of industrial jurisprudence. Application of quantitative analysis and labour statistics throws light on the exact state of employment relations during a particular period.

1.4.3 Meta-theoretical assumptions

Three paradigms are relevant to this research. Firstly, the literature review is done within the behaviouristic paradigm, and secondly the empirical study is done within phenomenological and humanistic paradigms.

1.4.3.1 Literature review

The behaviouristic paradigm is a theoretical orientation based on the premise that scientific subjects should only study observable behaviour (Weiten, 2007). It is based on the assumptions that scientific claims must be verified, that a relationship exists between stimuli and responses, and that environmental determinism emphasized the importance of the individuals environment when studying behaviour (Weiten, 2007). Since this study focuses on analysing observable behaviour of individuals within their immediate work groups and wider organisational context, it can be implied that the behaviouristic paradigm is applicable to the research.

Despite long held awareness of the importance of the studying of the situation and the person, and call for such research as relates to psychological contract, the role of the individual differences variables in exchange relationship has received relatively little attention (Coyle-Shapiro & Neuman, 2004).

1.4.3.2 Empirical study

The phenomenological paradigm is applicable to this study as the aim of the research is to understand the subjective experiences and perceptions of participants within their work groups, and the influence thereof with regards to person-group fit, person-organisation fit, and career related decision making. In the phenomenological paradigm, the researcher is concerned with the meaning a person attributes to his or her experiences of reality, his or her world, and his or her relationships. An individual's cognitive experience must be understood and circumscribed because it is only through this that the true essence of the person can be realized (Rothmann, Gerber, Lubbe, Sieberhagen & Rothmann, 1998).

According to De Carvalho (1991) the humanistic paradigm is a school of thought that views humans as free agents with the ability to make choices, and be intentional and aware during their actions. The humanistic paradigm assumes that people can be influenced by their relationships with others and that they are more than the sum of their parts, which is considered an essential for well-being (Meyer, Moore & Viljoen, 2005).

1.4.4 Market of intellectual resources

The market of intellectual resources refers to that collection of beliefs that directly involves the epistemological status of scientific statements. The two main types of epistemological beliefs are the theoretical beliefs and the methodological beliefs (Mouton & Marais, 1992) which are outlined below.

1.4.4.1 Theoretical beliefs

Theoretical beliefs can be explained as all beliefs that can make testable judgments regarding social phenomenon. These are all finding regarding the “why” and “what” of human phenomenon and include all conceptual definitions and all models and theories of the research (Mouton & Marais, 1992).

A. Conceptual definitions

- **Psychological contract:** Rousseau (1989, p. 123) was the first researcher who linked the psychological contract to employee beliefs and she defined it as “an individual’s beliefs regarding the terms and conditions of a reciprocal exchange relationship the terms and conditions of a reciprocal exchange agreement between that focal person and another party”. Herriot and Pemberton (1997, p. 45) defines the psychological contract as follows: “the perceptions both parties to the employment relationship-organizations and individual-of the reciprocal promises and obligations implied in that relationship.” Arnold (1996) explains that a definitional confusion exists in the psychological contract research on what is the major “stumbling” blocks of the psychological contract. As mentioned by Raeder (2005) the key issues included beliefs that a promise has been made and a

consideration offered in exchange for it, binding the parties to some set of reciprocal obligations.

- **Employee obligations:** Employee obligations refer to when a promise or commitment by the organisation is perceived as being made or not (Isaksson, Bernard, Claes, De Witte, Guest, Krausz, Peiro, Mohr & Schalk, 2003). Employee obligations include working time, loyalty, extra-role behaviour, notice, transfers, competitor support, minimum stay (Robinson, Kraatz, & Rousseau, 1994), job performance, flexibility, employability and ethics (De Vos, Buyens, & Schalk, 2002).
- **Employer obligations:** Employer obligations are defined by Isaksson et al. (2003) as promise by the employer that is perceived as being made or not and it includes job content, opportunities for personal development, social aspects, human resource management policies, rewards (De Vos et al., 2002), support, rewards, respect for private life (De Vos et al., 2002), training, justice, humanisation, equitable wages, benefits, healthy and safe working environment, communication with employees and recognition (Herriot, Manning, & Kidd, 1997).
- **State of the psychological contract:** The concept of the *state* of psychological contract goes beyond this and can be defined as “the extent to which the promises and obligations in the psychological contract have been delivered, whether the deal is perceived to be fair and the degree of trust in whether it will continue to be delivered in the future” (Isaksson et al., 2003, p. 9). The state of the psychological contract depends on the trust and fairness that the employee perceived. Perceived trust and fairness of the contract depends on how the employees experience the employer’s act of keeping promises or the commitment shown to the individual employee or other employees within the organisation (Isaksson et al., 2003)
- **Violation of psychological contract:** Rousseau (1989, p. 128) defines violation of the psychological contract as “failure of organizations or other parties to respond to an employee’s contributions in ways the individual believes they are obligated to do so”.
- **Job insecurity:** Job insecurity is define by Greenhalgh and Rosenblatt (1984, p 438) as a “perceived powerlessness to maintain desired continuity in a threatened job situation”. Perceptual definitions of job insecurity ranged from a narrow scope to broader definition. The narrow scope of job insecurity anticipates the potential termination of a job and the

broader definitions focus on the perceived powerlessness to maintain desired continuity of employment.

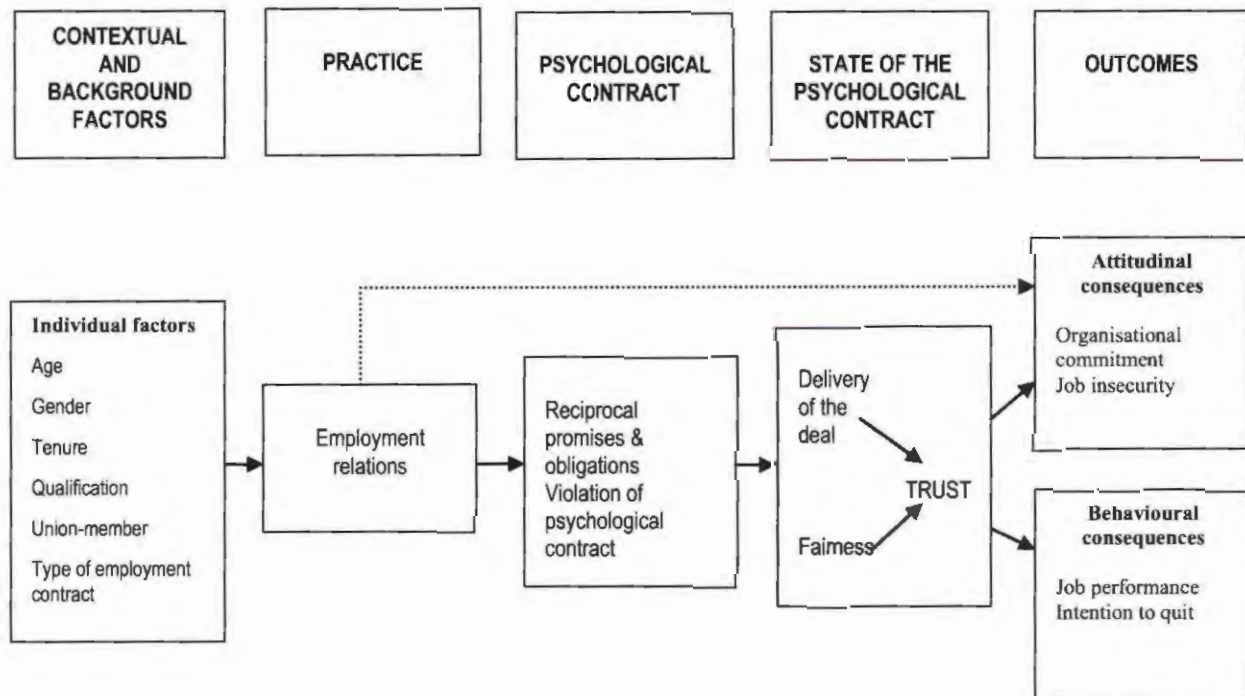
- **Organisational commitment:** Different approaches can be found when defining organisational commitment. The first to approach defining organisational commitment, namely commitment is seen as a behaviour during which the individual viewed as committed to an organisation because it is too costly for him or her to leave or employee is committed to the organisation because of shared goals and the wish to maintain membership (Blau & Boal, 1987). Organisational commitment includes attitudinal and behavioural dimensions as well as affective, normative and continuence dimensions (Lincoln and Kalleberg, 1990; Meyer and Allen, 1997; Mowday, et al. 1979; Rubin & Brody, 2005).
- **Job performance:** Job performance is defines by Abramis (1994) as “a workers effective execution of tasks or job and useful contribution to the social work environment”. Work behaviour goes beyond traditional job performance or contractual agreements hold promise for long term organisational success (Coyle-Shapiro & Kessler, 2000).
- **Intention to quit:** The intention to quit is define by Tett & Meyer, 1993, p260) as “a conscious and deliberate wilfulness to leave the organisation”.

B. Models and theories

A model is defined as a system of hypothetical principles that represent the characters of a phenomenon from which predictions can be made (Mouton & Marais, 1992). A model can be used to suggest new areas of research because certain relationships and dimensions are emphasised (Mouton & Marais, 1992).

A theory is defined as a set of interrelated constructs (concepts), definitions and propositions that present a systematic view of phenomena by specifying relations among variables, with the purpose of explaining and predicting the phenomena (Mouton & Marais, 1992). The study focuses on the framework for applying the psychological contract to the employment relationship which is demonstrated below.

Figure 1. Framework for applying the psychological contract to the employment relationship adapted from Guest, 2004a, p.550).



1.4.4.2 Methodological beliefs

Methodological beliefs include all methods, techniques and approaches that are utilized in the research process (Mouton & Marais, 1992). Meyer, Moore, & Viljoen (2005) mentioned that empirical study is presented within the phenomenological and humanistic paradigms. The phenomenological paradigm assumes that individuals attach meaning to their subjective experiences of reality, their world, and their relationships, and that these experiences must be understood to uncover their personal points of view which are often neglected or concealed.

The root assumption of the humanistic paradigm is that humans play an active role in actualising their inherent potential and that they can be trusted to follow a positive course in becoming the best they can be (Meyer et al., 2005). This paradigm also assumes that all humans have a need for acceptance, affiliation and power (Meyer, et al., 2005).

1.5 RESEARCH METHOD

The research for each of the three articles submitted for the purposes of this thesis consists of a brief literature review and an empirical study.

1.5.1 Phase 1: Literature review

In Phase 1 a complete review regarding the type of employment contract, psychological contract, employer obligations, employee obligations, state of psychological contract, violation of the psychological contract, job insecurity, organisational commitment, job performance and intention to quit decisions is done. The sources that will be consulted include:

- Journal articles;
- Textbooks;
- The internet; and
- Interlibrary loans.

The literature review of Article 1 will focus on the conceptualisation and measurement of the psychological contract (contention-oriented measurement, feature-oriented measurement, state of psychological contract/evaluation-oriented measurement), criteria for measuring the psychological contract, construct validity and internal consistency of the Psychological Contract Questionnaire (PCQ).

The literature review of Article 2 will focus on the changing employment relationship between employer obligations, employee obligations, the state of the psychological contract, violations of the psychological contract and various demographical characteristics differences.

The literature review of Article 3 will focus on the relationship between employer obligations, employee obligations, the state of the psychological contract, violation of the psychological contract, job insecurity, organisational commitment, employees' intention to quit and demographic characteristic differences.

1.5.2 Phase 2: Empirical study

The empirical study consists of the research design, participants, data collection method and statistical analysis.

1.5.2.1 Research design

Research design is used as a strategic action that provides a bridge between research questions and the execution or implementation of the research (Durrheim, 2007). A research design is important so that the researcher has a plan that would guide the researcher about the arrangement of conditions for collection and analysis of data in a way that is relevant to the research purpose.

In article 1, 2, and 3 a survey design is utilised to reach the research objectives. This specific design is a cross-sectional one and a sample is drawn from a population at a specific time and to describe the population at a specific time (Shaughnessy & Zechmeister, 1997).

This design can be used to assess interrelationships among variables at one point in time without any planned intervention. Shaughnessy and Zechmeister (1997) explain that this design is ideally suited when the aim of the study is predictive and descriptive by nature as associated with correctional research.

1.5.2.2 Participants

The population of this study is a random sample of employees in selected organisations in the South African chemical industry. This sample consists of employees from the chemical industry within the following provinces in different companies within the chemical industry: Company A – Gauteng Province, Company B – North-West Province, Company C – Mpumalanga, Company D – Free State, Company E – Kwazulu Natal, Company F – Eastern Cape and Company G – Western Cape. The researcher received 412 questionnaires back, but after examining the returned questionnaires, 5 cases were excluded because they had too many missing values. It gives a 45% response (407/900).

After examining the returned questionnaires, 5 cases were excluded because they had too many missing values. The response rate was 45 percent. Taking the norm of 30 percent into consideration, a response rate of 45 percent is good. Smaller companies were not included because they indicated they were not willing to participate in the research.

The studied population includes workers from all levels in the concerned organisations, ranging from semi-skilled to professional level. The lowest level of employees has a level of literacy adequate enough to allow for the valid completion of questionnaires. These questionnaires were distributed to individuals who are included in the sample.

The majority of employees (33,7%) are between 30 and 39-years-old. More males (64,1%) than females (34,4%) participated in the research. 8% are on a management level, while 79,8 % do not supervise other employees. More full-time employees (67,3%) than part-time (28,7%) employees participated in this study.

1.5.2.3 Measuring instruments

A demographical questionnaire is used to gather information about the demographic characteristics of the participants. This questionnaire gives participants the option of supplying their age, sex, tenure, educational level, marital status, dependants, occupation/job, position, supervision, type of contract, main job versus other paid jobs and union membership.

The psychological contract was measured by using the Psycones questionnaire (2005). To measure the psychological contract, the state of the psychological contract, employers' obligations, employee obligations and violation of psychological contract constructs was used of the Psycones.

The *State of the Psychological Contract* consists of 7 items. Answers were given on 5-point Likert-scale ranging from 1 (*not at all*) to 5 (*totally*). It includes questions such as "Do you feel you are rewarded fairly for the amount of work you put into your job?" and "Do you feel

you are fairly paid for the work you do?" South African studies by Yazbek (2009) obtained a Cronbach alpha coefficient of 0,86.

The *Employer Obligations Questionnaire*, developed by Isaksson et al. (2003) was used to gather data on the promises and commitments that the employers sometimes make to their employees. The questionnaire consists of 15 items, arranged along a 6-point frequency-rating scale varying from 0 (*No*) and to 5 (*Yes, and promise fully kept*). Typical questions on this questionnaire range from "Has your organisation promised or committed itself to provide you with interesting work?" to "Has your organisation promised or committed itself to help you deal with problems you encounter outside work?" In a study conducted by More (2007) on the Department of Education in Sedibeng-West, a Cronbach alpha coefficient of 0,93 was obtained, indicating the internal consistency of this questionnaire.

The *Employee Obligations Questionnaire*, developed by Isaksson et al. (2003), was utilised to determine some promises and commitments that people sometimes make to their organisation. The questionnaire consists of 16 items, arranging along a 6-point frequency-rating scale varying from 0 (*No*) and to 5 (*Yes, fully kept promise*). Examples of questions in this questionnaire vary from "Have you promised or committed yourself to go to work even if you don't feel particularly well?" to "Have you promised or committed yourself to work enthusiastically on jobs you would prefer not to be doing?". In a study conducted by More (2007) on the Department of Education in Sedibeng-West, a Cronbach alpha coefficient of 0,90 was found. These findings confirm the internal consistency of this measuring instrument.

The *Violations of Psychological Contract Questionnaire*, as developed by Isaksson et al. (2003) is used. The questionnaire consists of 6 items as rated on a 5-point scale, ranging from 1 (*strongly agree*) to 5 (*strongly disagree*). The questions focus on six feelings, concerning the perception of the psychological contract (happy, angry, pleased, violated, disappointed, and grateful).

Job insecurity was measured with a 4-item scale and arranged along a 5-point Likert type of scale (1 – *strongly disagree*; 5 – *strongly agree*) (e.g. "I feel insecure about the future of my

job”) as adapted from De Witte (2000). De Witte (2000) reported a Cronbach alpha coefficient of 0,92 for his questionnaire which he refers to as “globale jobonzekerheid”. Studies by Sverke, Hellgren, Näswall, Chirumbolo, De Witte, and Goslinga (2004) and De Cuyper and De Witte (2005) show an internal consistency, while Cronbach alpha coefficient were between 0,84 and 0,86 and included both cognitive and affective items. Studies in South Africa prove that this instrument is reliable with a Cronbach alpha coefficient of 0,82. Other studies in the mining industry (Rannona, 2003; Van Zyl, 2005) also show a Cronbach alpha coefficient of 0,89.

The *Organisational Commitment Questionnaire* consists of four items. The item “I feel myself as part of the organisation” acts as an example. The organisational commitment scales are psychometrically adequate, stable and reliable. As Cook and Wall (1980, p.40) explain that “organisational commitment refers to a person’s affective reaction to characteristics of this employing organisation. It is concerned with feelings of attachment to the goal and values of the organisation, one’s role in relation to this, and attachment to the organisation for its own sake rather for its strictly instrument value”. Cook, Hepworth, Wall, & Warr (1981) determined a Cronbach alpha range from 0,77 to 0,83 in previous studies. Rigotti, Otto and Mohr (2007) found a Cronbach alpha for 0,70 (West) and 0,65 (East). Fields (2002) found that the organisational commitment scale is psychometrically adequate, stable and reliable, but with Cooper-Hakim and Viswesvaran (2005) the Cronbach-alpha was 0,63 for young workers and for older workers, the Cronbach-alpha was 0,71. In a South African study on a study of security employees, Du Plooy (2009), found Cronbach alpha coefficients of 0,81.

Job Performance Questionnaire was used relying on the items of Abramis (1994). These items were measured on a scale from 1 (*very badly*) to 5 (*very well*), regarding making decisions, taking initiative or taking responsibilities. The Cronbach alpha in previous studies (Abramis, 1994) range from 0,78 to 0,79.

The *Intention to Quit Questionnaire* is a modified questionnaire by the Psycones project (2005). This questionnaire is measured by using 4 items of Price (1997) (“I would be reluctant to leave this job” and reverse code). The Cronbach alpha coefficient in previous studies (De Witte, 2000; Isaksson et al., 2003) range from 0,74 to 0,82. Intention to quit

measures the desire to leave rather than actual the employee's intention to leave the company and that the exact time of departure is set in advance, possibility influencing the intention to leave before the employment contract has expired (De Jong & Geurtz, 1997).

1.5.2.4 Statistical analyses

The analyses will be carried out with the SPSS 16.0 Program (SPSS, 2009). Cronbach alpha coefficients were used to assess the reliability of the measuring instruments (Clark & Watson, 1995). Descriptive statistics (means, standard deviations, skewness and kurtosis) will be used to analyse the data. Before principal factor extraction can be performed, a principal component extraction needs to be done to estimate the number of factors, the presence of outliers and the factorability of the correlation matrices. Cronbach alpha coefficients and inter item-correlations were used to determine the internal consistency, homogeneity and unidimensionality of the measuring instruments (Clark & Watson, 1995).

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

Multivariate analysis of variance (MANOVA) will be used to determine the significance of difference between the employment- and psychological contracts of the demographic groups. MANOVA tests, whether they mean differences among groups on a combination of dependent variables, are likely to have occurred by chance (Tabachnick & Fidell, 2001). In MANOVA, a new dependent that maximises group differences is created from the set of dependent variables. One-way analysis will then be performed on the newly created dependent variable. Wilks' lambda will be used to test the significance of the effects. Wilks' lambda is a likelihood ratio statistic of the data under the assumption of equal population mean vectors for all groups. This is against the likelihood under the assumption that the population-mean vectors are identical to those of the sample-mean vectors for the different groups. When the effect is significant in MANOVA, ANOVA will be used to discover which

dependent variables will be affected. Because multiple ANOVAS will be used, a Bonferroni-type adjustment will be made for inflated Type 1 errors. Then, a Tukey test will be done to indicate which groups differed significantly when ANOVAS are done.

Lastly, standard multiple regression analysis will be carried out to assess the contribution of the independent variables toward job insecurity, organisational commitment, job performance and intention to quit. Tabachnick and Fidell (2001) explain that correlation between an independent variable and a dependent variable reflects variance shared with the dependent variable. However, some of the variance might be predictable from other independent variables. A regression analysis is used to determine the percentage variance in the dependent variable that is predicted by the independent variables (Cohen, 1988).

1.6 OVERVIEW OF CHAPTERS

- Chapter 1: Introduction, problem statement and objectives
- Chapter 2: Research Article 1: Employer- and employees obligations, and the state of the psychological contract for employees in the chemical industry in South Africa
- Chapter 3: Research Article 2: The psychological contract of employees in the chemical industry in South Africa
- Chapter 4: Research Article 3: Employment contract, psychological contract, job insecurity, organisational commitment, job performance and intention to quit of employees in the chemical industry in South Africa
- Chapter 5: Conclusions, limitations and recommendations.

1.7 CHAPTER SUMMARY

In Chapter 1, the problem statement and motivation for this study were discussed and the general and specific objectives were formulated. The research method (including the literature review, empirical study, research design, study population, measuring battery, data analysis and research procedure) was discussed and lastly a chapter division was given. In Chapter 2 the validation of the Employment Contract Scale in the Chemical industry, and the empirical results will be discussed in detail.

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RESEARCH ARTICLE 1

CHAPTER 2

EMPLOYER- AND EMPLOYEE OBLIGATIONS, AND THE STATE OF THE PSYCHOLOGICAL CONTRACT FOR EMPLOYEES IN THE CHEMICAL INDUSTRY IN SOUTH AFRICA

ABSTRACT

The main objective of this study was to assess the construct validity and internal consistency of the Psychological Contract Questionnaire (PCQ) for employees in the chemical industry in South Africa. A cross-sectional survey design with a stratified random sample ($N=407$) was used. The PCQ were administered. Three internally consistent factors, namely Employer Obligations, Employee Obligations and State of the Psychological Contract were extracted. The scales showed acceptable internal consistencies. Statistically significant differences were found between employee obligations and state of psychological contract. Statistically significant relationships were found between employee obligations and violation of psychological contract. A statistically significant relationship was found between state of the psychological contract and violation of the psychological contract.

OPSOMMING

Die doelstelling van hierdie studie was om die konstrugeldigheid en interne konsekwentheid van die Psychological Contract Questionnaire (PCQ) vir werknemers in die chemiese bedryf te bepaal. 'n Dwarsdeursnee ontwerp met 'n ewekansige steekproef ($N=407$) is gebruik. Die PCQ en 'n biografiese vraelys is afgeneem. Drie interne konsekwente faktore, naamlik Werkgewerverpligtinge, Werknemersverpligtinge, en die Status van die Psigologiese Kontrak is onttrek. Statisties beduidende verwantskappe is gevind tussen werknemersverpligtinge en die stand van die psigologiese kontrak. 'n Statisties beduidende verband is ook gevind tussen die stand van die psigologiese kontrak en oortreding van die psigologiese kontrak.

The existence of an employment relationship between an employer and the employee is as old as labour itself (Bendix, 2000). Since the new political dispensation in South Africa, which was implemented after the democratic elections in 1994, the employment relationship progressed through various phases. The new democratic doctrine means that all employees expect to have a voice at work and to be treated fairly. According to Landis and Grosset (2007), employment relationships and labour law in South Africa are governed by the South African Constitution Act 108 of 1996 (South Africa, 1996) as well as the global and local socio-economic forces as indicated in Section 3 of the Labour Relations Act 66 of 1995 (South Africa, 1995). This means that the nature and the structure of the employment relationship were influenced by changes in the ideology of and approaches to employment relations (Donaldson & Dunfee, 1994; Shore et al., 2004; Tetrick, 2004).

The employment relationship is conceptualised as an exchange between the employer and employee. Approaches to measuring the employment relationship generally have assessed the relationship by focusing the content (Rousseau, 1990; Rousseau, 2000; Tetrick, 2004; Tsui, Pearce, Porter, & Tripoli, 1997) or process (Eisenberger, Huntington, Hutchison, & Sowa, 1986; Tsui et al., 1997) of the relationship. The content of the employment relationship focuses on the element of the employment relationship and include the specific obligations between the employer and employee and also contributions of both parties. The process approach focuses on the social exchange theory and the norms of reciprocity between the parties. Some measurements focus on the individual employee perspective and others on the employer perspective (Tetrick, 2004).

The understanding of the employment relationship requires a multiple level approach (Kozlowski & Klein, 2000; Tetrick, 2004). Isaksson, et al. (2003a) used The Psychological Contract Across Employment Situations (PSYCONES) as a multilevel analysis of variables affecting employees' perceptions of the changing employment relations and the psychological contract. The psychological contract is essential to the understanding of employees' perceptions of work. These perceptions are held by the employer as well as the employees of the formal and informal entitlement and obligations between the parties (Isaksson, 2005). Therefore, it includes both parties' commitment to promises and obligations during the conclusion of the employment contract.

Marsden (2004) explains that the employment relationship is a widely recognised concept and it is governed by an 'incomplete' and 'open-ended' employment contract. The employment contract is incomplete, and work to be performed by the employee is often stated in very broad detail. Even if there is a job description it is detailed; it consist of an 'opening clause' stating that the employee should also undertake other reseonable work as instructed by management. The 'incompleteness' of the employment contract has attracted the attention of researchers in various fields, including labour law, industrial relations, organisational studies and organisational behaviour. According to Marsden (2004), in some studies the employment contract is used as an analytical tool to understand how the incompleteness of employment contract functions in workplace. In other studies (Guest, Conway, Briner, & Dickman, 1996) the employment contract is treated as something which can be measured, changes over time, and to monitoring the 'state of the psychological contract'.

The psychological contract construct was the first time quantitatively studied by Jurek (1968) in his unpublished dissertation. The term *psychological contract* was used in the early 1960s by Argyris (1960), Levinson, Price, Munden, and Solley (1962) and by Schein (1965) and was defined as expectations between the parties regarding the reciprocal obligations that make up an employee-employer exchange relationship. Argyris (1960) used the term "psychological work contract". Gibson (1966, p. 117) states that "the need-orientated individual and the goal-orientated organisation negotiate a work-contract" that explains the various rights and duties between the parties. Psychological contracts are distinct from formal and implied contracts (Petrick & Furr, 1995).

Psychological contracts develop within the interaction, both formal and informal, between the individual employee and the employer. This may occur during the recruitment process or during ongoing interaction in the relationship between a manager and an employee (Guzzo & Noonan, 1994; Rousseau, 1995; Rousseau & Greller, 1994; Sims, 1994; Sparrow, 1996; Westwood, Sparrow, & Leung, 2001).

Unlike formal employee-employer contracts, the psychological contract is founded on perceptions; therefore employers and employees may have different interpretations of the

implied obligations (Lester & Kickul, 2001). Obligations are beliefs held by an employee or employer, where each party is bound by a promise to the other party (Rousseau, 1990). Chan, McBey, Basset, O'Donnell, and Winter (2004, p. 34) state that "the psychological contract fills the perceptual gaps in the employment relationship and shapes the day-to-day employee behaviour in ways that cannot necessarily be discerned from a written contract."

Schein (1965) and Rousseau (1989) point out that the psychological contract is made up of employees' beliefs about reciprocal obligations between employees and their employers lay at the foundation of the employment relationship. Rousseau (1989, p. 123) was the first researcher to link the psychological contract to employee beliefs and she defined it as "an individual's beliefs regarding the terms and conditions of a reciprocal exchange relationship, the terms and conditions of a reciprocal exchange agreement between that focal person and another party". Therefore, the psychological contract is an individual belief concerning the obligations that exist between the employer and the organisation (Lester, Turnley, Bloodgood, & Bolino, 2002).

As mentioned by Raeder (2005), one of the key issues of the psychological contract is the belief of promise and consideration offered in exchange for some set of reciprocal obligations between the parties. Van Dyne and Ang (1998), Robinson and Morrison (2000), Schalk, Heinen, and Freese (2001) and Hornung (2005) have examined the psychological contract as the employee's perception of obligations derived from promises made by the employer and is experienced as a violation of the psychological contract. Psychological contract violation begins with the perception of a discrepancy between a relied-upon outcome and the actual outcome that occurs (Rousseau, 1995). The reaction to violation in both circumstances is dependent on the actual perception of its occurrence (Morrison & Robinson, 1997).

The perception of contract violation and employee obligations to the employer receive limited empirical attention (Marks & Scholarios, 2001). Different studies have measures the "perceptual gaps" between the extent to which something was promised in contrast to the extent to which it was fulfilled (Tetrick, 2004). The Psycones project was the first large-scale study in Europe to study violations of the psychological contract by the employer and

employees and the effect of those violations on employees' work outcomes (Isaksson et al., 2003; Isaksson, 2005).

Various international studies, focused on the the reliability and validity of measuring instruments of employer obligations, employee obligations and state of the psychological contract exist (Tetrick, 2004). However, very little research exists on the investigating of the relationship between the reliability and validity of the employer obligations, employee obligations, state of the psychological contract in relation to the violation of the psychological contract is available in South Africa.

The objective of this study was to assess the construct validity and internal consistency of the Psychological Contract Questionnaire (PCQ) for employees in the chemical industry environment in South Africa by focussing on employer obligations, employee obligations and the state of the psychological contract and violation of the psychological contract.

Conceptualisation and measurement of the psychological contract

The conceptualisation of the psychological contract has its historical roots in Barnard's theory of equilibrium (1938). According to Freese and Schalk (2008), there are many ways to conceptualise the psychological contract. They distinguish between a unilateral and bilateral perspective. The unilateral perspective focuses on the individual beliefs of the mutual expectations and obligations between the parties. The bilateral perspective focuses on the psychological contract as a whole of the employers as well as employees' perceptions of exchanged obligations.

The present conceptualisation focuses on the individual employees' beliefs and interpretation of a promissory contract (Robinson, 1996). Rousseau (1995) makes it clear that the organisation consists of multiple agents (owner, top management, recruiter, trainer, manager and co-workers) and the psychological contract involving both parties to the exchange relationship. The conceptual basis of the psychological contract is the social exchange theory (Blau, 1964) and norms of reciprocity (Gouldner, 1960).

Different directions of research emerged, which focus on the definitions, content, feature, state and process-orientated nature of the psychological contract. Definitions of the psychological contract range between individual and organisational expectations, beliefs, promises, obligations and perceptions. Rousseau (1995, p. 9) defines the psychological contract as "individual beliefs, shaped by the organisation, regarding the terms of an exchange agreement between individuals and their expectations." Herriot and Pemberton (1997, p. 45) defines the psychological contract as follows: "the perceptions both parties to the employment relationship - organizations and individual - of the reciprocal promises and obligations implied in that relationship." Arnold (1996) explains that a definitional confusion exists in the psychological contract research on what the major "stumbling" blocks of the psychological contract are. As mentioned by Raeder (2005), the key issues included beliefs that a promise has been made and a consideration offered in exchange for it, binding the parties to some set of reciprocal obligations.

Tetrick (2004) explains that the employment relationship is conceptualised as an exchange relationship between the parties. Approaches to measure the employment relationship can focus on the content or process. Tetrick (2004) explains that different types of measurement are found with the psychological contract, namely content-oriented assessment, feature-oriented assessment, state of psychological contract assessment- and process-oriented assessment.

The **content-oriented measurement** examines the content of the psychological contract and includes the terms and inter-relationship among terms (DelCampo, 2007). This method of measurement can focus on the employees' perspective of the psychological contract (Barksdale & Renn, 1997), the employers' perspective (Ho & Ang, 1997), or the perception of both parties in the employment relationship (Herriot, Manning, & Kidd, 1997). The content-orientated approach could focus on a part (idiosyncratic or individual terms) or the broader whole (composites and classification of the characterization of a contract's content) (Rousseau & Tijoriwala, 1998).

Quantitative measurements of the psychological contract content are operationalised in three ways, namely as terms, composites and normal classifications. Terms are obligations

employees perceive themselves to owe the employer and their employer to owe in return (Rousseau & Tijoriwala, 1998). The composites of terms are sets of discrete obligations that combine to form measures of the pattern of the contract, measured at the item level and analysed at an aggregated level by creating an index based on cluster analysis of individuals by their combination of employee and employer obligations (Barksdale & Shore, 1997; Rousseau & Tijoriwala, 1998).

A psychological contract consists of a bundle of obligations. The Psycones project focused on 15 employers' obligations and 16 employee obligations that were extracted (Isaksson et al., 2003a). A review of factor analyses across studies identified inconsistency across samples on employee obligations (DelCampo, 2007). Morrison and Robinson (1997) suggest a term/obligations specific assessment of the psychological contract content by developing a scale for a variety of contract terms. The content-oriented perspective of the psychological contract is problematic, because problems have appeared in finding a consistent scale and the grouping of items to codify individual psychological contract over time and across positions and organisations (DelCampo, 2007). According to Rousseau (1995), the perception of the psychological contract is idiosyncratic and subjective.

The **feature-oriented measurement** focuses on the terms of a contract between the parties involve. The features approach defines the psychological contract as an idiosyncratic set of expectations by the employees concerning obligation and their entitlement (McLean Parks, Kidder, & Gallagher, 1998). The feature-oriented measurements are important for the understanding of the nature of the employment relationship (Rousseau & Tijoriwala, 1998) and specify a variety of properties including narrow or wide scope, explicit/implicit, static or dynamic, certain or uncertain and written and unwritten psychological contract. This approach is crucial for the understanding of processes because communication between the parties affects the content, fulfilment or violation of the psychological contract (DelCampo, 2007). General characteristics are described by this approach and it also focuses on why obligations and inducements are experiencing differently by different groups of employees (Freese & Schalk, 2008).

Rousseau and McLean Parks (1993) identified four dimensions in the feature-oriented approach, namely time-frame, tangibility, scope, and stability. Rousseau and Schalk (2000) added two dimensions for an understanding of all possible features of the psychological contract, namely exchange symmetry and the contract level. Time-frame is the duration of the employment relationship and in this dimension a distinction is made between relational and transactional contracts (Rousseau, 1995), a clan or market relationship (Beer, Spector, Lawrence, Mills, & Watson, 1984), or a make or buy relationship (Janssens, Sels, & Van den Brande, 2003). Tangibility focuses on the employee-perceived terms of the contract. The scope focuses rather on the degree to which the boundary between one's employment relationship and other features of one's life is seen to be permeable. Stability refers to the degree to which the psychological contract is incomplete in terms of its ability to develop and change without an implied negotiation of the terms (Rousseau & Schalk, 2000).

The symmetry level focuses on the degree of exchange by both the employer and employees. This dimension focuses mainly on concepts such as hierarchy and inequality (Janssens et al., 2003). The contract level refers to the individual regulate versus collective regulate rules in the employment relationship. This level focuses rather on the individual level of the employment relationship (Rousseau, 2000). Little or no individual negotiation takes place because all employment aspects have been decided and negotiated on collectively (Janssens et al., 2003). This approach distinguishes between different types of contracts but focuses only on the content (Rousseau, 2000). The relational contract is more an open-ended agreement and flexible (Conway & Briner, 2005). The transactional contract is a short-term and static agreement between the parties. McInnis, Meyer, and Feldman (2009) found that a significantly negative correlation exists between five dimensions: symmetry, explicitness, level, time frame and negotiation. As mentioned by Rousseau and Tijoriwala (1998), the feature-oriented approach is still underdeveloped.

The **state of the psychological contract/evaluation-oriented measurement** entails the degree of fulfilment or breach of a contract (Robinson & Morrison, 2000), change and violation experienced within the context of the contract (Rousseau & Tijoriwala, 1998). The evaluation-oriented measurement includes two methods. The first method focuses on the fulfilment of the contract and the second method on the violation of the psychological

contract. A direct or indirect measure can be used for contract fulfilment. The direct measure focuses on the extent to which the perceived obligations are met and the indirect measure focuses on the difference scores of discrepancy between perceived obligations and the actual inducements by the organisation (Freese & Schalk, 2008).

Contract violation is not the opposite of contract fulfilment (Freese & Schalk, 2008). Contract fulfilment recognises that an employer or employee can be perceived as keeping some but not all the contract terms (Rousseau & Tijoriwala, 1998). DelCampo (2007) explains that researchers have different opinions about the violation of the psychological contract and explain it as a discrete event or an emotional response. Rousseau (1989) explains that failure to meet the terms of the psychological contract may signal damage to the trust and good faith in the employment relationship.

Behavioural outcomes of violation are shaped by personal predispositions and situational factors. Personal predisposition is the tendency to value the employment relationship and an attempt to save it even at high costs versus the tendency to have a low tolerance for inequities existing in this relationship. Situational factors focus rather on behavioural outcomes (job insecurity, intention to leave the employer) once the employee evaluates discrepancies as contract violation (Rousseau, 1995). It is not clear whether violations concepts are highly inter-correlated with a given outcomes and if it would predict breach or violation (Tetrick, 2004). Violation measured as a dichotomous variable reflects a single event within the employment relationship (Isaksson et al., 2003a).

The **process of psychological contract-oriented measurement** focuses on the change of the psychological contract over time and internal and external factors contributing to change in the psychological contract (Rousseau, 1995). There is still lack of research on this topic (Isaksson et al., 2003a). De Vos, Buyens, and Schalk (2001) found that employees will lower or heighten their perception on their own promises depending on whether they evaluate the employer contribution as being negative or positive.

Criteria for measuring the psychological contract

Guest (1998), as cited by Shore et al. (2004), questions the validity and constructs within the psychological contract. This is because, regarding the validity, it is unclear whether psychological contracts are concerned with expectations, promises or obligations. Regarding the constructs, Guest (1998) raises doubts about the legal metaphor that underlies the conceptualisation of a psychological contract. Rousseau (1995) defines the psychological contract at an individual, perceptual level, and Guest (1998) questions the lack of clarity concerning who or what constitutes the organisation as a party to the contract.

As Cable (2008) mentions, some progress results from efforts to develop measures of the psychological contract, but no measure has yet gained wide acceptance in research circles. Moreover, no sample-specific measures have been identified. Chan et al. (2004, p. 34) explain that “the psychological contract fills the perceptual gaps in the employment relationship and shapes the day-to-day employee behaviour in ways that cannot necessarily be discerned from a written contract”.

In this study, the Psycones (Isaksson et al., 2003a) Questionnaire was used to measure the Employer Obligations Questionnaire, the Employee Obligations Questionnaire and the State of the Psychological Contract and the Violations of the Psychological Contract. In the Psycones project (Isaksson et al., 2003a) scales and measures on the psychological contract were evaluated by exploratory factor analysis and reliability test. Scales were accepted if they were above 0,70. The measurement of the psychological contract comprises three parts. The first part focuses on the measurement of the content of the psychological contract and consists of employer obligations and employee obligations.

In the pilot study of the project (Isaksson et al., 2003a) 10 items were used and exploratory factor analysis confirmed a one-dimensional solution for employee obligations. A factor analysis during the pilot study revealed that Employer Obligations consisted of three dimensions, namely transactional aspects, a relational factor, and a dimension concerning the chance to have an influence on important decisions (Isaksson et al., 2003a, p. 16). For the main study three items were deleted and questions were recoded.

In a sample of 217 members of security employees in the Vaal Triangle, Du Plooy (2009) found through principle component analysis and a one-dimensional solution for Employer Obligations and also a one-dimensional solution for Employee Obligations. Yazek's (2009) study on administrative personnel at higher education institutions reports a one-dimensional construct for employer obligations and a one-dimensional construct for employee obligations using a principal component analysis with a principal axis factor rotation.

In terms of reliability the employer questionnaire and the employee questionnaire seem to be internally consistent scales with Cronbach alpha exceeding the proposed criterion of 0,70 as proposed by Nunnally and Bernstein (1994). Research by Isaksson et al. (2003a) yielded reliability coefficients of 0,84 for Employers Obligations after the following two items had been delete "to provide you with pay that is commensurate with the level of your performance" and "to allow you to participate in important decisions". With these two items the Cronbach alpha was 0,79 and after having deleted these items, the reliability improved to 0,84. Three new items were added to the Employer Obligations Questionnaire, namely "provide you with a safe working environment", "to improve your future employment prospects" and "provide an environment free from violence and harassment".

In the South African context, research evidence seems to confirm these findings when using the Employer Obligations Questionnaire and Employee Obligation Questionnaire of Isaksson et al. (2003a). Du Plooy (2009) research obtains internal consistencies of 0,95 for employer obligations and 0,94 for employees obligations. Du Plooy (2009) found practically significant correlation of a medium effect between employer obligations and employee obligations. A study on teachers by More (2007) reported alpha coefficients of 0,93.

The second part measurement was contract fulfilment which measures the extent to which both parties think the terms of their psychological contract have been met or not (Isaksson et al., 2003a). If the contract is not fulfilled, the employees experience violations of the psychological contract. The measures of contract fulfilment assumed that the specific obligations existed. Coyle-Shapiro and Kessler (2000) developed two alternate measures of contract fulfilment - the extent to which the organisation had met each obligations and

whether the employer is not obliged to provide any obligation. They found support that these two methods are equivalent.

Research on psychological contract violation has been cross-sectional and focuses on the employer fulfilment of the terms of the psychological contract (Rousseau, 2001). In working paper 5/6 of Isaksson et al. (2003b) six items were used to measure the psychological contract. A two-factor solution was found - one for positively worded items (happy, pleased, grateful) and one for negatively worded items (angry, violated, disappointed). The factor loadings and the reliabilities were sufficiently high to justify the use of items as a single scale. The Cronbach alpha for the six items was 0,85.

The third part of the measurement focuses on the state of the psychological contract. The state of the psychological contract revealed two independent factors – one on trust in management with three items and obtained a Cronbach alpha of 0,83 and the other concerning justice with four items with a Cronbach alpha of 0,82 (Isaksson et al., 2003a). Yazek (2009) revealed that the state of the psychological contract consists of one-dimensional solution with a Cronbach alpha of 0,90. In a study on fire brigades by Veldman (2008) reported an alpha coefficient of 0,93. These are highly acceptable reliability coefficients.

Based on the above discussion, the following hypotheses are formulated for this study:

Hypothesis 1: Employer obligations and employee obligations have acceptable levels of internal consistency for each of its subscales.

Hypothesis 2: The status of the psychological contract, as measured by the Psycones, is a one-dimensional construct.

Hypothesis 3: Violation of the psychological contract, as measured by the Psycones, is a one-dimensional construct.

Problems with most of the studies which focused on the construct validity of the psychological contract construct are that they made use of exploratory factor analyses. Exploratory factor analysis is used primarily as a tool for the reducing of the number of variables or examining patterns of correlations amongst variables (Tabachnick & Fidell, 2001). When researchers decide on the number of factors and rotational scheme they based it

on pragmatic rather than theoretical criteria. During the second study of the Psycones project deviation and changes was done on questions of the psychological contract scale.

Studies on the test-retest reliability of the employer obligations questionnaire, employee obligations questionnaire, state of psychological contract and violation of the psychological contract of the Psycones. Isaksson et al. (2003a) confirmed the stability of the questionnaires over time.

From the above it is clear that a lack of consistency in choice of what to measure exists. As mentioned by DelCampo (2007) the psychological contract has not evolved to the point of refinement where it has developed findings related to the “faceted” psychological contract.

METHOD

Research design

A cross-sectional survey design was used. This method was utilised to describe the information on the studied population (people or firm) collected at a single point in time (Babbie & Mouton, 2008; Hardy & Bryman, 2004). Shaugnessy and Zechmeister (1997) explain that this design can be used to evaluate interrelationship among variable within a population. It further explains that this design is also ideal to describe and predict functions associated with correlative research.

Participants

The study population could be defined as random samples of employees in the chemical industry in South Africa. The participants include employees from different chemical companies in the Free State, Western Cape, Eastern Cape, Gauteng, Natal, North-West Province, Mpumalanga ($N = 407$). The population includes workers from all levels, i.e. ranging from unskilled blue-collar workers to management. The lowest level employees have a level of literacy adequate for a valid completion of the questionnaires.

Descriptive information of the sample is portrayed in Table 1. As indicated in Table 1, the majority of employees (33,7%) are between 30 and 39 years of age. More males (64,1%) than females (34,4%) participated in the research. 8% are at a management level, while 79,8 % do not supervise other employees. More full-time employees (67,3%) than part-time (28,7%) employees participated in this study.

Table 1

Characteristics of the Participants

Item	Category	Frequency	Percentage
Age	20-29	39	9,6
	30-39	137	33,7
	40-49	129	31,7
	50+	89	21,9
	Missing	13	3,2
Gender	Male	253	64,1
	Female	140	34,4
	Missing	14	1,5
Classification of job	Unskilled blue collar	11	2,7
	Skilled blue collar	54	13,3
	Low level white collar	40	9,8
	Intermediate white collar	194	47,7
	Middle management	53	13,0
	Management	33	8,1
	Missing	22	5,4
Supervise	No	325	79,8
	Yes	73	17,9
	Missing	9	2,2
Union membership	No	86	21,1
	Yes	318	78,1
	Missing	3	,7
Other paid jobs	No	304	74,7
	Yes	96	23,6
	Missing	7	1,7
Type of contract	Full-time	274	67,3
	Part-time	117	28,7
	Missing	16	3,9

Measuring instruments

The following questionnaires were used to gather data for this study.

A demographical questionnaire included in the Psychological Contract Across Employment Situations (Psycones) questionnaire was used to gather information regarding the demographic characteristics of the participants. This questionnaire gives participants the option of supplying their age, sex, tenure, educational level, marital status, dependants, occupation/job, position, supervision, type of contract, main job versus other paid jobs and union membership.

The psychological contract was measured by using the Psycones (2005) Questionnaire. To measure the psychological contract, the state of the psychological contract, employer obligations, employee obligations and violation of psychological contract constructs were used of the Psycones (2005).

The *State of the Psychological Contract* consists of 7 items. Answers were given on a 5-point Likert scale ranging from 1 (*not at all*) to 6 (*totally*). It includes questions such as “Do you feel you are rewarded fairly for the amount of work you put into your job?” and “Do you feel you are fairly paid for the work you do?” Studies in South Africa by Yazbek (2009) obtained a Cronbach alpha coefficient of 0,86.

The *Employer Obligations Questionnaire* developed by Isaksson et al. (2003a) was used to gather data on the promises and commitments the employers occasionally make to their employees. The questionnaire consists of 15 items arranged along a 6-point frequency-rating scale varying from 0 (*No*) to 5 (*Yes, and promise fully kept*). Typical questions on this questionnaire range from “Has your organisation promised or committed itself to provide you with interesting work”, to “Has your organisation promised or committed itself to help you deal with problems you encounter outside work.” In a study conducted by More (2007), a Cronbach alpha coefficient of 0,93 was obtained, indicating the internal consistency of this questionnaire.

The *Employee Obligations Questionnaire* developed by Isaksson et al. (2003a) was utilised to determine some promises and commitments people occasionally make to their organisation. The questionnaire consists of 16 items arranged along a 6-point frequency-rating scale varying from 0 (*No*) to 5 (*Yes, fully kept promise*). Examples of questions on this questionnaire include “Have you promised or committed yourself to go to work even if you don’t feel particularly well” and “Have you promised or committed yourself to work enthusiastically on jobs you would prefer not to be doing”. More (2007) found a Cronbach alpha coefficient of 0,90. These findings confirm the internal consistency of the measuring instrument.

Violation of the psychological contract, as developed by Isaksson, Josephson, and Vinegard (2003c), was measured by using 6 items. The six items measured six feelings (emotions) concerning the perception of the psychological contract, namely happy, angry, pleased, violated, disappointed and grateful that have a Likert five-point scale varying from 1 (*strongly disagree*) to 5 (*strongly disagree*). Previous studies (Isaksson et al., 2003a; Rigotti & Mohr, 2003) on violation of the psychological contract explain that trust and fairness can be indicators of violation of the psychological contract. The scales are psychometrically adequate, stable and reliable.

Statistical analysis

The analysis was carried out with the SPSS 16.0 Program (SPSS, 2009). The first phase of the data analysis involved an assessment of the construct validity of the PCQ. Prior to principal factor extraction, principal component extraction was done to estimate the number of factors, the presence of outliers and factorability of the matrices. The eigenvalues and scree plot were studied to determine the number of factors involved. A principal axis factor analysis with a direct oblimin rotation was conducted to extract the factors (Tabachnick & Fidell, 2001).

Cronbach alpha coefficients were computed to assess the internal consistency of the scales. Hair, Anderson, Tatham, & Black (1998) explains that generally the agreed lower limits for

the Cronbach alpha coefficient is 0,70, but in the case of exploratory research the Cronbach alpha coefficient may be lowered to 0,60 in the case of exploratory research.

Descriptive statistics (means, standard deviations, skewness and kurtosis) were computed to describe the data. Descriptive statistics use methods such as mean, z-scores and frequency tables (Kaplan, 1987). To determine whether the distribution of scores is normal, the values of skewness and kurtosis should be zero in a normal distribution. Positive values of kurtosis indicate a peaked distribution, whereas negative values indicate a flat distribution. The further the value is from zero, the more likely it is that the data are not normally distributed.

Skewness and kurtosis actual values are not informative, and the value should be converted into z-scores. The significance of z should be tested conservatively ($p < 0,01$) in small samples and probably not at all for large samples (Field, 2005). Information can also be obtained from histograms and the distribution of the data.

Graphic presentations through histograms are used to promote a comprehensive understanding of essential features of frequency distributions. A histogram is a diagram which is used in connection with interval/ratio variables. The length of each bar usually represents the number of cases that can be subsumed in each category of the variable being represented (Bryman & Cramer, 2009).

Skewness or other pronounced departures from a normal distribution can be established from examination of a frequency table or a histogram. If there are no skew data, the variables are normally distributed; a value of zero or nearly zero will be registered. If there is a negative value, the data are negatively skewed. If the value is positive, the data are positively skewed (Bryman & Cramer, 2009).

RESULTS

Construct validity

A principal component analysis was carried out on the 38 items of the PCQ. The results showed that six factors, which explained 64,04% of the total variance, had eigenvalues larger than one. However, the scree plot showed that three factors could be extracted (see Figure 1).

Scree Plot

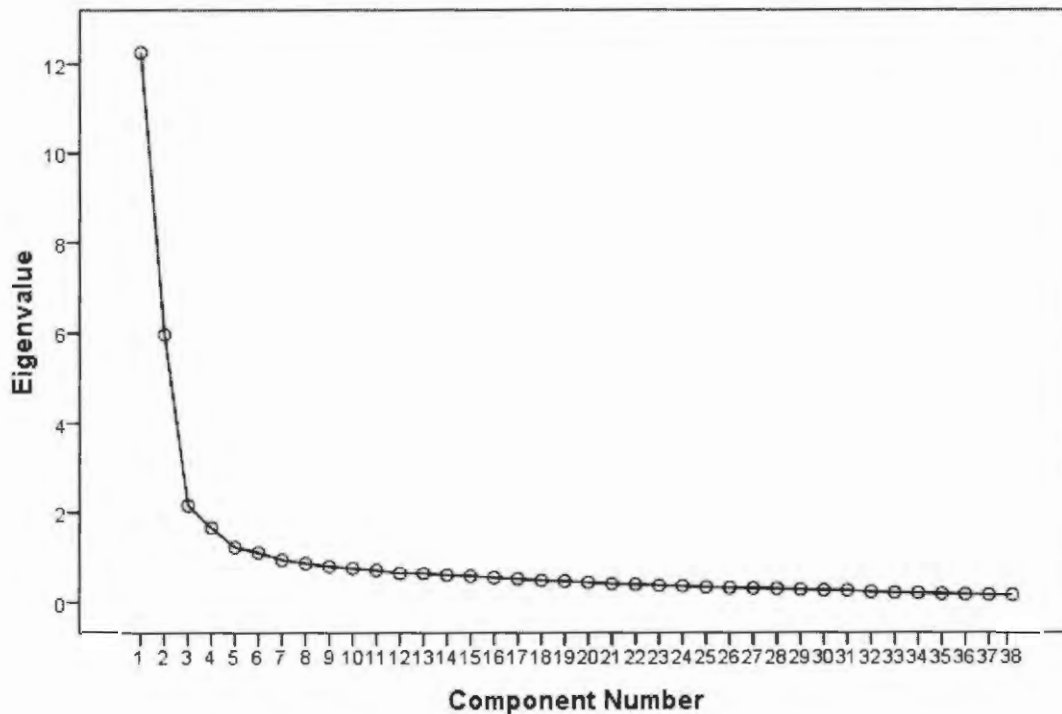


Figure 1. Scree plot of the PCQ.

Subsequently, as principal axis factor analysis with a direct oblimin rotation was carried out on the 38 items of the PCQ. The loadings of items on the three factors, communalities (h^2), and percentage of variation explained by each factor are reflected in Table 2. The variables are ordered and grouped according to loadings-size to facilitate interpretations. Labels for each factor are suggested in a footnote.

Table 2

Factor Loadings, Communalities (h^2) and Percentage Variance for Principal Axis Factor Analysis on PCQ Items

Item	Description	F ₁	F ₂	F ₃	h^2
1.	Has your organisation promised or committed itself to provide you with interesting work?	0,54	0,03	-0,01	0,57
2.	Has your organisation promised or committed itself to provide employees with a long-term secure job?	0,61	-0,14	-0,07	0,54
3.	Has your organisation promised or committed itself to provide you with good pay for the work you do?	0,61	0,18	0,06	0,66
4.	Has your organisation promised or committed itself to provide you with a job that is challenging?	0,70	-0,06	-0,10	0,59
5.	Has your organisation promised or committed itself to allow you to participate in decision-making?	0,66	-0,06	0,07	0,57
6.	Has your organisation promised or committed itself to provide you with a career?	0,50	-0,16	0,08	0,57
7.	Has your organisation promised or committed itself to provide a good working atmosphere?	0,69	-0,08	0,08	0,69
8.	Has your organisation promised or committed itself to ensure fair treatment by managers and supervisors?	0,60	-0,08	0,25	0,71
9.	Has your organisation promised or committed itself to be flexible in matching demands of non-work roles with work?	0,66	-0,01	0,05	0,52
10.	Has your organisation promised or committed itself to provide possibilities to work together in a pleasant way?	0,66	-0,14	0,14	0,72
11.	Has your organisation promised or committed itself to provide you opportunities to advance and grow?	0,64	-0,09	0,11	0,70
12.	Has your organisation promised or committed itself to provide you with a safe working environment?	0,75	-0,06	-0,10	0,74
13.	Has your organisation promised or committed itself to trust employees to fulfil their work responsibilities?	0,70	0,04	0,04	0,62
14.	Has your organisation promised or committed itself to provide an environment free from violence and harassment?	0,71	-0,03	-0,08	0,72
15.	Has your organisation promised or committed itself to help you deal with problems you encounter outside work?	0,56	-0,00	0,06	0,58
16.	Have you promised or committed yourself to go to work even if you don't feel particularly well?	0,18	-0,43	-0,08	0,43
17.	Have you promised or committed yourself to protect your company's image?	0,12	-0,70	0,07	0,65
18.	Have you promised or committed yourself to show loyalty to the organisation?	0,12	-0,69	0,11	0,63
19.	Have you promised or committed yourself to work overtime or extra hours when required?	0,06	-0,70	0,05	0,64
20.	Have you promised or committed yourself to be polite to customers or the public even when they are being rude and unpleasant to you?	0,03	-0,72	-0,00	0,62
21.	Have you promised or committed yourself to be a good team player?	0,12	-0,75	-0,15	0,67
22.	Have you promised or committed yourself to turn up for work on time?	0,09	-0,70	-0,15	0,58
23.	Have you promised or committed yourself to assist others with their work?	0,04	-0,81	-0,09	0,70
24.	Have you promised or committed yourself to volunteer to do tasks outside your job description?	0,04	-0,70	0,05	0,61
25.	Have you promised or committed yourself to develop your skills to be able to perform well in this job?	-0,04	-0,76	0,05	0,64

26. Have you promised or committed yourself to meet the performance expectations for your job?	0,04	-0,75	-0,18	0,63
27. Have you promised or committed yourself to accept an internal transfer if necessary?	-0,00	-0,29	0,09	0,65
28. Have you promised or committed yourself to provide the organization with innovative suggestions for improvement?	-0,06	-0,68	0,09	0,52
29. Have you promised or committed yourself to develop new skills and improve your current skills?	-0,01	-0,73	0,04	0,67
30. Have you promised or committed yourself to respect the rules and regulations of the company?	-0,02	-0,77	0,08	0,63
31. Have you promised or committed yourself to work enthusiastically on jobs you would prefer not to be doing?	-0,08	-0,71	0,18	0,55
32. Overall, do you feel you are rewarded fairly for the amount of effort you put into your job?	0,29	0,27	0,37	0,74
33. Do you trust your organisation to keep its promises or commitments to you and other employees?	0,04	-0,07	0,79	0,77
34. Do you feel that organisational changes are implemented fairly in your organisation?	-0,05	-0,08	0,81	0,75
35. Do you trust senior management to look after employees best interests?	0,13	0,04	0,76	0,72
36. Do you feel you are fairly paid for the work you do?	0,25	0,31	0,37	0,81
37. Do you trust your employer to take care of you?	0,10	-0,14	0,59	0,56
38. Do you feel fairly treated by managers and supervisors?	0,05	-0,21	0,70	0,68
Percentage variance	32,24	15,69	5,67	

Factor labels: F_1 Employer Obligations F_2 Employee Obligations F_3 State of the Psychological Contract

Inspection of Table 2 reveals that three factors were extracted, accounting for 53,60% of the total variance in the data. Items loading on the first factor relate to *Employer Obligations*. Employer obligations content is defined as “whether a promise is made or not” (Isaksson et al., 2003a). The content of the psychological contract refers to the terms being part of the perceived exchange relationship (Rousseau & Tijoriwala, 1998). The second factor addresses the *Employee Obligations*. Employee obligations refers to whether “a promise or commitment by the organisation is perceived as being made or not” (Isaksson et al., 2003a). The third factor represents the *State of the Psychological Contract* and can be defined as “the extent to which the promises and obligations in the psychological contract have been delivered, whether the deal is perceived to be fair and the degree of trust in whether it will continue to be delivered in the future” (Isaksson et al., 2003a). The variables also seem to be well represented by this factor solution. The total communality (h^2) of the 38 variables is 11,85. The proportion of the total communality variation explained by the three factors is 0,31 percent. Only item 27 loaded below 0,30 and was removed from the questionnaire.

Next, a principle component analysis was performed on the six items of psychological contract violation. One factor was extracted, accounting for 65,12% of the total variance in the data.

Table 3

Factor Loadings, Communalities (h^2) and Percentage Variance for Principal Component Analysis on PCQ (Violation of the contract) Items

Item	Description	F_1	h^2
1.	Happy	0,84	0,71
2.	Angry	-0,79	0,63
3.	Pleased	0,87	0,76
4.	Violated	-0,74	0,54
5.	Disappointed	-0,82	0,68
6.	Grateful	0,77	0,60

The factor loadings were between 0,74 and 0,87, which were sufficiently high to justify the use of the items as a single scale. Items 1, 3 and 6 should be reverse scored.

Descriptive statistics

The descriptive statistics and alpha coefficients of the PCQ are reported in Table 4.

Table 4

Descriptive Statistics and Cronbach Alpha Coefficients of the PCQ

	Mean	SD	Range	Skewness	Kurtosis	α
Employer Obligations	3,47	1,18	75,00	-0,97	-3,51	0,93
Employee Obligations	4,90	0,83	80,00	-9,12	5,73	0,93
State of PC	2,74	0,86	28,00	-0,69	-1,81	0,86
Violation of PC	3,27	0,94	24,00	-2,74	-2,16	0,89

The information reflected in Table 4 indicates normal negative distribution scores employer obligations, state of the psychological contract and violation of the psychological contract.

Employer obligations kurtosis is 5,73 and therefore it not normally distributed and spread in the data. The data are normally distributed and there is spread in the data. Employee obligations shows a skewness and it show a large negative value of -0,92. Most of the scores of the histogram are to the right, and therefore the data are negatively skewed. Furthermore, the results in Table 4 show acceptable Cronbach alpha coefficients varying from 0,86 – 0,93 were obtained for scales. The mean inter-item correlations of the most of the scale are acceptable.

To evaluate the variations in indicators, the length of the histogram plot and the presence of outliers and of extreme scores are shown in Figure 2 to Figure 5. Figure 2 employers obligations shows some spread in the mean scores.

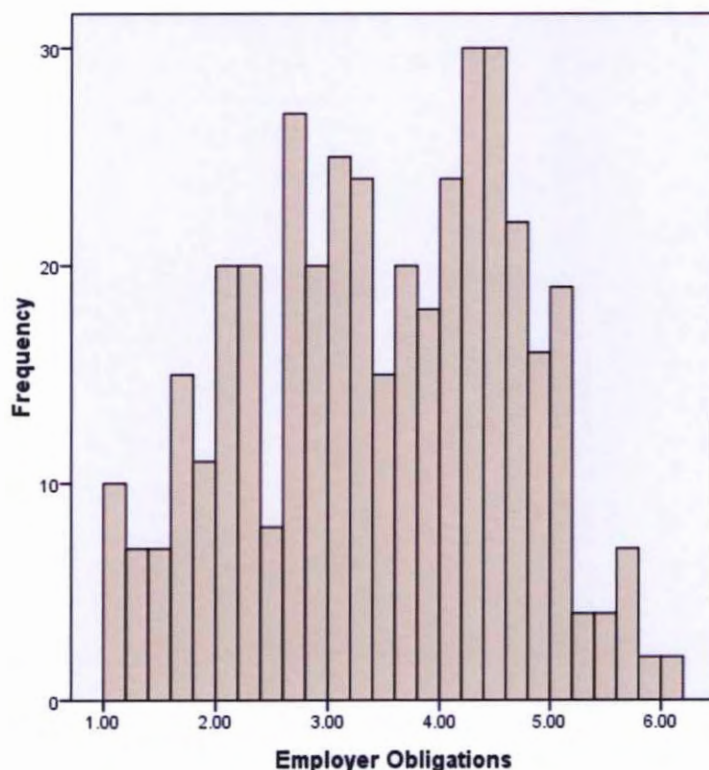


Figure 2. Histogram of the distribution of Employer Obligation scores

Inspection of the histogram in Figure 3 led to the conclusion that there was variation for all indicators. It shows the mean obligations by the employer ratings given by subjects in each of the six conditions, ranging from no, promises not kept at all by the employer, to yes, promises fully kept by the employer. It is concluded that employer obligations seems to be suitable for

parametric statistical procedures in this study. The graph shows that obligations of the promises or committed obligations kept by the employer were higher with promises and committed obligations largely kept by the employer.

Figure 3 (Employee obligations) shows some spread in the scores. The scores of the histogram are to the right and show that the data are positively skewed (Bryman & Cramer, 2009).

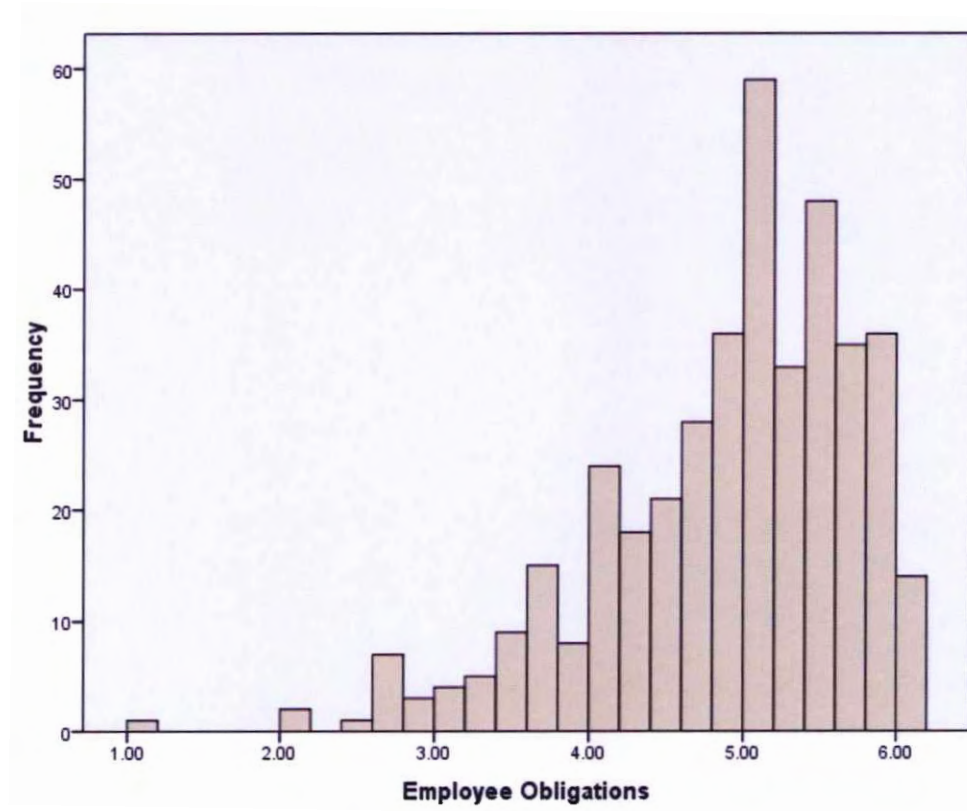


Figure 3. Histogram of the distribution of Employee Obligation scores

The highest scores in the graph show that employees largely kept their promises to the employer. It shows the mean Employee Obligation ratings given by subjects in each of the six conditions, ranging from no, promises not kept at all, to yes, promises fully kept by the employer. The lowest score was no promise kept at all by employees towards their employer. It is concluded that employee obligation seems to be suitable for parametric statistical procedures in this study.

Figure 4 shows some spread in the mean scores for State of the psychological contract.

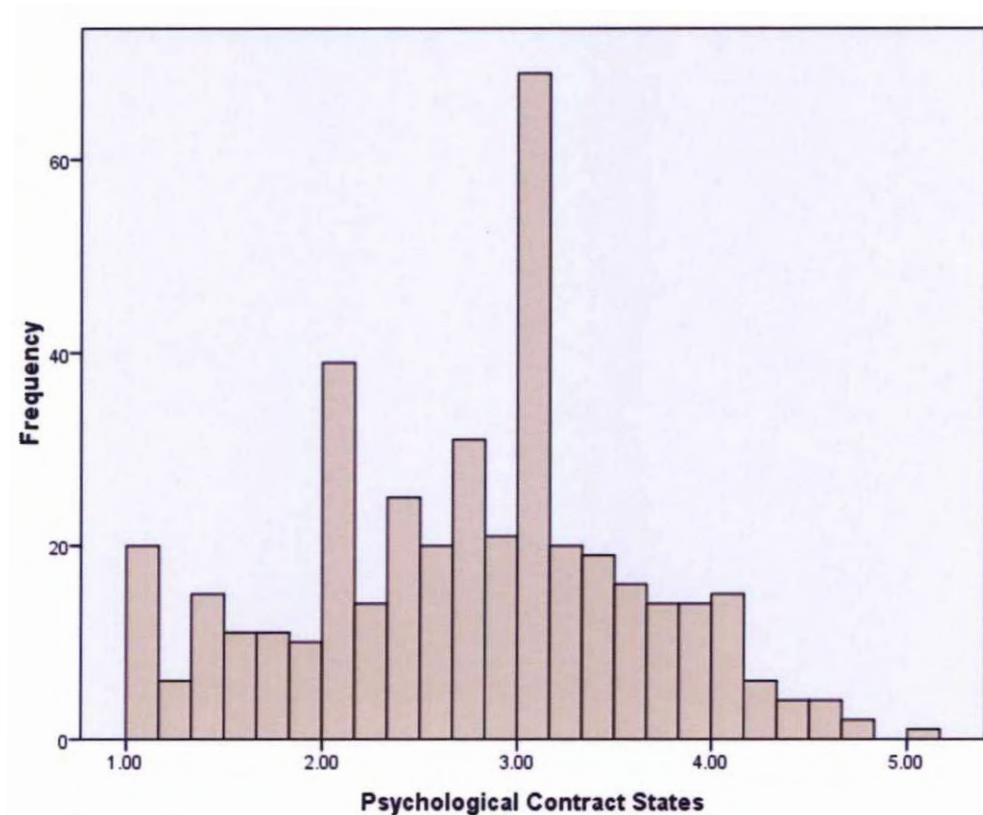


Figure 4. Histogram of the distribution of State of the Psychological Contract scores

Figure 4 shows the mean scores for the state of the psychological contract (trust and fairness). The highest scores in the graph show to some extent the employees trust the employer and to some extent the employees experience fairness of the employment relationships. The lowest score was totally trust and experience fairness in the employment relationship. It is concluded that state of the psychological contract seems to be suitable for parametric statistical procedures in this study.

Inspection of Figure 5 led to the conclusion that there was variation for all indicators on violation of psychological contract.

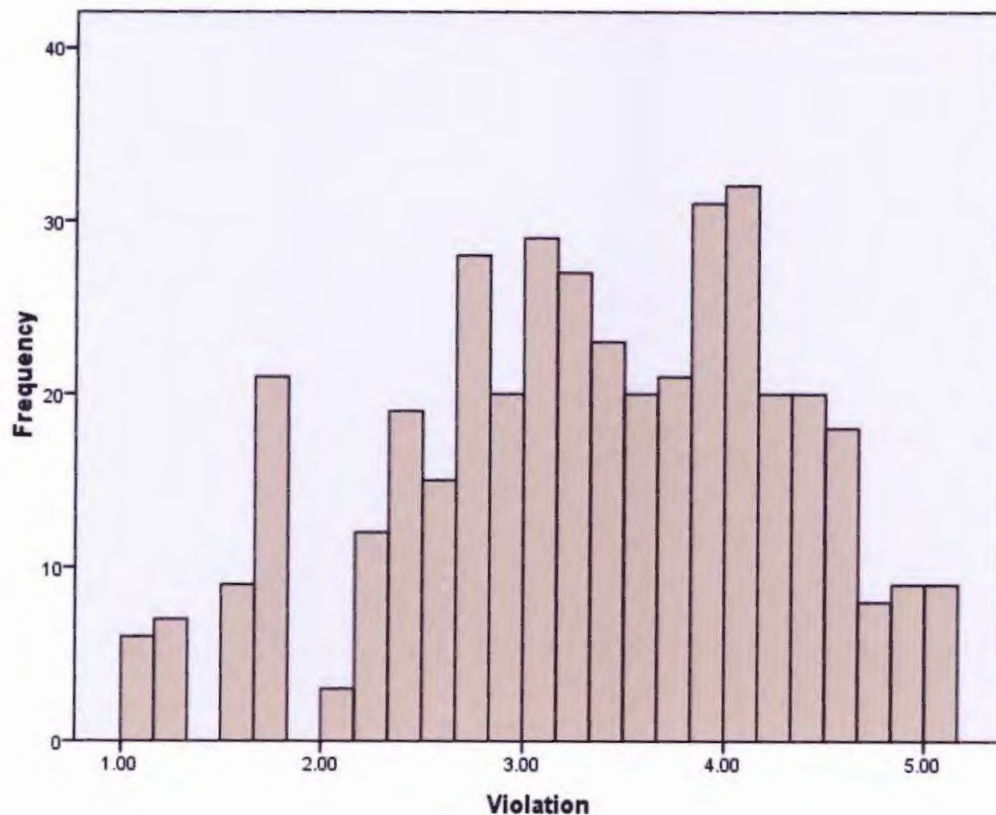


Figure 5. Histogram of the distribution of Violation scores

The highest means score for violation of psychological contract indicates that organizations have or have not kept its promises and commitments as a promise to employees. The lowest scores indicate employees experience a little violation because of promises or commitments not kept by the employer. It is concluded that violation seems to be suitable for parametric statistical procedures in this study.

Table 5

Pearson Correlations between the Scales

Scale	1	2	3
1. Employer Obligations	-	-	-
2. Employee Obligations	0,41*	-	-
3. State of Psychological Contract	0,57*	-0,15*	-
4. Violation of Psychological Contract	0,57*	0,19*	0,67*

* Correlation is significant at the 0,01 level (2-tailed)

Table 5 shows that employer obligations are statistically significantly related to employees obligations (pratically significant, medium effect). Employer obligations and state of psychological contract show a statistically and practically significant relationship (large effect). Employer obligations and violation of the psychological contract are also statistically and practically significantly (large effect). The state of the psychological contract was statistically and practically significantly related to violation of the psychological contract (large effect).

DISCUSSION

The psychological contract is essential to the understanding of employees' perceptions of work in the employment relationship. The researcher has reviewed previous research on the psychological contract that has dealt indirectly or directly with the problem of measuring the psychological contract. It has been found that a lack of consensus exist on the methodology for measuring the concept psychological contract. The employment relationship in this study was measures from an individual level perspective by using the PCQ. The PCQ has developed largely within the workplace context within first world countries.

The objective of this study was to investigate the construct validity and internal consistency of the PCQ and violation of the psychological contract for employees in the chemical industry in South Africa. This study has shown that constructs has been well measured. Levels of reliability and validity were higher than conventionally acceptable in all cases. The Employer Obligations Scale, the Employee Obligations Scale, the State of the Psychological Contract Scale and the Violation of the Psychological Contract Scale showed acceptable internal consistencies. The Cronbach alpha coefficients varying from 0,86 – 0,93 were obtained for scales. The mean inter-item correlations of the scale were acceptable. Employer obligations, employee obligations, state of the psychological contract and violations of the psychological contract were suitable for parametric statistical procedure. The sample consisted of 407 chemical industry employees in South Africa.

The significance of the findings of the study is firstly that the construct validity of the PCQ receives support. These results are supported by the findings of Linde (2007) in the higher education sector with regards to the Psycones Questionnaire was reliable and suitable in the

higher education sector. Reliability analysis confirmed sufficient internal consistency of the scale (Du Plooy, 2009; Isaksson et al., 2003a; Isaksson et al., 2003b; More, 2007; Yazek, 2009). Hence, Hypothesis 1 namely that employer obligations and employee obligations have acceptable levels of internal consistency for each of its subscales was accepted.

A simple principal axis factor analysis resulted in a three- dimensional structure of the questionnaire, namely employers' obligations, employee obligations and state of the psychological contract. The state of the psychological contract was a one-dimensional construct and this is confirmed by the South African study by Yazek (2009), which also revealed that the state of the psychological contract consists of one-dimensional solution. Hypothesis 2 is therefore accepted, namely that the State of the psychological contract, as measured by the Psycones, is a one-dimensional construct. These results did not coincide with the results of Isaksson et al., (2003a), who found that the state of the psychological contract revealed two independent factors - one on trust in management, with 3 items, and the other concerning justice, with 4 items.

Thirdly, the Violation of the Psychological Contract Questionnaire show construct validity. A principle component analysis was performed on the six items of psychological contract violation and one factor was extracted. The factor structure is consistent with literature findings across various samples, groups and countries (Isaksson et al., 2003a; Isaksson et al., 2003b; Yazek, 2009).

The results of Pearson correlations between the scales show that employer obligation is positive moderate related to employee obligations, this indicates that as employee obligations increase the employer obligations also increase. Employer obligations and state of psychological contract shows a positive strong relationship, indicate that as employer obligations increase the state of the psychological contract also increase. Employer obligations and violation of the psychological contract shows a positive strong relationship and as employer obligation increase violations of the psychological contract also increase. A negative statistical significant relationship exists between employee obligations and state of psychological contract indicate a weak negative relationship between employee obligations and state of the psychological contract. A strong positive relationship exists between state of

the psychological contract and violation of the psychological contract, indicate that as state of the psychological contract increase the violation of the psychological contract also increase.

This study could serve as a standard concerning PCQ for employer obligations, employee obligations, state of the psychological contract and violation of the psychological contract of workers in the chemical industry in South Africa. It was confirmed that the state of the psychological contract, as measured by the Psycones, is a one-dimensional construct and also the violation of the psychological contract, as measured by the Psycones is a one-dimensional construct.

As in most of empirical research, this study has a few limitations, but despite this, it also has some notable strength. The measurement instruments have been validated within the chemical industry and its applicability to other industries in South African contexts needs to be verified. It would also be of interest to examine whether the PCQ could be generalised to other Africa countries.

RECOMMENDATIONS

Based on the results obtained in this study, the use of PCQ is recommended as a measuring instrument of preference to assess psychological contracts of chemical industry employees in a South African context. More research is needed in order to increase both our understanding of the concept psychological contract and its importance in the employment relationship. This study only focuses on the individual level of the employment relationship but research is also needed at the organisational level of the employment relationship.

It is suggested, given that the employer obligations, employee obligations and state of the psychological contract proved to be reliable and valid, that future research focuses on the reliability and validity of the employer obligations, employee obligations and state of the psychological contract in other occupational settings. To test the reliability of the questionnaire, Cronbach alpha must not be use in isolation, but it must be used in conjunction with Werts-Linn-Jorsekog coefficient (p_c) because Cronbach α uses restrictive assumptions

regarding equal importance of all indicators, and the measure of reliability can be biased (Bagozzi, 1981; Werts, Linn, & Joreskog, 1974).

It is also recommended that larger samples with more powerful sampling methods be utilised to enable generalisation of the findings to other similar groups. The usage of adequate methods, such as structural equation modelling and equivalence analysis is recommended. Finally, longitudinal research is recommended to establish the psychological contract over a period of time.

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RESEARCH ARTICLE 2

CHAPTER 3

THE PSYCHOLOGICAL CONTRACT OF EMPLOYEES IN THE CHEMICAL INDUSTRY IN SOUTH AFRICA

ABSTRACT

The objectives of this study were to determine the changing employment relationship between employer obligations, employee obligations, the state of psychological contract, violation of psychological contract and various demographic characteristics of employees in the chemical industry in South Africa. A survey design was used. A convenient sample in of employees in the chemical industry was taken ($N = 407$) in the chemical industry in South Africa. The Employer Obligations Scale, Employee Obligations Scale, State of Psychological Contract Scale and Violation of Psychological Contract Scale were administered. Practically significant relationships were found between the state of psychological contract and violation of psychological contract. A practically significant relationship was found between employer obligations and employee obligations. Practically significant relationships with a large effect were found between employer obligations, state of psychological contract and violation of psychological contract. Gender and age were statistically significantly related to experiences of the psychological contract.

OPSOMMING

Die doelstelling van hierdie studie was om die veranderde indiensnemingsverhouding tussen werkgewerverpligting, werknemersverpligting, die aard van die psigologiese kontrak, die verbreking van die psigologiese kontrak en om demografiese groepe te ondersoek vir werknemers in die chemiese nywerheid in Suid-Afrika ($N = 407$). 'n Dwardeursnee ontwerp is gebruik, Die Werkgewerverpligtingeskaal, Werknemersverpligtingeskaal, Aard-van-die-psigologiese-kontrak-skaal en die Verbreking van psigologiese-kontrak-skaal is afgeneem. 'n Prakstiese beduidende verskil verhouding was gevind tussen werkgewersverpligting en werknemersverpligtinge. 'n Praktiese betekenisvolle verhouding met 'n groot effek was gevind tussen werkgewersverpligtinge, aard van psigologiese kontrak en verbreking van die psigologiese kontrak. Geslag en ouderdom was statisties beduidend verwant aan die ervarings van die psigologiese kontrak.

The world of work is changing in ways that will require even more adjustment to the paradigms guiding industrial relations research (Kochan, 2000). These changes, which result because of technological, social, and economic transformation that take place in society, affect the relationship between employees and employers (Adler, 1998). The nature of the employment relationship is one critical factor that might impact on the success of organisations (Wang, Tsui, Zhang, & Ma, 2003). Changes in the world of work impact are perhaps most evident in changes in the psychological contract (Maslach, Schaufeli, & Leiter, 2001). The psychological contract is subjective and is characterised by bounded rationality in that it reflects an employee's incomplete, selective and potentially distorted view of an employment relationship (Rousseau & Ho, 2000). According to Chan, McBey, Basset, O'Donnell, and Winter (2004), the psychological contract both overlaps with and differs from matters codified in a written contract of employment.

Legal employment contracts and psychological contracts are important aspects of the employment relationship (Sonneberg, 2006). Grogan (2007) explains a contract of employment as an agreement between the employer and employee in terms of which one parties (the employee) makes his/her service available to another party (the employer) for an indefinite or determined period against a remuneration, and which gives the employer the right to define the duties of the employee, and/or to control and discharge him/her. When employees choose to work for an employer in exchange for compensation, their employment relationship is distinct from traditional roles and forced labour. This is a voluntary agreement between the parties although the parties can interpret their agreement differently, some degree of mutuality is essential for the psychological contract to achieve the interdependent goals each party seeks (Rousseau & Schalk, 2000).

The psychological contract is defined as an implicit agreement, negotiated between the parties. It recognises mutual obligations to be fulfilled by both the employer and employee in the course of their associations (Portwood & Miller, 1976). An employment contract is written explicitly, whereas the psychological contract is unwritten and is held individually. The psychological contract is, therefore, perceptual in nature. It entails aspects of the employment relationship that go beyond the formal terms in an agreement (Anderson & Schalk, 1998; Rousseau & Schalk, 2000). Shore and Tetrick (1994) explain that specific

terms defining the type of contract may vary both within and across organisations, depending on the goals of the individual and that of the organisation.

The psychological contract forms the basis of the employment relationship and is embedded in theories on social schemas (Rousseau, 2001; Rousseau, 1995; Shore & Tetrick, 1994). The schema of this contract is individuals' beliefs about their employment relationship (Morrison & Robinson, 1997; Motta, 2006; Rousseau, 1990; Rousseau, 2001; Shore & Tetrick, 1994). The psychological contract has its roots in the theory of equilibrium (Barnard, 1938). It was earlier defined by Argyris (1960), Levinson, Mandl, Munden, Price, and Solley (1962) and Schein (1980) in order to characterise the subjective nature of employment relationships. The present conceptualisation focuses on the individual employees' beliefs and interpretations of a promissory contract (Robinson, 1996). Different directions of research emerged, which focus on the definitions, content, feature, state and process-orientated nature of the psychological contract. Definitions of the psychological contract range between individual and organisational expectations, beliefs, promises, obligations and perceptions.

Rousseau (1995, p. 9) defines the psychological contract as “individual beliefs, shaped by the organisation, regarding the terms of an exchange agreement between individuals and their expectations.” The content of the psychological contract refers to the terms that are part of the perceived exchange relationship (Rousseau & Tjouriwala, 1998). Different authors have different suggestions on the content-orientated approach of the psychological contract.

The psychological content consists of both employee and employer obligations. Employee obligations refer to when a promise or commitment by the organisation is perceived as being made or not (Isaksson et al., 2003). Employee obligations include working time, loyalty, extra-role behaviour, notice, transfers, competitor support, minimum stay (Robinson, Kraatz, & Rousseau, 1994), job performance, flexibility, employability and ethics (De Vos, Buyens, & Schalk, 2002). Employer obligations are defined by Isaksson et al. (2003) as promise by the employer that is perceived as being made or not made and it includes job content, opportunities for personal development, social aspects, human resource management policies, rewards (De Vos et al., 2002), support, rewards, respect for private life (De Vos et al., 2002), training, justice, humanisation, equitable wages, benefits, healthy and safe working

environment, communication with employees and recognition (Herriot, Manning, & Kidd, 1997).

The psychological contract included in the employment relationship entails both transactional and relational obligations (Robinson et al., 1994). The transactional component includes specific, short-term and monetary obligations that require limited involvement by the employer and employee, whereas the relational component involves broad, long-term obligations and may be based on the exchange of socio-emotional elements such as trust and commitment. Trust and fairness play an important role in the employment relationship and the state of the psychological contract (Blau, 1964).

The concept of the *state* of psychological contract goes beyond this and can be defined as “the extent to which the promises and obligations in the psychological contract have been delivered, whether the deal is perceived to be fair and the degree of trust in whether it will continue to be delivered in the future” (Isaksson et al., 2003, p. 9). The state of the psychological contract depends on trust and fairness that the employee perceived. Perceived trust and fairness of the contract depends on how the employees experience the employer's act of keeping promises or the commitment shown to the individual employee or other employees within the organisation (Isaksson et al., 2003). Furthermore, the state of the psychological contract with its components of trust and fairness can be seen as an indicator of violation of the psychological contract. Trust in supervisors is an evaluation of the employer that has been found to be consistently related to justice perception and fulfilment is an employee evaluation of the employer (Lee & Law, 2000).

Morrison and Robinson (1997) state that employees view the psychological contract as being breached when there is a perception that the employer has failed to fulfil obligations composing one's psychological contract. For a breach of contract to occur, an individual must elicit an affective response to this perceived violation. The perceptions are changing over time, because a perception about fulfilment of the psychological contract is continually being measured. Employees with long-term agreements come to expect fewer changes to their contractual responsibilities (Hallier & James, 1997), and although the psychological contract produces some expectations, not all expectations originate from perceived promises.

Expectations are created from perceived promises, but can also exist in the absence of perceived promises or contracts (Robinson, 1996). Expectations are the perceived probabilities of outcomes resulting from employees' obligations. When experience does not match these expectations, the parties experienced a *violation* of some form (Mitchell, 1974).

In South Africa the rising level of education among women has increased employment opportunities for them. The demand for skilled employees in most formal sectors of the economy increase rapidly and the demand of unskilled employees are declining. More than half of South Africa's total population are under the age of twenty five years, but only about 20% of them are part of the economic active population (Barker, 2007). Age is an important factor in the dynamics of the psychological contract and that older workers differ from younger workers in their perception of the psychological contract (Bal, 2009; Bal, De Lange, Hansen, Van der Velde, 2008; Schalk, 2004). Older workers were less likely to agree on employer obligations and employee obligations than younger employees (Psycones, 2006).

The understanding of how chemical employees' shape the formulation and upholding psychological contract is essential. It is necessary to understand how the employment relationship is experienced in the chemical industry given the changes which have taken place in laws (Constitution of South Africa 108 of 1996, Labour Relations Act 55 of 1995, Basic Conditions of Employment Act 75 of 1997, Employment Equity Act 55 of 1998, Skills Development Act 97 of 1998), as well as the economic and social transformation that have taken place in society. It is necessary to gather information on how the employment relationship affects individual employees' expectations, beliefs, promises, obligations and perceptions about their employer within the chemical industry. Moreover, it is essential to assess whether the state of the psychological contract with its components of trust and fairness (as indicators of violation thereof). Furthermore, it is necessary to investigate how experiences of the psychological contract and violation thereof differ in terms of demographic variables age, gender, qualifications and educational levels.

The objectives of this study were to investigate the employment relationship between employer obligations, employee obligations, the state of psychological contract, violation of

psychological contract and various demographic characteristics of employees in the chemical industry in South Africa.

The psychological contract and the violation thereof

The psychological contract have been used to explain and predict a framework similar to a schema (Rousseau, 1995; Schein, 1980; Shore & Tetrick, 1994; Thomas & Anderson, 1998). Rousseau (2001) mentions that the schema includes guiding beliefs about what a typical employment relationship entails. Employees, prior work experience, will influence this schema that regarding employments relationships, which in turn will influence their perceptions of the obligations in a given employment relationship (Morrison & Robinson, 2004).

It is not clear if any difference exists between perceived obligations of action versus the obligations expectation of action when the action is carried out (Thomas & Anderson, 1998). Perceptions of the relational component of the psychological contract showed a significant decrease across generations, and the new psychological contract implies that employees have lower levels of trust, loyalty and commitment with their employer than in previous generations (De Meuse, Bergmann, & Lester, 2001). The state of the psychological contract depends on trust and fairness that the employee perceived. Perceived trust and fairness of the contract depends on how the employees experience the employer's act of keeping promises or the commitment shown to the individual employee or other employees within the organisation (Isaksson et al., 2003).

In different studies researchers has found a positive relationship between felt employee obligations and fulfilment of employer obligations (Dabos & Rousseau, 2004; Coyle-Shapiro & Kessler, 2002). Coyle-Shapiro and Kessler (2002) mention that employer obligations are related to employee obligations. Yazek (2009) found that employee obligations correlated positively with a medium effect on employers obligations that indicate a reciprocal relationship between the parties.

From the findings, the following hypothesis is formulated:

H₁: A relationship exists between employer obligations and employee obligations.

Shore and Tetrick (1994) explain psychological contract violation as the reactive process by the between the employee and the employer where the employee perceive that the employer failed to fulfil one or more of the obligations included in the psychological contract (Rousseau & McLean Parks, 1993). Psychological contract violation begins with the perception of a discrepancy between a relied-upon outcome and the actual outcome that occurs (Rousseau, 1995). Violations of the psychological contract are distinct from perceptions of inequity and unmet expectations. If employees hold unrealistic expectations and when these expectations are unmet, employees become more likely to leave their employer.

Rousseau (1995) distinguishes three forms of violation, namely inadvertent violation, disruption of the psychological contract and breach of the psychological contract. Inadvertent violation occurs when divergent interpretations of the contract between the parties lead to one party failing to fulfil its obligations despite its willingness and ability do so. Disruption of the psychological contract arises when circumstances make it impossible for the employer or employee or both parties to fulfil their mutual commitment. Psychological contract breach occurs when employees feel that not only was a promise not met, but also that there are unfair imbalances between the parties. Breach of psychological contract occurs when one party performs, but the other party refuses to do so.

According to Morrison and Robinson (1997), there are two causes for psychological contract violations, namely reneging (when employers deliberately break a promise), and incongruence (when the employment parties have divergent perceptions regarding what has been promised). Employees may register discrepancies between established obligations and those obligations observe in the new setting (Hallier & James, 1997). The reaction to violation in both circumstances is dependent on the actual perception of its occurrence (Morrison & Robinson, 1997).

The perception of contract violation and employee obligations to the employer has received limited empirical attention (Marks, Mulvey & Scholarios, 2001). According to Cable (2008),

violations of the psychological contract as well as the consequences of violations on individual behaviour and organisational outcomes are important for practitioners and researchers. Psychological contract violation is related to decreases in what employees feel obligated to provide (Cable, 2008; Robinson, et al., 1994). If the employee experiences perceived over-fulfilment of the psychological contract (Cable, 2008) or non-fulfilment of the psychological contract they may perceive it as a violation of the psychological contract. Under-met expectations are more important than over-fulfilment of expectations (Arnold, 2004). The understanding of the content of the psychological contract and its relationship towards other constructs is important for management (Robinson & Morrison, 2000).

Based on the findings above, the following hypothesis is formulated:

H₂: A relationship exists between employee obligations and the perceived violation of the psychological contract.

As mentioned by Rousseau (1989, p. 129) “the intensity of the reaction (to violation) is directly attributable not only to unmet expectations of specific rewards or benefits, but also to more general beliefs about respect of persons, code of conducts and other patterns of behaviour associated with relationship involving trust.”

Experiences of the psychological contract and violation thereof in demographic groups

Motta (2006) emphasis that it is necessary to study experiences of the psychological contract and the violation thereof across age groups, industries, job levels and career stages. Traditionally, research on the psychological contract focused on expectations. Recently there has been a shift in focus towards obligations and the violation of the psychological contract (Robinson, 1996; Robinson et al., 1994; Robinson & Rousseau, 1994). A study by Knight, Kennedy and Cook (2005), revealed that the level of psychological contract violation did not differ in relations to gender, age, educational level, tenure or job location.

Studies by Freese and Schalk (1996) and Millward and Hopkins (1998) found statistically significant differences between men and women and full-time and part-time employees’

psychological contract (transactional and relational contract). Variance in the parties' promises differs where individual factors such as *gender* and level of education have a significant effect on employee promises (Isaksson et al., 2003). There has been limited research on possible *gender* differences in responses to psychological contracts in organisations (Rousseau, 1995).

The hypothesis is that:

H₃: Female employees experience employee obligations of the psychological contract different than male employees.

Legislations and the protection of employees' rights of different countries play a role when studying temporary employees (Schömann & Schömann, 2001) and their psychological contract (Isaksson et al., 2003). Temporary employees' perceptions of treatment they receive from the employer were predictive of felt obligations to the employer (Moorman & Harland, 2002). Part-time employees perceiving less fulfilled psychological contract than full-time employees and temporary employees have lower expectations (Conway & Briner, 2002).

Permanent employees reported significant higher number of obligations than temporary employees (Coyle-Shapiro & Kessler, 2002) and temporary employees were more sensitive to variations in obligations (Guest, 2004). Permanent and temporary employees have a significant association with the content of the psychological contract (employer obligations, employee obligations and state of the psychological contract) indicating that larger promises made by the employer is reported by those on permanent employment. Temporary employees perceive fulfilment of employer's promises and the state of the contract more positively than permanent employees (Isaksson et al., 2003). Employees on a fixed-term contract report a better state of psychological contract (Guest & Conway, 2001).

From the findings, the following hypothesis is formulated:

H₄: Permanent and temporary employees have a significant different association with employer obligations, employee obligations and the state of the psychological contract.

Rousseau (2001) found that difference in *age* groups. Older employees and more experienced employees have more stable psychological contracts, and older workers may have different types of psychological contracts (Anderson & Schalk, 1998). Older employees focus on more realistic expectations of obligations about what to receive from their employer (Thomas & Anderson, 1998). According to Bal (2009), differences exist between older and younger employees' felt obligations towards the organisation because older employees felt obligations are improved by different organisational inducements. Increases in employers' obligations and employer fulfilment of the psychological contract have been shown to lead to increases in employees' obligations (Dabos & Rousseau, 2004).

Motta (2006) found that age has significant negative correlation with violation of the psychological contract. Younger employees are more likely to believe that their psychological contract has been violated than it is the case with older employees. The changing nature of the organisation has implications for employees' experience of the psychological contract, because older workers' views of the violation of the psychological contract are significantly related to their adoption of personal responsibility for their career development (Sparrow, 2000).

Younger employees (compared to older employees) are less likely to have a job for life with one employer and respond less strongly to violation of the psychological contract (Turnley & Feldman, 1999). Lambert, Edwards, and Cable (2003) found that psychological contract obligations and fulfilment have a stronger impact on employee obligations among older workers than among younger workers. Rousseau (2001) and Bal et al. (2008) indicate that older employees have build up a more stable psychological contract and older employees will react differently than younger employees to fulfilment of obligations or violations and breach of the psychological contract.

From the findings, the following hypothesis is formulated:

H₅: Younger employees are more likely to believe that their psychological contract has been violated than older employees.

Hazan and Shaver (1987) states that employees expect of *supervisors* to be trustworthy, supportive, responsive and sensitive. During the formation of a psychological contract individual employees develop expectations of the employer, which include promises made to them by the employer's representative, the individual employee idiosyncratic expectations and his or her perception of the organisational culture. Differences exist between supervisors' and employees' definition of the employees' psychological contracts (Lester, Turnley, Bloodgood & Bolino, 2002; Turnley & Feldman, 1999a). Supervisors and their subordinates have different perceptions regarding the content and obligations of the psychological contract.

The subjective nature of the psychological contract entails that two parties in an employment relationship may have different views on the terms of their relationship, e.g. an employee and his or her supervisor might have different views on the terms of the employment relationship (De Vos, Buyens & Schalk, 2003). It is further mention by Cable (2008) that the psychological contract of a senior manager is unlikely to contain the same content, items and terms as for the factory worker. Supervisors tend to perceive employers' fulfilment of their obligations more negatively than other employees (Porter, Pearce, Tripoli & Lewis, 1998).

The state of the psychological contract can indicate the existence of positive employment relationship (Marks, et al., 2001). If employees believe that their expectations have been fulfilled, they may feel more secure and confidence with their supervisor (Cheung & Chiu (2005). Employee perceptions of trust in supervisors and fair treatment could be used to measure the extent to which employees believe that promises made on behalf of the employer had been fulfilled. Chiu, Lai, and Snape (1996) state that not enough is known about the implications of perceptions of supervisors and subordinates and their discrepancies in job perceptions. Supervisors and their subordinates might experience different discrepancies regarding promises that have been made to the each other. Furthermore, in a good employment relationship, supervisors receive a significant higher degree of psychological contract fulfilment than a subordinate.

It is therefore hypothesised that:

H₆: Supervisors and employees have different perceptions of employee obligations, employer obligations, and the state of psychological contract (trust).

Previous research focuses more on the psychological contract between the trade union and its members. A need for research exists on how unionisation affects members and non-members in the changing employment relationship and the psychological contract (Isaksson et al., 2003; Turnley, Bolino, Lester, & Bloodgood, 2004). Employees who belong to a trade union have also a psychological contract with the trade union and these relations will affect the member-union relationship and the employment relationship. In the relationship between the union and its member develop mutual expectation.

From the findings, the following hypothesis is formulated:

H₇: Employees belonging to a trade union experience the psychological contract in the employment relationship different from other employees that do not belong to a trade union.

It is necessary to study the individual employee and the situation and calls for such research to the psychological contract (Coyle-Shapiro & Neuman, 2004; Ho, Weingart, & Rousseau 2000; Turnley & Feldman, 1999).

METHOD

Research design

A survey design was used. This method was utilised to describe the information on the studied population (people or firm) collected at a single point in time (Babbie & Mouton, 2008; Hardy & Bryman, 2004). This design can be used to evaluate interrelationships among variable within a population (Shaugnessy & Zechmeister, 1997). It further explains that this design is also ideal to describe and predict functions associated with correlative research.

Participants

The studied population are random samples of employees in the chemical industry in South Africa. The participants include employees from different chemical companies in the Free State, Western Cape, Eastern Cape, Gauteng, Natal, North West Province, Mpumalanga ($N = 407$). The population includes workers from all levels, ranging from unskilled blue-collar workers to management. The lowest level employees have a level of literacy adequate for a valid completion of the questionnaires.

Descriptive information of the sample is given in Table 1. The majority of employees (33,7%) are between 30 and 39-years. More males (64,1%) than females (34,4%) participated in the study. A total of 8% of the participants are on a management level, while 79,8% did not supervise other employees. More full-time employees (67,3%) than part-time (28,7%) employees participated in the study.

Table 1

Characteristics of the Participants

Item	Category	Frequency	Percentage
Age	20-29	39	9,6
	30-39	137	33,7
	40-49	129	31,7
	50+	89	21,9
	Missing	13	3,2
Gender	Male	253	64,1
	Female	140	34,4
	Missing	14	1,5
Classification of job	Unskilled blue collar	11	2,7
	Skilled blue collar	54	13,3
	Low level white collar	40	9,8
	Intermediate white collar	194	47,7
	Middle management	53	13,0
	Management	33	8,1
	Missing	22	5,4
Supervise	No	325	79,8
	Yes	73	17,9
	Missing	9	2,2
Union membership	No	86	21,1
	Yes	318	78,1
	Missing	3	0,7
Other paid jobs	No	304	74,7
	Yes	96	23,6
	Missing	7	1,7
Type of contract	Full-time	274	67,3
	Part-time	117	28,7
	Missing	16	3,9

Measuring instruments

The following questionnaires were used to gather data for this study.

A *Demographical Questionnaire* which forms part of the Psychological Contract Across Employment Situations (Psycones) questionnaire was used (Psycones, 2005). This

questionnaire gathered information about the demographic characteristics of the participants, gives participants the option of supplying their age, sex, tenure, educational level, marital status, dependants, occupation/job, position, supervision, type of contract, main job versus other paid jobs and union membership.

The psychological contract was measured by using the Psycones (2005). To measure the psychological contract, the state of the psychological contract, employers' obligations and employee obligations constructs of Psycones were used.

The *State of the Psychological Contract* consists of 7 items. Answers were given on 5-point Likert-scale ranging from 1 (*not at all*) to 5 (*totally*). It includes questions such as "Do you feel you are rewarded fairly for the amount of work you put into your job?" and "Do you feel you are fairly paid for the work you do?" Studies in South Africa by Yazbek (2009) obtained a Cronbach alpha coefficient of 0,86.

The *Employer Obligations Questionnaire*, developed by Isaksson et al. (2003) was used to gather data on the promises and commitments that the employers sometimes make to their employees. The questionnaire consists of 15 items, arranged along a 6-point frequency-rating scale varying from 0 (*No*) and to 5 (*Yes, and promise fully kept*). Typical questions on this questionnaire range from "Has your organisation promised or committed itself to provide you with interesting work?" to "Has your organisation promised or committed itself to help you deal with problems you encounter outside work?" In a study conducted by More (2007) on the Department of Education in Sedibeng-West, a Cronbach alpha coefficient of 0,93 was obtained, indicating the internal consistency of this questionnaire. In this study, a Cronbach alpha coefficient of 0,94 was obtained.

The *Employee Obligations Questionnaire* developed by Isaksson, et al. (2003) was utilised to determine some promises and commitments that people sometimes make to their organisation. The questionnaire consists of 16 items, arranging along a 6-point frequency-rating scale varying from 0 (*No*) and to 5 (*Yes, fully kept promise*). Examples of questions in this questionnaire vary from "Have you promised or committed yourself to go to work even if you don't feel particularly well?" to "Have you promised or committed yourself to work

enthusiastically on jobs you would prefer not to be doing?". In a study conducted by More (2007) on the Department of Education in Sedibeng-West, a Cronbach alpha coefficient of 0,90 was found.

The *Violations of Psychological Contract Questionnaire*, as developed by Isaksson et al. (2003) was used. The questionnaire consists of 6 items as rated on a 5-point scale, ranging from 1 (*strongly agree*) to 5 (*strongly disagree*). The questions focus on six feelings, concerning the perception of the psychological contract (happy, angry, pleased, violated, disappointed, and grateful).

Statistical analysis

The analysis was carried out with the SPSS 16.0 Program (SPSS, 2009). The first phases of the data analysis involved an assessment of the discriminant validity of the measurement instruments. Hair, Anderson, Tatham, and Black (1998) explain that the validity accounts the extent to which a measure or set of measures correctly represents the concept of the study and is concerned with how well the concept is defined by measurement(s).

Exploratory factor analyses were carried out to determine the construct validity of the measuring instruments. A simple principal component analysis was performed on the constructs that form part of the measurement model. Eigenvalues and scree plots were then studied in order to determine the number of factors involved. Thereafter, Direct Oblimin rotation was conducted in cases where factors were related ($r > 0,30$) or a principal component analysis with a Varimax rotation in cases where factors were not related ($r < 0,30$) (Tabachnick & Fidell, 2001).

The Cronbach alpha reliability coefficient was used to assess the internal consistency of the entire scale. Hair et al. (1998) state that the agreed lower limits for the Cronbach alpha coefficient is generally 0,70, but in the case of exploratory research, the cutoff point may be lowered to 0,60.

Descriptive statistics (means, standard deviations, skewness and kurtosis) were determined to describe the data. Multivariate Analysis of Variance (MANOVA) was used to determine the significance of differences between different demographic groups (Field, 2005). Statistically significance was set at $p < 0,05$. Next, if Wilk's lambda-values demonstrated statistically significance difference, then T-tests and a one-way analysis of variance (ANOVA) were used to determine differences between the sub-groups in the sample. A practical significance was set at a cut-off point of 0,50 for difference of medium effect and 0,80 for a difference of large effect (Cohen, 1988).

RESULTS

Descriptive statistics, Cronbach alpha coefficient and the Pearson correlations for the extracted factors of the measuring instruments for employees ($N = 407$) working in the chemical industry in South Africa are reported in Table 2.

Table 2

Descriptive Statistics and Alpha Coefficients and Pearson Correlations between the Scales

	Mean	SD	α	1	2	3
Employer Obligations	52,06	17,68	0,93	-	-	-
Employee Obligations	78,37	13,34	0,93	0,41**	-	-
State of Psychological Contract	19,18	5,98	0,86	0,57**	0,15**	-
Violation of Psychological Contract	19,61	5,66	0,89	0,57**	0,19**	0,67*

* Statistically significant $p \leq 0,01$

† Correlation is practically significant $r \geq 0,30$ (medium effect)

†† Correlation is practically significant $r \geq 0,50$ (large effect)

According to Table 2, The Cronbach alpha coefficients of all the measuring instruments are considered to be acceptable compared to the guidelines of 0,70 (Nunnally & Bernstein, 1994). Moreover, Table 2 shows that a statistically significant and positive relationship was found between Employee Obligations, State of Psychological Contract and Violations of the Psychological Contract. Practically significant and positive relationship with a medium effect was found between Employer Obligations and Employee Obligations. Practically significant

relationships with a large effect were found between Employer Obligations, State of Psychological Contract and Violation of Psychological contract. Practically significant relations of a large effect exist between State of Psychological Contract and Violation of Psychological Contract.

Next, MANOVA and ANOVA analyses were done to determine the relationship between scores of the psychological contract and various demographic characteristics such as gender, age, type of contract, qualifications, supervision and union members.

The results of which are reported in Table 3.

Table 3
MANOVAS – Differences of Demographical Groups

Variable	Wilks' Lambda	<i>F</i>	<i>df</i>	Error <i>df</i>	<i>p</i>	η^2
Gender	0,96	4,48	4	390	0,00*	0,04
Age	0,87	4,62	12	1024	0,00*	0,05
Type of contract	0,98	1,91	4	386	0,11	-
Qualifications	0,86	3,58	16	1143	0,00*	0,04
Supervise	0,96	4,51	4	397	0,00*	0,04
Union member	0,98	0,31	4	399	0,87	-

$\eta^2 > 0,25$ = large effect

* Statistically significant difference: $p < 0,05$

In analysis of Wilks' lambda, no differences regarding psychological contract levels could be found between groups with type of contract and union membership. However, statistically significant differences ($p < 0,05$) were found amongst gender, age, qualifications and supervising. The relationship between Psychological Contract and those demographic variable levels that showed statistically significant difference was further analysed to determine practical significance using ANOVA, followed by Tukey HSD tests.

The ANOVA differences in Psychological Contract levels of groups with Gender are given in Table 4.

Table 4

ANOVAS – Differences in Psychological Contract Levels of Gender

Item	Males	Females	<i>p</i>	η^2
Employer obligations	3,53	3,36	0,19	0,00
Employee obligations	5,01	4,72	0,00*	0,03
States of Psychological Contract	2,69	0,05	0,10	0,01
Violation of Psychological Contract	2,84	0,07	0,45	0,00

$\eta^2 > 0,25$ = large effect

* Statistically significant difference: $p < 0,05$

Table 4 shows that statistically significant differences exist between the Employee Obligations Scores and Gender levels, where male employees measured higher levels than female employees. No statistically significant differences exist between Employer Obligations, State of Psychological Contract and Violations of Psychological Contract.

The ANOVA differences in psychological contract and different age groups are given in Table 5

Table 5

ANOVAS – Differences in Psychological Contract Levels of Age Groups

Item	1	2	3	4	<i>p</i>	η^2
Employer obligations	3,09	3,39	3,49	3,75	0,22	0,02
Employee obligations	4,13 ^a	4,75 ^a	5,04 ^a	5,15 ^a	0,00*	0,09
States of Psychological Contract	2,92	2,79	2,67	2,72	0,37	0,01
Violation of Psychological Contract	3,44	3,32	3,16	3,34	0,29	0,01

1= 20-29 years 2=30-39 years 3=40-49 years

4=50 years and older

$\eta^2 > 0,25$ = large effect

* Statistically significant difference: $p < 0,05$

A practical significant differences from group (in row) where b (medium effect, $d \geq 0,50$) or c ($d \geq 0,80$) are indicated

Inspection of Table 5 shows that statistically significant differences exist between levels of employee obligations and age groups. Employees in the age group 20-29 years show statistically significant lower scores than employees in the age group 50 years and older. No

statistical significance was found between Age group, Employer Obligations, State of Psychological Contract and Violation of Psychological Contract.

The ANOVA's of difference between psychological contract levels and different levels of qualifications are given in Table 6.

Table 6

ANOVAS – Differences in Psychological Contract Levels of Qualifications

Item	1	2	3	4	5	<i>p</i>	η^2
Employer obligations	3,11	3,59	3,46	3,39	3,35	0,54	0,01
Employee obligations	4,09 ^a	4,59	4,78 ^{ab}	5,06 ^{ab}	5,01 ^{ab}	0,00*	0,09
States of Psychological Contract	2,86	2,80	2,61	2,82	2,81	0,23	0,02
Violation of Psychological Contract	3,53	3,36	3,19	3,28	3,28	0,51	0,01

1–Grade 10 (Std 8 or lower) 2– Gr 11 or 12 (Std 9 or 10) 3– Diploma or post-matric qualification 4– Bachelors degree 5– Post graduate (Honours, Masters or Doctorate)

* Statistically significant difference: $p < 0,05$

a Practical significant differences from group (in row) where b (medium effect, $d \geq 0,50$) or c ($d \geq 0,80$) are indicated

Table 6 shows statistically significant differences exist between Employee Obligations with different Qualifications levels where employees with grade 10 or lower qualifications show statistically significant lower scores than those with a bachelor's degree. Employees with a diploma or post-matrix qualification experience with Employee Obligations a practically significant lower level (with a large effect) compared to those with a bachelors degree and post-graduate degrees.

The ANOVA's of difference between psychological contract levels and different levels of supervising are given in Table 7.

Table 7

ANOVAS – Differences in Psychological Contract Levels of Supervising

Item	No	Yes	<i>p</i>	η^2
Employer obligations	3,53	3,40	0,28	0,00
Employee obligations	4,79	5,01	0,01*	0,00
State of Psychological Contract	2,85	2,63	0,01*	0,02
Violation of Psychological Contract	3,38	3,15	-0,02	0,01

$\eta^2 > 0,25$ – large effect

* Statistically significant difference: $p < 0,05$

a Practical significant differences from group (in row) where b (medium effect, $d \geq 0,50$) or c: 0,80) are indicated

Table 7 shows that employees who supervise other employees show no statistically significant difference with Employer Obligations. For Employee Obligations, Supervisors experience statistically significant differences with higher scores. Regarding the State of the psychological contract, Supervisors experience statistically significant lower scores than other employees. However, Violation of Psychological Contracts shows that Supervisors experience no statistically significance between supervisor and other employees.

DISCUSSION

The objectives of this study were to determine the changing employment relationship between employer obligations, employee obligations, the state of psychological contract, violation of psychological contract and various demographic characteristics of employees in the chemical industry in South Africa. Research on the psychological contract is underlying by the theory and concepts of social- and economic exchange. Employees compare their beliefs regarding reciprocal obligations and if the employer fulfil their promises and obligations and if employee perceive the deal to be fair and the degree of trust in whether the relationship will continue in the future.

In this study it was found that the scores of the Employer Obligation Scale, Employee Obligation Scale, State of Psychological Contract Scale and Violation of the Psychological Contract Scale are distributed normally. The Cronbach alpha coefficients of all the measuring instruments were between $\alpha = 0,86 - 0,93$.

The results of this study showed that employee obligations, state of psychological contract and violations of the psychological contract are significantly related. Employer obligations and employee obligations were also related. This means that in the exchange relationship between the parties, the obligations of each party in this relationship set the limitation and expectations that employer and employees have of each other. Employer obligations, state of psychological contract (trust) and violation of psychological contract were also related. This may indicate that non-fulfilment of the employer obligations, lowering the trust in the employer and also non-fulfilment of the employers obligations lead to violation of the psychological contract. Therefore, violations of the psychological contract arise the feeling that the employer failed to keep its end of psychological contract. Also the state of the psychological contract (trust) was related to the violation of psychological contract. This implies that a decline in trust by the employee of the employer creates more a feeling of violation of the psychological contract.

Hypothesis 1, which stated that a relationship exists between employer obligations and employee obligations, is accepted. It was found in this study that a practically significant relationship exists between employer obligations and employee obligations. This finding implies that the psychological contract between the employer and employee consists of implied unwritten employer obligations and employee obligations. This is support by the study of Coyle-Shapiro and Kessler (2002) who found that employer obligations are related to employee obligations. South African studies by More (2007) and Yazek (2009) also found that employee obligations correlated positively with a medium effect on employer obligations. Du Plooy (2009) found a statistically significant correlation exist between employer obligations and employee obligations.

Hypothesis 2, which stated that a relationship exists between employees' obligations and violation of psychological contract, is accepted. It was found in this study that a positively statistically significant relationship was found between employee obligations and violation of psychological contract. This is confirmed by the study of Morrison and Robinson (1997), in which it was indicated employees' perceived violation of psychological contract occur when employee obligations declines. Employees obligations set the behaviour within the exchange

relationship between the employer and employee and if employees do not comply with their obligations it lead to violations of the psychological contract.

Hypothesis 3 is accepted, as female employees experience higher levels of employee obligations than male employees. The results of Marks et al. (2001) indicated that gender play not a role in non-work circumstances, but flexibility promotes positive psychological contract and positive work outcomes.

Hypothesis 4 is rejected. The hypothesis stated that permanent and temporary employees have significant different association with employer obligations, employee obligations and state of the psychological contract. This finding is not supported by Du Plooy (2009) who found that there is a significant difference between the type of contract and employer obligations and employee obligations. These findings are different from other countries in the sense that temporary employees do not experience employer obligations, employer obligations and the state of the psychological contract differently because both parties receive protection through labour legislations. Permanent and temporary employees concluded individual agreements with the employer and because protection through labour legislations they enjoy, employees have higher state of the psychological contract (trust) that the employer would act in good faith in this exchange relationship.

Little is known about the difference in age groups and their psychological contracts with organisations (Bal, 2009; van der Heijden, Schalk, & Van Veldhoven, 2008). Hypothesis 5 is rejected because no significant differences were found between older and younger employees regarding violation of the psychological contract. This is not supported by the study of Bal (2009) and Schein (1978) that found that younger employees will have different expectations and obligations from their employer than older employees. In this study it was also found that younger employees are less likely to have a job for life with one employer, compared to older employees. It is expected younger employees to respond less strong to violation of the psychological contract (Turnley and Feldman, 1999b). Older employees have build up a more stable psychological contract and older employees will react differently than younger employees to fulfilment or violations and breach of the psychological contract (Rousseau, 2001; Bal et al., 2008). In South African situation and specifically in the chemical industry

this means that a new psychological contract exists between the employer and employee and that the employee no longer have a job for life. Younger employees rather focus on a short term relationship with the employers. Older employees build up more stonger relationship with employers and focus more on a long term relationship than younger employees.

Hypothesis 6, which stated that supervisors and employees have different perceptions of employee obligations, employer obligations and the state of the psychological contract, is accepted. De Vos et al. (2003) found that supervisors have different information and views of their relationship with their employer than other employees. Cable (2008) mention that supervisor in an organisation focus more on the relationship they have with the organisation and focus more on the continuation of this relationship. In this study supervisors experience higher levels of employee obligations and state of psychological contract than other employee and therefore, hypothesis 6 are accepted that state that supervisors and employees has different perceptions of employee obligations and state of the psychological contract show statistically significant differences. Isaksson et al. (2003) found that factors consistently associated lower well-being of employees in the employment relationship are low levels of fulfilment of perceived promises and commitment, violations of psychological contract, and commitments made by the employer, lack of support from supervisors and managers. Mathieu and Zajac (1990) and Bhagat and Chassie (1981) as cited in Marks et al. (2001) suggested that job such as management positions have a direct effect on employees psychological contract outcomes such as organisational commitment and work-family conflict.

In this study no differences regarding psychological contract levels could be found between groups with type of contract. Temporary employees perceive the content of their psychological contract as narrower than permanents. Permanent employees and temporary employees hold different expectations with regard to their employment relationship (Coyle-Shapiro & Kessler, 2002).

Hypothesis 7 is rejected because no differences regarding psychological contract levels could be found between employees belonging to a trade union and other employees that do not belong to a trade union. More research is needed on how unionisation affects members and

non-members in the changing employment relationship and the psychological contract (Isaksson et al., 2003; Turnley et al. 2004). In the South African situation all employees received the same terms and conditions of employment, even certain benefits and terms of conditions can be extended to non-members during negotiations with a registered trade unions and an employer or at bargaining council level. The labour legislation makes provision for agency-shop agreements that means that employer or employers' organisations requiring the deductions of fee, from the wages of employees who are not members of the trade unions.

The study had several limitations. Firstly, the sample was imbalanced in terms of type of contract and gender. Stratification random sampling might ensure sufficient representation of the different groups. A lack research exists between the relationship between age, tenure, gender, culture and the psychological contract, state of psychological contract and violation of the psychological contract. Also the sample should be extended, to include working employees at various other chemical industry organisations.

Further research, need to be done on the concept of psychological contract in the unique South African business environment. Longitudinal research is needed to assess issues of the relationship between psychological contract, violation of psychological contract and demographical information. Field research can be use to examine the psychological contract. Self-reported measures were exclusively relied upon. It must be kept in mind that a self-reported questionnaire has limitation. Cross-sectional design makes it difficult to prove the relationship between constructs.

RECOMMENDATIONS

In this study it was found that the scores of the Employer Obligation Scale, Employee Obligation Scale, State of Psychological Contract Scale and Violation of the Psychological Contract Scale are distributed normally. The Cronbach alpha coefficients of all the measuring instruments were acceptable in the chemical industry, but it need to be tested in other industries in South Africa. The PSYCONES needs further research on a larger sample, so that generalisability of the findings can be done. In order to increase generalisability, it is therefore, recommended that use be made of a larger population group that is representative

of the South African population on national level. More studies are needed in other industries to determine discrepancies between the industries and to be able to generalise findings.

Future studies should focus on more on demographical information and the psychological contract and demographical information and violation of the psychological contract. More research regarding the relationship between psychological contract and demographical information is required in a variety of organisations in South Africa.

Results demonstrated that it is important for research to focus on demographical characteristics and thus the diversity of the employees within the workplace. The consequence of fulfilment of reciprocal obligations and violation of the psychological contract drives the ongoing research interest in the phenomenon. It is recommended that a more powerful sampling method be used. The use of larger samples might also provide increased confidence that study findings will be consistent across other similar groups.

Multiple level researches up to now have taken a contextual, top-down approach to recognizing the interdependencies among observations in organisational research (Kozlowski & Klein, 2000) and have not explicitly examined the potential effects of these dependencies between departments, groups, supervisors, occupational groups, and different type of jobs. It is also recommended that measurement of the bilateral (employers) perspective is considered in South Africa.

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EMPLOYMENT CONTRACT, PSYCHOLOGICAL CONTRACT, JOB INSECURITY, ORGANISATIONAL COMMITMENT AND INTENTION TO QUIT OF EMPLOYEES IN THE CHEMICAL INDUSTRY IN SOUTH AFRICA

ABSTRACT

The aim of this study was to measure the relationship between employer obligations, employee obligations, the state of the psychological contract, violations of the psychological contract, job insecurity, organisational commitment, employees' intention to quit and the demographic of employees ($N = 407$) in the chemical industry in South Africa. A cross-sectional survey design was used, while the Employer Obligations, Employee Obligations, State of Psychological Contract and Violation of Psychological Contract, Job Insecurity, Organisational Commitment and Intention to Quit scales were used as measuring instruments. The results showed that a practically significant relationship exists between job insecurity and organisational commitment. A positive relationship was found between organisational commitment and job performance. Violation of the psychological contract predicts organisational commitment and organisational commitment hold individual predictors for employers' obligations, employee obligations and violation of the psychological contract.

OPSOMMING

Die doelstelling van hierdie studie is om die verhouding tussen werkgewerverpligtinge, werknemerverpligtinge, die stand van die psigologiese kontrak, die verbreking van die psigologiese kontrak, werksonsekerheid, verbintenis aan die organisasie, werknemers se bedoeling om te bedank, asook die demografie van werknemers ($N=407$) in die chemiese bedryf in Suid Afrika te meet. 'n Dwarsdeursnee ontwerp was gebruik, terwyl Werkgewersverpligtinge, Werknemerverpligtinge, die Stand van die Psigologiese Kontrak, die Verbreking van die Psigologiese Kontrak, Werksonsekerheid, Verbintenis aan die Organisasie, Werknemers se Bedoeling om te Bedank-skale as meetinstrumente gebruik was. Die resultate toon 'n praktiese beduidende verhouding bestaan tussen werksonsekerheid en organisasie verbintenis. 'n Positiewe verhouding bestaan tussen organisatoriese verbintenis en werksprestasie. Verbreking van die psigologiese kontrak voorspel organisatoriese verbintenis en organisatoriese verbintenis hou individuele voorspelling in vir werkgewersverpligtinge, werknemersverpligtinge, en verbreking van die psigologiese kontrak.

The nature of the employment relationship underwent profound changes in the past two or three decades (Rasmussen & Lamm, 2005). In South Africa, we cannot deny that employers had to adapt to these changes (Von Holdt & Webster, 2001). Amendments to labour legislation in South Africa have negatively impacted on the ability of employers to adjust to rapid changing circumstances, because new provisions are likely to delay retrenchments for an unreasonably long period of time and might impact negatively on an enterprise's competitiveness and will eventually put other jobs at risk (Barker, 2003).

Current employment trends are characterised by an increase in temporary employment contracts and a loss of job security. These have resulted in a redefinition of the nature of the employment relationship (Grimmer & Oddy, 2007). The nature of the perceptions of the agreement makes any change subject to individual interpretation (Hallier & James, 1997). South Africa has moved from a 'traditional' perspective of employment relations towards 'contemporary' employment relations.

Many authors in the mid-1980's wrote about change from a traditional employment contract based on long-term loyalty and commitment between employees and employers, to a new employment contract characterised by lower commitment between the parties in the employment relationship (Chaness & Levine, 1999; Sims, 1994). The traditional employment relationships of employability have indeed been replaced by a new contract of for flexibility (Millward & Herriot, 2000).

Bews and Rossouw (2002) explain that employees have reacted to changes within the work environment and are changing their attitudes towards work. Loyalty towards the organisation has diminished, so much so that this changing relationship has put pressure on the traditional view of the employer-employee relationship. Chan, McBey, Basset, O'Donnell, and Winter (2004, p. 34) state that "the psychological contract fills the perceptual gaps in the employment relationship and shapes the day-to-day employee behaviour in ways that cannot necessarily be discerned from a written contract". A way to examine the new employment relationship is by approaching employment relationship as a psychological contract (Herriot, 2001; Janssens, Sels, & Van Den Brande, 2003; Rousseau, 1995).

One might assume that with the new relationship employees will perceive that their employers failed to adequately fulfil the employers' obligations, promises and the expectations of the employees (Morrison & Robinson, 1997). It remains a question if whether "one can only distinguish between old and new psychological contracts or whether multiple types of psychological contracts can be distinguished (Janssens et al., 2003, p. 1350). During a process of change, the employers' expectations, employment practice and employees' perceptions of mutual obligations also change – a change that heightens the possibility of incongruity between promise and fulfilment. The parties in the employment relationship then in turn experience a violation of the psychological contract (Chan et al., 2004).

A violation of the psychological contract occurs when an employee perceives a discrepancy between the promises made by the employer – obligations and the fulfilment of these promises (Anderson & Schalk, 1998; Willems, Janvier, & Hendrick, 2004). It might be that the employers base their expectation of new psychological contract outcomes on the pre-changes productiveness of the employees involved without taking into account the negative experiences of employees that the new relationship brings about.

As mentioned by Cantisano, Dominguez, and Depolo (2008), discrepancies in the beliefs held by the employer and employee plays a crucial role in the field of employment relations and also influence employees' work outcomes (attitudes and behaviours) negatively. They further mention that demographic variables have an effect on the coding of information during the construction of the psychological contract. Research indicates that work-related and demographical variables influence work outcomes in terms of job performance (Abramis, 1994), affective commitment (Mathieu & Zajac, 1990) and intention to quit (Abraham, 1999). The psychological contract has a stronger influence on outcomes for temporary rather than permanent employees (Guest, 2004).

The psychological contract was found to mediate the relationship between employees' experiences and work outcomes (Marks, 2001). Research partially supports that the psychological contract mediates the relationship between perception of obligation, violation and work outcomes (Cavanaugh & Noe, 1999). Kaufman (2004) and Latornell (2007)

mention that the employment relationship includes all the behaviour, attitudes, practices, and institutions that originate from or impinge upon the employment relationship.

From the above the following hypothesis is made:

H₁: Psychological contract predicts the relationship between perception of obligations, violation of the psychological contract and work-outcomes (job insecurity, job commitment, job performance and intention to quit)

From the above it is clear that the new employment relationship and new psychological contract present new challenges to employers who have to implement change in ways that keep employees motivated, positive and productive. It is also important to understand how changes influence employees' individual perceptions of the new psychological contract and the violation thereof because of change and the influence on individual employees' work, behavioural outcomes (job performance, intention to quit) and attitudinal outcomes (organisational commitment, job insecurity). It is further important that demographic variables, including age, gender, tenure, supervision, union-members, qualifications and the type of contract. More specifically, the psychological contract must be viewed as a predictor factor that affects the employment relationship and the organisational outcomes.

Psychological contract and violation of the psychological contract

During the formations of psychological contract, individual employees develop expectations of the employer. These expectations include promises made to them by employers' representatives, the individual employee idiosyncratic expectations and their perception of the organisational culture. Psychological contract violation is a reactive process that is influenced by the situation whereby the employee receives information from the employer, which implies that the employee did not comply with the obligations of the contract (Shore & Tetrick, 1994).

The state of the psychological contract depends on trust and fairness that the employee perceived. Perceived trust and fairness of the contract depends on how the employees

experience the employer's act of keeping promises, and the commitment shown to the individual employee or other employees within the organisation (Isaksson et al., 2003). Furthermore, the state of the psychological contract with its components of trust and fairness can be seen as an indicator of violation of the psychological contract. Findings indicate that the perception of psychological contract violation is associated with lower organisational commitment and trust (Grimmer & Oddy, 2007).

From the above the following hypothesis is made:

H₂: Psychological contract violations predict the state of psychological contract (trust) and organisational commitment.

Psychological contract violation refer to all instances in which employees receive less than they were promised and it can be defined as an emotional response resulting from perceptions that the employer has failed to keep its commitments (Robinson & Morrison, 2000). Violation entails an assessment of fairness and trust by the employee.

Different types of psychological contract violation can be experienced. Violation can involve an assessment of fairness by the employee and a focus on distributive violation, which refers to the distribution of outcomes. Marks (2001) concludes that violation of the psychological contract results in negative attitudinal outcomes for employees and it would be difficult to restore the relationship between the employer and employees. Employees' behavioural responses to psychological contract violation are more limited than their attitudinal response to such an event (Turnley & Feldman, 1999b).

From the above the following hypothesis is made:

H₃: Violation of the psychological contract results in negative organisational commitment and job insecurity.

Suazo, Turnley and Mai-Dalton (2005) found that a direct relationship exists between contract breach and the psychological contract violation and that the extent of breach was

positively significant associated with the extent of contract violation. They further found that psychological contract, as a mediator, correlated with the dependent variables commitment and in-role job performance. Psychological contract violation fully mediated the relationship between psychological contract breach, intention to quit and professional commitment.

Rajac, Johns, and Ntalianis (2004) found that violation of the psychological contract fully mediates the relationship between psychological contract breach, job satisfaction and intention to quit and partially mediates the relationship between psychological contract breach and affective organisational commitment. Findings by different researchers indicate that violations of the psychological contract are negatively associated with trust and employees' intention to stay with their employer (Coyle-Shapiro & Kessler, 2000; Lo & Ayree, 2003; Robinson & Rousseau, 1994). Violations of the psychological contract can concern aspects of the psychological contract when an employee sees job insecurity as a violation of the psychological contract (Borg & Elizur, 1992; Isaksson et al., 2003).

In summary, the results reviewed above seem to justify the conclusion that discrepancies exist between violation of the psychological contract and employees' attitudes.

From the above the following hypothesis is made:

H₄: Violation of the psychological contract is negatively associated with the state of the psychological contract and intention to quit.

Psychological contract violations are often sudden by a high degree of uncertainty and this uncertainty is often increased when a women employee trying to go forward in a male-dominated industry (Hamel, 2009).

Differences exist between *supervisors* and employees' definition of the employees' psychological contract (Lester, Turnley, Bloodgood, & Bolino, 2002; Turnley & Feldman, 1999a). Supervisors and their subordinates experience different perceptions regarding the content of the psychological contract. Supervisors tend to perceive the employers' fulfilment of its obligations more negatively than other employees (Porter, Pearce, Tripoli, & Lewis,

1998). Hallier and James (1997) explain that managers tend to perceive both non-fulfilment and violation of psychological contract differently than is the case with workers that are not involved in managerial positions.

The psychological contract and job insecurity

Thottam (2004) explains that with the employment contract binding the employer and employee, long-term jobs have become an illusion. Job insecurity has immediate consequences that affect individuals' attitudes and it has long-term consequences that affect an individual's behaviour (Sverke & Goslinga, 2003).

Job insecurity is defined by Greenhalgh and Rosenblatt (1984, p.438) as a "perceived powerlessness to maintain desired continuity in a threatened job situation". Perceptual definitions of job insecurity range from a narrow scope to broader definitions. The narrow scope of job insecurity anticipates the potential termination of a job while the broader definitions focus on the perceived powerlessness to maintain desired continuity of employment.

Certain researchers in the behavioural sciences, such as Pearce (1998), define job insecurity from more of an objective approach. Pearce (1998, p. 34) defines job insecurity as "an independently determined probability that workers will have the same job in the foreseeable future". As mentioned by Hilltrop (1996), employees must get training to make them more employable and to decrease job insecurity of workers if they become redundant or decide to leave an organisation.

A differentiation can be made between cognitive job insecurity and affective job insecurity. Cognitive job insecurity is the likelihood of job loss (Borg & Elizur, 1992). This likelihood includes termination, early retirement, demotions, impaired working conditions, and long-term job insecurity. Affective job insecurity includes the fear of job loss.

Further distinctions between quantitative job insecurity and qualitative job insecurity are made by Hellgren, Sverke, and Isaksson (1999). Qualitative job insecurity explains the

perception of potential loss of quality in employment relations (worries about losing important job features). Quantitative job insecurity is a global conceptualisation view (worries about losing the job itself).

Empirical research on perceived job insecurity shows that job insecurity perceptions are associated with organisational commitment (Ashford, Lee, & Bobko, 1989; Robsenblatt & Ruvio, 1996), turnover intention if job insecurity is high (Arnold & Feldsman, 1982; Davy et al., 1997). Davy, Kinicki, and Scheck (1997) and Yousef (1998) found that a negative relationship exists between job insecurity and organisational commitment.

As found by Moeletsi (2003) job insecurity correlates with organisational commitment and when job insecurity was low then organisational commitment and job satisfaction was high. Van Wyk and Pienaar (2008) explain that in countries like Italy and the Netherlands job insecurity predicts reduced organisational commitment. Researcher found that job insecurity may lead to a decrease in organisational commitment (De Witte, 1997; Laba, 2004; Rossenblatt & Ruvio, 1996) and lower job satisfaction (De Witte, 1997; Moeletsi, 2003) will lead to the intention to quit (Rossenblatt & Ruvio, 1996). Marais (2005) found that in the chemical industry high cognitive job insecurity led to lower affective organisational commitment, but no correlation could be found between affective organisational commitment and affective job insecurity. Rannona (2003) found a positive correlation between job insecurity and organisational commitment. Job insecurity shows a decrease in organisational commitment.

From the above the following hypotheses are made:

H₅: A relationship exists between job insecurity and organisational commitment.

De Witte (1999) purports that older employees experience higher levels of job insecurity than younger employees. Burchell, Felstead and Green (1997) and also Burchell, et al., (1999) found that the *youngest and the oldest members* of the workforce have the strongest feeling of job insecurity. Smithson and Lewis (2000) found in their study in the United Kingdom, that perceived job insecurity is age-related and that younger employees experience a stronger

feeling of job insecurity than older employees. They found that employees between the ages of 18 and 30 years experience the highest job insecurity. Younger employees' expectations of employers are changing, and they perceive insecure work as a violation of the psychological contract, just as older, established workers (Herriot, Manning, & Kidd, 1997).

Unionised women are predicted to have lower job security than non-unionised women (Bender & Sloane, 1999). They also found that Unionised women employees have no significant differences in their tenure profiles compared to nonunionised members. As mentioned by Smithson and Lewis (2000) young women, viewed work as insecure whatever the type of contract and job insecurity are not related to non-permanent work but lack or perceived employee rights and conditions. Previous research focuses little on the long term job insecurity (De Witte, 1997).

Bender and Sloane (1999, p. 130) found in their study that a relationship exists between "duration of job *tenure* and the proportion of workers secure in their job which rises in a linear fashion for union members and has a quadratic relationship for those who are not members of a trade union". Thus, if as union membership declines and duration of tenure declines the proportion of employees expressing themselves as insecure in their jobs will increase.

Marais (2005) found that in the chemical industry tenure did not contribute to job insecurity. Porter, et al., (1998) explain that *supervisors* were more likely than subordinates to report that the employers did not fulfil their obligations regarding meaningful work and job security. De Witte (1997) found significant differences between employees who feel insecure versus those that are secure. Employees who feel insecure assess their direct supervisor less positively, and they feel that industrial relations have not improved, while the commitment towards the employer is also lower amongst insecure employees. De Witte further found that no difference exists between secure and insecure employees regarding their desire to leave the employer.

From the above the following hypothesis is made:

H₆: Job insecurity does not predict intention to quit.

Bender and Sloane (1999) explain that two key issues can be raised relating to job insecurity and trade unions. Firstly, do an increase in job insecurity cause individuals to join trade unions or secondly, if trade unions decrease or increase job insecurity.

Sverke and Goslinga (2003) explain that a lack of research exists on how job insecurity relates to union outcomes and how it influences unionised employees. One of the main elements in the psychological contract between union members, and their union, is that the union will secure members' job security as one of the benefits of union membership (De Witte, et al., 2008; Dworkin, Feldmann, Brown, & Hobson, 1988). Studies by Bender and Sloane (1999) and Iverson (1996) found that job insecurity is positively related to union-membership. From the above the following hypothesis is made:

De Witte et al. (2008) found that union members showed a strong membership turnover intention when they felt insecure about their job. Studies by Bender and Sloane (1999) and Iverson (1996) found that job insecurity is positively related to union-membership. Heymans (2002) found that a practically significant difference with a medium effect existed between trade union members and non-members regarding job insecurity.

Marais (2005) found that in the chemical industry qualifications of employees did not contribute to job insecurity. Unskilled employees and semi-skilled employees experience significantly more job insecurity than other employees (Heymans, 2002). Temporary employment was found to be an important predictor of job insecurity (De Cuyper & De Witte, 2006). Temporary employees' job insecurity, in comparison to permanent employees, is consistently higher (De Witte & Näswall, 2003). A significant difference is that permanent employees who experience job insecurity have less job satisfaction and are also less committed to the organisation (De Witte & Näswall, 2003; Guest & Conway, 2000).

The psychological contract and organisational commitment

Organisational commitment has long been a focus of research studies (Rubin & Brody, 2005; Lincoln & Kalleberg, 1990; Mathieu & Zajac, 1990; Meyer & Allen, 1997; Mowday, Porter,

& Steers, 1979). Organisational commitment is most often measured by a series of survey questions regarding employees' willingness to exert extra effort in their work, their agreement with employer values and their identity within their firm (Mowday, et al., 1979). Researchers found a significant and direct relationship between organisational commitment and the psychological contract (Marks, 2001). Organisational commitment could be considered as the relative strength of an individual's identification with and involvement in an organisation (Mowday, Porter, & Steers, 1982).

Tsui, Pearce, Porter, and Tripolli (1997) found that the psychological contracts with high obligations between the employer and employees are positively related to organisational commitment. Organisational commitment could be considered as the relative strength of an individual's identification with and involvement in an organisation (Mowday, Porter, & Steers, 1982).

From the above the following hypothesis is made:

H₇: If employer obligations and employee obligations are high a positive relationship exists with organisational commitment

Rubin (1996) explains that over the last three decades, globalisation has occurred and workers have been impacted by economic changes and deep professional concerns. This might have led to a decrease of employer commitment towards the employee. As mentioned by Rubin and Brody (2005) the current economy is characterised by a number of factors that may undermine organisational commitment, more specifically amongst older workers who have experienced the actual shifting employment relationship of the late twentieth century workplace. Epstein, Seron, Oglensky, and Sauté (1999) found that the erosion of the relationship between the employer and employee weakens the rational basis of intense efforts and employee commitment.

Payton (2000) mentioned that the organisation's future might depend on the type of organisational commitment that employees show towards their work, or to the organisation's contracting or outsourcing. Different approaches can be taken when defining organisational

commitment. The first approach is that commitment is that an individual viewed as committed to an organisation because it is too costly for him or her to leave the company.

Another approach is that an employee is committed to the organisation because of shared goals and wishes to maintain membership (Blau & Boal, 1987). Organisational commitment includes attitudinal and behavioural dimensions as well as affective, normative and continuance dimensions (Lincoln & Kalleberg, 1990; Meyer & Allen, 1997; Mowday et al., 1979; Rubin & Brody, 2005).

Attitudinal or affective commitment explains how an "individual identifies with a particular organisation and its goals and wishes to uphold membership in order to facilitate these goals (Mowday et al., 1979, p. 225). Behavioural or continuance commitment reflects more the actions by which individuals compare themselves to an organisation and continue to make contributions on the organisation's behalf (Vroom, 1964).

Employees' commitment can range from extremely high to extremely low. A highly committed employee shares the organisation's values and can be balanced with other, equally important, nonworking commitments. Such employees trust the employer and are willing to support the company. A moderately committed employee shares some of the company's important values and will engage in facilitation behaviour. A marginally committed employee feels no particular attachment to the employer and their personal values overlap with the employer's values. Their life outside the organisation may be more important to them than their work (Romzek, 1990).

According to Appelbaum, Baily, Berg, and Kalleberg (2000) high-commitment workplaces, often provide some degree of employment security to core employees. Affective commitment is strongly related to job performance and turnover and is a significant predictor of intention to leave (Robbins, Judge, Odendaal, & Roodt, 2009).

A positive relationship exists between attitudinal commitment and job performance, whereas a low level of commitment is linked to decrease of job security (Mowday, Porter, & Steers, 1982), increase of absenteeism and high turnover, which elevates expenses and lower productivity (Knight & Kennedy, 2005).

Reichers (1985) explains that organisational commitment has been significantly negatively associated with turnover. This is supported by the study of Porter, Steers, Mowday, & Boulian (1974) that shows that employees who leave an organisation were consistently characterised by lower levels of commitment than the ones that stay and if organisational commitment is low, the initial intention to quit is higher (Stumph & Hartman, 1984). Porter (1995) and Van Dyne and Ang (1998) found differences in organisational commitment between tenured employees and non-tenured employees.

From the above the following hypothesis is made:

H₈: A positive relationship exists between organisational commitment and job performance

Steers (1977) and Mazibuko (1994) explains that organisational commitment decrease as qualification of an employee increase. There can be three reasons for this: firstly, highly educated employees may have higher work expectations than those which the organisation is able to meet, leaving the employee with a feeling of dissatisfaction and intention to quit. Secondly, highly educated employees may also be more committed to a profession than an employer and thirdly, more highly qualified employees may think that they have more employment opportunities outside the organisation than those who are not so well qualified.

Vandenberghe, Bentein, and Stinglhamber (2004), explain that different research has shown as employees develop affective commitment to the organisation they feel committed to their supervisor and to their team. In their study they found that affective organisational commitment has a significant direct effect on intention to quit and commitments to the supervisor and to the work group exerted indirect effect on intention to quit through organisational commitment.

Conflicting findings exists on union membership and organisational commitment. No significant difference in organisation commitment was found between union members and non union members (Snyder, Verderber, & Morris, 1986). Employees who do not belong to a trade union and with low organisational commitment are much more likely to intend to quit their job than are union-members and as organisational commitment increase, the difference

in the intention to quit between union members and non union members is less pronounced (Abraham, Friedman, & Thomas, 2005). Their findings are supported by Iverson and Kuruvilla (1995) that suggest that organisational commitment is positively related to union participation.

No relationship was found between the type of contract and work outcomes such as organisation commitment (Van Breukelen & Allegro, 2000). Two types of temporary contracts are found, namely those who want to become permanent employees and those who have no intention to become permanent. Those who want to become permanent show higher levels of commitment (Goudswaard, Kraan, & Dhondt, 2000). Du Plooy (2009) found that temporary employees' organisational commitment scores are lower than permanent employees that indicate that temporary employees are less committed than permanent employees.

The psychological contract and job performance

The psychological contract and job performance are both grounded in social exchange theory (Maley, 2009). Job performance is defined by Abramis (1994) as "a worker's effective execution of tasks or job and a useful contribution to the social work environment". Work behaviour goes beyond traditional job performance or contractual agreements and hold promises for long-term organisational success (Coyle-Shapiro & Kessler, 2000). Disciplining an employee for unsatisfactory job performance is unconsidered, unless management has clearly defined job performance (Carrell et al., 1997).

Bezuidenhout, Garbers, and Potgieter (1998) mentioned that when employees enter an employment contract, they imply that they are capable of doing the work. If they do not perform, it could be because of a lack of skills, effort or external conditions. Any of these problems areas could cause stress, anxiety and dissatisfaction for the employees, causing performance to suffer. Thus, these problems of job performance are because employees have a conflict between employment contract (what the employer expects from the employee) and social contract (how employment has been conducted thus far and how it should be conducted in the future). A positive but weak correlation was found between organisational

commitment and job performance (Wiener & Vardi, 1980). The loss of trust, motivations and commitment by employees has negative effects on the psychological contract that lead to less performance (Maley, 2009).

A need to study the relationship between age and job performance become more important because there is a belief that job performance decline with the increase of age, the workforce is aging for the reason that *older people* are forced for financial reasons to work longer, and because of world-wide shortage of highly-skilled workers. Research have proof that *women* perform most jobs as well as men and women now rise to very powerful and high-ranking positions in South Africa (Robbins et al., 2009).

The psychological contract relationship also depends on if the employee has a relational or transactional contract with the employer. Relational contracts are long-term agreements, entailing considerable investment by the employer and employee in training and development and mutual interdependence and entail rewards that are not explicitly performance contingent. Transactional contracts involved the short-term and monetised exchange, and rewards are explicitly tied to individual performances or low membership commitment (Rousseau & Ho, 2000; O'Donnell & Shields, 2002).

Robinson (1996) reports that perceived non-fulfilment of promises of the psychological contract negatively related to performance. This is supported by the findings of Lester, Turnley, Boodgood, and Bolino (2002) who found that the higher the level of the perceived breach, the lower the rating of an employee's performance was by the supervisor. Cable (2008) mentions that, based on different findings of various researchers, "a relationship between job performance and the content of the psychological contract may be reasonably expected, with employees believing that the organisation has an obligation to meet their expectations, as defined in the psychological contract, in return for high levels of job performance".

From the above the following hypothesis is made:

H₉: A relationship exists between employer obligations, employee obligations and job performance.

The relationship between psychological contract and intention to quit

The intention to quit is defined by Tett and Meyer (1993, p.260) as “a conscious and deliberate wilfulness to leave the organisation”. Lee, Pillutia and Law (2000) found that *gender* moderates the relationship between distributive justice and contract fulfilment. They also found that female employees' effect of procedural justice on contract fulfilment was milder than it was for males. Furthermore, there are also cases that indicate that *gender* plays no significant role in the employees' intention to quit.

Regarding turnover intention, gender has no effect (Chiu, Lai, & Snape, 1997). Bal (2009) found that older people have more difficulties in finding a new job and attach higher value to their current employer, whereas for younger employees building a career is more important.

According to Steers and Mowday (1981), the relationship between the intention to quit and turnover may be influenced by the existing economic conditions and the labour market. As mentioned by Lum, Kevin, Clark, Reid, & Sirola (1998), organisational commitment is negatively related to turnover. Blau and Boal (1987) explains that organisational commitment and job involvement is related to intention to quit and significantly interacts to predict actual turnover.

From the above the following hypothesis is made:

H₁₀: Organisational commitment has a significant effect on intention to quit.

Bartol (1979) found a significant opposite relationship between commitment and actual turnover, indicating that the less commitment an individual has to their career, the more likely they are to consider other opportunities.

METHOD

Research design

A survey design was used, in order to describe the information on the studied population (people or firm) collected at a single point in time (Babbie & Mouton, 2008; Hardy & Bryman, 2004). Shaugnessy and Zechmeister (1997) explain that this design can be used to evaluate interrelationship among variables within a population. They further explain that this design is also ideal to describe and predict functions associated with correlative research.

Participants

The study population could be defined as random samples of employees in the chemical industry in South Africa. The participants include employees from different chemical companies in the Free State, Western Cape, Eastern Cape, Gauteng, Natal, North-West Province and Mpumalanga ($N = 407$).

The population includes workers from all levels, i.e. ranging from unskilled blue-collar workers to management. The lowest level employees have a level of literacy adequate for a valid completion of the questionnaires.

Descriptive information of the sample is given in Table 1. As indicated in Table 1, the majority of employees (33,7%) are between 30 and 39-years-old. More males (64,1%) than females (34,4%) participated in the research. 8% of employees are on a management level, while 79,8 % do not supervise other employees. More full-time employees (67,3%) than part-time employees (28,7%) participated in this research.

Table 1

Characteristic of the Participants

Item	Category	Frequency	Percentage
Age	20-29	39	9.6
	30-39	137	33.7
	40-49	129	31.7
	50+	89	21.9
	Missing	13	3.2
Gender	Male	253	64.1
	Female	140	34.4
	Missing	14	1.5
Classification of job	Unskilled blue collar	11	2.7
	Skilled blue collar	54	13.3
	Low level white collar	40	9.8
	Intermediate white collar	194	47.7
	Middle management	53	13.0
	Management	33	8.1
	Missing	22	5.4
Supervise	No	325	79.8
	Yes	73	17.9
	Missing	9	2.2
Union membership	No	86	21.1
	Yes	318	78.1
	Missing	3	.7
Other paid jobs	No	304	74.7
	Yes	96	23.6
	Missing	7	1.7
Type of contract	Full-time	274	67.3
	Part-time	117	28.7
	Missing	16	3.9

Measuring instruments

The following questionnaires were used to gather data for this study:

A demographical questionnaire was developed to gather information about the demographic characteristics of the participants. This questionnaire gives participants the option of supplying their age, sex, tenure, educational level, marital status, dependants, occupation/job, position, supervision, type of contract, main job versus other paid jobs and union membership.

The psychological contract was measured by using the Psychological Contract Across Employment Situations (Psycones) questionnaire, as developed by Isaksson et al. (2003). To measure the psychological contract, the state of the psychological contract, employer obligations and employee obligations, constructs of the Psycones were used.

The *State of the Psychological Contract* consists of seven items. Answers were given on 5 – point Likert-scale, ranging from 1 (*not at all*) to 5 (*totally*). It includes questions such as “Do you feel you are rewarded fairly for the amount of work you put into your job?” and “Do you feel you are fairly paid for the work you do?” Studies in South Africa by Yazbek (2009) obtained a Cronbach alpha coefficient of 0,86.

The *Employer Obligations Questionnaire*, developed by Isaksson et al. (2003) was used to gather data on the promises and commitments the employers sometimes make to their employees. The questionnaire consists of 15 items that are arranged along a 6-point frequency-rating scale with 0 (*No*) and 5 (*Yes, and promise fully kept*). Typical questions on this questionnaire range from “Has your organisation promised or committed itself to providing you with interesting work”, to “Has your organisation promised or committed itself to helping you deal with problems you encounter outside work?” In the study conducted by More (2007) on the Department of Education (Sedibeng-West), a Cronbach alpha coefficient of 0,93 was obtained, indicating the internal consistency of this questionnaire.

The *Employee Obligations Questionnaire* developed by Isaksson, et al., 2003 was utilised to determine some promises and commitments that people sometimes make to their organisation. The questionnaire consists of 16 items arranged along 6-point frequency-rating scale with 0 (*No*) and 5 (*Yes, fully kept promise*). Examples of questions on this questionnaire vary from “Have you promised or committed yourself to go to work even if you don’t feel

particularly well?” to “Have you promised or committed yourself to work enthusiastically on jobs you would prefer not to be doing?”. In the study conducted by More (2007) on the Department of Education (Sedibeng-West), a Cronbach alpha coefficient of 0,90 was found. These findings confirm the internal consistency of the measuring instrument.

Violations of Psychological Contract Questionnaire, developed by Isaksson et al. (2003) was used. The questionnaire consists of six items rated on a five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The questions focus on six feelings concerning the perception of the psychological contract (happy, angry, pleased, violated, disappointed, and grateful).

Job insecurity was measured with a 4-item scale and arranged along a 5-point Likert type of scale (1 – *strongly disagree*; 5 – *strongly agree*) (e.g. “I feel insecure about the future of my job”) as adapted from De Witte (2000). De Witte (2000) reported a Cronbach alpha coefficient of 0,92 for his questionnaire which he refers to as “globale jobonzekerheid”. Studies by Sverke, Hellgren, Näswall, Chirumbolo, De Witte, and Goslinga (2004) and De Cuyper and De Witte (2005) show an internal consistency, while Cronbach alpha coefficient were between 0,84 and 0,86 and included both cognitive and affective items. Studies in South Africa prove that this instrument is reliable with a Cronbach alpha coefficient of 0,82. Other studies in the mining industry (Rannona, 2003; Van Zyl, 2005) also show a Cronbach alpha coefficient of 0,89.

Organisational Commitment Scale: Organisational commitment was measured with the five items from Cook and Wall (1980). A typical question is “I feel myself to be part of the organisation”. Answer-format range from 1 (*strongly disagree*) to 5 (*strongly agree*). Cook, Hepworth, Wall, & Warr (1981) determined a Cronbach alpha range from 0,77 to 0,83 in previous studies. Rigotti, Otto and Mohr (2007) found a Cronbach alpha for 0,70 (West) and 0,65 (East). Fields (2002) found that the organisational commitment scale is psychometrically adequate, stable and reliable, but with Cooper-Hakim and Viswesvaran (2005) the Cronbach-alpha was 0,63 for young workers and for older workers, the Cronbach-alpha was 0,71. In a South African study on a study of security employees, Du Plooy (2009), found Cronbach alpha coefficients of 0,81.

Job Performance Questionnaire was used relying on the items of Abramis (1994). These items were measured on a scale from 1 (*very badly*) to 5 (*very well*), regarding making decisions, taking initiative or taking responsibilities. The Cronbach alpha in previous studies (Abramis, 1994) range from 0,78 to 0,79.

Intention to Quit Scale is a modified questionnaire by the Psycones project (2005) and was measured by using four items ("I would be reluctant to leave this job" and reverse code) of Price (1997). The Cronbach alpha in previous studies (De Jong, no date; De Witte, 2000; Isaksson et al., 2003) range from $\alpha = 0,74$ to 0,82. Intention to quit measures the desire to leave the company rather than the actual intention to quit. The exact time of departure is set in advance, possibility influencing the intention to leave before the contract expired (De Jong & Geurtz, 1997).

Statistical analysis

The analyses were carried out with the SPSS 16.0 Program (SPSS, 2009). Cronbach alpha coefficients were used to assess the reliability of the measuring instruments (Clark & Watson, 1995). Descriptive statistics (means, standard deviations, skewness and kurtosis) will be used to analyse the data. Before principal factor extraction can be performed, a principal component extraction needs to be done to estimate the number of factors, the presence of outliers and the factorability of the correlation matrices. Cronbach alpha coefficients and inter item-correlations will be used to determine the internal consistency, homogeneity and unidimensionality of the measuring instruments (Clark & Watson, 1995).

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

A standard multiple regression analysis was carried out to assess the contribution of the

independent variables to job insecurity, organisational commitment, job performance and intention to quit. Tabachnick and Fidell (2001) explain that the correlation between an independent and a dependent variable reflects variance shared with the dependent variable, but some of the variance may be predictable from other independent variables. Stepwise regression, as a method of multiple regressions in which variables, are entered into a model based on statistical criteria. If new individual variables are entered into the model, all variables are assessed to see whether they should be removed. R^2 and adjusted R^2 values are calculated to indicate the loss of predictive power or shrinkage.

RESULTS

Descriptive statistics and correlations

Descriptive statistics, Cronbach alpha coefficient and the correlation coefficients of the Employer Obligations Scale, Employee Obligations Scale, State of Psychological Contract Scale and Violation of Psychological Contract Scale for employees ($N=407$) working in the chemical industry in South Africa are reported in Table 2.

Table 2

Descriptive Statistics and Cronbach Alpha Coefficients of the Measuring Instruments

Measuring instrument	Mean	SD	Skewness	Kurtosis	α
Employer Obligations	3,47	1,18	-0,12	-0,85	0,93
Employee Obligations	4,90	0,83	-1,10	1,38	0,93
State of Psychological Contract	2,74	0,85	-0,08	-0,44	0,86
Violation of Psychological Contract	3,27	0,94	-0,33	-0,52	0,89
Job insecurity	2,29	0,91	0,13	-1,07	0,64
Organisational commitment	4,06	0,72	-0,79	0,78	0,74
Job performance	4,11	0,55	-0,65	0,57	0,79
Intention to quit	2,41	1,10	-0,43	-0,79	0,82

Table 2 indicates acceptable internal reliability coefficients for the instruments used in this study. All the Cronbach reliability coefficients were above 0,64 and thus above the 0,50 cut-off point needed for basic research (Pierce & Dunham, 1987, Tharenou, 1993).

The correlation coefficients between Employer Obligations Scale, Employee Obligations Scale, State of Psychological Contract Scale and Violation of Psychological Contract Scale, Organisational Commitment Scale, Job Insecurity Scale and Intention to Quit Scale, Demographical information for employees ($N=407$) working in the chemical industry in South Africa, are reported in Table 3.

Table 3

Correlation Coefficients between the Employer Obligations Scale, Employee Obligations Scale, State of Psychological Contract Scale and Violation of Psychological Contract Scale

	1	2	3	4	5	6
1. Employer Obligations	-	-	-	-	-	-
2. Employee Obligations	0,41**	-	-	-	-	-
3. State of PC	0,57**	0,15**	-	-	-	-
4. Violation of PC	0,57**	0,19**	0,67*	-	-	-
5. Job Insecurity	-0,36**	-0,28**	-0,34**	-0,31**	-	-
6. Organisational Commitment	0,56**	0,51**	0,48**	0,56**	-0,39**	-
7. Job Performance	0,19**	0,30**	0,09	0,22**	-0,21**	0,32**

* Statistically significant $p \leq 0,01$

† Correlation is practically significant $r \geq 0,30$ (medium effect)

†† Correlation is practically significant $r \geq 0,50$ (large effect)

The empirical results show that a positive, but weak relationship exists between employer obligations and job performance. A practically significant relationship with a medium effect was found between employer obligations, employee obligations and job insecurity. A practically significant relationship with a large effect was found between employer obligations, state of psychological contract, violation of psychological contract and job performance. Employee obligations are weakly related to the state of psychological contract, violation of psychological contract and job insecurity. A practically significant relationship with a medium effect exists between employee obligations and job performance.

No relationship was found between the state of the psychological contract and job performance, but practically significant relationships between the state of psychological contract, violation (a large effect), job insecurity (a medium effect) and organisational commitment (a medium effect) exist. Statistically significant effects exist between the violation of psychological contract and job performance. A practically significant relationship with a medium effect exists between violation of psychological contract and job insecurity. A large effect of practical significance was found between the violation of psychological contract and organisational commitment.

A statistically and practically significant relationship exists between job insecurity, organisational commitment and job insecurity and a practically significant relationship with a medium effect exist between job insecurity and job performance. A statistically significant difference exists between organisational commitment and job performance. A practically significant relationship with a medium effect was found between organisational commitment and job insecurity.

Regression analyses

Next, a series of multiple regressions were performed. Three steps to test for mediation were performed. As mentioned by Baron and Kenny (1986), beta coefficients of different regression equations must be compared. The mediator should be predicted by the independent variable, while the dependent variable should be predicted by the mediator and the independent variable.

Lastly, the dependent variable should be regressed on the independent variable. If all the steps prove significant, perfect mediations is held when controlling for the mediator. This means that the independent variable does not predict the dependent variable.

Table 4 shows the results of multiple regression analysis, with job insecurity as a dependent variable and employer obligations, employee obligations, state of psychological contract, violations of psychological contract as independent variables and demographical variables

Table 4

Multiple Regression Analyses with Job Insecurity as Dependent Variable, Employee Obligations, Employer Obligations, State of Psychological Contract, Violation of the Psychological Contract and demographical information as Independent variables

Model		Unstandardized Coefficients		Standardized Coefficients	t	p	F	R	R ²	ΔR ²
		B	SE	Beta						
1	(Constant)	4,50	0,28		16,05	0,00	28,27	0,46	0,21	0,21*
	Employer_Obligations	-0,09	0,05	-0,12	-1,76	0,08				
	Employee_Obligations	-0,21	0,06	-0,20	3,71	0,00*				
	States of PC	-0,24	0,07	-0,23	-3,39	0,00*				
	Violation of PC	-0,06	0,06	-0,06	-0,94	0,35				
2	(Constant)	5,05	0,37		13,83	0,00	4,12	0,52	0,28	0,06*
	Employer_Obligations	-0,11	0,05	-0,14	-2,13	0,03*				
	Employee_Obligations	-0,15	0,06	-0,14	-2,48	0,01*				
	State of PC	-0,22	0,07	-0,21	-3,00	0,00*				
	Violation of PC	-0,08	0,06	-0,08	-1,24	0,22				
	Type of contract	-0,27	0,11	-0,14	-2,50	0,01*				
	Age	0,04	0,07	0,04	0,57	0,57				
	Gender	0,18	0,09	0,09	1,88	0,06				
	Tenure	-0,03	0,03	-0,05	-0,79	0,43				
	Supervise	-0,05	0,09	-0,03	-0,59	0,56				
	Union member	-0,06	0,12	-0,03	-0,54	0,59				
	Qualification	-0,13	0,04	-0,15	-2,99	0,00*				

*Statistically significant at $p < 0,05$

The results in Table 4 indicate in Model 1 that two psychological contract dimensions, namely employee obligations and the state of psychological contract, predicted job insecurity. Model 1 accounts for 21% of the variance in job insecurity and is significantly fit of the data ($F_{(4,349)} = 28,27$, $p < 0,05$, $\Delta R^2 = 0,21$). The adjusted R^2 (0,20) shows some shrinkage from the unadjusted value (0,21) indicating that the model may not generalises well. In terms of the individual predictors it could be reported that employee obligations ($\beta = -0,20$; $t = 3,71$; $p < 0,00$) and the state of the psychological contract ($\beta = -0,23$; $t = -3,39$; $p < 0,00$) predicted a negative job insecurity. This means that if employee obligations and the state of psychological contract (trust) increases job insecurity are lower.

In Model 2, adding age, gender, tenure, supervision, union member and qualifications resulted in a statistically increase in the prediction of variance in job insecurity ($F_{(6,342)} = 4,12$, $p < 0,01$, $\Delta R^2 = .04$), accounting for approximately 28% of the variance. More specifically, it seems that a negative relationship exists between job insecurity and employers' obligations ($\beta = -0,14$; $t = -2,13$; $p < 0,03$), indicating that, as job insecurity decreases, employers'

obligations increase. A positive relationship exists between job insecurity and the state of the psychological contract ($\beta = -0,21$; $t = -3,00$; $p < 0,00$), indicating that as job insecurity decreases, the state of the psychological contract also decreasedoes the same. As the type of contract ($\beta = -0,14$; $t = -2,50$; $p < 0,01$) and qualifications ($\beta = -0,15$; $t = -2,99$; $p < 0,00$) increases, job insecurity decreases. All variables in model 2, VIF values are below 10 or alternatively tolerance values are well above 0,2, indicating no multicollinearity in the data. All in all the models look fairly reliable.

Table 5 shows the results of multiple regression analysis, with organisational commitment as a dependent variable and employer obligations, employee obligations, the state of psychological contract and violations of psychological contract as independent variables and demographical variables.

Table 5

Multiple Regression Analyses with Organisational Commitment as Dependent Variable and Independent Variables

Model		Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>P</i>	<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2
		B	SE	Beta						
1	(Constant)	1,03	0,17		5,95	0,00	101,02	0,73	0,54	0,54*
	Employer Obligations	0,10	0,03	0,17	3,21	0,00*				
	Employee Obligations	0,33	0,04	0,39	9,45	0,00*				
	States of PC	0,09	0,04	0,11	2,04	0,04*				
	Violation of PC	0,25	0,04	0,32	6,21	0,00*				
2	(Constant)	0,96	0,23		4,14	0,00	0,90	0,74	0,55	0,01*
	Employer Obligations	0,10	0,03	0,17	3,19	0,00*				
	Employee Obligations	0,33	0,04	0,39	8,55	0,00*				
	States of PC	0,08	0,05	0,09	1,73	0,08				
	Violation of PC	0,25	0,04	0,32	6,18	0,00*				
	Age	0,02	0,04	0,02	0,42	0,67				
	Gender	0,07	0,06	0,04	1,11	0,27				
	Tenure	-0,01	0,02	-0,01	-0,25	0,80				
	Supervise	-0,10	0,06	-0,07	-1,74	0,08				
	Union member	-0,01	0,08	-0,00	-0,06	0,95				
	Qualifications	0,04	0,03	0,06	1,56	0,12				
	Type of contract	-0,01	0,07	-0,00	-0,10	0,92				
3	(Constant)	1,30	0,29		4,48	0,00	3,72	0,74	0,55	0,01*
	Employer Obligations	0,10	0,03	0,16	2,96	0,00*				
	Employee Obligations	0,32	0,04	0,37	8,26	0,00*				
	States of PC	0,07	0,05	0,08	1,41	0,16				
	Violation of PC	0,24	0,04	0,32	6,06	0,00*				
	Age	0,02	0,04	0,03	0,48	0,63				
	Gender	0,08	0,06	0,05	1,30	0,19				
	Tenure	-0,01	0,02	-0,02	-0,33	0,74				
	Supervise	-0,10	0,06	-0,07	-1,81	0,07				
	Union member	-0,01	0,07	-0,01	-0,12	0,91				
	Qualifications	0,03	0,03	0,05	10,24	0,22				
	Type of contract	-0,03	0,07	-0,02	-0,35	0,72				
	Job insecurity	-0,07	0,03	-0,08	-1,93	0,06				

* $p < 0,01$

Table 5 indicates that Model 1 accounts for 54% of the variance in organisational commitment and is a statistically significant fit of the data ($F_{(4,349)} = 101,02$, $p < 0,00$). The adjusted R^2 (0,531) shows no shrinkage from the unadjusted value (0,537), indicating that the model may generalise well. It seems that employer obligations, employee obligations and the state of the psychological contract predict organisational commitment. The VIF values are below 10, but alternatively tolerance values are well above 0,2, indicating no multicollinearity in the data. The model looks fairly reliable.

In Model 2, adding age, gender, tenure, supervision, union member, qualification and type of contract, the model accounts for 55% of the variance in organisational commitment and is a significant fit of the data ($F_{(7,342)} = 0,90, p < 0,001$). The adjusted R^2 (0,53) indicates some shrinkage from the unadjusted value (0,55), indicating that the model may not generalise well.

Taken together in Model 2, it seems that significant predictors of positive organisational commitment are employer obligations ($\beta = 0,17; t = 3,19; p < 0,00$), employee obligations ($\beta = 0,39; t = 8,55; p < 0,00$) and violation of the psychological contract ($\beta = 0,32; t = 6,18; p < 0,01$). Regarding the variables in the model, VIF values are below 10, or alternatively tolerance values are well above 0,2, indicating no multicollinearity in the data. The model looks fairly reliable.

Model 3 accounts for 55% of the variance in organisational commitment and is a significant fit for the data ($F_{(1,341)} = 3,72, p < 0,00$). More specifically, it seems that the individual predictors, employer obligations ($\beta = 0,16; t = 2,96; p < 0,00$), employee obligations ($\beta = 0,37; t = 8,26; p < 0,00$) and violation of the psychological contract ($\beta = 0,32; t = 6,06; p < 0,00$) predict positive organisational commitment. No multicollinearity was found in the data, the VIF values are below 10, and tolerance values are above 2. Therefore, the model seems to be fairly reliable.

Table 6 shows the results of multiple regression analysis, with organisational performance as dependent variable and employer obligations, employee obligations, state of psychological contract, violations of psychological contract as independent variables and demographical variables.

Table 6

Multiple Regression Analyses with Job Performance as Dependent Variable and Independent variables

Model		Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2
		B	SE	Beta						
1	(Constant)	2,98	0,18		16,27	0,00	13,00	0,36	0,13	0,13*
	Employer Obligations	0,01	0,03	0,02	0,24	0,81				
	Employee Obligations	0,17	0,04	0,26	4,68	0,00*				
	States of PC	-0,09	0,05	-0,14	-1,92	0,06				
	Violation of PC	0,15	0,04	0,26	3,65	0,00*				
2	(Constant)	3,10	0,25		12,57	0,00	0,78	0,38	0,14	0,01*
	Employer Obligations	0,01	0,03	0,03	0,42	0,68				
	Employee Obligations	0,19	0,04	0,29	4,67	0,00*				
	States of PC	-0,11	0,05	-0,17	-2,23	0,03*				
	Violation of PC	0,16	0,04	0,27	3,70	0,00*				
	Age	-0,05	0,04	-0,09	-1,23	0,22				
	Gender	-0,04	0,06	-0,03	-0,54	0,59				
	Tenure	0,02	0,02	0,05	0,74	0,46				
	Supervise	-0,02	0,06	-0,02	-0,29	0,77				
	Union-member	-0,12	0,08	-0,09	-1,49	0,14				
	Qualification	-0,01	0,03	-0,02	-0,31	0,75				
	Type of contract	0,13	0,07	0,11	1,76	0,08				
3	(Constant)	3,45	0,31		11,26	0,00	3,72	3,91	0,15	0,01*
	Employer Obligations	0,01	0,03	0,01	0,20	0,84				
	Employee Obligations	0,18	0,04	0,27	4,39	0,00*				
	States of PC	-0,12	0,05	-0,19	-2,54	0,01*				
	Violation of PC	0,15	0,04	0,26	3,58	0,00*				
	Age	-0,05	0,04	-0,08	-1,17	0,24				
	Gender	-0,02	0,06	-0,02	-0,35	0,73				
	Tenure	0,01	0,02	0,05	0,66	0,51				
	Supervise	-0,02	0,06	-0,02	-0,36	0,72				
	Union	-0,12	0,08	-0,09	-1,55	0,12				
	Qualification	-0,02	0,03	-0,03	-0,62	0,54				
	Type of contract	0,11	0,07	0,09	1,49	0,14				
4	(Constant)	3,22	0,31		10,35	0,00	9,61	0,42	0,18	0,02*
	Employer Obligations	-0,01	0,03	-0,02	-0,29	0,77				
	Employee Obligations	0,12	0,04	0,19	2,80	0,01*				
	States of PC	-0,14	0,05	-0,21	-2,80	0,01*				
	Violation of PC	0,11	0,04	0,19	2,47	0,01*				
	Age	-0,05	0,04	-0,09	-1,27	0,21				
	Gender	-0,04	0,06	-0,03	-0,57	0,57				
	Tenure	0,02	0,02	0,05	0,72	0,47				
	Supervise	-0,00	0,06	-0,00	-0,06	0,95				
	Union-member	-0,12	0,08	-0,09	-1,55	0,12				
	Qualification	-0,02	0,03	-0,05	-0,83	0,41				
	Type of contract	0,12	0,07	0,09	1,57	0,12				
	Job insecurity	-0,06	0,04	-0,09	-1,62	0,11				
	Org. commitment	0,18	0,06	0,23	3,10	0,00*				

* $p < 0,01$

As seen in Table 6, the first step of the regression analysis produced a statistically significant model ($F_{(4,349)} = 13,00$; $p < 0,00$), accounting for approximately 13% of the variance. More specifically, it seems that employee obligations ($\beta = 0,26$; $t = 4,68$; $p < 0,00$) and violation of psychological contract ($\beta = 0,26$; $t = 3,65$; $p < 0,00$) predicts positive performance. The adjusted R^2 (0,12) shows shrinkage from the unadjusted value (0,13), indicating that the model may not generalises well.

Model 2 accounts for 14% of the variance in job performance and is significantly fit for the data ($F_{(7,342)} = 0,78$; $p < 0,00$). Employee obligations ($\beta = 0,29$; $t = 4,67$; $p < 0,00$) and violation of the psychological contract ($\beta = 0,27$; $t = 3,70$; $p < 0,00$) predicts positive job performance. The state of the psychological contract ($\beta = -0,17$; $t = -2,23$; $p < 0,03$) predicts negative job performance, indicating an increase in the state of psychological contract and lower job performance. The adjusted R^2 (0,12) shows shrinkage from the unadjusted value (0,14) indicating that the model may not generalise well.

In Model 3 of the regression analysis, job insecurity was entered. Job insecurity added to this model contributes no statistically significance to the model ($F_{(1,341)} = 3,72$; $p < 0,00$), accounting for approximately 15% of the variance.. Employee obligations ($\beta = 0,27$; $t = 4,39$; $p < 0,00$) and violation of the psychological contract ($\beta = 0,26$; $t = 3,58$; $p < 0,00$) predicts positive job performance. The state of the psychological contract ($\beta = -0,19$; $t = -2,54$; $p < 0,01$) predict a negative job performance. The adjusted R^2 (0,15) shows shrinkage from the unadjusted value (0,12), indicating that the model may not generalise well.

In Model 4 of the regression analysis, job insecurity and organisational commitment was entered. Organisational commitment added to this model contributes statistic significance to the model ($F_{(1,340)} = 9,61$; $p < 0,00$), accounting for approximately 18% of the variance. Employee obligations ($\beta = 0,19$; $t = 2,80$; $p < 0,01$), violation of the psychological contract ($\beta = 0,19$; $t = 2,47$; $p < 0,01$) and organisational commitment ($\beta = 0,23$; $t = 3,10$; $p < 0,00$) predicts positive job performance. The state of the psychological contract ($\beta = -0,21$; $t = -2,80$; $p < 0,01$) predicts a negative job performance. The adjusted R^2 (0,14) shows shrinkage from the unadjusted value (0,18), indicating that the model may not generalise well. All VIF values of the variables in Model 1 to Model 4 are below 10 or, alternatively tolerance, values

are well above 0,2, indicating no multicollinearity in the data. All in all, the models look fairly reliable.

Table 7 shows the results of multiple regression analyses, with intention to quit as the dependent variable and employer obligations, employee obligations, state of psychological contract and violations of psychological contract as independent variables being demographical variables.

Table 7

Multiple Regression Analyses with Intention to Quit as Dependent Variable and Independent Variables

Model		Unstandardized		Standardized	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2
		Coefficients		Coefficients						
		B	SE	Beta						
1	(Constant)	5,54	0,29		18,89	0,00	60,83	0,64	0,41	0,41*
	Employer Obligations	-0,16	0,05	-0,17	-2,95	0,00*				
	Employee Obligations	-0,14	0,06	-0,11	-2,38	0,02*				
	States of PC	-0,33	0,08	-0,26	-4,34	0,00*				
	Violation of PC	-0,31	0,07	-0,27	-4,58	0,00*				
2	(Constant)	5,14	0,39		13,23	0,00	2,24	0,66	0,44	0,03*
	Employer Obligations	-0,16	0,05	-0,17	-2,90	0,00*				
	Employee Obligations	-0,16	0,06	-0,13	-2,55	0,01				
	States of PC	-0,31	0,08	-0,25	-4,04	0,00*				
	Violation of PC	-0,32	0,07	-0,28	-4,71	0,00*				
	Age	-0,06	0,07	-0,05	-0,87	0,38				
	Gender	-0,06	0,10	-0,03	-0,62	0,54				
	Tenure	0,04	0,03	0,07	1,10	0,27				
	Supervise	0,12	0,09	0,05	1,22	0,22				
	Union-member	0,39	0,12	0,15	3,17	0,00*				
	Qualification	0,00	0,05	0,00	-0,02	0,99				
	Type of contract	-0,14	0,12	-0,06	-1,25	0,21				
3	(Constant)	4,99	0,49		10,25	0,00	0,27	0,66	0,44	0,00*
	Employer Obligations	-0,15	0,05	-0,17	-2,82	0,01				
	Employee Obligations	-0,16	0,07	-0,12	-2,45	0,02				
	States of PC	-0,30	0,08	-0,24	-3,90	0,00*				
	Violation of PC	-0,31	0,07	-0,27	-4,66	0,00*				
	Age	-0,06	0,07	-0,05	-0,89	0,38				
	Gender	-0,07	0,10	-0,03	-0,66	0,51				
	Tenure	0,04	0,03	0,07	1,12	0,26				
	Supervise	0,12	0,09	0,05	1,24	0,22				
	Union-member	0,40	0,12	0,15	3,18	0,00*				
	Qualification	0,00	0,05	0,00	,068	0,95				
	Type of contract	-0,14	0,12	-0,06	-1,17	0,24				
4	(Constant)	5,89	0,46		12,95	0,00	71,73	0,73	0,54	0,98*
	Employer Obligations	-0,09	0,05	-0,09	-1,74	0,08				
	Employee Obligations	0,06	0,07	0,05	0,99	0,33				
	States of PC	-0,26	0,07	-0,20	-3,66	0,00*				
	Violation of PC	-0,14	0,06	-0,13	-2,22	0,03				
	Age	-0,05	0,06	-0,04	-0,73	0,47				
	Gender	-0,01	0,09	-0,01	-0,12	0,91				
	Tenure	0,03	0,03	0,05	10,10	0,29				
	Supervise	0,05	0,09	0,02	0,52	0,60				
	Union-member	0,39	0,11	0,15	3,44	0,00*				
	Qualification	0,026	0,04	0,03	0,641	0,52				
	Type of contract	-0,15	0,12	-0,07	-1,45	0,15				
	Job insecurity	-0,02	0,05	-0,01	-0,30	0,76				
	Org. commitment	-0,70	0,08	-0,47	-8,47	0,00*				

* $p < 0,01$

As seen in Table 7, Model 1 as the first step of the regression analysis produced a statistically significant model ($F_{(4,347)} = 60,83; p < 0,00$), accounting for approximately 41% of the variance. More specifically, it seems that employer obligations ($\beta = -0,17; t = -2,95; p < 0,00$), employee obligations ($\beta = -0,11; t = -2,38; p < 0,02$), state of the psychological contract ($\beta = -0,26; t = -4,34; p < 0,0$) and violation of psychological contract ($\beta = -0,27; t = -4,58; p < 0,00$) predicts negative intention to quit. The adjusted R^2 (0,41) shows no shrinkage from the unadjusted value (0,41), indicating that the model might not generalise well.

Model 2 accounts for 44% of the variance in intention to quit and is significantly fit for the data ($F_{(7,340)} = 2,24; p < 0,00$), accounting for approximately 44% of the variance.. Union membership ($\beta = 0,15; t = 3,17; p < 0,00$) predicts a positive intention to quit. Employer obligations ($\beta = -0,17; t = -2,90; p < 0,00$), employee obligations ($\beta = -0,13; t = -2,55; p < 0,01$), the state of the psychological contract ($\beta = -0,25; t = -4,04; p < 0,00$) and violation of the psychological contract ($\beta = -0,28; t = -4,71; p < 0,00$) predict negative intention to quit. It further shows that the higher the state and violation of psychological contracts as a model, the lower the intention to quit. The adjusted R^2 (0,42) shows no shrinkage from the unadjusted value (0,44), indicating that the model might not generalise well.

In Model 3 of the regression analyses, job insecurity was entered. Job insecurity added to this model contributed contributes no statistically significance to the model ($F_{(1,339)} = 0,27; p < 0,00$), accounting for approximately 44% of the variance. Union membership ($\beta = 0,15; t = 3,18; p < 0,00$) predicts positive intention to quit. Employer obligations ($\beta = -0,17; t = -2,82; p < 0,01$), Employee obligations ($\beta = -0,12; t = 2,45; p < 0,02$), state of the psychological contract ($\beta = -0,24; t = -3,90; p < 0,00$) and violation of psychological contract ($\beta = -0,27; t = -4,66; p < 0,00$) predicts a negative intention to quit. The adjusted R^2 (0,52) shows no shrinkage from the unadjusted value (0,54), indicating that the model might not generalise well.

In Model 4 of the regression analysis, job insecurity and organisational commitment was entered. Organisational commitment added to this model contributes statistically significance to the model ($F_{(1,339)} = 71,72; p < 0,00$), accounting for approximately 54% of the variance.. Union membership ($\beta = 0,15; t = 3,44; p < 0,00$) predicts a positive job performance. The

state of the psychological contract ($\beta = -0,20$; $t = -3,66$; $p < 0,0$) and organisational commitment ($\beta = -0,13$; $t = -2,22$; $p < 0,03$) predicts a negative intention to quit. The adjusted R^2 (0,52) shows no shrinkage from the unadjusted value (0,54), indicating that the model might not generalise well.

All VIF values of the variables in Model 1 to Model 4 are below 10 or, alternatively tolerance, values are well above 0,2, indicating no multicollinearity in the data. All in all, the models look fairly reliable.

DISCUSSION

The aim of this study is to assess the relationship between employer obligations, employee obligations, the state of the psychological contract, violations of the psychological contract, job insecurity, organisational commitment and employees' intention to quit in the chemical industry in South Africa.

The analysis of Pearson's correlations in this study shows that a positive but weak relationship exists between employer obligations and job performance. A practical significant relationship with a medium effect is found between employer obligations, employee obligations and job insecurity. A practical significant relationship with a large effect is also found between employer obligations, the state of psychological contract, violation of psychological contract and job performance. Employee obligations show a weak relationship to the state of the psychological contract, violation of the psychological contract and job insecurity. A practically significant relationship with a medium effect exists between employee obligations and job performance.

No relationship was found between the state of the psychological contract and job performance, but a practical significant relationship between the state of the psychological contract, the violation thereof (large effect), job insecurity (medium effect) and organisational commitment (medium effect) does exist. Statistically significant effects exist between violation of the psychological contract and job performance. A practically significant relationship with a medium effect exists between violation of the psychological contract and

job insecurity. A large effect of practical significance was found between violation of the psychological contract and organisational commitment. A statistically and practically significant relationship exists between job insecurity and organisational commitment and a practical significant relationship with a medium effect exists between job insecurity and job performance. A statistically significant difference exists between organisational commitment and job performance. Practical significance with a medium effect was found between organisational commitment and job insecurity.

Hypothesis 1 is accepted that the psychological contract predicts the relationship between perception of obligations, violation of the psychological contract and work-outcomes (job insecurity, job commitment, job performance and intention to quit). Through regression analysis, as seen from Table 4 to 7 the following: that the psychological contract dimensions, namely employee obligations and the state of psychological contract, predicted job insecurity. It seems that employer obligations, employee obligations and the state of the psychological contract predict organisational commitment. Employee obligations and violation of the psychological contract predicts positive job performance. The state of the psychological contract predicts negative job performance, indicating an increase in the state of psychological contract and lower job performance. Employer obligations, Employee obligations, state of the psychological contract, and violation of psychological contract predicts a negative intention to quit.

Regression analyses were conducted to determine if organisational commitment, as a dependent variable, holds predictive value with regards to independent variables. Based on these findings, hypothesis 2 stating that psychological contract violation predicts organisational commitment is accepted. Furthermore, it indicates that organisational commitment holds 55% predictive value regarding individual predictors' employer obligations, employee obligations and violation of the psychological contract that predict positive organisational commitment. This is supported by the study of Grimmer and Oddy (2007) that mentions that the perception of psychological contract violation is associated with lower organisational commitment and trust.

Regression analyses were performed to determine whether violation of the psychological contract holds predictive value with regards to organisational commitment. Through regression analysis it was indicated that violation of psychological contract predicted positive organisational commitment. Based on these findings, hypothesis 3 that violation of the psychological contract results in negative organisational commitment is rejected. Marks (2001) found that violation of the psychological contract resulted in negative attitudinal outcomes.

A negative relationship exists between violation of the psychological contract as associated with the state of the psychological contract and intention to quit. Hypothesis 4 is accepted. Regarding the predictive value of intention to quit, regression analyses indicate that intention to quit holds predictive value, accounting for approximately 41% of the variance. It seems that employer obligations, employee obligations, the state of the psychological contract and violation of the psychological contract predict negative intention to quit. Studies by Coyle-Shapiro (1999) and Robinson and Rousseau (1994) support that violation of the psychological contract is negatively associated with state of the psychological contract (trust) and employees' intention to stay with their employer.

Through theory, it was expected that job insecurity has a negative impact on organisational commitment, but the result indicates the opposite and therefore hypothesis 5 is not accepted. It is found that Pearson's correlation coefficient (Table 3) indicates that a positive statistically and practically significant relationship exists between job insecurity and organisational commitment. The findings of this study correspond with the findings of Moeletsi (2003), meaning that job insecurity correlates with organisational commitment.

Hypothesis 6 is accepted that job insecurity do not predict intention to quit. If job insecurity was entered in the regression analysis no statistically significant was found. Thus is supported by the studies of De Witte (1997) that no difference exists between job insecurity and intention to quit.

Regression analyses were performing to determine whether employer obligations and employee obligations are high hold predicted value with regard to a positive relationship with organisational commitment. In this study it seems that significant indicators of positive

organisational commitment are employer obligations and employee obligations. Therefore, hypothesis 7 is accepted and it is supported by the study of Tsui, Pearce, Porter and Tripolli (1997) that found that high obligations between the employer and employees are positively related to organisational commitment.

As explain by Robbins et al. (2009) organisational commitment is strongly related to job performance. In this study it was found that a positive relationship exists between organisational commitment and job performance. Hypothesis 8 is accepted.

Cable (2008) indicated that different researchers found that a relationship exist between job performance and the content of the psychological contract. In this study it was found that by using Pearson correlation that a positive but weak relationship exists between employer obligations and job performance. A practical significant relationship with a large effect was found between employer obligations, state of psychological contract, violation of psychological contract and job performance. Practically significant relationship with a medium effect exists between employee obligations and job performance. No relationship was found between state of psychological contract and job performance. Therefore, hypothesis 9 that state that a relationship existing between employer obligations, employee obligations and job performance is accepted.

In this study it was found that state of the psychological contract and organisational commitment predicts negative intention to quit. Therefore, hypothesis 10 is accepted that organisational commitment has a significant effect on intention to quit. This is supported by the study of Lum et al. (1998) that organisational commitment is negatively related to turnover (intention to quit).

This study had several limitations. The use of cross-sectional design brings limitations and therefore, causal direction cannot be fully confirmed. The focus of this study is to investigate the relationship between employer obligations, employee obligations, state of psychological contract, job insecurity, job commitment, violation of psychological contract and demographical information. In the relationship the researchers also included findings of longitudinal studies that prove hypothesized relationship in this study.

RECOMMENDATIONS

Given the nature of the employment relationships, and the different factors contributing to the employment relationship and that no clear understanding by researchers exists on the factors that predict the nature and content of the employment relationship and work outcomes more research is needed on the changing psychological contract and especially in the chemical industry. Future research should focus on implemented planned interventions to prevent intention to quit and to increase levels of job security, organisational commitment and job performance.

Managers should consider how to deal with the state of the psychological contract (trust) and job insecurity during the changing employment relationship. Managers should meet regular with employees in the organisation to find out what are the new expectations of the employees, and to redefine employer obligations and employee obligations to prevent violation of the psychological contract, job insecurity, lower organisational commitment, lower job performance and intention to quit. For employees to be committed to the employer, it is crucial that they understand crucial changes in the organisations and the employer may be then in a better position to explain why psychological contract obligations are negatively impact on work outcomes.

There are certain limitations implicit in the study's design. These limitations suggest several avenues of future research. For the reason of the cross-level design of this study it is not possible to make statements about the causality of found relationships or to control for specific events such as retrenchments, new production process. Because the research is cross-sectional in nature and a panel longitudinal design would better answer questions about the relationship between the changing employment relations and the psychological contract, work outcomes and demographical information. As a result, no casual inferences could be drawn, despite the used of multiple regression analysis. Therefore, the relationship between the variables was interpret rather than established and more complex forms of relationships linkages could not be examined. Due to the study design, it was not possible to study the influence on psychological contract over time.

Future research can consider more integrating nationally representative data from both the employer and the individual employee, so that more objective measures of organisational level variables can be obtained.

Future studies should investigate other industries psychological contract and work-outcomes of employees in South Africa, to verify the current findings. It is also recommended that larger samples with more powerful sampling methods be utilised to enable generalisation of the findings to other similar groups.

Future studies on the psychological contract and work outcomes (attitudes and behaviour) of employees should focus on positive work-related attitudes and behaviour of work at work in longitudinal and experimental designs. Furthermore, more positive well-being construct such as the relationship between psychological contracts, state of psychological contract, violation of the psychological contract and work engagement should be further investigated in other industries in South Africa, and included in casual models.

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CHAPTER 5

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

In this chapter, the conclusions and limitations regarding the literature and empirical study are discussed. Recommendations for the organisation and future research are also made.

5.1 CONCLUSIONS

Since the 1990's, the psychological contract has obtain scientific construct status. Rousseau's (1990) work gives status for the psychological contract and provided the groundwork for developing a formal system of understanding the psychology of the employment contract. As mentioned by Kotter (1973) was the first researcher that use a questionnaire to measure the content of the psychological contract. He further mentions that the psychological contract consists of thousands of items, and therefore it makes it impossible to make a complete list of items. No clear agreement exist on how the changing content of the psychological contract should be measured because the outcomes may provide a diagnosis of the state of the employment relationship and may serve as a initial point for intervention in organisations (Freese, 2007).

In this research the focus was on the on changing employment relations in the chemical industry with a focus on the role of the employment- and psychological contracts.

Chapter 1 looks at the problem statement and the research objectives, which include the general objective and specific objectives. The general objective of the research focuses on the changing employment relations in the chemical industry and the role of the employment- and psychological contracts. The study consists of three articles; each with its own objectives, own literature review and empirical study.

The literature review in **Chapter 2 - Article 1** focus on the conceptualisation and measurement of the psychological contract, criteria for measuring the psychological contract, construct validity and internal consistency of the Psychological Contract Questionnaire

(PCQ). The *first objective* was to conceptualise employment- and the psychological contract and the relationship of these constructs from the literature. The conceptualisation of employment relationship is explained as a relationship between an employee and an employer who employs the employee to the work (Slabbert, Prinsloo, Swanepoel, & Barker, 1998). Dunlop's system approach focuses on the traditional view of the employment relationship. Early definition of the employment relations are narrow and institutional focus and have been unsustainable. Guest (2004, p. 542) explains that "a range of factors are affecting the viability of traditional employment relations and the analytic frame used to explore them". Latornell (2007) explains that authors like Kaufman (2004) and Ackers (1994) have argued a broader focus for the employment relationship. Kaufman (2004) and Latornell (2007) mentioned that a study of the employment relationship includes all the behaviours, outcomes, practices, and institutions that interrelated to the employment relationship.

The concept of the psychological contract is at present analysed as a measurable construct, owned solely by the employee, rather than by the employer and the employee (Millward & Brewerton, 2000). This is a slight shift away from earlier research that viewed the psychological contract as being owned by both the individual and the organisation (Levinson, 1976).

Several approaches can be found that describing and researching the area of psychological contracts. Early studies of the psychological contract were conducted in a qualitative manner, usually by the researcher interviewing employees within an organisation. Previous conceptualisation of the psychological contract only focused on the single relationship between the employer and the employee. Today, the psychological contract is conceptualised from a multifarious nature.

The *second objective* of this study was to evaluate the new employment relations for the chemical industries and assessing the influence on the employment- and psychological contract. Most of the recent research has been based on the "new deal" and suggests that the employment contract and psychological contracts have come under pressure as a consequence of the changing employment contract. The "new deal" in the employment relationship have shifted away from paternalistic and secure employment towards an emphasis

on self-development by the employee (Baruch & Hind, 1999). Van Vuuren (1990) mentions that employees' may experience job insecurity differently and it is about uncertainty regarding the future and continuation of the job.

Cavanaugh and Noe (1999) found that the relational component of the new psychological contract may translate into reduced organisational commitment or job satisfaction. Expectations of job insecurity have a significant negative relationship with the intention to remain with the employer and organisational commitment to the employer was negatively related to job satisfaction.

The *third objective* of this study was to determine the reliability and validity of the psychological contract scale for the chemical industry. The scales showed acceptable internal consistencies. This study has shown that constructs has been well measured. Levels of reliability and validity were higher than conventionally acceptable in all cases. The Employer Obligations Scale, Employee Obligations Scale, State of the Psychological Contract Scale and Violation of the Psychological Contract Scale showed acceptable internal consistencies. The Cronbach alpha coefficients varied from 0,86 to 0,93 were obtained for scales. The correlations of the scales were acceptable. Employer obligations, employee obligations, state of the psychological contract and violations of the psychological contract were suitable for parametric statistical procedure.

The significance of the findings of the study is firstly that the construct validity of the PCQ receives support. This results are supported by the research of Linde (2007) on a large sample in the higher education sector with regards to the Psycones Questionnaire was reliable and suitable in the higher education sector. Reliability analysis confirmed sufficient internal consistency of the scale (Du Plooy, 2009; Isaksson et al., 2003a; Isaksson et al., 2003b; More, 2007; Yazek, 2009). Employer obligations and employee obligations have acceptable levels of internal consistency for each of its subscales.

A simple principal axis factor analysis resulted in a three- dimensional structure of the questionnaire, namely employers' obligations, employee obligations and state of the psychological contract.

The state of the psychological contract was this a one-dimensional constructs and this is confirming by the study South African study by Yazek (2009) that also revealed that the state of the psychological contract consists of one dimensional solution. This results did not coincide with the results of Isaksson et al. (2003a), who found that the state of the psychological contract revealed two independent factors, one on trust in management with 3-items and the other concerning justice with 4-items.

Violation of the Psychological Contract Questionnaire show constructs validity. A principle component analysis was performed on the 6 items of psychological contract violation and one factor was extracted. The factor structure is consistent with literature findings across various sample, groups and countries (Isaksson et al., 2003a; Isaksson et al., 2003b; Yazek, 2009).

The literature review in **Chapter 3 - Article 2** focuses on the changing employment relationship between employer obligations, employee obligations, the state of the psychological contract, violations of the psychological contract and various demographical differences.

The *fourth objective* was to determine the changing employment relationship between employer obligations, employee obligations, the state of psychological contract, violation of psychological contract and various demographic characteristics of employees in the chemical industry in South Africa. It was found that by means of Pearson correlations that a statistically significant and positive relationship exists between employee obligations, state of psychological contract and violations of the psychological contract. Practically significant and positive relationship with a medium effect was found between employer obligations and employee obligations. Practically significant relationships with a large effect were found between employer obligations, state of psychological contract and violation of psychological contract. Practically significant relations with a large effect exist between state of psychological contract and violation of psychological contract.

A practically significant relationship with a medium effect exists between employer obligations and employee obligations. This is support by the study of Coyle-Shapiro and Kessler (2002) who found that employer obligations are related to employee obligations.

South African studies by More (2007) and Yazek (2009) also found that employee obligations correlated positively with a medium effect on employer obligations. Du Plooy (2009) found a statistically significant correlation exists between employer obligations and employee obligations.

A positively statistically significant relationship was found between employee obligations and violation of psychological contract. This is confirmed by the study of Morrison and Robinson (1997), in which it was indicated employees' perceived violation of psychological contract occur when employee obligations declines. Female employees experience higher levels of employee obligations than male employees. Marks & Scholarios (2001) results indicated that gender play not a role in non-work circumstances, but flexibility promotes a positive psychological contract and positive work outcomes. No significant different association was found between permanent and temporary employees with regard to employer obligations, employee obligations and state of the psychological contract. This finding is not supported by Du Plooy (2009) who found that there is a significant difference between the type of contract and employer obligations and employee obligations.

Little is known about the difference in age groups and their psychological contracts with organisations (Bal, 2009; Van der Heijden, Schalk, & Van Veldhoven, 2008). No significant differences were found between older and younger employees on violation of psychological contract. This is not supported by the study of Bal (2009) and Schein (1978) that found that younger employees will have different expectations and obligations from their employer than older employees. Older employees have build up a more stable psychological contract and older employees will react differently than younger employees to fulfilment or violations and breach of the psychological contract (Rousseau, 2001; Bal, De Lange, Jansen, & Van der Velde, 2008). Rubin (1996) explains that the lengths of service between the parties are changing with a movement away from long-term contractual relationship.

It was found in this study that supervisors show no statistically differences with employer obligations. Other studies found that regarding employees who supervise other employees De Vos, Buyens and Schalk (2003) found that supervisors have different information and views of their relationship with their employer than other employees. Cable (2008) mention that the

supervisor in an organisation focuses more on the relationship they have with the organisation and focus more on the continuation of this relationship. In this study supervisor experienced higher levels of employee obligations and state of psychological contract than other employee. Mathieu and Zajac (1990) suggested that job such as management positions have a direct effect on employees' psychological contract outcomes such as organisational commitment and work-family conflict.

In this study no differences regarding psychological contract levels could be found between groups with type of contract. Temporary employees perceive the content of their psychological contract as narrower than permanents. Permanent employees and temporary employees hold different expectations with regard to their employment relationship (Coyle-Shapiro & Kessler, 2002; Van Dyne & Ang, 1998). No differences regarding psychological contract levels could be found between employees belonging to a trade union and other employees that do not belong to a trade union.

The *fifth objective* was to determine the relationship between employer obligations, employee obligations, the state of the psychological contract, violations of the psychological contract, job insecurity, organisational commitment, employees' intention to quit and the demographic of employees. Two psychological contract dimensions, namely employee obligations and state of psychological contract, predicted job insecurity. In terms of the individual predictors it could be reported that employee obligations and state of the psychological contract predicted negative job insecurity. This means that if employee obligations and the state of psychological contract (trust) increases if job insecurity is lower.

Adding age, gender, tenure, supervise, union member and qualifications resulted in a statistically increase in the prediction of variance in job insecurity. More specifically, it seems that a negative relationship exists between job insecurity and employers obligations, indicating that as job insecurity decrease, employers' obligations increase. A positive relationship exists between job insecurity and state of psychological contract, indicating that as job insecurity decrease state of the psychological contract also decrease. As the type of contract and qualification increase, job insecurity decrease.

Employer obligations, employee obligations and state of the psychological contract predict organisational commitment. It seems that significant predictors of positive organisational commitment are employer obligations, employee obligations and violation of the psychological contract. It appears that the individual predictors Employer obligations, Employee obligations and Violation of the psychological contract predict positive organisational commitment. Employer obligation, employee obligations, state of the psychological contract and violation of psychological contract predicts negative intention to quit. Union membership predicts positive performance. State of the psychological contract and organisational commitment predicts negative intention to quit.

The literature review in **Chapter 4 – Article 3** focus on focus on the relationship between employer obligations, employee obligations, the state of the psychological contract, violation of the psychological contract, job insecurity, organisational commitment, employees' intention to quit and demographic characteristic differences.

The *sixth objective* was to investigate the relationship between organisational commitment, job insecurity, job performance and intention to quit.

The *seventh objective* was to determine if the psychological contract predicts the relationship between perception of obligations, violation of the psychological contract and work-outcome. In this study it was found that individual predictors' employer obligations, employee obligations and violation of the psychological contract predict positive organisational commitment. This is supported by the study of Grimmer and Oddy (2007) that mention that the perception of psychological contract violation is associated with lower organisational commitment and trust. It seems that employer obligations, employee obligations, state of the psychological contract and violation of the psychological contract predicted negative intention to quit. Robinson and Rousseau (1994) supported the finding that violation of the psychological contract is negatively associated with state of the psychological contract (trust) and employees' intention to stay with their employer.

The *eighth objective* was to determine if violation of the psychological contract results in negative organisational commitment and job insecurity. Through regression analysis it was

indicated that violation of psychological contract predicted positive organisational commitment. Marks (2001) study found that violation of the psychological contract resulted in negative attitudinal outcomes.

Objective nine was to determine if job insecurity predict intention to quit. Findings in this study indicated that job insecurity does not predict intention to quit. If job insecurity was entered in the regression analysis no statistically significant was found. Thus is supported by the studies of De Witte (1997) that no relationship exists between job insecurity and intention to quit.

Concluding remarks of the three articles is that using the Psycones three internally consistent factors, namely Employer Obligations, Employee Obligations and State of the Psychological Contract were extracted to measure the psychological contract. Practically significant relationships were found between the state of psychological contract and violation thereof, between the employer- and employee obligations, and between employer obligations, state of psychological contract and violation of psychological contract. Gender and age were statistically significantly related to experiences of the psychological contract.

A positive but weak relationship was found between employer obligations and job performance. Practically significant relationships were found between employer obligations, employee obligations and job insecurity. A practical significant relationship was found between employer obligations, state of psychological contract, violation of psychological contract and job performance.

Organisational commitment held predictive value regarding individual predictors' employer obligations, employee obligations and violation of the psychological contract that predict organisational commitment. A negative relationship exists between violation of the psychological contract associated with the state of the psychological contract and intention to quit.

Through theory it was expected that job insecurity would have a negative impact on organisational commitment, but the result indicated the opposite. It was found that Pearson correlation coefficient indicated a positive statistically and practically significant relationship

exists between job insecurity and organisational commitment, and not a negative relationship. Only the type of contract and qualification of employee resulted in a statistically increase in the prediction of variance in job insecurity.

Biographical characteristics (age, gender, tenure, supervise, qualifications, type of contract) did not contribute to organisation commitment. Research is limited on the biographical characteristic and its contribution to job performance, but it was found that biographical characteristics do not contribute to job performance. It was found that union-membership predicts positive job performance.

5.2 LIMITATIONS OF THE STUDY

One of the main limitations of this study is the result of choice that was made during the design of the research. The *first* limitation of the study was the use of cross-sectional design. Therefore, causal direction cannot be fully confirmed. The casual relationship between variables in this study were interpreted rather than established, and more complex forms of non-recursive linkages could not be examined. Not enough research was available on biographical characteristics (age, gender, tenure, trade union membership) and work outcomes. To deal with the limitation of cross-sectional design, longitudinal and quasi-experimental research designs are needed to further validate the predicted relationship in the study.

A *second* limitation was that no previous prior experience was taken into account in this study. Prior experience by employees has an influence on perceptions of the psychological contract. Future research should adopt a longitudinal design by addressing these shortcomings. Longitudinal data would allow for a better understanding of the true nature of psychological contract.

Thirdly, another concern is representativeness of the sample. The sample is not representative for the South African labour market. The majority of employees were full-time employees and more males than female employees completed the questionnaire. A more representative sample would have been an ideal. Future studies could benefit from using a random-sample

design, which could ensure sufficient representation of the different groups in the total population and will enable generalisation of findings to the total study population.

Fourthly, the results were obtained solely by self-reports measures. The use of self-report measurement in validation studies increases the likelihood that at least part of the shared variance between measures can be attributed to method variance and mono-method bias in the gathered responses. Dollard & Winefield, (1998) and Wall, Jackson, Mullarkey & Parker (1996) explains that this phenomenon is not a major threat if interactions were found. Nonetheless, research, including more objective measures of biographical characteristics and/or outcomes is still needed.

Fifthly, only English is being used for the questionnaires. The possibility exists that the level of English language skills or respondents speaking English as their second, their third, fourth or even lower language could have influenced the results.

Lastly, the focus in analysing the data was on the individual level. According to Johns (2006) the organisation is an important contextual factor influencing employee attitudes and behaviour. Studies in South Africa should do more research on the organisational level.

5.3 RECOMMENDATIONS

5.3.1 Recommendations for the organisations

The measurement instrument needs to be translated to other South African languages. More research focusing on the dimensionality of the instruments is required in other organisations. When the psychological contract is measured it should be an indication of the employer, industry, environment situation. No standardised list can be found that includes the content of the psychological contract. More theoretical research is needed about the conceptualisation and content of employer obligations and employee obligations and state of the psychological contract.

It is important that employers conduct psychological contract research from time to time. This will enable managers to react pro-actively to potential violation of psychological contract, job insecurity, low job performance, intention to quit, resignations and a lack of commitment towards the organisation. The results of such surveys have to be communicated to all role-players and action plans need to be developed.

It is the personal opinion of the researcher that we should start to recognise more the changing employment relationship and that researcher in the industrial/labour relations field not only focuses on the management of the field but also do more research on employment contract, psychological contract and social contract. The social contract focus more on norms, assumptions, and beliefs that society consider as fair and suitable for parties involved in employment relations and the influence thereof on employees work outcomes.

5.3.2 Recommendations for future research

The psychological contract is a highly subjective concept. In general the psychological contract between the individual and their employer plays a fundamental part in present and future behaviour and attitudes within this employment relationship. This employment relationship makes the psychological contract an interesting research subject. Findings of this study show similarities across studies but detailed responses will always exhibit an element of uniqueness.

Future studies should investigate the measured variables in other industries in South Africa. New measurement instrument should be developed to measure the psychological contract. It is a false impression to assume that there will ever be one standardised acceptable psychological contract questionnaire. The psychological contract is an idiosyncratic experience and standardized data are not able to capture all the information. The use of interview techniques or diary studies are recommended for studies in the future. More longitudinal studies should be conducted on the same constructs to organisations for the purpose of comparing the results and findings.

Future research should further explore the casual relationship between psychological contract and employee work-outcomes.

Limited research existed on the biographical information, psychological contract and work outcomes. Research is needed on how unionisation affects members and non-members in the changing employment relationship and the psychological contract (Isaksson et al., 2003a; Turnley, Bolino, Lester, & Bloodgood, 2004).

5.4 CONTRIBUTION TOWARDS THE INDUSTRIAL/EMPLOYMENT RELATIONS FIELD

This research made the following contribution to Industrial relations/Employment relations as a science:

5.4.1 Validation of an instrument to measure psychological contract

Psychological contract measurement has been criticised that there is no widely used measurement instrument. This research was similar in many respects to the other international research finding on the psychological contract and therefore the findings are generalizable, but more additional research is needed to verify that research findings. We need to spend some time in South Africa to develop an instrument that will be valid and reliable in measuring psychological contract within our unique situation.

Although “new employment relationship” and “new psychological contract” has become a buzzword that is used in tripartite employment relationship, no or little comprehensive research exists in South Africa on the topic. Despite the increasing popularity of the concept, a lack of research exists in South Africa on the psychological contract.

More research is needed on the demographical information and the psychological contract in South Africa and in other countries. In the past research was limited to either smaller examples, or focused on one specific organisation. More research is needed so that it is possible to compare data across different industries and countries. A standardised measuring

instrument for psychological contract which has been proven valid and reliable within South Africa would be beneficial in various ways:

- It could be used to assess the perceived psychological contract levels within organisations objectively. An employee who does not feel that their psychological contract is violated will have more positively behavioural and attitudinal outcomes.
- It could be used to assess the perceived psychological contract level on an individual level.
- It could be used as a reliable tool to evaluate the attitudinal and behavioural outcomes of employees. Pre- and post-test results could be compared after a time period employed by the employer and to develop then intervention.
- It can provide valuable information as part of organisational change study at the start of a change management intervention.
- Future research could involve longitudinal study where the measurement is obtained at different occasions’.

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