Validation and application of the Toxic Leadership scale in the South African manufacturing industry

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COMMENTS

The following remarks are important to note beforehand:

- The editorial style as well as the references drawn in this dissertation follow the format prescribed by the Publication Manual (6th edition) of the American Psychology Association (APA). This practice is in accordance with the policy of the Programme in Human Resource Management of the North-West University (Potchefstroom) as requirement to use the APA style in all scientific documents since January 1999 onwards.
- This dissertation was submitted in the form of two research articles. The editorial style is specified in accordance with the *South African Journal of Human Resource Management* (*SAJHRM*), as it is in line with a significant part of the APA style. Tables were constructed in accordance with APA guidelines.

DECLARATION

I, Amelda Paltu, hereby declare that **Validation and application of the Toxic Leadership scale in the South African manufacturing industry** is my own work and that the views and opinions expressed in this study are those of the author and the relevant literature references as shown in the reference list.

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

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Amelda Paltu

November 2019

DECLARATION FROM LANGUAGE EDITOR

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18 November 2019

TO WHOM IT MAY CONCERN:

I hereby confirm that the MCom dissertation *Validation and application of the Toxic Leadership scale in the South African manufacturing industry* by Mrs A Paltu (student no: 10592660) was edited and groomed to the best of my ability. The processing included recommendations to improve the language and logical structure, guide the line of argument as well as to enhance the presentation. I am satisfied that, provided my changes to the text and my recommendations are implemented, the language would be of a standard fit for publication.

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Don't think outside the box, reinvent the box

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First and foremost all the glory goes to God; He, who gave me the inspiration and the determination to find the answer to the question which led to this study. I returned to formal education in 2015, exactly 20 years after completing my last formal qualification. However, I was led here as a result of a deeply personal experience, which left me emotionally and mentally exhausted. I began wondering whether the toxic leadership style I was subjected to during the last nine months of my working career during 2014/2015, was prevalent in other environments, and if so, did others also experience it as badly as I did?

The Lord understood that in order for me to heal from the emotional ordeal that I suffered at the hands of such a toxic leader, analysing and discussing the problem scientifically, would help me deal appropriately with the fallout. I thank Him for giving me the cognitive ability and the emotional strength to push through, when there were times when I all wanted to do was quit. This was especially after I lost my dad half way through the study and after suffering three minor strokes during the course of 2018, which left me with partial paralyses on the left side of my face.

Whenever I think of my journey during this study, the lyrics of the song “Anchor ” from the Gospel band Skillet springs to mind:

“When I get tired of finding
All of the fears I've been hiding
You gave me a breath, and tell me to rest
You never left
I can, I can, I can hear You, calling me by name
Pulling me up from under my shame
I'll never be the same
I can face anything, so let it rain
You are my anchor
So steady me, steady me now
You are my anchor
You're keeping my feet on the ground
In angry oceans, You've never broken through
Every wave of the storm
You are my anchor
So steady me, steady me now”

(Skillet, 2018)

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SUMMARY

Title: Toxic leadership: Validation and application of the scale in the manufacturing industry in South Africa.

Keywords: Toxic Leadership Scale, reliability, validity, item bias, equivalence, job satisfaction, organisational commitment, turnover intention, organisational culture, mediation, regression analysis, structural equation modelling.

The occurrence of toxic leadership has been increasing in organisations and has a detrimental impact on both the organisations and the employees who work there. Thus, there is a need to understand the impact of toxic leadership on job outcomes.

The present study set out to explore the phenomenon of toxic leadership within the South African context, from the assumption that such a leadership style will also be present in the South African organisations. However, due to scant existing knowledge of the topic it is necessary to create an awareness about this leadership style and the potential practical impact for employees and organisations alike. Due to the lack of current research on the topic it is important to assess this leadership style and the related relationships.

The general objective of this study was first to evaluate the psychometric properties of the Toxic Leadership Scale for use in the South African context and secondly to assess the relationship between toxic leadership, job satisfaction, organisational commitment, turnover intention and organisational culture. A cross-sectional design was used for the research. Sampling was done using a combination of non-probability purposive and convenient sampling (N = 600) amongst employees from various organisations in the manufacturing industry in South Africa.

Data were analysed through descriptive statistics (i.e. means, standard deviations, skewness, and kurtosis). Exploratory factor analysis and confirmatory factor analysis were both used to determine and evaluate the validity and construct equivalence of the Toxic Leadership Scale (TLS). Reliability of the constructs was established by calculating Cronbach's alpha coefficients. Relationships were determined through Pearson's product-moment correlations. Item bias was determined using Winstep. Differences between groups were determined by

applying ANOVAs and t-tests. Multiple regression analysis determined whether toxic leadership dimensions predict certain outcomes. Structural equation modelling was used to test organisational culture as mediator between toxic leadership and job outcomes.

The results provided evidence that the Toxic Leadership Scale was a five-factor construct and valid for use in the manufacturing industry. In addition, the results revealed statistically significant relationships.

The findings showed clearly that toxic leadership predicts job satisfaction, affective commitment and turnover intention. Furthermore, a mediation analysis returned both direct and indirect effects for the relationships tested, which indicated only partial mediation in all of the relationships.

Finally, recommendations were made for organisations and future research on toxic leadership within an organisation.

OPSOMMING

Titel: Toksiese leierskap: Bekragtiging en toepassing van die skaal in die vervaardigingsbedryf in Suid-Afrika.

Sleutelwoorde: Toksiese-leierskapskaal, betroubaarheid, geldigheid, itemsydigheid, ekwivalensie, werkbevrediging, organisatoriese toewyding, organisasiekultuur, omsetintensie, bemiddeling, regressie analise, strukturele vergelykingsmodellering.

Die voorkoms van toksiese leierskap het in ondernemings toegeneem, met ’n nadelige uitwerking op sowel die ondernemings as werknemers wat daar in diens is. Gevolglik is dit noodsaaklik om die uitwerking van toksiese leierskap op werkuitkomste te verstaan.

Die huidige studie het beoog om toksiese leierskap binne die Suid-Afrikaanse konteks te ondersoek op grond van die veronderstelling dat hierdie soort leierskap ook in Suid-Afrikaanse ondernemings sal voorkom. Aangesien daar egter so min inligting oor die onderwerp beskikbaar is, is dit nodig om bewustheid te skep oor hierdie leierskapstyl asook die potensiële praktiese impak op beide die werknemer en ondernemings. Weens die min huidige inligting oor die onderwerp is dit belangrik om hierdie leierskapstyl en die verwante verhoudings te ondersoek.

Die algemene doelwit van hierdie studie was eerstens om die psigometriese eienskappe van die Toksiese-leierskapskaal (TLS) vir gebruik in die Suid-Afrikaanse konteks te evalueer, en tweedens die verband te beoordeel tussen toksiese leierskap, werktevredenheid, organisatoriese verbintenis, omsetintensie en organisasiekultuur. ’n Dwarssnitontwerp is vir die navorsing gebruik. ’n Steekproef is gedoen deur ’n kombinasie van nie-waarskynlike doelgerigte en gerieflike steekproefneming ($N = 600$) onder werknemers van verskillende ondernemings binne die vervaardigingsbedryf in Suid-Afrika.

Data is geanaliseer met behulp van beskrywende statistiek (d.w.s. middele, standaardafwykings, skeefheid en kurtose). Verkennende faktoranalise en bevestigende faktoranalise is beide ingespan om die geldigheid en ekwivalensie van die Toksiese-leierskapskaal (TLS) vas te stel en evalueer. Die betroubaarheid van die konstrukte is deur

Cronbach se alfa-koëffisiënte bereken. Verhoudings is bepaal met behulp van Pearson se produkmomentkorrelasie. Itemsydigheid is met behulp van Winstep bepaal. Verskille tussen groepe is met behulp van ANOVA's en t-toetse bepaal. Meervoudige regressie-analise het vasgestel of toksiese-leierskapdimensies sekere uitkomste voorspel. Strukturelevergelyking-modellering is gebruik om organisasiekultuur te toets as bemiddelaar tussen toksiese leierskap en werkuitkomste.

Die resultate bewys dat die Toksiese-leierskapskaal 'n vyffaktorkonstruk is en geldig vir gebruik binne die vervaardigingsbedryf in Suid-Afrika. Daarby het die resultate ook statisties beduidende verwantskappe uitgewys.

Die bevindings het duidelik getoon dat toksiese leierskap werktevredenheid, affektiewe toewyding en omsetintensie voorspel. Voorts het die bemiddelingsanalise sowel direkte as indirekte effekte opgelewer vir die verhoudings wat getoets is – wat slegs gedeeltelike bemiddeling in al die verhoudings aandui.

Laastens is aanbevelings gemaak vir ondernemings en toekomstige navorsing oor toksiese leierskap binne 'n onderneming.

CHAPTER 1
INTRODUCTION

INTRODUCTION

The study on which this dissertation is based assessed the validity and reliability of the Toxic Leadership Scale. Thus, the present study investigated the relationship between toxic leadership, job satisfaction, turnover intention and organisational commitment among employees within the South African manufacturing industry. The research focused further on the mediational effect of organisational culture between toxic leadership and job outcomes such as job satisfaction, turnover intention and organisational commitment. This chapter contains a problem statement, research objectives (both general and specific) and outlines the expected contribution of the study. The chapter further explains the research method used and provides the chapter division.

1.1 Problem statement

Since the first decade of the 21st century, there is an increase in dysfunctional, destructive and toxic behaviour patterns by those in positions of power and influence (Tierney & Tepper, 2007), leading to the demise of several large companies (Mehta & Maheshwari, 2013). The manufacturing sector in South Africa is currently the fourth largest one in the economy and contributes approximately 15% to the gross domestic product (GDP) according to an Industrial Development Corporation (IDC) report released in December 2013 (IDC, 2013). According to the IDC, the manufacturing sector employs approximately 1.7 million people in South Africa (15% of the total in active employment). The manufacturing sector faces fierce competition from both domestic and world markets, whilst having to deal with substantial cost pressures and other competitive challenges such as insufficient electricity supply, volatile currency, skills constraints and decreasing productivity levels (IDC, 2013). Due to competition and pressures it is imperative that leaders within this sector create an environment where the workforce will be committed and motivated, as this will be the key to their sustainable competitive advantage (Mehta & Maheshwari, 2013). Therefore, strong leadership and direction is needed in this environment, seeing that it will also impact employees, which in turn will affect the performance of the organisation as a whole (Kaiser, Hogan & Craig, 2008; McKinsey Global Institute, 2012).

Findings have indicated that the mentioned patterns of toxic leadership behaviour have a profound influence on the organisation as well as its employees and customers (Appelbaum & Roy-Girard, 2007; Lipman-Blumen, 2005; Schmidt, 2008; Veldsman, 2012). Deficient

leadership affects an organisation's performance (Bacal, 2000), and employees' job outcomes such as job satisfaction, turnover intention and organisational commitment to the organisation (Mehta & Maheshwari, 2013). To date, limited research has been done on leadership styles that are dysfunctional and destructive (Schmidt, 2008) to both the organisation and its employees (Pelletier, 2010). According to Veldsman (2012), there is an urgent and pressing need to understand toxic leadership and its impact on organisations and its individual employees.

Schmidt (2008) recommends that toxic leadership can and should universally be recognised as a unique set of leadership behaviour patterns that negatively impact the subordinate group in a predictable way. Toxic leaders are experienced as narcissistic self-promoters who engage in an unpredictable pattern of abusive and authoritarian supervision (p. 57). According to this definition, toxic leadership is an umbrella term that covers several distinct yet related dimensions of negative leadership such as abusive supervision, authoritarian leadership, narcissism, self-promotion and unpredictability. Furthermore, each dimension captures specific forms of negative leadership behaviour in a unique way (Schmidt, 2014). Schmidt (2008) set out to develop and validate a measuring instrument termed the Toxic Leadership Scale (TLS). Such a scale could help organisations detect toxic leadership within its folds. As South Africa is a multicultural society with different perceptions and beliefs, employees may view toxic leadership differently. Therefore, it is necessary to investigate whether employees have a similar understanding of the concept.

An extensive review of literature surrounding this topic indicated the absence of a measurement tool available in South Africa (e.g. Appelbaum & Roy-Girard, 2007; Lipman-Blumen, 2011; Mehta & Maheshwari, 2013; Schmidt, 2008). The research of the TLS was undertaken in the United States of America (USA). Therefore, it is necessary to investigate whether the scale can be used within the South African context to detect and measure the incidence of toxic leadership in organisations. Such an investigation of the TLS will enable local organisations to assess accurately whether toxic leaders are present within the folds of the organisation. The main challenge faced with measurement tools developed outside South Africa is that it has to comply with the provisions of the Employment Equity Act, 1998. This Act requires that psychometric tools must be scientifically reliable and valid; be applied fairly to all employees; and avoid bias towards any employee or group (Visser & Viviers, 2010).

Reliability of a measurement tool implies that the tool will produce the same and consistent results under similar conditions (Foxcroft & Roodt, 2013). On the other hand, validity in this regard refers to whether or not a tool measures what it is supposed to and how well (Foxcroft & Roodt, 2013). There are different types of validity, of which construct validity entails the degree to which a test or measure assesses the underlying theoretical construct it is supposed to (Bryman et al., 2014).

Bias and equivalence are a further two fundamental concepts to consider when applying psychological tests in a multicultural society such as South Africa (Meiring, Van de Vijver, Rothmann & Barrick, 2005). Bias occurs when score differences in the indicators of a particular construct do not correspond with differences in its underlying trait or ability (Van de Vijver & Tanzer,1997). More specifically, item bias (also referred to as differential item functioning) occurs when the (psychological) meaning of one or more items is not identical across groups and relates to anomalies at the item level, such as poor translation or inapplicability of an item to a specific group (Van de Vijver & Leung, 1997).

Equivalence, on the other hand, entails score comparability, which points to the measurement level where scores obtained for different groups can be compared. Particularly, construct equivalence denotes the same construct that is measured across the studied groups, irrespective of whether this measurement is based on identical instruments for all these groups. Equivalence implies that the underlying construct has a universal validity (Van de Vijver & Leung, 1997; Van de Vijver & Tanzer, 1997).

It should be taken into account that South Africa is faced with exceptional conditions in which cultural assumptions, values and norms of employees could differ for each demographic group in terms of for example, gender or Age. Due to these differences, various demographic groups may view concepts such as toxic leadership differently (e.g. based on gender, age and ethnic groups). Therefore, it is necessary to use a measurement instrument that is valid, equivalent, unbiased and reliable for the unique South African context. DeVellis (1991), also indicates that it is crucial to use measuring instruments that show evidence of validity and reliability and are psychometrically sound. The reason is that these requirements have various implications for relationships with other variables and their validity.

Within South Africa, limited research has been done on the relationship between toxic leadership and related outcomes such as job satisfaction, turnover intention, organisational commitment and organisational culture (Veldsman, 2012). Furthermore, leadership studies by Dladla (2011), Du Toit (2015) and Heine (2013), examined only certain aspects of negative leadership; ethical behaviour and trust; and its influence on related outcomes such as counterproductive work behaviour, turnover intention and engagement. The researcher could find only a single study on toxic leadership within South Africa. This study by Veldsman (2012) merely introduces the concept, however, to date no study has attempted to measure this phenomenon and its relationships with certain outcomes and its effects on the organisation and its employees. Therefore, it is necessary to investigate the effects of toxic leadership in the workplace on these mentioned levels.

Existing literature on toxic leadership theoretically explicates the construct, but few empirical studies have explored the impact of such leadership within the work environment (Schmidt, 2014). Toxic leadership differs from other leadership constructs, according to Schmidt, seeing that its dimensions significantly predict employee outcomes for turnover intention, job satisfaction and satisfaction with the supervisor (Schmidt, 2008). Schmidt's follow-up study in 2014 also indicated that toxic leadership has a negative relationship to organisational trust, group cohesion and organisational commitment. Mehta and Maheshwari (2013) concur with Schmidt on the significant negative relationship between toxic leadership and job outcomes such as job satisfaction and organisational commitment.

The results for the organisation becomes clear in higher turnover rates, increased absenteeism and lower productivity, which will reflect in the organisation's performance (Mehta & Maheshwari, 2013). For individual employees this form of leadership may result in lower organisational commitment, decreased levels of job satisfaction and increased psychological stress (Mehta & Maheshwari, 2013). It is evident that such leadership is detrimental to the organisation and the individual employees' performance. It is therefore necessary to investigate the impact of toxic leadership within the South African context and why it has such a profoundly negative influence on job outcomes.

Organisations are living entities with own personalities, known as an organisational culture (Van der Post, De Coning & Smit, 1997). Organisational culture gives meaning and direction

to employees on various levels (Van der Post et al., 1997) and creates the environment in which the organisation functions (Sempane, Reiger & Roodt, 2002). Furthermore, organisational culture provides structure and a system of control that generates behavioural standards within the company (Schein, 2004). An organisation's leadership and culture are closely intertwined and are related elements of organisational life since they influence each other directly and indirectly (Schein, 2004). Senior leaders permeate an organisation's culture with their own personal characteristics by establishing goals, values and norms (Schneider, Goldstein & Brent-Smith, 1995).

Various other studies such as those by Appelbaum and Roy-Girard (2007) as well as Bass (1995), conclude that the survival of any organisation depends on the shaping of its culture by effective leaders. Therefore, toxic leaders may create toxic culture by changing the content of the organisational culture (Giberson, Resick, Dickson, Mitchelson, Randall & Clark, 2009). Leadership studies published since the second decade of the 21st century, have indicated that organisational culture may have a mediating effect on the relationship between leadership and job outcomes (Imran, Zahoor & Zaheer, 2012; Rasid, Manaf & Quoquab, 2013). Lok and Crawford (2004) confirm a strong correlation between leadership and organisational culture and its effect on organisational commitment and job satisfaction. Sadri and Lees (2001) found that negative organisational culture impacts an organisation's ability to perform optimally. Therefore, it is necessary to investigate the influence or mediating effect of organisational culture between toxic leadership and certain job outcomes such as job satisfaction, organisational commitment, organisational culture and turnover intention.

Evidently toxic leadership is a growing phenomenon in organisations worldwide and only recently (2013) has been the focus of cursory preliminary research and measurement. To date, no attempts have been made to determine the existence of toxic leadership and its influence on organisations and its employees within the South African context. Furthermore, no scholars to date have measured the influence of toxic leadership within the workplace. The purpose of this research is therefore to determine whether the TLS (Toxic Leadership Scale) can be used as a reliable and valid measurement tool to assess toxic leadership in South African companies. The study's aim will also be to determine the influence of toxic leadership on certain job outcomes.

Toxic leadership and the Toxic Leadership Scale

Limited research was conducted on toxic leadership and its influence on organisations and its employees, however, there is still extensive information lacking on this topic (Mehta & Maheshwari, 2013). The first attempt at a descriptive term for 'toxic leadership' as coined by Whicker (1996) refer to a number of dysfunctional leadership behaviour patterns, which can be described broadly as maladjusted, malcontent, malevolent and malicious. Bacal (2000) describes a toxic leader as inconsistent, saying one thing and behaving in a different manner; decisions and directions change suddenly and without warning and apparent rationale. Such leaders send mixed messages, making employees uncertain of what is expected, ultimately leading to confused subordinates. Pelletier (2010), identifies eight behavioural dimensions that can be associated with toxic leadership behaviour, namely: attacking followers' self-esteem; divisiveness; social exclusion; promoting inequity; abusive supervision; threat to security (psychological and/or physical); lack of integrity; and laissez- faire style. Wasylyshyn, Shorey and Chaffin (2012) add that such leaders display an inability to support their teams; tend to create a strong dynamic of fear in their teams and are prone to public outbursts and insults.

It is important to note that toxic leadership should be recognised as a unique pattern of leadership behaviour that sets it apart from other negative leadership styles such as petty tyranny and destructive leadership (Schmidt, 2008). Pelletier (2010) concurs with Schmidt and concludes that toxic leadership not just merely implies the absence of effective leadership behaviour but is in effect a set of behaviour traits on its own. Existing research seemingly shows that destructive leadership, petty tyranny and abusive supervision are themes on their own, whereas toxic leadership captures the entire spectrum of negative leadership styles (Schmidt, 2008). Furthermore, although all of the above-mentioned styles impact employees negatively, none of these exhibit the hostile and deliberate malice that toxic leaders display toward subordinates within the workplace (Schmidt, 2008). Distinct differences between toxic leadership and other negative leadership styles are that toxic leaders show an underlying neglect for the wellbeing of their subordinates. At times, such leaders' micromanage to a point where employees are stifled and cowered. This is accompanied by a deepened need of the leaders to feel important (Lipman-Blumen, 2005).

Toxic leadership has particularly negative consequences for both subordinates and organisations. In this regard, Dyck and Roithmayr (2001) point out that toxic leadership can

lead to poor employee health and therefore an increase in costs of health benefits to the organisation. In the same vein, Macklem (2005) identifies negative outcomes such as higher absenteeism, increased employee withdrawal and turnover. The focus for the present research was on toxic leadership since research results into this leadership style has shown particularly negative consequences for the entire workforce and organisation. In contrast, the influence of the other leadership styles is evident more at the level of individual employees (Schmidt, 2008)

Schmidt (2008), developed a comprehensive definition of toxic leadership and defines it as follows:

> Toxic leadership can and should be universally recognised as a unique set of leadership behaviour patterns that negatively impact the subordinate group in a predictable way. Toxic leaders are narcissistic, self-promoters who engage in an unpredictable pattern of abusive and authoritarian supervision (p. 57).

Schmidt, in a series of studies from 2008 until 2014, developed a Toxic Leadership Scale (TLS) which demonstrates that toxic leadership is a multi-dimensional construct that comprises a range of destructive behaviour patterns. Schmidt used a mixed method study by incorporating qualitative and quantitative research to uncover the relevant factors. The factor analysis supported five dimensions, which were measured: 1) abusive supervision; 2) authoritarian leadership; 3) narcissism; 4) self-promotion; and 5) unpredictability.

In an in-depth discussion of the dimensions of the TLS, Dobbs (2014) provides a useful summary. *Abusive supervision* measures perceptions of the leader's intentionally hostile behaviour towards employees. *Authoritarian leadership* measures leadership behaviour that attempts to exert excessive authority and control over subordinates. *Narcissism* measures a leadership style driven by arrogance, self-absorption and self-orientated actions to enhance the self. *Self-promotion* measures leaders who advertise their accomplishments and also takes credit for other's work. *Unpredictability* measures leaders whose actions are not predictable, thereby keeping subordinates afraid and watchful (Dobbs, 2014).

Psychometric properties of the Toxic Leadership Scale

When using a measurement scale, it is important to consider the psychometric properties, namely the reliability and validity of the instrument. After a factor analysis was done the Toxic

Leadership Scale displayed a high reliability for each of the five measured scales. More specifically, the reliability of the scale using Cronbach's alpha coefficients were 0.93 for *abusive supervision;* 0.89 for *authoritarian leadership;* 0.88 for *narcissism;* 0.91 for *self-promotion;* and 0.92 for *unpredictability.* The overall Cronbach's alpha score was 0.90, suggesting that the instrument is highly reliable (Bryman et al., 2014). The overall composite score was also significant at the $p < .01$ level (Schmidt, 2008). There were also high correlations between the subscales indicating that the scale is valid for use (Schmidt, 2008).

Prior research on toxic leadership focused primarily on defining the construct (Pelletier, 2010; Schmidt, 2008); and its relationship with job outcomes (Mehta & Maheshwari, 2013; Schmidt, 2008; 2014). To date, none of the current research on this topic has focused on the influence of toxic leadership and how it is experienced by different age groups, ethnic groups and gender. It is, however, important to take note of possible differences, seeing that an understanding of these groups and how they experience toxic leadership will provide a more holistic view of the phenomena.

The Employment Equity Act of 1998 requires that psychometric tools must be scientifically valid and reliable; applied fairly to all employees; and avoid bias towards any employee or group. Therefore, there is a need for measuring instruments that meet the specified requirements, allowing psychological tests to be used for the various cultural and language groups in South Africa (Visser & Viviers, 2012). To comply with the provisions of the Act it is necessary to validate the measurement tool for the mentioned South Africa context. As mentioned previously, South Africa is a multicultural society comprising different perceptions and beliefs. In this regard, individuals and groups may view toxic leadership differently, thus making it necessary to investigate whether all employees have a similar understanding of the concept. This focus underscores the need to have a measuring instrument that is valid, equivalent, unbiased and reliable for the unique South African context.

Reliability of a measurement tool refers to the consistency in the measure of a concept (Bryman et al., 2014). This means ensuring that that the tool measures what it is supposed to do (Foxcroft & Roodt, 2013). Reliability is expressed in numerical form known as the reliability coefficient (Foxcroft & Roodt, 2013). There are several ways to establish reliability, but the method used most is Cronbach's alpha, which measures the reliability of internal consistency (Bryman et al., 2014). This measurement is based on the consistency of responses to all the measured items

– also known as *inter-item* consistency (Foxcroft & Roodt, 2013). The reliability of internal consistency is used to determine inter-correlations of the items and whether the measured items, relate to the same construct (Foxcroft & Roodt, 2013). Cronbach's alpha coefficients are also used where there are multiple response categories. A result of 0.70 and above usually implies an acceptable level of internal reliability (Bryman et al., 2014).

In the South African context therefore to ensure reliability, for the purpose of the present study, reliability was measured in terms of internal consistency. As mentioned above, validity can be established by testing various types (e.g. face, concurrent, predictive, construct, convergent and discriminant). Among these, Trochim and Donnelly (2006) argue that construct validity is the more important form of validity since it provides an overarching indication of the quality of the measurement tool. Construct validity according, to Trochim and Donnelly (2006), simply refers to the degree to which inferences can be drawn legitimately from the operationalisations in the study to the grounding theoretical constructs. Thus, construct validity entails the degree to which a test or measure assesses the underlying theoretical construct it is supposed to measure (Bryman et al., 2014). This also requires an equal number of underlying factors for the various subgroups and similar item loadings across population subgroups (Gregory, 2007).

For the South African context, it is important to consider construct equivalence and item bias when drawing cross-cultural comparisons, seeing that assumptions made on biased scores are deemed invalid (Visser & Viviers, 2010). Construct equivalence is assessed by factor analysis and are said to occur when the same construct is measured in all the groups under investigation (Visser & Viviers, 2010). Furthermore, important decisions are made on test scores, which makes it critical to avoid item bias. Such bias is present when there is a difference in performance of individuals with the same ability on an item (Van de Vijver & Tanzer, 1997). This is the result of poor item translation or the influence of culture-specific connotations associated with the item's wording (Van de Vijver & Tanzer, 1997). Item bias can be detected by using the partial correlation between an item score and a nominal variable, such as ethnic group. The correlation partialled out is between total test score and the nominal variable. If the variable and the item score are correlated after the partialled correlation is removed, the item is performing between groups, which suggests bias (Reynolds, Lowe & Saenz, 1999).

The relationship between toxic leadership and measured organisational outcomes

Job satisfaction

Individual employees' job satisfaction can be understood as their attitude towards their job and their evaluation of this occupation (Ilies & Judge, 2004). Such satisfaction is the emotional state resulting from the appraisal of one's job and experience of it (Locke, 1976). Robbins (1993) identifies several factors that influence job satisfaction. These factors include aspects such as satisfaction with the job as such, support from supervisor and fellow workers and working conditions. Mehta and Maheshwari (2013) found a statistically significant negative relationship between toxic leadership and job satisfaction. Their findings are supported by Kusy and Holloway (2009) as well as Tepper (2000), namely that toxic, destructive and dysfunctional behaviour indicate a significantly negative impact on employees' job satisfaction.

Organisational commitment

Meyer and Allen (1991) define organisational commitment as a psychological link between employees and the organisation. This link creates a bond making it less likely that the employee will leave the organisation voluntarily. Meyer and Allen (1991) identify three forms of organisational commitment namely affective, continuance and normative. *Affective* commitment entails the emotional attachment that employees feel towards their organisation. *Continuance* commitment points to employees remaining with organisations since the cost of leaving is too high. Finally, *normative* commitment implies employees' commitment to an organisation due to a sense of obligation (Meyer & Allen, 1991). Mehta and Maheshwari (2013) found a statistically significant negative relationship between toxic leadership and organisational commitment. Furthermore, Weaver and Yancy (2010) found that destructive leadership behaviour impacts negatively on the commitment of employees.

Organisational culture

Schein (2004) defines organisational culture as a set of expected behaviour patterns that generally are displayed in an organisation. These mentioned patterns influence the behaviour of individual employees. Whilst there are various definitions and descriptions, the present research will use the definition suggested by Van Der Post et al. (1997) for organisational culture which defines organisational culture as:

> A system of shared meaning, the prevailing background fabric of prescriptions and proscriptions for behaviour, the system of beliefs and values and the technology and task of the organisation together with the accepted approaches to these (p.148).

The above-mentioned values, beliefs and forms of behaviour shape the identity of an organisation (Van den Berg & Wilderom, 2004). Such culture is rooted deeply in the organisation and determines the way it conducts its business (Sempane et al., 2002). In this sense, culture provides an underlying pattern to the behaviour of organisations (Erwee, Lynch, Millet, Smith & Roodt, 2001). According to Van den Berg and Wilderom (2004), organisational culture is the glue that binds organisations and motivates employees to commit and perform. A well-defined culture delivers an organisation with a strong purpose and healthy interrelationships between employees and management (Van den Berg & Wilderom, 2004) which ultimately leads to business success (Khana & Afzalb, 2011).

According to Bacal (2000), toxic organisations create a high degree of distress and eliminate possibilities for the organisation to achieve success. Such organisations typically are characterised by the inability to achieve operational goals and commitments; problem-solving processes driven by fear; poor internal communication; huge amounts of waste that result from poor decisions and extensive reworking as well as interpersonal relationships driven by manipulative and self-centred agendas (Bacal, 2000).

Various studies conclude that the survival of an organisation depends on the shaping of its culture through the guidance of effective leaders (Appelbaum & Roy-Girard, 2007; Bass, 1995). Veldsman (2012), postulates on an increasing interdependency between toxic leadership and toxic culture within several organisations. Thus, it can be argued that an ineffective, toxic leader will also affect the organisation's culture, which in turn will have a negative impact on employees within the organisation. This viewpoint is supported by Lok and Crawford (2004), confirming a strong correlation between leadership and culture and its effect on organisational commitment and job satisfaction. Such a connection endangers not only the people but the organisation's wellbeing by impeding sustainable organisational performance and success (Lok & Crawford, 2004).

In light of the discussion above, it is insufficient to examine toxic leadership alone. The focus must also be on the influence or mediating effect of the organisational culture on such leadership. Most of the current research falls short of a holistic view on toxic leadership since these scholars do not consider how an organisation's culture can contribute to the rise or protection of a toxic leader (Aubrey, 2012). A number of studies into the phenomenon of toxic leaders have found that these leaders could not exist within an organisation if left to their own design. The mentioned studies agree that toxic leaders can only exist in an organisation that allows them to prosper, which implies the organisation through its culture must be toxic to a certain extent as well (Appelbaum & Roy-Girard, 2007; Bacal, 2000; Padilla, Hogan & Kaiser, 2007; Stark, 2003; Veldsman, 2012). Padilla et al. (2007) suggests that a toxic organisation is shaped by three elements, namely; a toxic leader, susceptible followers and an environment/culture conducive to the development of such leaders.

According to Padilla et al. (2007), an organisation that is unstable can foster an environment rife for the emergence of corrupted or toxic leadership. Reed (2004) reports that it is not isolated incidents that define a toxic leader, rather the cumulative effect of the behaviour on the organisation and its culture. Tepper, Henle, Lambert, Giacalone and Duffy (2008) investigated the possible moderating role that organisations' culture plays in abusive supervision. However, to date there has been no empirical studies on the mediating effect of organisational culture between toxic leadership and organisational outcomes. On the other side of the spectrum, studies can, however, not discard the influence of organisational culture on the behaviour of its employees since the culture dictates how the staff functions (Appelbaum & Roy-Girard, 2007). Therefore, a further investigation is needed on the possible mediating effect of organisational culture between toxic leadership and organisational outcomes such as job satisfaction, turnover intention and organisational commitment.

Turnover intention

The concept of turnover intention is not outlined precisely in studies but viewed broadly as the final step in the decision-making process before an individual actually leaves a workplace (Bester, 2012). For the purpose of the present study the definition is used of Tett and Meyer as employed by Bothma and Roodt (2013) in their study. Tett and Meyer (1993) describes turnover intention as a conscious and deliberate wilfulness to leave the organisation. Schmidt's (2008) study into toxic leadership through the Toxic Leadership Scale (TLS) indicated that it significantly predicted employee outcomes such as turnover intention.

Considering the information above, there is evidently still limited knowledge of the toxic leadership concept and even less about its impact on the organisation's outcomes for employees (i.e. job satisfaction, turnover intention and organisational commitment). Very few studies have attempted to research the development of toxic leadership in an organisation, its outcomes and particularly whether the organisation's culture mediates the relationship between such leadership and certain outcomes. Therefore, the objective of the present study was to determine the psychometric properties of a toxic leadership scale for the South African context. This includes exploring the relationship between toxic leadership, job satisfaction, turnover intention and organisational commitment. The aim further was to test whether an organisation's culture mediates the relationship between toxic leadership and outcomes such as job satisfaction, turnover intention and organisational commitment.

The problem statement for the present study can thus be stated as follows:
As a result of the limited knowledge available in South Africa, there is a need to investigate toxic leadership and its relationship with certain job outcomes as well as the mediating effect that organisational culture has on the possible relationships.

Based on the above-mentioned problem statement, the following research questions were formulated for Article 1:

- How are toxic leadership and the Toxic Leadership Scale conceptualised, according to the literature?
- What are the reliability and validity of the Toxic Leadership Scale for employees in the manufacturing industry?
- What are the construct equivalence and item bias of the Toxic Leadership Scale?
- What is the difference of toxic leadership among various demographic variables (e.g. gender, age and ethnic groups)?
- What recommendations can be made for future research and practice?

The following research questions were formulated for Article 2:

- How is the relationship between toxic leadership, job satisfaction, organisational commitment, organisational culture and turnover intention conceptualised, according to the literature?
- What is the relationship between toxic leadership, job satisfaction, turnover intention and organisational commitment among employees within the manufacturing industry?
- Will toxic leadership predict certain outcomes (e.g. job satisfaction, turnover intention and organisational commitment) among employees within the manufacturing industry?
- Does organisational culture mediate the relationship between toxic leadership and outcomes (e.g. job satisfaction, turnover intention and organisational commitment) among employees within the manufacturing industry?
- What recommendations can be made for future research and practice?

1.2 Expected contributions of the study

It is expected that this study will contribute to the individual, organisations and literature on human resource management, as explicated below.

1.2.1 Contribution for the individual

Individuals form the core of a business. According to Mehta and Maheshwari (2013), toxic leaders through their behaviour affect both the organisation and the individuals with whom they interact. If employees can be provided with information on toxic leadership, they will be more aware of such a leadership style. The awareness of how toxic leadership emerges in the workplace may help employees understand more clearly how such destructive leadership affects their current level of job satisfaction, turnover intention and organisational commitment.

1.2.2 Contribution for the manufacturing organisations

Organisations seeking to attract and retain top talent continually examine ways to recognise high performers and exceptional leaders. It is vitally important that organisations wanting to be successful should be aware and vigilant of individuals in positions of power who may have a negative impact on the business. However, as Schmidt (2014) indicates, organisations seldom

think proactively about preventing toxic leadership in their business and how such a leadership style may hamper the success of the organisation as a whole. Schmidt (2014), as well as Mehta and Maheshwari (2013) agree that employee turnover due to toxic leadership does not only drain the organisation of valuable institutional knowledge; it also leave vacancies that can take a significant time to replace. It is crucial that organisations have the tools to measure and evaluate toxic leadership and its impact on employees' job satisfaction, turnover intention and organisational commitment. In addition, organisations should understand how culture plays a role in developing and sustaining toxic leaders. Such knowledge will allow organisations that truly invest in their staff, to make the necessary interventions before the situation escalates beyond control.

The present study will help organisations develop better leaders as well as benefit the company as a whole. The reason is that early detection of possible toxic leaders may enable the organisation to retrain such leaders before they cause the organisation and their subordinate's irreparable harm. Organisations that are aware of toxic leadership and its influence on job satisfaction, turnover intention and organisational commitment, can be proactive by compiling a programme that will deal effectively with types of leadership. This study will help strengthen the awareness of toxic leadership in the organisation and its effects of fostering a negative organisational culture that hampers the growth of the organisation (Schmidt, 2008). If organisations thus are aware that organisational culture can develop and sustain toxic leaders, there may be strategic interventions to realign the culture and curb the toxic development.

1.2.3 Contribution to literature on Human Resources Management

As indicated previously, limited research has been done on the concept of toxic leadership and its influence on the organisation and its employees within a South African context. The focus of most of the prior studies in this field was to provide an understanding of the concept of toxic leadership (e.g. Whicker, 1996; Frost, 2003; Lipman-Blumen, 2005). As a result, scant attention was paid to the relationship between toxic leadership, certain job outcomes (i.e. job satisfaction, turnover intention and organisational commitment) and the role of organisational culture as a mediator in this regard.

It will be beneficiary to revisit the concepts of job satisfaction, turnover intention and organisational commitment and their relationship with toxic leadership will bring a deeper understanding of these relationships, which will add to the body of knowledge on human

resources (HR). The information gathered in this study will expand the HR field by advancing knowledge of toxic leadership and its relationship with certain job outcomes as well as how organisational culture mediates between such leadership and job outcomes. This information will help HR professionals by decreasing the prevalence of toxic leadership and reducing the destructive impact on an organisation and its employees (Schmidt, 2014). This study will further provide a valid and reliable tool to measure toxic leadership within the South African context.

1.3 Research objectives

The objectives for the present research are divided into a general objective and specific objectives.

1.3.1 General objectives

The general objective of the first study was to determine the psychometric properties of a toxic leadership scale as developed by Schmidt (2008), for the South African context. The general objective of the second study was to investigate the relationship between toxic leadership, job satisfaction, turnover intention and organisational commitment. The aim further was to test whether organisation culture mediates the relationship between toxic leadership and certain job outcomes such as job satisfaction, turnover intention and organisational commitment.

1.3.2 Specific objectives

The specific objectives, derived from the main one for each study were presented as follows:

Article 1

- Determine how toxic leadership and the Toxic Leadership Scale is conceptualised according to the literature.
- Establish the reliability and validity of the Toxic Leadership Scale for employees in the manufacturing industry.
- Determine the construct equivalence and item bias of a Toxic Leadership Scale.
- Investigate the difference between toxic leadership and various demographic variables (e.g. gender, age, and ethnic groups).
- Ascertain which recommendations can be made for future research and practice.

Article 2

- Determine how the relationship between toxic leadership, job satisfaction, turnover intention, organisational commitment and organisational culture are conceptualised according to the literature.
- Investigate whether there exists a relationship between toxic leadership, job satisfaction, turnover intention and organisational commitment among employees within the manufacturing industry.
- Establish whether toxic leadership predicts certain job outcomes (e.g. job satisfaction, turnover intention and organisational commitment) among employees within the manufacturing industry.
- Determine whether organisational culture mediates the relationship between toxic leadership and certain job outcomes (e.g. job satisfaction, turnover intention and organisational commitment) among employees within the manufacturing industry.
- Ascertain which recommendations can be made for future research and practice

1.4 Research hypotheses

The hypotheses for each study are presented as follows:

Research hypotheses for Article 1

H1: The Toxic Leadership Scale (TLS) is a five-factor construct, consisting of *abusive supervision, authoritarian leadership, narcissism, self-promotion* and *unpredictability.*

H2: The Toxic Leadership Scale (TLS) is a reliable and valid scale within South African context.

H3: The Toxic Leadership Scale (TLS) has acceptable levels of construct equivalence and item bias for each of the sub-factors, namely *abusive supervision, authoritarian leadership, narcissism, self-promotion* and *unpredictability.*

H4: Differences exists in terms of toxic leadership among employees based on various demographic variables (e.g. gender, age, and ethnic group).

Research hypotheses for Article 2

H1: There is a significant relationship between toxic leadership and certain job outcomes (e.g. job satisfaction, turnover intention and organisational commitment) among employees in the manufacturing industry.

H1a: There is a significant negative relationship between toxic leadership and *job satisfaction*.

H1b: There is a significant positive relationship between toxic leadership and *turnover intention.*

H1c: There is a significant negative relationship between toxic leadership and *organisational commitment*.

H2: Toxic leadership significantly predicts job satisfaction, turnover intention and organisational commitment amongst employees in the manufacturing industry.

H2a: Toxic leadership significantly predicts lower levels of *job satisfaction*.

H2b: Toxic leadership significantly predicts higher levels of *turnover intention*.

H2c: Toxic leadership significantly predicts lower levels of *organisational commitment.*

H3: Organisational culture mediates the relationship between toxic leadership and certain job outcomes (e.g. job satisfaction, turnover intention and organisational commitment) amongst employees in the manufacturing industry.

1.5 Research design

1.5.1 Research approach

The present research study followed a quantitative approach, using a cross-sectional design. The term 'cross-sectional' refers to the gathering of data on more than one case and at a single point in time to collect a body of quantifiable information in connection with two or more variables. These variables are examined to detect patterns of associations (Bryman et al., 2014). The cross-sectional design is suitable to describe the population as well as calculate correlations between measured constructs (Shaughnessy, Zechmeister & Zechmeister 2009). The advantage of such a research approach is that data can be collected over a short space of time, thus the research does not require long-term interaction between the researcher and participant/s (Gravetter & Forzano, 2012). A further advantage is that the prevalence of a phenomenon is observed in a given population (Coolican, 2014).

1.5.2 Literature review

In **Article 1** the main focus was to obtain data and evidence on the following keywords: toxic leadership, toxic leadership scale, psychometric properties, factor analysis, reliability, validity, construct equivalence and item bias. For **Article 2** a complete review was done of literature discussing the toxic leadership scale, job satisfaction, turnover intention,

organisational commitment and organisational culture, in order to investigate some possible relationships between the variables. Books and articles relevant to the study published between 2000 and 2015 were obtained through internet searches using databases such as EBSCO host, Google Scholar, Scopus. The following journals were consulted due to their bearing on the topic: *Corporate Governance: The International Journal of Business in Society*, *Personality and Individual Differences, Psychological Bulletin, Frontiers in Public Health, Journal of Organizational Excellence, Sage Focus Editions, Journal of Modern Applied Statistical Methods, Asian Journal of Social Psychology, Leadership and Organisation Development Journal, SA Journal of Industrial Psychology, The Leadership Quarterly, American Journal of Theoretical and Applied Statistics, Psychological Methods, Journal of Managerial Psychology, American Psychologist, South African Journal of Psychology,* and *South African Journal of Industrial Psychology.*

1.5.3 Research participants

In research terminology the target population is known as the entire group of individuals of interest to the study who share a common characteristic the researcher aims to investigate (Gravetter & Forzano, 2012). For the purpose of the present research, a population of 600 employees was targeted for each study. The population was chosen from participants working at various job levels within the manufacturing industry, such as operator level, junior management, middle management and senior management. A combination of two types of a non-probability sampling technique was employed, namely convenience sampling and purposive sampling. Convenience sampling was used since the participants met the criteria of easy accessibility, proximity to the researcher, availability at any given time and willingness to be included in the study (Coolican,2014; Etikan, Musa, & Alkassim, 2016). Purposive sampling was introduced as well since the sample comprised characteristics and attributes of the population best suited to the purpose of the study (De Vos et al., 2011). Inclusion criteria used was: 1) well-versed in English; b) between the ages of 18 and 65; and c) defined as fulltime working adults.

These sampling techniques were used because of the context where the data were collected (Bryman et al., 2014) namely, the manufacturing industry. The findings may not be generalised easily, seeing that the manufacturing has its own unique characteristics. However, such results could provide a starting point for further research into the topic (Bryman et al.,

2014). The sample was diverse in terms of gender, age and ethnic groups, to provide a representative sample of the population that can be found in the manufacturing industry.

1.5.4 Measuring instruments

Several measuring instruments were used, as explicated below.

Biographical questionnaire: utilised to gather information on the demographical characteristics of the participants. The questionnaire focused on age, gender, ethnicity, language, education and job level. This information provided a detailed description of the target population.

***Toxic Leadership Scale (TLS)*:** To measure Toxic Leadership, the 30-item Toxic Leadership Scale was used as developed by Schmidt in 2008. Permission was obtained from the author to use the instrument in this study. The scale measures five dimensions, namely: *abusive supervision,* which consists of 7 items (e.g., "My current supervisor publicly belittles subordinates"); *authoritarian leadership,* consisting of 6 items (e.g., "My current supervisor controls how subordinates complete their tasks‖); *narcissism,* with 5 items (e.g., "My current supervisor thinks he/she is more capable than others"); *self-promotion,* with 5 items (e.g., "Accepts credit for successes that do not belong to him/her") and *unpredictability,* with 7 items (e.g., "Allows his/her current mood to define the climate of the workplace"). The dimensions are scored on a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The reliability of the scale using Cronbach's alpha coefficients were 0.93 for abusive supervision, 0.89 for authoritarian leadership, 0.88 for narcissism, 0.91 for self-promotion and 0.92 for unpredictability. The overall Cronbach's alpha score was 0.90, suggesting that the instrument is highly reliable (Schmidt, 2008).

***Job satisfaction*:** the researcher used the Minnesota Satisfaction Questionnaire (MSQ) as adapted by Buitendach and Rothmann (2009) for the South African context. The adapted questionnaire consists of a 17-item scale, 8 items of which measure extrinsic job satisfaction, and 9 items for intrinsic job satisfaction. Example items are: extrinsic job satisfaction: "On my present job, this is how I feel about the working conditions"; intrinsic job satisfaction: "On my present job, this is how I feel about the chance to do different things from time to time" (Buitendach & Rothmann, 2009). These items are measured on a 5-point Likert-type scale

ranging from 1 (*very satisfied*) to 5 (*very dissatisfied*). Buitendach and Rothmann (2009) found the scale to be reliable and valid with a Cronbach's alpha coefficient of 0.86.

Organisational commitment**:** was measured by the 24-item Organisational Commitment Scale (OCS) of Allen and Meyer (1990). This scale measures three dimensions of organisational commitment, namely *continuance, affective,* and *normative*. *Continuance* (8 items), measures individual employees' commitment to an organisation based on perceived costs associated with leaving the organisation and finding alternative employment. An example of an item from this scale is: "One of the major reasons I continue to work for this organization is that leaving would require considerable personal sacrifice – another organization may not match the overall benefits I have here". *Affective* (8 items) measures an employee's emotional attachment, identification and involvement with the organisation. An example of an item is: "I would be very happy to spend the rest of my career with this organization". *Normative* (8 items), measures an employee's feeling of obligation to remain with an organisation. An example item: "One of the major reasons I continue to work for this organization is that I believe that loyalty is important and therefore feel a sense of moral obligation to remain".

The OCS is scored on a 5-point Likert-type scale, ranging from a score of 1 (*strongly disagree*) to 5 (*strongly agree*). The reliability and validity for use of the OCS in the South African context was confirmed by studies from Coetzee, Schreuder and Tladinyane (2007), Ferreira (2009) as well as Lumley (2010). The Cronbach's alpha coefficients for the OCS in the studies mentioned above, ranged between 0.70 and 0.83, which indicates a high reliability for the scale.

Organisational culture**:** The organisational culture questionnaire (OCQ) was used as developed by Van der Post et al. (1997). There is a total of 97 items which covers the 15 factors considered to measure organisational culture. These factors are: *Conflict resolution* (7 items) measures the degree to view an organisation encourages employees to air conflicts. An example of an item for this factor is: "This organisation tends to deal with differences of opinion by ignoring them or by pretending that they do not exist. *Culture management* (6 items) measures the degree to which the organisation actively engages in shaping the culture. An example of an item is: "Managers in this organisation seldom communicate to

employees what the organisation's values and philosophies are". *Customer orientation* (5 items) measures the extent to which the organisation takes the views of its customers seriously and how it responds to it. An example of an item: "This organisation is definitely not customer orientated". *Disposition towards change* (5 items) measures the degree to which employees are encouraged to be creative and search for better ways to get the job done. An example item: "In this organisation employees are encouraged to be creative and innovative". *Employee participation* (7 items) measures the degree to which employees perceive themselves as participating in the decision-making process of the company. An example item: "Employees in this organisation are sufficiently aware of the organisation's goals". *Goal clarity* (7 items) measures the degree to which the organisation creates clear objectives and expectations of performance. An example item: "Employees in this organisation do not know what is expected of them in their jobs".

Further items for the OCQ are as follows: *Human resources orientation* (5 items) measures the degree to which the organisation is perceived as having a high regard for its human resources. An example item for this factor is: "This organisation does not treat its employees as if they are a valued resource". *Identification with organisation* (7 items) measures the degree to which employees are encouraged to identify with the organisation. An example item: "Employees do not experience a sense of belonging to this organisation". *Locus of authority* (6 items) measures the degree of authority, freedom and independence that individual employees have in their jobs. An example item: "Employees in this organisation are encouraged to use their own initiative in doing their jobs". *Management style* (6 items) measures the degree to which managers provide clear communication, assistance and support to subordinates. An example item: "This organisation listens to the views of its employees". *Organisation focus* (7 items) measures the extent to which the organisation is perceived to be concentrating on those activities that form part of the business's fundamentals. An example item: "This organisation has a poor understanding of the things that really matter". *Organisation integration* (6 items) measures the degree to which various subunits within the organisation are actively encouraged to work together in achieving organisational goals. An example item: "In this organisation inter-departmental cooperation is very strongly encouraged". *Performance orientation* (7 items) measures the extent to which emphasis is placed on individual accountability for performance. An example item: "This organisation sets no performance standards for its employees". *Reward orientation* (7 items) measures the degree to which reward allocations are based on employee performance instead of seniority,

favouritism or any other non-performance criterion. An example item: “In this organisation not following the chain of command to get the job done, is frowned upon”. *Task structure* (9 items) measures the degree to which rules and regulations and direct supervision are applied to manage employees’ behaviour. An example item: “Employees in this organisation are not constrained by rules, regulations, policies and procedures in doing their jobs”.

The OCQ is scored on a 7-point Likert-type scale, ranging from 1 (*strongly disagree*) to 7 (*Strongly agree*). The Cronbach’s alpha coefficients for the different factors range between 0.79 and 0.93 (Van der Post et al., 1997). The overall reliability of the scale is 0.99 (Erwee et al., 2001).

***Turnover intention scale*:** Turnover intention was measured using the 6-item Turnover Intention scale (TIS-6) adapted from the 15-item scale developed originally by Roodt in 2004. This 6-item scale was validated in South Africa by Bothma and Roodt (2013). An example of items in the TIS-6 is: “How often do you look forward to another day at work?” The TIS-6 is scored on a 5-point scale, ranging from a score of 1 (*never*) to 5 (*always*). This scale was found to be reliable with a Cronbach’s alpha coefficient of 0.80 (Pallant, 2010), and can therefore be used to assess turnover intention (Bothma & Roodt, 2013).

1.5.5 Research procedure

The study commenced once the research ethical committee (ethical approval number: EMSMHW16/04/21-01/01) granted the researcher permission to continue. Thereafter, the necessary permission to conduct the study and collect data was obtained from the various organisations. The study made use of a gatekeeper through the HR Manager of the various companies. This ensured access to the participants to secure data collection. The data were gathered in the workplace, which is a familiar environment, using a questionnaire booklet administered individually. Accompanying the questionnaire booklets was a letter of introduction and an explanation of the objectives and importance of the study. This was a self-administered questionnaire, but participants were allowed to complete booklet with the help of a fieldworker, where necessary. The reason was that certain participants might have found it difficult to complete the booklet due to low literacy levels. After sufficient time was allowed to complete the questionnaires, the booklets were retrieved for analysis. Thereafter, the data

were loaded onto the system and statistical analysis took place. The results are to remain anonymous and no respondent was discriminated against for taking part in the study.

1.5.6 Statistical analyses

Statistical analysis for both Articles 1 and 2 is expounded below.

Statistical analysis for Article 1

Statistical analysis was carried out using the SPSS programme version 25.0 (IBM SPSS Inc., 2017) and AMOS 6.0 (Arbuckle, 2006). Descriptive statistics (e.g. means, standard deviations, skewness and kurtosis) was used to describe the data. Cronbach's alpha coefficients were calculated to assess the reliability of the scales. The cut-off point of 0.70 was used as indicator for reliability (Pallant, 2010).

Bias for each item was measured by using differential item functioning (DIF). Typically, this method determines the presence of uniform and non-uniform item bias. Stepwise multiple regression was performed using Winsteps (4.1.0). Two groups are compared to assess DIF (De Beer, 2004), in this case age was used to do the comparison. Trochim and Donnelly (2006) suggest that comparison can be done through a t-test, using regression. The items that remained after the item-bias analyses, was subjected to an analysis of construct equivalence. Construct equivalence was examined through confirmatory factor analysis (CFA) using AMOS. The following fit indices were considered: the χ^2, the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Incremental Fit Index (IFI). Values of 0.90 and above were considered as acceptable fit (Byrne, 2010). Root Mean Square Error of Approximation (RMSEA) was also considered and values of 0.08 or below accepted as acceptable model fit (Hooper, Coughlan & Mullen, 2008). Lance, Butts and Michels (2006) point out that these cut-off points are only guidelines due to the lack of consensus on the values for adequate fit.

Internal factor structure of the TLS was examined by using exploratory factor analysis (EFA). This method analyses a set of observed variables to determine which are associated most strongly with each other and may indicate an underlying latent construct (Young & Pearce, 2013). The EFA was done with principle component analysis (PCA) to examine the original five factors of the TLS. Several conditions must be met before the EFA can be done. These are as follows: the Kaiser-Meyer-Olkin (KMO) test must produce values larger than 0.50 for

data to be appropriate for factor analysis; Bartlett's test of sphericity must produce significant results to show that the scale items correlated adequately; and lastly, Kaiser's criterion factors have to produce eigenvalues larger than 1.00 (Tabachnick & Fidell, 2013; Young & Pearce, 2013).

In a second step, confirmatory factor analysis (CFA) was used entailing structural equation modelling that fit the theoretical model to the data of the entire sample. Goodness-of-fit indices were used to summarise the degree of correspondence between the implied and observed covariance matrices. Acceptable goodness-of-indices include: χ^2, CMIN (χ^2 /df), the Comparative Fit Index CFI, Tucker-Lewis Index (TLI), Incremental Fit Index (IFI) and Root Mean Square Error of Approximation (RMSEA). Cut-off values included non-significant χ^2 values; χ^2 /df < 5.00 , CFI, TLI and IFI at 0.09; and RMSEA values smaller than or equal to 0.08 (Hooper et al., 2008).

ANOVA was used to compare the mean outcome score based on toxic leadership between three or more subgroups. The *d* value was used to analyse the effect of subgroup comparisons. For the purpose of the present study, values of 0.35 and above was considered as practically significant (Ellis & Steyn, 2013).

To determine the relationships between variables and the strength of these relationships, Pearson's product-moment correlations were used. The correlation coefficient cut-off scores were set at -1 to +1, with -1 indicating a negative relationship; 0 – no relationship; and +1 a positive relationship. Statistical significance was set at 95 % ($p \leq 0.05$). Practical significance was determined using effect size and this cut-off point was set at 0.30 for medium effect and 0.50 for large effect (Steyn & Swanepoel, 2008).

Statistical analysis for Article 2

The statistical analysis for the second article was done through the SSPS programme version 25 (IBM SPSS Inc., 2017) and AMOS 6.0 programme (Arbuckle, 2006). Descriptive statistics (i.e. means, standard deviations, skewness and kurtosis) as well as inferential statistics were used to analyse the data. Trochim and Donnelly (2006) explain that descriptive statistics describe the basic features of the data in a study and therefore present quantitative descriptions in a summarised and manageable form. These descriptions in turn help summarise large

amounts of data in a sensible way. The reliability of the constructs was determined by Cronbach's alpha coefficients (De Vos, Strydom, Fouché & Delport, 2011). Alpha coefficients with a value of 0.70 are regarded as reliable and any value higher as highly reliable, thus applying the cut-off point of 0.70 (Pallant, 2010; Pevalin & Robson, 2009).

Product-moment correlations (*r*) were applied to determine the relationship between the variables, namely toxic leadership, job satisfaction, organisational commitment and turnover intention. Pearson's product-moment correlation coefficient (*r*) was used to examine the strength of the relationships between the variables when it was established that the relationship is broadly linear (Bryman et al., 2014). Pearson's correlation (*r*), was also used to establish the extent to which variation in one variable is described by the variation in another (Struwig & Stead, 2011). The correlation coefficient can vary from -1 – negative relation, 0 – no relationship to + 1 – positive relationship (Struwig & Stead, 2011). Statistical significance was set at a value of 95% ($p \leq 0.05$). Effect size determined the practical significance of the results (Steyn & Swanepoel, 2008). Cut-off points for practical significance were set at 0.30 for medium effect and 0.50 for a large effect. In certain cases the data could not be considered because of skewness. Where such cases occurred in this study, Spearman *rho* was used, which is based on the rank order of the variable values. The computed value of Spearman's *rho* is either positive or negative and varies between 0 and 1 (Bryman et al., 2014).

Multiple regressions were done through the SPSS programme to determine which independent variables predict the dependent variables (Struwig & Stead, 2011). In the present study the independent variable is toxic leadership and the dependent variables are job satisfaction, turnover intention and organisational commitment. Thus, the total variance explained by the independent variable on the dependant variable was assessed. To calculate the strength of the relationships between the independent variables and the all dependant variables, R was used. To determine the extent to which variance in the dependant variables is explained by all the independent variables, R- squared (R^2) was used. Correlation cut-off points were set between -1 and +1 (Tabachnick & Fidell, 2013). To determine the association, the statistical significance of values was established by setting the values on 0.05.

Structural Equation Modelling (SEM) was employed through the AMOS programme to test the proposed mediating model of toxic leadership, organisational culture and certain job

outcomes (e.g. job satisfaction, organisational commitment, and turnover intention). Byrne (2010), explains SEM as a statistical method that is confirmatory in nature and tests a structural theory based on a phenomenon. Furthermore, as the phenomena of interest are complex and multidimensional, SEM allowed a complete and simultaneous analysis of all the relationships (Tabachnick & Fidell, 2013).

Organisational culture was applied as mediator between toxic leadership and certain job outcomes such as job satisfaction, organisational commitment and turnover intention. Significance of the mediator was determined by comparing the model fit of the mediator model with the main-effect model. Byrne (2010), indicates the following indices to be used for goodness-of-fit of the hypothesised model and sample data: Chi-square (χ^2), Goodness-of-fit index (GFI), the Comparative Fit Index (CFI), and the Root Mean Square Error of Approximation (RMSEA). Acceptable cut-off points for goodness-of-fit indices are: non-significant χ^2 values, GFI and CFI values larger than or equal to 0.90 and RMSEA values smaller than or equal to 0.08 (Byrne, 2010).

1.5.7 Ethical considerations

According to Gravetter and Forzano (2012), all researchers have a duty to consider ethical issues that may impact the research. Furthermore, two ethical considerations form an integral part of the research process. Firstly, researchers take responsibility for the human participants by treating them with respect and honesty throughout the research process. Secondly, researchers show responsibility to the discipline of the research by reporting their findings in an honest and accurate manner.

It is important for researchers to acknowledge that the research process may place them in a position of power. Therefore, they have the responsibility to ensure the safety and dignity of the participants (Gravetter & Forzano, 2012). The American Psychological Association (APA) released guidelines for researchers to follow as ethical considerations (Gravetter & Forzano, 2012). These guidelines broadly outline aspects such as informed consent where participation is voluntary and anonymity ensured, no harm to participants psychologically or physically, and the right to be treated with dignity and respect. The researcher adhered to these guidelines during the present study.

1.6 Overview of chapters

The chapters in the dissertation can be outlined as follows:

Chapter 1 – Introduction

Chapter 2 – Research article 1

Chapter 3 – Research article 2

Chapter 4 – Conclusions, limitations and recommendations

1.7 Chapter summary

This chapter provided an overview of the problem statement and objectives for the present research. The method to approach this study was explained, followed by a brief overview of the subsequent chapters, in the following chapters the two research articles are presented.

REFERENCES

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

Appelbaum, S. H., & Roy-Girard, D. (2007). Toxins in the workplace: affect on organisations and employees. *Corporate Governance: The international Journal of Business in Society, 7*(1), 17-28.

Arbuckle, J. L. (2006). *Amos user's guide version 7.0*. Chicago, IL: Small Waters

Aubrey, D. W. (2012). *The effect of toxic leadership* (Unpublished master's dissertation). Carlisle, PA: U.S. War College.

Bacal, R. (2002). *Toxic organisations – welcome to the fire of an unhealthy workplace.* Retrieved from http://www.work911.com/articles/toxicorgs.htm

Bass, B. M. (1995). *Leadership and performance beyond expectation.* New York, NY: The Free Press.

Bester, F. (2012). *A model of work identity in multicultural work settings* (Unpublished doctoral thesis). University of Johannesburg, Johannesburg

Bothma, C. F. C., & Roodt, G. (2013). The validation of the turnover intention scale. *South African Journal of Human Resources Management, 11*(1), 1-12. doi.org/10.4102/sajhrm.v11i1.507

Bryman, A., Bell, E., Hirschsohn, P., Dos Santos, A., Du Toit, J., Masenge, A., Van Aardt, I., & Wagner, C. (2014). *Research Methodology: Business and Management Contexts.* (5th ed) South Africa: Oxford University Press.

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

Byrne, B. M. (2010). *Structural equation modelling with AMOS: Basic concepts, applications and programming.* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum

Coetzee, M., Schreuder, A. M. G., & Tladinyane, R. (2007). Organisational commitment and its relation to career anchors. *Southern African Business Review, 11*(1), 65-86.

Coolican, H. (2014). *Research methods and statistics in psychology.* (6th ed.). New York, NY: Psychology Press.

De Beer, M. (2004). Use of differential item functioning (DIF) analysis for bias analysis in test construction. *SA Journal of Industrial Psychology, 30*(4), 52-58.

De Vos, A. S., Strydom, H., Fouché, C. B., & Delport, C. S. L. (2011). *Research at grassroots: For the social sciences and human service professions* (4th ed.). Pretoria: Van Schaik.

DeVellis, R. F. (1991). *Scale development: Theory and applications.* Newbury Park, CA: Sage.

Dladla, J. T. (2011). *The influence of leader behaviour, psychological empowerment, job satisfaction, and organizational commitment on turnover intention* (Unpublished master's dissertation). University of Stellenbosch, Stellenbosch.

Dobbs, J. M. (2014). *The Relationship between perceived toxic leadership styles, leader effectiveness, and organizational cynicism* (Unpublished doctoral thesis). University of San Diego, San Diego, CA.

Du Toit, M. (2015). *The influence of leader integrity on ethical leadership, interactional justice, leader trust and counterproductive work behaviour* (Unpublished master's dissertation). University of Stellenbosch, Stellenbosch.

Dyck, D, & Roithmayr, T. (2001, March). The toxic workplace: Is your organisation making workers sick? *Benefits Canada, 25*(3), 52-57.

Ellis, S. M., & Steyn, H. S. (2003). Practical significance (effect sizes) versus or in combination with statistical significance (p-values): Research note. *Management Dynamics: Journal of The Southern African Institute for Management Scientists*, *12*(4), 51-53.

Erwee, R., Lynch, B., Millet, B., Smith, D., & Roodt, G. (2001). Cross-cultural equivalence of the organisational culture survey in Australia. *Journal of Industrial Psychology, 27*(3), 7-12.

Ferreira, N. (2009). *The relationship between psychological career resources and organisational commitment* (Unpublished master's dissertation). University of Pretoria, Pretoria.

Foxcroft, C., & Roodt, G. (2013). *Introduction to psychological assessment in the South African context.* (4th ed.). Cape Town: Oxford University Press**.**

Frost, P. J. (2003). *Toxic emotions at work.* Boston, MA: Harvard Business School Press.

Giberson, T. R., Resick, C. J., Dickson, M. W., Mitchelson, J. K., Randall, K. R., & Clark, M. A. (2009). Leadership and organisational culture: Linking CEO characteristics to cultural values. *Journal of Business & Psychology, 24*, 123-137.

Gravetter, F. J., & Forzano, L.B. (2012). *Research methods for the behavioural sciences.* (4th ed.). Belmont, CA: Wadsworth.

Gregory, R. J. (2007). *Psychological testing.* (5th ed.). Boston, MA: Pearson Education.

Heine, G. (2013). *The influence of integrity and ethical leadership on trust and employee work engagement* (Unpublished master's dissertation). University of Stellenbosch, Stellenbosch.

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

IDC (Industrial Development Corporation). (2013). *South African economy: An overview of key trends since 1994.* Retrieved from http://www.idc.co.za/reports/IDC

Ilies, R., & Judge, T. A. (2004). An experience-sampling measure of job satisfaction: Its relationships with affectivity, mood at work, job beliefs, and general job satisfaction. *European Journal of Work & Organizational Psychology*, *13*(3), 367-389.

Kaiser, R. B., Hogan, R., & Craig, S. B. (2008). Leadership and the fate of organisations. *American Psychologist, 63*(2), 96-110.

Khana, M. A., & Afzalb, H. (2011). High level of education builds up strong relationship between organizational culture and organization performance in Pakistan. *The International Journal of Human Resource Management, 22*(7), 1387-1400.

Kusy, M., & Holloway, E. (2009). *Toxic workplace: Managing toxic personalities and their systems of power.* San Francisco, CA: Jossey-Bass.

Lance, C. E., Butts, M. M., & Michels, L. C. (2006). The sources of four commonly reported cut off criteria what did they really say? *Organizational Research Methods*, *9*(2), 202-220.

Lindridge, A. (2015). Construct equivalence. *Wiley Encyclopaedia of Management*, *9*, 1-3.

Lipman-Blumen, J. (2005). *The allure of toxic leaders: Why we follow destructive bosses and corrupt politicians – and how we can survive them.* Oxford, Oxford University Press.

Lipman-Blumen, J. (2011). Toxic leadership: A rejoinder. *Representation, 47*(3), 331-342.

Locke, E. A. (1976). The nature and causes of job satisfaction. In M.D. Dunnette, & L.M. Hough (Eds.), *Handbook of industrial and organisational psychology* (pp.1297-1349). Chicago, IL: Rand McNally.

Lok, P., & Crawford, J. (2004). The effect of organisational culture and leadership style on job satisfaction and organisational commitment. *Journal of Management Development, 23*(4), 321-338. doi.org/10.1108/02621710410529785

Lumley, E. (2010). *Exploring the relationship between career anchors, job satisfaction and organisational commitment* (Unpublished master's dissertation). University of South Africa, Pretoria.

Macklem, K. (2005). The toxic workplace. *Maclean's 118*(5), 34.

McKinsey Global Institute. (2012). *Manufacturing the future: The next era of global growth and innovation*. Retrieved from http://www.mckinsey.com/business- functions/operations /our-insights/the-future-of-manufacturing.

Mehta, S., & Maheshwari, G. C. (2013). Consequence of toxic leadership on employee job satisfaction and organizational commitment. *Journal of Contemporary Management Research*, *8*(2), 1-23.

Meiring, D., Van de Vijver, A. J. R., Rothmann, S., & Barrick, M. R. (2005). Construct, item, and method bias of cognitive and personality tests in South Africa. *South African Journal of Industrial Psychology*, *31*(1), 1-8.

Meyer, J. P. & Allen, N. J. (1991). A three-component conceptualisation of organisational commitment. *Human Resource Management Review, 1*(1), 61-89.

Padilla, A., Hogan, R., & Kaiser, R. B. (2007). The toxic triangle: Destructive leaders, susceptible followers and conducive environments. *The Leadership Quarterly, 23,* 412-424.

Pallant, J. (2010). *SPSS survival manual*: *A step by step guide to data analysis using the SPSS program* (4th ed.), New York, NY: McGraw-Hill.

Pelletier, K. L. (2010). Leader toxicity: An empirical investigation of toxic behavior and rhetoric. *Leadership*, *6*(4), 373-389.

Pevalin, D., & Robson, K. (2009). *The Stata survival manual.* Berkshire: McGraw-Hill Education.

Reed, G. E. (2004). Toxic leadership. *Military Review,* 67-71.

Reynolds, C. R., Lowe, P. A., & Saenz, A. (1999). The problem of bias in psychological assessment. In T. B. Gutkin & C. R. Reynolds (Eds.), *The handbook of school psychology* (pp. 549-595). New York, NY: Wiley.

Robbins, S. P. (1993). *Organisational behavior, concepts, controversies and applications.* (6th ed.). Englewood Cliffs, NJ: Prentice-Hall.

Roodt, G. (2004). *Turnover intentions.* (Unpublished document). Johannesburg: University of Johannesburg.

Sadri, G., & Lees, B. (2001). Developing corporate culture as a competitive advantage. *Journal of Management Development, 20*(10), 853 – 859. doi.org/10.1108/02621710110410851

Schein, E. (2004). *Organisational culture and leadership* (3rd ed.) San Francisco, CA: Jossey-Bass.

Schmidt, A. A. (2008). *Development and validation of the toxic leadership scale* (Order No. 1453699). Available from ProQuest Dissertations & Theses Global. (193655997). Retrieved from http://nwulib.nwu.ac.za/login?url=https://search-proquest-com.nwulib.nwu.ac.za/docview/193655977?accountid=12865

Schmidt, A. A. (2014). *An examination of toxic leadership, job outcomes, and the impact of military deployment* (Order No. 3627674). Available from ProQuest Dissertations & Theses Global. (1558874321). Retrieved from http://nwulib.nwu.ac.za/login?url=https://search-proquest-com.nwulib.nwu.ac.za/docview/1558874321?accountid=12865

Sempane, M. E., Rieger, H. S., & Roodt, G. (2002). Job satisfaction in relation to organisational culture. *South African Journal of Industrial Psychology, 28*(2), 23-30.

Shaughnessy, J. J., Zechmeister, E. B. & Zechmeister, J. S. (2009). *Research methods in psychology* (8th ed.). Boston, MA: McGraw-Hill Higher Education.

Stark, M. (2003, March). *Time to treat toxic emotions at work. Working knowledge for business leaders archive.* Boston, MA: Harvard Business School.

Steyn, H. S., & Swanepoel, C. J. (2008). *Praktiese statistiek* (2de uitg.). Potchefstroom: Noordwes Universiteit.

Struwig, F. W., & Stead, G. B. (2011). *Planning*, *designing and reporting research* (8th ed.). Cape Town: Pearson Education.

Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed). New York, NY: Pearson Education.

Tepper, B. J. (2000). Consequences of abusive supervision. *Academy of Management Journal*, *43*, 178-190.

Tepper, B. J., Henle, C. A., Lambert, L. S., Giacalone, R. A., & Duffy, M. K. (2008). Abusive supervision and subordinates' organization deviance. *Journal of Applied Psychology, 93,* 721-732.

Tett, R. P., & Meyer, J. P. (1993). Job satisfaction, organisational commitment, turnover intention and turnover: Path analyses based on meta-analytic findings. *Personnel Psychology, 46*(2), 259-293. doi.org/10.1111/j.1744-6570.1993.tb00874.x

Tierney, P., & Tepper, B. J. (2007). The Leadership Quarterly special issue: Destructive leadership. *The Leadership Quarterly, 18*(3*)*, 171-173.

Trochim, W. M. K., & Donnelly, J. P. (2006). *The Research methods knowledge base* (3rd ed.). Mason, OH: Atomic Dog.

Van de Vijver, F., & Leung, K. (1997). *Methods and data analysis for cross-cultural research.* London: Sage.

Van de Vijver, F., & Tanzer, N. K. (1997). Bias and equivalence in cross-cultural assessment: An overview. *European Review of Applied Psychology*, *47*(4), 263-279.

Van den Berg, P. T., & Wilderom, C. P. M. (2004). Defining, measuring, and comparing organisational cultures. *Applied Psychology: An International Review, 53*(4), 570-582.

Van der Post, W. Z., De Coning, T. J., & Smit, E. V. (1997). An instrument to measure organisational culture. *South African Journal of Business Management, 28*(4), 147-168.

Veldsman, T. (2012, October). *The growing cancer endangering organisations: Toxic leadership.* Paper presented at the Conference on Leadership in Emerging Countries presented by Department of Industrial Psychology and People Management, Faculty of Management, University of Johannesburg, Johannesburg.

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

Wasylyshyn, K. M., Shorey, H. S., & Chaffin, J. S. (2012). Patterns of leadership behaviour: Implications for successful executive coaching outcomes. *The Coaching Psychologist, 8*(2), 74-85.

Weaver, S. G., & Yancey, G. B. (2010). The impact of dark leadership on organizational commitment and turnover, Kravis Leadership Institute. *Leadership Review*, *10*, 104-124.

Whicker, M. L. (1996). *Toxic leaders: When organisations go bad.* Westport, CT: Quorum Books.

Young, A. G., & Pearce, S. (2013). A beginner's guide to factor analysis: Focusing on exploratory factor analysis. *Tutorials in Quantitative Methods for Psychology, 9*(2), 79-94.

CHAPTER 2

RESEARCH ARTICLE 1

THE PSYCHOMETRIC PROPERTIES OF THE TOXIC LEADERSHIP SCALE IN THE SOUTH AFRICAN MANUFACTURING INDUSTRY

Abstract

Orientation: Toxic leadership is a growing phenomenon having a detrimental influence on both the employees and the organisation. However, only a few studies have undertaken to measure toxic leadership within organisations. To date, no attempt has been made to determine the existence of toxic leadership, or measure its effect in the South African context. In addition, as yet the influence toxic leadership exerts on organisations and its employees in South Africa has not yet been measured. The reason is that there is no valid and reliable scale available in South Africa.

Research purpose: The objective of the present research was to determine the psychometric properties of a toxic leadership scale for the South African context.

Motivation for the study: It is currently extremely difficult to measure and identify toxic leaders within the South African working environment. Existing scales have not been validated for use within the South African context. Thus, the present study provides South African organisations and researchers a valid and reliable toxic leadership scale. Such an instrument can be used to identify and assess the toxic leaders within the manufacturing industry in South Africa.

Research design: A cross-sectional research design was used to investigate the South African manufacturing sector. A sample size of *N=600* was used. Exploratory factor analysis and confirmatory factor analysis were employed to determine and evaluate the validity and construct equivalence of the Toxic Leadership Scale (TLS) by Schmidt (2008). Product moment correlations were examined using Pearson's method to determine relationships between variables. Item bias was determined by using Winstep. Differences in groups were determined through ANOVA's and t-tests.

Main findings: The results provided evidence that the Toxic Leadership Scale is a five-factor construct consisting of the factors, abusive supervision, authoritarian leadership, narcissism, self-promotion and unpredictability. Furthermore, the findings indicated acceptable validity and reliability.

Practical implications: The results provide an initial scale that researchers and managers can use to measure toxic leadership of employees within the South African work context.

Contribution: This research study adds to the limited research that is currently available on toxic leadership as well as the validation of the Toxic Leadership Scale as a measurement tool for use in South Africa.

Keywords: Toxic leadership, reliability, validity, item bias, equivalence

INTRODUCTION

By nature, leadership is an abstract topic since it mainly entails perceptions that are extremely difficult to quantify or formulate into specific guidelines (Leet, 2011). Leaders and the leadership behaviour they display have important implications for their subordinates (Kellerman, 2004). Fiedler (1996) goes as far as to assert that organisational performance and success depend on the leadership of a business.

The manufacturing sector in South Africa is currently the fourth largest in the economy and contributes approximately 13.2% to the gross domestic product (GDP) as measured in 2018, according to a report released in March 2019 by the Industrial Development Corporation (IDC, 2019). According to the IDC, at the end of the final quarter of 2018 the manufacturing sector employed approximately 1.21 million people in South Africa (10.8% of those in active employment). The manufacturing sector faces fierce competition from both domestic and world markets, whilst having to deal with substantial cost pressures and other competitive challenges. These include hampered electricity supply, volatile currency, skills constraints and lower productivity levels (IDC, 2019).

Due to competition and pressures it is imperative that leaders of this sector create an environment in which the workforce will be committed and motivated, which holds the key to their sustainable competitive advantage (Mehta & Maheshwari, 2013). Therefore, strong leadership and direction is needed in the mentioned environment. Such leadership will impact employees, which in turn will increase the organisation's performance (Kaiser, Hogan & Craig, 2008; McKinsey Global Institute, 2012). However, since the first decade of the 21st century, there was a distinct increase in dysfunctional, destructive and toxic behaviour patterns among those in positions of power and influence.

In light of the situation above, organisations are faced increasingly with the reality that those in leadership positions sometimes have the capacity and motivation to be destructive (Tierney & Tepper, 2007). Metha and Maheshwari (2013) point to recent corporate scandals and failures such as Lehman Brothers, Enron, WorldCom and even the world economic crisis in 2008. According to them, these crises can to a large extent be attributed to poor leadership styles and toxic behaviours by those in charge. Reed (2004), points out that leaders who exhibit negative and destructive leadership tendencies tend to propel their organisations towards destruction.

Many theories on positive leadership assume that dysfunctional or negative leadership is simply the opposite of positive or effective leadership (Hunter, Bedell-Avers, & Mumford,

2007). However, studies are increasingly showing that this may be a leadership style with a unique behaviour set of behaviour patterns (Popa, Rotarescu, & Sulea, 2013; Schmidt, 2008). The high-profile cases mentioned above (e.g. Enron, Lehman Brothers, WorldCom), reinforces the need to study and examine the presence of the negative facets of leadership (Walton, 2007). The fall of the above-mentioned corporates led to a number of preliminary studies centring on these forms of leadership behaviour, which has been termed "the dark side of leadership" or "toxic leadership". According to Pelletier (2011) and Schmidt (2014), toxic leaders display behaviour patterns such as breaking down followers' self-esteem, threatening employee's occupational and/or personal security, promoting a culture of inequity, intimidating employees physically and mentally, being dishonest, fostering a divisive culture and failing to listen or act on employees' concerns.

Findings in various studies have indicated that the above-mentioned forms of leadership behaviour, have a profound influence on the organisation, its employees and customers (Lipman-Blumen, 2005; Appelbaum & Gerard, 2013; Schmidt, 2008; Veldsman, 2012). These negative aspects of leadership have been largely neglected in research. Therefore, limited empirical research is available on the leadership styles that are dysfunctional and destructive (Schmidt, 2008; Yavaş, 2016) to the organisation and its employees (Pelletier, 2010).

According to Veldsman (2012), there is a growing and intensifying debate about the lack of leadership and the growing incidence of toxic leadership, which endangers organisation's performance and successes. In this regard, Kusy and Holloway (2009) found that 94% of respondents reported having worked with someone toxic in their career, and 64% reported that they are currently working with someone they would describe as toxic. Veldsman (2012), stresses the urgent and pressing need to understand toxic leadership and its impact on organisations and individuals.

As mentioned, the demise of large profile corporates first focused attention on the toxic behaviour of the leadership in charge of such companies. However, it must be argued that this is only the tip of the iceberg and this leadership phenomenon may be expected to be present in several organisations globally (Walton, 2007).

In 2008, Schmidt set out to develop and validate a measurement scale called the Toxic Leadership Scale (TLS), which could help organisations detect toxic leadership within its folds (Schmidt, 2008). His research suggested that toxic leadership is an umbrella term that covers several distinct yet related dimensions of negative leadership. Furthermore, each dimension

captures specific negative forms of leadership behaviour (Schmidt, 2014). The investigation of a measurement tool for South Africa is important, seeing that this will help local organisations assess the possibility of toxic leaders accurately within the folds of the organisation.

The TLS was developed in the USA. The main challenge when using measurement tools developed outside South Africa (e.g. USA in this case), is that it has to comply with the provisions of the South African Employment Equity Act, 1998. This Act requires that psychometric tools must be scientifically reliable and valid; applied fairly to all employees; and avoid bias towards any individual or group (Visser & Viviers, 2010). *Reliability* of a measurement tool refers to consistent measurement of the concept that is measured (Foxcroft & Roodt, 2013). From a different angle, *validity* of a measure refers to whether a tool measures what it is supposed to and how well it does it (Foxcroft & Roodt, 2013). The assessment of the psychometric properties of the TLS is necessary to align practice with the legal demands such as validating existing instruments for multicultural groups such as in South Africa (Van de Vijver & Rothmann, 2004).

Any measuring tool that is about to be applied cross-culturally has to assess the bias and equivalence of the measurement tool. Bias and equivalence refers to whether test scores obtained in different culture populations can be interpreted similar across the populations that form part of the study (Van de Vijver & Tanzar, 2004). Bias is present when score differences on a particular item cannot be attributed to actual differences in the underlying trait being measured. In this regard, equivalence implies comparability of scores across cultures (Van de Vijver & Tanzar, 2004). The researcher found no current South African research that focuses on the influence toxic leadership exerts on different age groups, job levels, ethnic groups and gender.

Therefore, the aim of the present study was to investigate the psychometric properties (e.g. item bias, reliability, validity and construct equivalence) of the Toxic Leadership Scale (TLS) of Schmidt (2008) within the South African manufacturing industry. The purpose was further to investigate whether there is a difference in the way that groups of research participants (e.g. male/female, age group or ethnic) experience toxic leadership in the workplace.

Research purpose and objectives

The general objective of this research was to determine the psychometric properties of the Toxic Leadership Scale as developed by Schmidt (2008), for the South African context.

Flowing from this general objective, the following specific objectives were investigated:

- Determine how toxic leadership and the Toxic Leadership Scale is conceptualised according to the literature.
- Determine the reliability and validity of the Toxic Leadership Scale for employees in the manufacturing industry.
- Determine the construct equivalence and item bias of the Toxic Leadership Scale.
- Investigate the difference between toxic leadership and various demographic variables (e.g. gender, age, and ethnic groups).
- Determine what recommendations can be made for future research and practice.

Literature review

Toxic leadership and the Toxic Leadership Scale

There is lack of consensus on the definition of toxic leadership, but researchers agree that the term refers to leaders who are dysfunctional (Metha & Maheswari, 2014; Pelletier, 2010; Schmidt, 2008). The limited research available on the topic of toxic leadership is a problem facing researchers currently since most existing measurement tools are inclined to measure the positive traits of leadership (Yukl, 2006). Furthermore, initial research into toxic leadership aimed to explain the construct theoretically, but thus far it has not been studied systematically (Goldman, 2006); in addition, very few investigators attempted to measure the phenomena (Schmidt, 2014).

Nevertheless, a review of the current literature does identify three common themes: a) toxic leaders display an underlying neglect for the wellbeing of their subordinates that can even be harmful or abusive; b) they micromanage their staff to the point where they feel they cannot perform or feel stifled; and c) there is narcissism according to which the leader constantly displays a need to be viewed in a positive light even at the cost of their subordinates (Schmidt, 2008).

Attempts have been made to formulate a comprehensive definition of the term. Whicker (1996) used the term first, referring to a number of dysfunctional leadership behaviour patterns, which can be described broadly as maladjusted, malcontent, malevolent and malicious. This was the result of an in-depth analysis of leadership styles in organisations which Whicker (1996) classifies as either trustworthy, transitional, or toxic.

Over the years, negative leadership styles have been researched. Certain styles were identified such as *Petty tyranny* (Ashforth, 1994). The latter is characterised by the leaders' tendency to use their power over others in a spiteful and oppressive manner. *Abusive supervision,* according to Tepper (2000), is a sustained display of hostile verbal and non-verbal behaviour. *Authoritarian leadership* occurs where the leaders assert absolute authority and control over subordinates and demand obedience (Cheng, Chou, Wu, Huang, & Farh, 2004). *Destructive leadership* is systematic behaviour, which is repeated by a person in a leadership role, and undermines or sabotages the organisation and/or subordinates (Einarsen, Aasland, & Skogstad, 2007). *Toxic leadership* differs from other negative leadership constructs, according to Schmidt (2008) and Branham (2005), by impacting the human and financial cost factors. This style may cause disengaged employees, which lead to higher employee turnover. Kusy and Halloway (2009) point out that the visible behaviour of toxic leaders is the tip of the iceberg; the real consequences such as productivity loss and the human impact, remain invisible for a long time.

Based on existing research, seemingly the styles of petty tyranny, abusive supervision as well as authoritarian or destructive leadership are all independent constructs. However, it is important to note that toxic leadership should be recognised as a unique set of leadership behaviour styles that distinguish it from other negative leadership styles (Schmidt, 2008). Pelletier (2010) concur with Schmidt and concludes that toxic leadership does not merely imply the absence of effective leadership behaviour; in effect it defines a set of behaviour traits on its own. Tavanti (2011), points out that aspects such as contribution to an unhealthy climate among peers and subordinates and the consequences to the organisation, set toxic leaders apart from other negative leaders. Furthermore, although all the mentioned styles impact employees negatively, none of these show the hostile and deliberate malice of toxic leaders toward employees in the workplace (Schmidt, 2008). For example, Dyck and Roithmayr (2001) point out that toxic leadership can lead to poor employee health and therefore an increase in benefits costs to the organisation. Furthermore, Macklem's (2005) study found higher absenteeism, increased employee withdrawal and turnover due to toxic leadership.

Based on the exposition above, toxic leadership can be defined as follows (Schmidt, 2008):

> Toxic leadership can and should be universally recognised as a unique set of leadership behaviours that negatively impact the subordinate group in a predictable way. Toxic leaders are narcissistic, self-promoters who engage in an unpredictable pattern of abusive and authoritarian supervision (p. 57).

The Toxic Leadership Scale (TLS) was developed by Schmidt (2008), using a mixed method approach. The first phase of the research involved qualitative data collection to help clarify the boundaries around the constructs through focus groups and interviews. Thereafter, preliminary content analysis was done to extract the different common themes. During this part of the study, six possible dimensions were identified, namely abusive supervision, authoritarianism, narcissism, self-promotion, unpredictability and unprofessionalism. Using the Q-sort method, it was decided to discard the dimension of unprofessionalism, seeing that it indicated morality and ethics. The 189 items captured from the focus groups were thus narrowed down to 105.

The second phase of the research involved testing the scales. This meant including variables such as turnover intention and job satisfaction to determine whether the scale explained more variance than the Multiphase Leadership Questionnaire or Leadership Member Exchange scale (Schmidt, 2008). The factor analysis supported five dimensions, namely; 1) abusive supervision, 2) authoritarian leadership, 3) narcissism, 4) self-promotion and 5) unpredictability. These dimensions could be summarised as follows:

- A*busive supervision:* measures perceived intentionally hostile behaviour patterns by the leader towards employees.
- *Authoritarian leadership:* measures leadership behaviour that seeks to exert excessive authority and control over subordinates.
- *Narcissism:* measures a leadership style driven by arrogance, self-absorption and self-orientated actions designed to enhance the self.
- *Self-promotion:* measures leaders who advertise their accomplishments and readily takes credit for other's work.
- *Unpredictability:* measures leaders whose actions are not predictable, a condition that keeps subordinates afraid and watchful (Dobbs, 2014; Schmidt, 2008).

Psychometric properties of the Toxic Leadership Scale

Measurement scales is used as indicators of underlying constructs, which cannot be assessed directly (Boateng, Neilands, Frongillo, Melgar-Quinonez, & Young, 2018). According to Tay and Jebb (2017), scale construction is a process to develop a reliable and valid measure of a construct in order to assess a phenomena of interest. It is important that new scales are tested for reliability and validity. For scales to be used they must be trusted to test consistently under similar conditions and have to measure the underlying construct it set out to do (Boateng et al., 2018).

The South African organisational landscape faces several challenges when dealing with the usage, adaptation and development of psychological tests (Paterson & Uys, 2005). This is especially the case since numerous tests have been developed internationally (Foxcroft & Roodt, 2013). Changes in the South African workplace and revised legal frameworks, highlighted the importance of appropriate properties for psychometric tests and the importance of ensuring validity and equity in its assessment (Paterson & Uys, 2005).

Thus, in the context of the present study, the Toxic Leadership Scale would have to be tested for validity and reliability to be applied in a multi-cultural society; also seeing that this instrument is relatively new. The implementation of the Employment Equity Act in 1998 has had major consequences for assessments in the South African workplace. The reason is that previously, several existing assessments were not screened for bias, or validated cross-culturally (Foxcroft & Roodt, 2013).

The Act as such requires that assessments must be tested scientifically and shown to be valid and reliable. Furthermore, such tests must be applied fairly to all employees and avoid bias against any individual or group (Foxcroft & Roodt, 2013). This implies that tests must be culturally fair and applicable across different groups of people (Van der Merwe, 2000). Therefore, since the Toxic Leadership Scale was developed in the USA, it was imperative, in line with the requirements of the Employment Equity Act, that the psychometric properties of the scale are investigated in terms of validity and reliability.

Reliability: is the degree of consistency that an instrument shows. In other words, the instrument will provide identical scores throughout (Kerlinger & Lee, 2000). Reliability also indicates how free a scale is from random error (Pallant, 2010). De Vos, Stydom, Fouchè and

Delport, (2011) describe reliability as the degree to which a measure is consistent, therefore internal consistency is the degree to which the items comprising the scale are all measuring the same underlying attribute (Pallant, 2010). To measure the internal concistency reliability of a scale, Chronbach's alpha coeffiecients can be calculated (Pallant, 2010). These coeffiecients indicate the correlation amongst the items that make up the scale (Pallant, 2010). When Cronbach's alpha coefficients score above 0.70, it can be regarded as reliable (Nunnally & Bernstein, 1994). Schmidt (2008) used Cronbach's alphas to test the reliability of the TLS. Thus, for consistency and for the purpose of the mentioned study, reliability was measured by determining Chronbach's alpha. The values for Schmidt's study (2008), was 0.93 for abusive supervision; 0.89 for authoritarian leadership; 0.88 for narcissism; 0.91 for self-promotion; and 0.92 for unpredictability. The overall Cronbach's alpha score was 0.90, suggesting that the instrument is reliable (Schmidt, 2008). It is essential that a measurement instrument should be found reliable before its validity can be established (Foxcroft & Roodt, 2013).

Validity: refers to whether a tool measures what it is supposed to do (Bryman et al., 2014). Researchers focus on various types of validity (e.g. face, concurrent, predictive, construct, convergent, and discriminant). In this regard, Trochim and Donnelly (2006) consider construct validity as the more important form, seeing that it gives an overarching indication of the quality of the measurement tool. According to Trochim and Donnelly (2006), construct validity refers simply to the degree to which inferences can legitimately be drawn from the operationalisations in the study to the underlying theoretical constructs.

Validity of scales can be assessed through both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). Typically EFA is used in the early stage of a research to explore the relationships between a set of variables. On the other hand, CFA is used to confirm specific hypotheses or theories about the structure underlying a set of variables (Pallant, 2010). For the purpose of the present study, both EFA and CFA was done to assess the validity of the scale. Schmidt (2008) in his study conducted an EFA by using maximum likelihood factor analysis with varimax rotation to validate his scale. After the EFA, items were eliminated which double loaded, and did not load on any factors or covered similar territory in the construct domain as other items. Thereafter, a final analysis using maximum likelihood factor with oblimin rotation provided the final five dimensions, namely abusive supervision, authoritarian leadership, narcissism, self-promotion and unpredictability, which completed the scale (Schmidt, 2008).

Bias and equivalence

After South Africa advanced into democracy in 1994, the door was opened for the use of international scales (Laher & Cockcroft, 2014). However, these scales had to be adapted to consider the unique societal composition of the country (Paterson & Uys, 2005). The scales had to focus on applicability among different groups. If such scales were not standardised for use across the diverse groups, it could be considered discriminatory (Van de Vijver & Rothmann, 2004). Therefore, ensuring equivalence and fairness is important within South Africa. The possibility that a test does not measure what it claims to do can raise concerns about the inferences drawn from the results (Paterson & Uys, 2005). To ensure scales are applied fairly within the South African context, such instruments must be assessed thoroughly. Bias and equivalence are two fundamental concepts in the application of psychological tests in a multicultural society such as South Africa (Meiring, Van de Vijver, Rothmann & Barrick, 2005).

Bias: occurs when score differences in the indicators of a particular construct do not correspond with differences in the underlying trait or ability (Van de Vijver & Tanzer, 1997). Several forms of bias may emerge during assessment, namely those regarding the construct, method and items:

- *Construct:* the measured construct or behaviour which characterises the construct is not equal across the diverse cultures (Meiring et al., 2005).
- *Method:* the manner in which the study is conducted results in challenges.
- *Item:* also referred to as differential item functioning, occurs when the (psychological) meaning of one or more items is not identical across groups and caused by anomalies at item level such as poor translation or inapplicability to a specific group (Van de Vijver & Leung, 1997).

In the present study, item bias was assessed. The reason is that when comparing groups, item bias will test whether the construct is measured and equal for the diverse groups.

Equivalence: refers to score comparability, namely the measurement level at which scores obtained for different groups can be compared (Van de Vijver & Tanzer, 2004). Three forms of equivalence are distinguished, namely construct, measurement-unit, and scalar (Van de Vijver & Tanzer, 2004):

- *Construct:* refers to the same construct measured across the groups which are studied, irrespective of whether the construct's measurement is based on identical instruments

for the groups. Such equivalence implies the universal validity of the underlying construct (Van de Vijver & Leung, 1997; Van de Vijver & Tanzer, 2004).

- *Measurement-unit:* this form of equivalence can be obtained when two metric measures have the same measurement unit but different origins (Van de Vijver & Tanzer, 2004).
- *Scalar:* equivalence is obtained when two metric measures have a similar measurement unit and origin (Van de Vijver & Tanzer, 2004).

It should be considered that South Africa is faced with exceptional conditions in which cultural assumptions, values and norms of employees could differ for each demographic group (e.g. gender, or age) (Van de Vijver & Rothmann, 2004). Due to the mentioned differences, certain concepts and constructs such as toxic leadership, may be viewed in different ways among various demographic groups (e.g. gender, or age). Therefore, a measurement instrument is required that is equivalent for use in the South African context. For this reason, the present study used construct equivalence to assess the Toxic Leadership Scale of Schmidt in this regard. This will ensure the constructs used in the scale hold a similar meaning and value for participants from the diverse cultural groups (Van de Vijver & Tanzer, 2004).

Demographic groups and toxic leadership

To date there were only two international studies published, which focus on toxic leadership and its impact on demographic groups (i.e. by Chua and Murray, 2015; Singh, Dev & Sengupta, 2017). The study of Singh et al., (2017), conducted amongst IT professionals in India, was an attempt to develop the concept of toxic leadership by focusing on the perception by subordinates based on their demographic profile. Their research revealed a significant difference in the way that subordinates of different gender types and education perceived toxic leaders, but found no difference based on age (Singh et al., 2017). For example, it was found that females experience more perceived toxicity from leaders, compared to males' perception. Furthermore, differences based on educational level led to the conclusion that post-graduates perceive more toxicity from leadership, compared to undergraduates (Singh et al., 2017). Chua and Murray (2015) also found that women perceive the toxic leader more negatively than men do. However, to date no studies have been undertaken within the South African context to assess the impact of toxic leadership on different demographic groups.

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

H1: The Toxic Leadership Scale (TLS) is a five-factor construct, consisting of *abusive supervision, authoritarian leadership, narcissism, self-promotion* and *unpredictability.*

H2: The Toxic Leadership Scale (TLS) is a reliable and valid scale within the South African context.

H3: The Toxic Leadership Scale (TLS) has acceptable levels of construct equivalence and item bias for each of the sub-factors, namely *abusive supervision, authoritarian leadership, narcissism, self-promotion* and *unpredictability.*

H4: Differences exists in terms of toxic leadership among employees based on various demographic variables (e.g. gender, age, and ethnic).

Research design

The above-mentioned hypotheses were formulated to guide the present research. The particular approach and method are discussed subsequently.

Research approach

This research study took the form of a quantitative research approach. This form of research is based on the following aspects: testing theories by examining the relationships between variables (Creswell & Creswell, 2017); measuring variables of individual participants to obtain scores; working with numerical values, submitted to statistical analysis and thereafter, summarised and interpreted (Gravetter & Forzano, 2012). The results are compiled in a structured report which describes and discusses the data (Creswell & Creswell, 2017).

A cross-sectional research design was used, due to the limited theory supporting the hypothesis, and the scant knowledge about the phenomenon. The advantage of the cross-sectional design is that it allows data to be collected over a brief period and does not require long-term interaction between the researcher and participant (Gravetter & Forzano, 2012). A further advantage is that the prevalence of a phenomenon is observed in a given population (Coolican, 2014). For the present study, the advantage of the mentioned design is that it enabled

the researcher to observe the occurrence of toxic leadership in the South African manufacturing industry.

Research method

Research participants

The present study investigated a sample of respondents who represent the population in the steel and paper manufacturing industry (*N*=600), to complete the questionnaires. Respondents were selected based on their availability and willingness to respond. As a result, a combination of two types of non-probability sampling were used, namely convenience and purposive sampling.

Convenience is a sampling technique based of the practical criteria that respondents meet, for example, easy accessibility, proximity to the researcher, availability at any given time and willingness to be included in the study (Coolican, 2014; Etikan, Musa, & Alkassim, 2016).

Purposive implies a technique where the sample is based entirely on the judgement of the researcher, meaning that the sample consists of those characteristics and attributes of the population that will serve the purpose of the study the best (De Vos et al., 2011). Inclusion criteria for the present study required that respondents had to be: a) well-versed in the English language to complete the questionnaire successfully; and b) between the ages of 18 and 65, thus regarded as fulltime working adult employees.

The various characteristics of the respondents for the present study were: age, gender, ethnic, language as well as educational and occupational level and are presented in Table 1 below.

TABLE 1*: Characteristics of participants (N=600)*

Item	Category	Frequency	Percentage
Age	1951 - 1981	354	58.9
	1982 - 1998	243	40.4
Gender	Male	480	79.9
	Female	120	20.1
Ethnic groups	African	352	58.6
	Coloured	38	6.3
	Indian	75	12.5

	White	134	22.3
	Other	1	0.2
Language	Afrikaans	66	11
	English	211	35.1
	isiZulu	316	52.6
	Sesotho	2	0.3
	isiXhosa	5	0.8
Educational Level	Grade 12/Matric	351	58.4
	Diploma	129	21.5
	Degree	68	11.3
	Post-graduate	16	2.7
	Other	35	5.8
Occupational Level	Senior management	17	2.8
	Professional qualified and experienced specialists and mid-management	49	8.2
	Skilled technical and academically qualified workers, junior management, supervisors, foreman, and superintendents	273	45.4
	Semi-skilled and discretionary decision making	172	28.6
	Unskilled and defined decision making	83	13.8

It is evident from Table 1 above that the majority of the respondents (58.9%), was in the age group of 35 to 65 years, with 40.4% under the age of 35 years. The gender characteristics of the respondents indicated that most were males (79.9%), with only 20.1% females. Most of the respondents were African (58.6%), followed by White (22.3%), Indian (12.5%), Coloured (6.3%) and other (0.2%). The majority of the respondents spoke isiZulu (52.6%), followed by English (35.1%), Afrikaans (11%), isiXhosa (0.8%) and Sesotho (0.3%). In terms of education, most of the respondents had a Grade 12/matric certificate (58.4%), followed by a diploma (21.5%), degree (11.3%), post-graduate (2.7%) and other (5.8%). Based on the occupational level, most of the respondents were employed on the skilled technical level (45.4%), followed by semi-skilled (28.6%), unskilled (13.8%), middle management (8.2%) and senior management (2.8%).

Measuring Instruments

The following measuring instruments were used in the study:

A *biographical questionnaire* was used to gather data from respondents on their age, gender, ethnic groups, language, educational level, and occupational level in the organisation. There were especially two reasons why data were collected on the respondents. Firstly, to provide an accurate description of the research population. Secondly to assist in the measuring of equivalence and differences amongst groups.

Toxic Leadership Scale (TLS): To measure Toxic Leadership, the 30-item Toxic Leadership Scale was used as developed by Schmidt in 2008. Permission was obtained from the author to use the instrument in this study. The scale measures five dimensions, namely: *abusive supervision,* which consists of 7 items (e.g., "My current supervisor publicly belittles subordinates"); *authoritarian leadership,* consisting of 6 items (e.g., "My current supervisor controls how subordinates complete their tasks‖); *narcissism,* with 5 items (e.g., "My current supervisor thinks he/she is more capable than others"); *self-promotion,* with 5 items (e.g., "Accepts credit for successes that do not belong to him/her") and *unpredictability,* with 7 items (e.g., "Allows his/her current mood to define the climate of the workplace"). The dimensions are scored on a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The reliability of the scale using Cronbach's alpha coefficients were 0.93 for abusive supervision, 0.89 for authoritarian leadership, 0.88 for narcissism, 0.91 for self-promotion and 0.92 for unpredictability. The overall Cronbach's alpha score was 0.90, suggesting that the instrument is highly reliable (Schmidt, 2008).

Research procedure and ethical considerations

After ethical clearance was received from the Ethics Committee of the North West University (ethical approval number: EMSMHW16/04/21-01/01), research commenced by contacting the relevant manufacturing organisations. The senior management and Human Resources departments were contacted for permission to conduct the research at their workplace. A copy of the research letter of intent was distributed to the companies, explaining the nature of the study and providing guidelines and procedures for the administration of the questionnaires.

Once permission was received, the Human Resources Managers of the various Companies acted as gatekeepers, ensuring access to the respondents to secure data collection. Of the 800 questionnaires in total distributed to the various manufacturing organisations, 600 were collected. Accompanying the questionnaire booklets was a letter of introduction and an explanation of the study's objectives and importance. Respondents were accommodated in the training centre or empty office space of the organisations where they could complete the questionnaire.

Although the questionnaire was self-administrated, a field worker was made available at one of the organisation to assist respondents with low literacy levels who had difficulties completing the questionnaire. The field worker was a human resource intern provided by one of the manufacturing companies. The researcher trained the field worker and for the duration of the data collection, the role of the field worker was to assist only with this task. No personal information was recorded on the booklet to ensure anonymity, respect privacy as well as confidentiality (De Vos et al., 2011). Throughout the process, the researcher breached no ethical guidelines and maintained the respondents' respect and dignity (De Vos et al., 2011).

The questionnaire took approximately three quarters of an hour to complete. During the process several reminders were send out about the submission date. Respondents were given sufficient time to complete the booklet. The researcher coordinated the distribution of questionnaires, as well as the collecting and safe-storing of completed booklets. After the booklets were collected the data were captured onto the system and analysed statistically. The results remain anonymous and no participant was discriminated against for taking part in the study.

Statistical analysis

Statistical analysis was carried out using the SPSS programme version 25.0 (IBM SPSS Inc., 2017) and AMOS 6.0 (Arbuckle, 2006). Descriptive statistics (e.g. means, standard deviations, skewness and kurtosis) was used to describe the data. Cronbach's alpha coefficients were calculated to assess the reliability of the scales. The cut-off point of 0.70 was used as indicator for reliability (Pallant, 2010).

Bias for each item was measured by using differential item functioning (DIF). Typically, this method determines the presence of uniform and non-uniform item bias. Stepwise multiple regression was performed using Winsteps (4.1.0). Two groups are compared to assess DIF (De Beer, 2004), in this case age was used to do the comparison. Trochim and Donnelly (2006) suggest that comparison can be done through a t-test, using regression. The items that remained after the item-bias analyses, was subjected to an analysis of construct equivalence. Construct equivalence was examined through confirmatory factor analysis (CFA) using AMOS. The following fit indices were considered: the χ^2, the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Incremental Fit Index (IFI). Values of 0.90 and above were considered as acceptable fit (Byrne, 2010). Root Mean Square Error of Approximation (RMSEA) was also

considered and values of 0.08 or below accepted as acceptable model fit (Hooper, Coughlan & Mullen, 2008). Lance, Butts and Michels (2006) point out that these cut-off points are only guidelines due to the lack of consensus on the values for adequate fit.

Internal factor structure of the TLS was examined by using exploratory factor analysis (EFA). This method analyses a set of observed variables to determine which are associated most strongly with each other and may indicate an underlying latent construct (Young & Pearce, 2013). The EFA was done with principle component analysis (PCA) to examine the original five factors of the TLS. Several conditions must be met before the EFA can be done. These are as follows: the Kaiser-Meyer-Olkin (KMO) test must produce values larger than 0.50 for data to be appropriate for factor analysis; Bartlett's test of sphericity must produce significant results to show that the scale items correlated adequately; and lastly, Kaiser's criterion factors have to produce eigenvalues larger than 1.00 (Tabachnick & Fidell, 2013; Young & Pearce, 2013).

In a second step, confirmatory factor analysis (CFA) was used entailing structural equation modelling that fit the theoretical model to the data of the entire sample. Goodness-of-fit indices were used to summarise the degree of correspondence between the implied and observed covariance matrices. Acceptable goodness-of-indices include: χ^2, CMIN (χ^2 /df), the Comparative Fit Index CFI, Tucker-Lewis Index (TLI), Incremental Fit Index (IFI) and Root Mean Square Error of Approximation (RMSEA). Cut-off values included non-significant χ^2 values; χ^2 /df < 5.00 , CFI, TLI and IFI at 0.09; and RMSEA values smaller than or equal to 0.08 (Hooper, Coughlan & Mullen, 2008).

ANOVA was used to compare the mean outcome score based on toxic leadership between three or more subgroups. The *d* value was used to analyse the effect of subgroup comparisons. For the purpose of the present study, values of 0.35 and above was considered as practically significant (Ellis & Steyn, 2013).

To determine the relationships between variables and the strength of these relationships, Pearson's product-moment correlations were used. The correlation coefficient cut-off scores were set at -1 to +1, with -1 indicating a negative relationship; 0 – no relationship; and +1 a positive relationship. Statistical significance was set at 95 % ($p \leq 0.05$). Practical significance

was determined using effect size and this cut-off point was set at 0.30 for medium effect and 0.50 for large effect (Steyn & Swanepoel, 2008).

Results

The result section covers the descriptive statistics as well as results for reliability and validity. This section also provides results of correlations between factors, item bias, construct equivalence and differences between groups.

Descriptive statistics and reliability

Descriptive statistics describe the core features of the data in a study, by considering the mean, standard deviations, skewness, kurtosis, and Cronbach's alpha coefficients (Trochim & Donnelly, 2006). The descriptive statistics and Cronbach's alphas are displayed in Table 2 below.

TABLE 2: *Descriptive statistics and Cronbach's alpha coefficients of toxic leadership factors*

	Mean	*SD*	Skewness	Kurtosis	*α*
Abusive	2.67	0.99	0.14	-0.73	0.89
Authoritarian	2.72	0.91	0.11	-0.41	0.84
Narcissism	2.97	0.92	-0.12	-0.61	0.79
Self-promote	2.70	1.00	0.03	-0.84	0.87
Unpredictable	2.68	1.02	0.23	-0.78	0.92

To test whether the data were distributed normally, skewness and kurtosis were examined. Skewness assesses the symmetry of distributions, whereas kurtosis refers to the distribution's width and height (Field, 2013). In SPSS, if both are close to zero, the data are considered to be distributed normally. Table 2 above indicates clearly that the majority of the variables were distributed normally. The five factors of the Toxic Leadership Scale (TLS) were measured on a 5-point scale. In this regard, Table 2 shows that the respondents experienced relatively high levels of narcissism as a toxic leadership factor (M = 2.97; SD = 0.92). Furthermore, Cronbach's alpha coefficients were calculated for all five factors of the TLS to assess their internal consistency. According to George and Mallery (2003), if coefficient alpha values are greater than 0.70, they are considered to have a high internal consistency, resulting in acceptable level of reliability – which Table 2 above indicates. These coefficients range between 0.79 and 0.92. All the Cronbach's alpha values scored above the cut-off point of $\alpha > 0.70$, therefore, the five factors of the TLS could be regarded as reliable (Pallant, 2010; Pevalin & Robson, 2009).

Validity

Exploratory factor analysis (EFA) with principle component analysis (PCA) was employed to examine the original five factors, which included all 30 items of the TLS. An EFA was conducted to determine how the latent variables and items fitted the model the best. An oblique rotation method, namely direct oblimin rotation was done. This method allows for factors to be correlated and it represents a more accurate interrelationship among constructs (Fabrigar, Wegener, MacCallum & Strahan, 1999; Field, 2013). For an EFA to product meaningful results, certain conditions had to be met, as explained below.

The first condition concerns the necessary sample size. Field (2013) suggests that the sample size should exceed a ratio of ten cases per independent variable. Given that this assumption was met, it was appropriate to conduct factor analysis. Secondly, the Kaiser-Meyer Olkin (KMO) test must produce values greater than 0.50 for data to be deemed appropriate for factor analysis (Williams, Onsman &, Brown 2012). Thirdly, Bartlett's Test of Sphericity must produce significant results to indicate that the scale items correlated adequately (Field, 2013). Finally, Kaiser's criterion factors have to produce eigenvalues larger than 1.00 (Kaiser, 1970).

The above-mentioned conditions were all met in the present study. The KMO had a value of 0.954, which produced a value greater than 0.50. Furthermore, a goodness-of-fit value of 12096.204 (chi-square) was found and Bartlett's Test of Sphericity produced a significant result ($P = 0.000$), while five factors explained 64.516% of the variance. Therefore, the original five-factor model with 30 items as proposed by Schmidt (2008), were found to fit the data the best. This five-factor model was examined further through a confirmatory factor analysis (CFA).

The CFA was done to determine whether the five-factor model of Schmidt (2008) fits the data and confirms the validity of the scale. CFA was included as the TLS was developed initially by Schmidt (2008) and tested to be a five-factor model. CFA has the advantage of statistically testing a hypothesised structure based on the postulated relationship between the observed measure and the underlying factors (Byrne, 2010). Methods of structural equation modelling (SEM), as implemented by AMOS (Arbuckle, 1997), were used to analyse the goodness-of-fit of the five-factor model for the TLS.

The χ^2 and several other goodness-of-fit indices were used to summarise the degree of correspondence between the implied and observed covariance matrices (Jöreskog & Sörbom,

1993). The following goodness-of-fit indices were used as adjuncts to the likelihood-ratio chi square (χ^2) statistics: a) ratio of the chi square to the degrees of freedom (χ^2/df); b) the root square of approximation (RMSEA); c) The Comparative Fit Index (CFI); d) Tucker-Lewis Index (TLI) and e) the Incremental Fit Index (IFI). The CFI, TLI and IFI were used since the likelihood ratio chi square (χ^2) is sensitive to sample size – which implies that the probability of rejecting a theoretical (hypothesised) model increases with sample size (Bentler, 1990). Acceptable fit of the model was indicated by non-significant χ^2 values, those greater than 0.90 for CFI, TLI and IFI, as well as RMSEA values smaller than or equal to 0.08 (Browne & Cudeck, 1993) and χ^2 /df < 5.00 (Bentler & Bonett, 1980). The result of the CFA five-factor model is provided in Table 3 below.

TABLE 3: *Goodness-of-fit statistics for the five-factor model of the Toxic Leadership Scale*

Model	χ^2	χ^2/df	IFI	TLI	CFI	RMSEA	*p*
Five-factor model	1997.27	5.06	0.87	0.84	0.87	0.08	0.00

Goodness-of-fit indices are often affected by factors such as sample size, number of variables, factor loads – all of which must be considered when interpreting results (Cangur & Ercan, 2015). According to Marsh, Hau and Wen (2004), an acceptable model can be rejected if there is strict adherence to cut-off values. Furthermore, whilst fit indices are useful, traditional cut-off values are only "rules of thumb" and based largely on intuition. However, it should be noted that these cut-off points should be considered only as guidelines, as there is a lack of consensus on the values for adequate fit (Lance, Butts, & Michels, 2006). In terms of the results for the present study, Table 3 above clearly shows that the CFI (0.87), IFI (0.84) and TLI (0.84) indicated good model fit. The RMSEA value (0.08) also confirmed a good model fit (Cangur & Ercan, 2015; Fan & Sivo, 2007).

The standardised regression coefficients for the different items are indicated in Table 4.

TABLE 4: *Standardised model results*

Observed variables	Estimates (Standardised)	*P*
Item 1: My current supervisor ridicules subordinates	0.66	0.00*
Item 2: My current supervisor holds subordinates responsible for things outside their job descriptions	0.67	0.00*
Item 3: My current supervisor is not considerate about subordinates' commitments outside of work	0.62	0.00*
Item 4: My current supervisor speaks poorly about subordinates to other people in the workplace	0.81	0.00*
Item 5: My current supervisor publicly belittles subordinates	0.82	0.00*

Item 6: My current supervisor reminds subordinates of their past mistakes and failures	0.77	0.00*
Item 7: My current supervisor tells subordinates they are incompetent	0.80	0.00*
Item 8: My current supervisor controls how subordinates complete their tasks	0.58	0.00*
Item 9: My current supervisor invades the privacy of subordinates	0.72	0.00*
Item 10: My current supervisor does not permit subordinates to approach goals in new ways	0.80	0.00*
Item 11: My current supervisor will ignore ideas that are contrary to his/her own	0.80	0.00*
Item 12: My current supervisor is inflexible when it comes to organisational policies, even in special circumstances	0.62	0.00*
Item 13: My current supervisor determines all decisions in the unit whether they are important or not	0.58	0.00*
Item 14: My current supervisor has a sense of personal entitlement	0.57	0.00*
Item 15: My current supervisor assumes that he/she is destined to enter the highest ranks of my organisation	0.62	0.00*
Item 16: My current supervisor thinks that he/she is more capable than other	0.78	0.00*
Item 17: My current supervisor believes that he/she is an extraordinary person	0.81	0.00*
Item 18: My current supervisor thrives on compliments and personal accolades	0.51	0.00*
Item 19: My current supervisor drastically changes his/her demeanour when his/her supervisor is present	0.64	0.00*
Item 20: My current supervisor denies responsibility for mistakes made in his/her unit	0.78	0.00*
Item 21: My current supervisor will only offer assistance to people who can help him/her get ahead	0.83	0.00*
Item 22: My current supervisor accepts credit for success that do not belong to him/ her	0.77	0.00*
Item 23: My current supervisor acts only in the best interest of his/her next promotion	0.80	0.00*
Item 24: My current supervisor has explosive outbursts	0.77	0.00*
Item 25: My current supervisor allow his/her current mood to define the climate of the workplace	0.88	0.00*
Item 26: My current supervisor expresses anger at subordinates for unknown reasons	0.77	0.00*
Item 27: My current supervisor allows his/her mood to affect his/her vocal tone and volume	0.86	0.00*
Item 28: My current supervisor varies in his/her degree of approachability	0.76	0.00*
Item 29: My current supervisor causes subordinates to try and read his/her mood	0.79	0.00*
Item 30: My current supervisor affects the emotions of subordinates when impassioned	0.74	0.00*

*$p < 0.05$ is significant

Table 4 lists the 30 items that comprise the Toxic Leadership Scale. Factor loading estimates are reported as standardised regression weights (Byrne, 2010). Such weights indicate the relationship between a predictor variable and outcome after recognising other predictor variables in the equation. High absolute values ≥ 0.30 indicate better predictive values for standardised regression coefficients (Harlow, 2014). From the results it is clear that the listed items showed good regression weights ranging between 0.51 and 0.88. Therefore, all items can be used in a five-factor model. The results also indicate that all *p* values were found to be statically significant.

Finally, acceptable Cronbach's alpha coefficients were found for the five-factor model, which were reported in Table 2. The results above confirmed Schmidt's findings (2008) that the Toxic Leadership Scale consists of a five- factor model, which is reliable and valid.

Correlations

The corrleation coeffiecients between the constructs are displayed in Table 5 below.

TABLE 5: *Correlation matrix between five factors of the Toxic Leadership Scale*

	1	2	3	4
1. Abusive	1.00			
2. Authoritarian	0.74*[c]	1.00		
3. Narcissism	0.63*[c]	0.66*[c]	1.00	
4. Self-promotion	0.74*[c]	0.71*[c]	0.69*[c]	1.00
5. Unpredictability	0.74*[c]	0.67*[c]	0.62*[c]	0.74*[c]

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

As was expected, Table 5 above indicates strong statistically significant positive correlations between the five factors of the Toxic Leadership Scale. According to Gaskin (2014), inter-factor correlation of 0.50 or higher is important since it indicates that all the factors measure the same construct – in this case, toxic leadership.

Item bias

Results for item bias, also known as differential item functioning, is reported below. Differential item functioning compares two groups to assess DIF (De Beer, 2004). For the present study, age groups were used.

TABLE 6: *Abusive TLS item DIF for two age groups (1965-1981 and 1982-1998)*

	Response group	DIF score	DIF measure	DIF size	*SE*	*t*	prob	Response group	DIF score	DIF measure	DIF size	*SE*	*t*	prob
Item 1	1965-1981	0.02	0.20	-0.04	0.07	-0.55	0.58	1982-1998	-0.04	0.30	0.06	0.08	0.69	0.49
Item 2	1965-1981	-0.03	-0.28	0.04	0.07	0.65	0.51	1982-1998	0.04	-0.39	-0.07	0.08	-0.80	0.42
Item 3	1965-1981	-0.13	-0.09	0.00	0.07	1.95	0.05	1982-1998	0.13	-0.32	-0.19	0.08	-2.36	0.02
Item 4	1965-1981	-0.02	0.15	0.02	0.07	0.37	0.71	1982-1998	0.02	0.09	-0.04	0.08	-0.43	0.67
Item 5	1965-1981	-0.02	0.25	0.03	0.07	0.48	0.63	1982-1998	0.03	0.17	-0.05	0.08	-0.56	0.57
Item 6	1965-1981	0.10	-0.23	-0.15	0.07	-2.18	0.03	1982-1998	-0.15	0.13	0.22	0.08	2.64	0.09
Item 7	1965-1981	0.03	-0.09	-0.05	0.07	-0.07	0.49	1982-1998	-0.05	0.02	0.07	0.08	0.85	0.40

As is clear from Table 6 above, item bias for the factor *Abusive supervision* of the Toxic Leadership Scale was done for the two age parameters represented by respondents in the age groups 1965-1981 (N=325) and 1982-1988 (N=222). Mantel-Haenzel chi-square values were calculated for all seven items, with the scores provided subsequently. For **Item 1,** the value for both age groups was above the $p < 0.05$ level (0.58; 0.49), indicating that no bias is present for this item. **Item 2** of the factor had a value for both age groups, which also was above the $p < 0.05$ level (0.51; 0.42), indicating no bias present for the item. **Item 3** of the factor measured a value for both age groups (0.05; 0.02), which was below the $p < 0.05$ for the second age group (1982-1988). This score indicates that bias is present for this group (to be discussed further below). For **Item 4,** the value for both age groups was above the $p < 0.05$ level (0.71; 0.67), thus indicating no bias present. **Item 5** of showed a value for both age groups also above the $p < 0.05$ level (0.63; 0.57), indicating no bias. **Item 6** of the factor indicates bias for both age groups as the value for the groups was below the $p < 0.05$ level (0.03; 0.09) – the reading to be discussed further below. **Item 7** of the factor showed a value for both age groups also above the $p < 0.05$ level (0.49; 0.40), indicating no bias present for the item.

To introduce a further discussion of Item 3, Figure 1 below depicts the distribution of the responses.

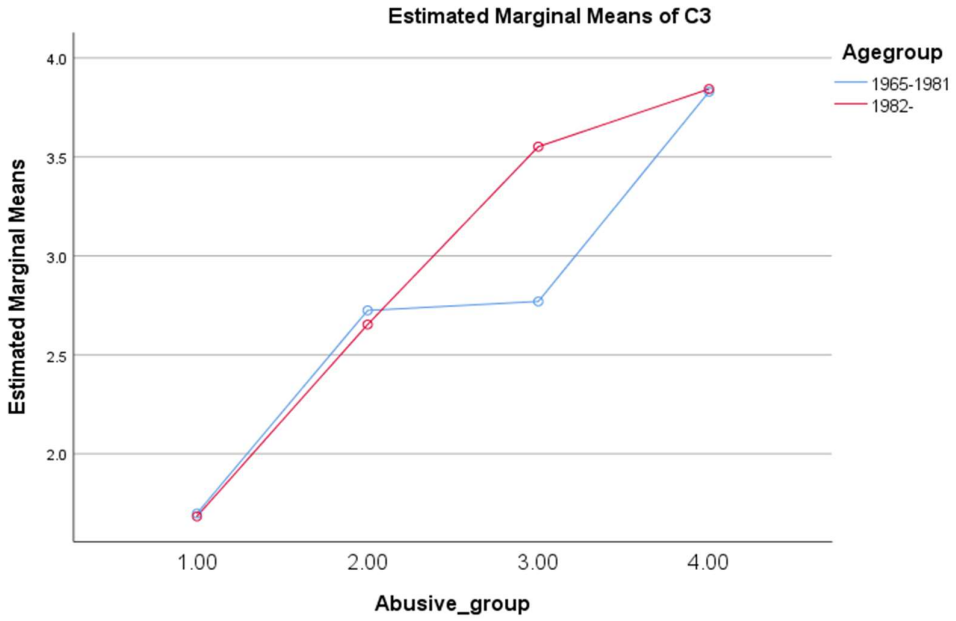

Figure 1*: Item 3 – estimated marginal means of C3, "My current supervisor is not considerate about subordinates' commitments outside of work"*

A significant non-uniform bias was found for Item 3 for the age groups born between 1982-1988 and 1968-1981. It appeared that in the above- average abusive group, the age group 1965-1981 scored lower than the group 1982-1988, on the abusive factor of the Toxic Leadership scale. According to Kanjee and Foxcroft (2009), possible reasons for differences are unfamiliar concepts or examples that are unfamiliar, inappropriate, or ambiguous.

For further discussion of the bias shown for Item 6, Figure 2 below depicts the distribution of the responses for this item.

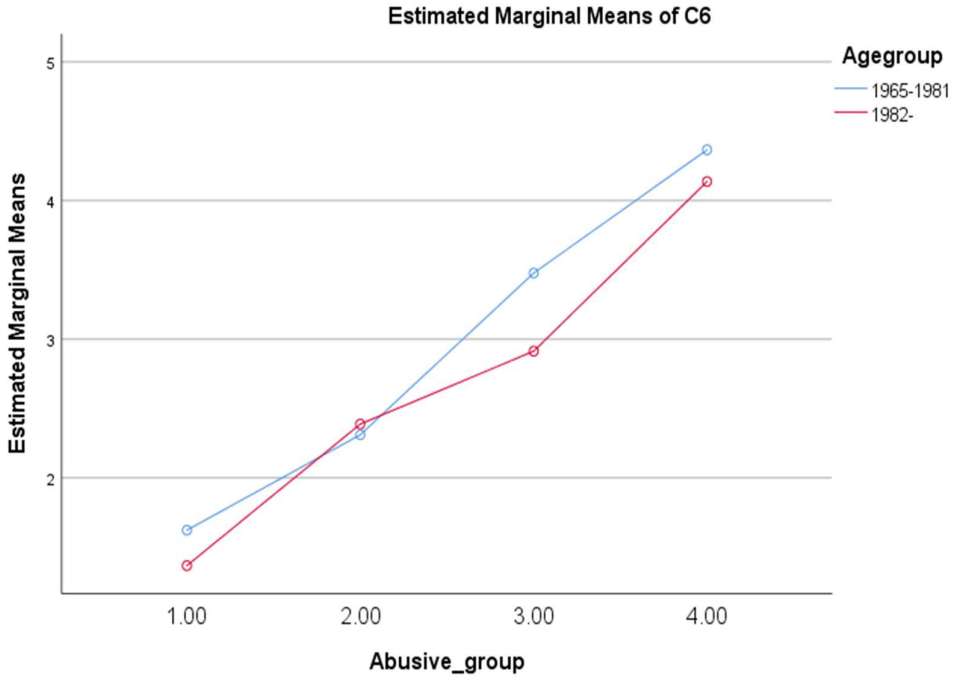

Figure 2: *Item 6 – estimated marginal means of C6, "My current supervisor reminds subordinates of their past mistakes and failures"*

Significant uniform bias was found regarding Item 6 for the age groups born between 1982-1988 and 1968-1981. It appeared that in the entire range the age group 1982-1988 scored lower than the group 1965-1981, on the abusive factor of the Toxic Leadership Scale. Possible reasons for differences are unfamiliar concepts or examples that are unfamiliar, inappropriate, or ambiguous (Kanjee & Foxcroft, 2009).

TABLE 7: *Authoritarian TLS item DIF for two age groups (1965-1981 and 1982-1998)*

	Response group	DIF score	DIF measure	DIF size	*SE*	*t*	prob	Response group	DIF score	DIF measure	DIF size	*SE*	*t*	prob
Item 8	1965-1981	0.03	-0.42	-0.04	0.07	-0.60	0.54	1982-1998	-0.04	-0.32	0.06	0.08	0.73	0.46
Item 9	1965-1981	0.02	0.52	-0.03	0.07	-0.43	0.66	1982-1998	-0.03	0.60	0.05	0.08	0.57	0.56
Item 10	1965-1981	-0.05	0.28	0.07	0.07	1.00	0.32	1982-1998	0.07	0.12	-0.10	0.08	-1.21	0.23
Item 11	1965-1981	0.05	-0.02	-0.08	0.07	-1.18	0.24	1982-1998	-0.08	0.18	0.12	0.08	1.46	0.15
Item 12	1965-1981	-0.04	-0.02	0.06	0.07	0.92	0.36	1982-1998	0.06	-0.17	-0.09	0.08	-1.13	0.26
Item 13	1965-1981	-0.01	-0.36	0.00	0.07	0.00	1.00	1982-1998	0.02	-0.39	-0.03	0.08	-0.38	0.70

As is evident from Table 7 above, item bias for the factor *Authoritarian supervision* of the Toxic Leadership Scale was tested for respondents representing the two age groups 1965-1981 (N=327) and 1982-1988 (N=222). The Mantel-Haenzel chi-square values for all items from 8 to 13 are provided. For **Item 8,** the value for both the age groups was above the $p < 0.05$ level (0.54; 0.46), indicating no bias present for this item. **Item 9** of the factor showed a value for both age groups, which was also above the $p < 0.05$ level (0.66; 0.56), indicating no bias present for the item. **Item 10** showed values for both age groups above the $p < 0.05$ level (0.32; 0.23), indicating no bias for the item. **Item 11** of the factor indicated no bias for both age groups as the value for both groups was above the $p < 0.05$ level (0.24; 0.15). **Item 12** had a value for both age groups which was also above the $p < 0.05$ level (0.36; 0.26), indicating no bias. For **Item 13**, value for both the age groups was above the $p < 0.05$ level (1.00; 0.70), thus indicating no bias present for this item.

From Table 7 above, there is apparently no evidence of DIF from the Authoritarian TLS item factor set within the two age groups (1965-1981 and 1982-1998). Direct evaluations for these groups are therefore possible, seeing that the concept has the same meaning for both age groups.

TABLE 8: *Narcissism TLS item DIF for two age groups (1965-1981 and 1982-1998)*

	Response group	DIF score	DIF measure	DIF size	*SE*	*t*	prob	Response group	DIF score	DIF measure	DIF size	*SE*	*t*	prob
Item 14	1965-1981	0.06	-0.29	-0.09	0.07	.07	0.17	1982-1998	-0.09	-0.09	0.12	0.08	1.58	0.12
Item 15	1965-1981	0.06	-0.12	-0.09	0.07	-1.38	0.17	1982-1998	-0.09	0.09	0.12	0.08	1.16	0.10
Item 16	1965-1981	0.07	-0.05	-0.10	0.07	-1.53	-1.53	1982-1998	-0.10	0.18	0.14	0.08	1.79	0.076
Item 17	1965-1981	-0.06	0.14	0.09	0.07	1.39	0.16	1982-1998	0.09	-0.07	-0.12	0.08	-1.62	0.11
Item 18	1965-1981	-0.13	0.33	0.19	0.07	2.87	**0.00**	1982-1998	0.19	-0.11	-0.25	0.08	-3.34	**0.00**

Table 8 above indicates that the item bias for the *Narcissism* factor of the Toxic Leadership Scale was tested for respondents representing the two age groups 1965-1981 (N=336) and 1982-1988 (N=231). Subsequently, the Mantel-Haenzel chi-square values for Items 14-18 are provided. For **Item 14,** both age groups scored above the $p < 0.05$ level (0.17; 0.12), indicating that no bias is present for this item. **Item 15** of the factor had a value for both age groups which was also above the $p < 0.05$ level (0.17; 0.10), indicating no bias present for the item. **Item 16** measured a value for both age groups above the $p < 0.05$ level (-1.53; 0.07), thus indicating no bias present for any of these groups. For **Item 17**, the value for both groups was above the $p < 0.05$ level (0.16; 0.11), indicating no bias present. **Item 18** of the factor showed bias for both age groups as the value for each was below the $p < 0.05$ level (0.00; 0.00). This finding is discussed further where Figure 3 below depicts the distribution of the responses for Item 18.

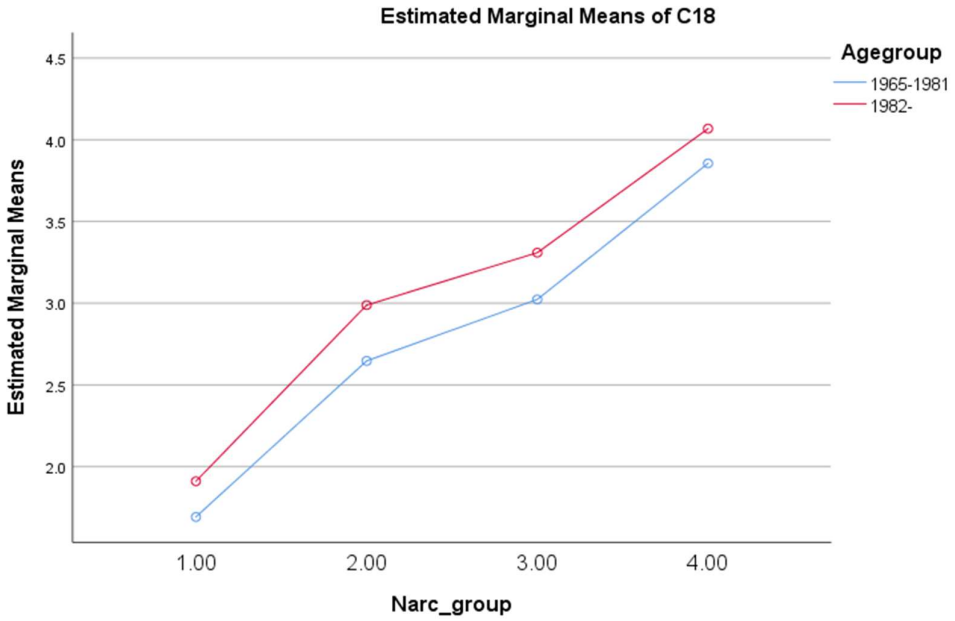

Figure 3: *Item 18 – estimated marginal means of C 18, "My current supervisor thrives on compliments and personal accolades"*

Significant uniform bias was found for Item 18 regarding the age groups born between 1982-1988 and 1968-1981. It appeared that in the entire range of the narcissistic individuals, the age group 1965-1981, scored lower in this item than those from the age group 1982-1988, on the narcissistic factor of the Toxic Leadership Scale. Possible reasons for differences are unfamiliar concepts or examples that are unfamiliar, inappropriate, or ambiguous (Kanjee & Foxcroft, 2009).

TABLE 9: *Self-promotion TLS item DIF for two age groups (1965-1981 and 1982-1998)*

	Response group	DIF score	DIF measure	DIF size	*SE*	*t*	prob	Response group	DIF score	DIF measure	DIF size	*SE*	*t*	prob
Item 19	1965-1981	0.02	-0.27	-0.03	0.07	-0.37	0.71	1982-1998	-0.02	-0.20	0.04	0.09	0.43	0.67
Item 20	1965-1981	0.00	-0.07	0.00	0.08	0.00	1.00	1982-1998	-0.01	-0.07	0.00	0.09	0.00	1.00
Item 21	1965-1981	-0.05	0.12	0.09	0.08	1.17	0.24	1982-1998	0.07	-0.09	-0.13	0.09	-1.41	0.16
Item 22	1965-1981	0.06	0.04	-0.11	0.08	-1.45	0.15	1982-1998	-0.09	0.31	0.16	0.09	1.75	0.82
Item 23	1965-1981	-0.03	0.18	0.06	0.08	0.74	0.46	1982-1998	0.04	0.04	-0.08	0.09	-0.88	0.38

As indicated in Table 9 above, item bias was tested for the factor *Self-promotion* of the Toxic Leadership Scale for respondents representing the two age groups 1965-1981 (N=319) and 1982-1988 (N=216). The Mantel-Haenzel chi-square values were calculated for Items 19-23. For **Item 19**, both age groups scored above the $p < 0.05$ level (0.71; 0.67), indicating no bias present for this item. **Item 20** of the factor had a value for both age groups also above the $p < 0.05$ level (1.00; 1.00), indicating no bias for the item. For **Item 21**, the value for both age groups was above the $p < 0.05$ level (0.24; 0.16), indicating no bias present. **Item 22** of the factor scored a value for both age groups above the $p < 0.05$ level (0.15; 0.82), indicating no bias for the item. **Item 23** indicates no bias for both age groups as value for these groups was above the $p < 0.05$ level (0.46; 0.38). From Table 9 above, there is clearly no evidence of DIF from the *Self-promotion* TLS item factor set within the two age groups (1965-1981 and 1982-1998). Direct evaluations for these groups are therefore possible since the concept has the same meaning for both groups.

TABLE 10: *Unpredictable TLS item DIF for two age groups (1965-1981 and 1982-1998)*

	Response group	DIF score	DIF measure	DIF size	*SE*	*t*	prob	Response group	DIF score	DIF measure	DIF size	*SE*	*t*	prob
Item 24	1965-1981	0.02	0.27	-0.03	0.08	-0.44	0.66	1982-1998	-0.03	0.35	0.05	0.10	0.55	0.58
Item 25	1965-1981	-0.02	-0.03	0.03	0.08	0.42	0.68	1982-1998	0.02	-0.11	-0.5	0.09	-0.5	0.61
Item 26	1965-1981	0.00	0.33	0.00	0.08	0.00	1.00	1982-1998	0.00	0.33	0.00	0.10	0.00	1.00
Item 27	1965-1981	-0.01	-0.19	0.00	0.08	0.00	1.00	1982-1998	0.01	-0.19	0.00	0.09	0.00	1.00
Item 28	1965-1981	0.02	-0.35	-0.03	0.08	-0.39	0.69	1982-1998	-0.02	-0.27	0.04	0.09	0.47	0.64
Item 29	1965-1981	-0.05	0.20	0.10	0.08	1.25	0.21	1982-1998	0.07	-0.03	-0.14	0.09	-1.50	0.13
Item 30	1965-1981	0.04	-0.24	-0.07	0.08	-0.89	0.37	1982-1998	-0.05	-0.07	0.10	0.09	1.08	0.28

Table 10 above indicates the item bias for the factor *Unpredictable* of the Toxic Leadership Scale for respondents who represent the two age groups, 1965-1981 (N=319) and 1982-1988 (N=218). The Mantel-Haenzel chi-square values have been calculated for Items 24-30. For **Item 24**, the value for both the age groups was above the $p < 0.05$ level (0.66; 0.58), indicating that no bias is present for this item. **Item 25** of the factor had a value for both age groups, which was also above the $p < 0.05$ level (0.68; 0.61), indicating no bias present for the item. For **Item 26**, the value for both age groups was above the $p < 0.05$ level (1.00; 1.00), indicating no bias present for this item. **Item 27** of the factor had a value for both age groups also above the $p < 0.05$ level (1.00; 1.00), indicating no bias for the item. **Item 28** indicated no bias for both age groups since respective values were each above the $p < 0.05$ level (0.69; 0.64). **Item 29** of the factor had a value for both age groups above the $p < 0.05$ level (0.21; 0.13), indicating no bias present. For **Item 30**, the value for both the age groups was also above the $p < 0.05$ level (0.37; 0.28), again indicating no bias present for this item.

Table 10 above, clearly shows no evidence of DIF from the *Unpredictable* TLS item factor set within the two age groups (1965-1981 and 1982-1998). Direct evaluations for these groups are therefore possible, seeing that the concept has the same meaning.

Construct equivalence

In a following step, confirmatory factor analysis (CFA) was used to determine the structure of the TLS for the total population (combining both age group samples). This CFA was done to determine whether the structure of the TLS was equivalent between the total sample of the age groups. According to Lindridge (2015), construct equivalence measures whether the constructs being measured in a cross-cultural/societal study, have the same meaning and value in the different cultures/societies that are researched. The results for testing construct equivalence for the total sample is reported in Table 11 below.

TABLE 11: *Goodness-of-fit statistics for the total population for the Toxic Leadership Scale*

Model	χ^2	χ^2/df	IFI	TLI	CFI	RMSEA	*p*
Five-factor model	3556.43	4.42	0.79	0.77	0.79	0.08	0.00

Acceptable models may be rejected if there is strict adherence to cut-off values (Marsh, Hau & Wen, 2004). Such cut-off values whilst useful, are only "rules of thumb" (Marsh et al., 2004). Therefore, such cut-offs should be used as guidelines only, due to the lack of consensus on

values for adequate fit (Lance, Butts & Michels, 2006). When results are interpreted, these goodness-of-fit indices are affected by factors such as sample size, factor loads, number of variables, which must all be considered (Cangur & Ercan, 2015).

Regarding results for the present study, a RMSEA value of 0.08 indicates a fit close to good (Cangur & Ercan, 2015), while Fan and Sivo (2007) point out that RMSEA is the best model fit measure. For the present study, CMIN was found to be 4.42, which is within the accepted level. The CFI was 0.79, IFI 0.79 and TLI 0.77. All these values are close to the generally accepted minimum norms for satisfactory fit of 0.90 (Bentler, 1990). Taking the findings above into consideration, the results remain acceptable.

Differences between demographic groups

To determine whether employees experience toxic leadership, the same t-tests and ANOVA's were conducted. The *d* value was used to analyse the effect sizes of subgroup comparisons, considering that the data were obtained from a small-scale population (Ellis & Steyn, 2003). These differences were based on gender, age and ethnic groups and are presented in Tables 12 to 14 below.

TABLE 12: *Difference between employees' experiences of toxic leadership, based on gender*

Toxic leadership factor	Gender	*n*	Mean	*SD*	*P*	*d*
Abusive	Male	480	2.69	0.98	0.42	0.08
	Female	119	2.60	1.03		
Authoritarian	Male	480	2.76	0.89	0.01	0.26
	Female	119	2.51	0.96		
Narcissism	Male	480	2.97	0.90	0.86	0.02
	Female	119	2.99	0.99		
Self-promote	Male	480	2.73	1.00	0.07	0.19
	Female	119	2.54	1.01		
Unpredictable	Male	480	2.70	1.00	0.38	0.09
	Female	119	2.61	1.12		

As is evident from Table 12 above, statistical ($p \leq 0.01$) and practical ($d < 0.26$) differences were found between males and females, especially regarding the *Authoritarian leadership* factor. In particular, male employees' experience of authoritarian leadership (M = 2.76; *SD* = 0.89; $p = 0.01$; $d = 0.26$), is different, compared to female employees (M = 2.51; *SD* = 0.96; $p = 0.01$; $d = 0.26$). It was found that male employees experience more authoritarian leadership than females do.

TABLE 13: *Difference between employees' experiences of toxic leadership, based on age groups*

Toxic leadership factor	Age groups	*n*	Mean	*SD*	*P*	*d*
Abusive	1951-1982	353	3.09	0.92	0.57	0.14
	1982-	242	2.96	0.91		
Authoritarian	1951-1982	354	2.70	0.89	0.84	0.05
	1982-	242	2.72	0.95		
Narcissism	1951-1982	354	3.01	0.97	0.34	0.02
	1982-	242	2.94	0.83		
Self-promote	1951-1982	354	2.71	1.01	0.82	0.07
	1982-	242	2.69	0.99		
Unpredictable	1951-1982	354	2.69	1.02	0.77	0.02
	1982-	242	2.69	1.03		

As is evident from Table 13 above, no significant statistical difference were found based on age. Effect sizes, measured by *d* values, were all found to be below 0.15, which indicates a small effect. Effect sizes with *d* values between 0.15 and 0.35 are considered medium and those above 0.35 are considered a large effect (Ellis & Steyn, 2003).Thus, the findings indicated no significant practical differences between employees in their experience of toxic leadership, based on age.

TABLE 14*: Difference between employees' experiences of toxic leadership, based on ethnic groups*

Toxic leadership factor	Ethnic	*n*	Mean	*SD*	*P*	*d African with*	*d Coloured with*	*d Indian with*
Abusive	African	352	2.69	0.98	**0.03**			
	Coloured	37	2.63	0.99		0.06		
	Indian	75	2.38	0.90		0.32	0.26	
	White	134	2.80	1.04		0.11	0.16	**0.41**
Authoritarian	African	352	2..76	0.93	**0.00**			
	Coloured	37	3.00	0.99		0.25		
	Indian	75	2.35	0.79		**0.44**	**0.66**	
	White	134	2.69	0.88		0.08	0.32	**0.38**
Narcissism	African	352	2.94	0.88	0.71			
	Coloured	37	2.91	0.88		0.03		
	Indian	75	2.99	0.93		0.05	0.08	
	White	134	3.05	1.01		0.10	0.13	0.06
Self-promote	African	352	2.71	0.98	0.19			
	Coloured	37	2.89	0.82		0.19		
	Indian	75	2.49	1.02		0.21	0.39	
	White	134	2.72	1.07		0.02	0.16	0.22
Unpredictable	African	352	2.66	1.01	**0.04**			
	Coloured	37	3.13	0.97		**0.46**		
	Indian	75	2.56	1.02		0.10	**0.56**	
	White	134	2.69	1.05		0.03	**0.42**	0.12

Table 14 above, presents results for analyses of differences, which were done to ascertain how diverse ethnic groups experience toxic leadership, as measured by its five factors, namely

abusive supervision, authoritarian leadership, narcissism, self-promotion and unpredictability. The findings indicated significant differences between ethnic groups' experience of certain toxic leadership factors such as abusive supervision, authoritarian leadership and unpredictability, which are clarified below. The *d* values were used to analyse the effect sizes of subgroup comparison for the toxic leadership factors indicated above (Ellis & Steyn, 2003).

Abusive supervision: Employees from the Indian ethnic group (M=2.38; *SD* = 0.90; *p* = 0.03) reported that they experience abusive supervision as toxic, generally speaking more frequently than employees from the White ethnic group (M = 2.79; *SD* = 0.93; *p* = 0.03; *d* = 0.41).

Authoritarian leadership: Employees from the Indian ethnic group indicated that they generally experience authoritarian leadership, less frequently as toxic (M= 2.35; *SD* = 0.79; *p* = 0.00;), compared to employees from the African group (M= 2.76; *SD* = 0.93; *p* = 0.00; 0.44). However, the Indian group reported to experience authoritarian leadership in general more frequently than employees from the White group (M = 2.69; *SD* = 0.88; *p* = 0.00; *d* = 0.38). Employees from the Coloured group (M= 3.00; *SD* = 0.99; *p* = 0.0), were found to experience the mentioned factor more frequently than those from the Indian group (M = 2.35; *SD* = 0.79; *p* = 0.00; *d* = 0.66).

Unpredictable: Employees of the African ethnic group indicated that they generally experience unpredictability more frequently as toxic (M=2.66; *SD* = 1.01; *p* = 0.04) than employees from the Coloured group (M=3.13; *SD* = 0.97; *p* = 0.04; 0.46). On the other hand, employees of the Coloured ethnic group (M=3.13; *SD* = 0.97; *p* = 0.04), were found to experience the mentioned factor more frequently than those from the Indian group (M = 2.56; *SD* = 1.02; *p* = 0.04; *d* = 0.56), as well as those of White group (M = 2.69; *SD* =1.05; *p* = 0.04; *d* = 0.42).

Discussion

The general objective of the present study was to determine the psychometric properties of the Toxic Leadership Scale for the South African context, by using the scale developed by Schmidt (2008).

In the following subsections, the outline of the results is discussed, practical implications drawn, limitations identified, and recommendations made.

Outline of the results

Toxic leadership as a research topic has received limited attention in the South African context; only preliminary studies have been done to introduce the concept (Veldsman, 2012). In 2008, Schmidt set out to develop a scale that measures toxic leadership, however, to date no such scale has been developed or validated for use within the South African context. As explained previously, South African legislation stipulates that any use of scales must be scientifically reliable and valid; be applied fairly to all employees; and avoid bias against any individual or group (Visser & Viviers, 2010). The present study aimed to fill the gap by adding to the literature on human resources. Flowing from the main aim, the specific objectives for the present study are discussed critically below.

Objective 1

The first objective of the present study was to determine the reliability and validity of the Toxic Leadership Scale (TLS) for employees in the manufacturing industry.

Reliability was measured through Cronbach's alpha, which scores internal consistency reliability (Pallant, 2010). As was mentioned previously, a score above 0.70 is regarded as reliable (Nunnally & Bernstein, 1994). The Toxic Leadership Scale consist of five sub-scales. The Cronbach's alpha values for these scales in the present study were calculated as follows:

- abusive supervision: $\alpha = 0.89$;
- authoritarian leadership:$\alpha = 84$;
- narcissism:$\alpha = 0.79$;
- self-promotion:$\alpha = 0.87$; and
- unpredictability:$\alpha = 0.92$

In light of the results above, it is evident that all the sub-scales adhered to the guidelines. Thus, it can be concluded that the Toxic Leadership Scale as developed by Schmidt (2008) is reliable for use in the manufacturing industry.

A further requirement for a measurement scale to function is that it must be valid, in other words, measure what it set out to do (Bryman et al., 2014).

Exploratory factor analysis (EFA) with principle component analysis (PCA) was employed to examine the original five factors of the TLS, which included all 30 items. All conditions for a satisfactory EFA was met in the present study. This implies the following: the KMO had a value of 0.954; Bartlett's Test of Sphericity produced a significant result ($p = 0.00$); whilst the five factors explained 64% of the variance. Therefore, this scale could be presented as a five-factor construct, consisting of *abusive supervision, authoritarian leadership, narcissism, self-promotion* and *unpredictability,* thereby confirming hypothesis *H1*.

Confirmatory factor analysis (CFA) was done using structural equation modelling (SEM) to confirm the validity of the scale. Goodness-of-fit indices entailed χ^2, RMSEA, CFI, IFI, TLI and CMIN. Although the results for the CFI, IFI and TLI were just below the cut-off point of 0.9 given as guidelines, the RMSEA value was found equal to 0.08.

All the items had good standard regression weights above 0.30, which indicates that they can all be used in a five-factor model.

The correlation coefficients between the constructs indicated a statistically significant positive correlation between all five factors of the TLS. This means that the factors measure toxic leadership and therefore the inference can be drawn that the scale measures it as well. Thus the scale was found to be valid and measures what it is supposed to. This also confirms hypothesis *H2,* which postulated that the Toxic Leadership Scale as developed by Schmidt is reliable and valid within the South African context.

Objective 2

The second objective was to determine the construct equivalence and item bias of the Toxic Leadership Scale.

Differential item functioning (DIF) was used to measure item bias. Age was used to measure item bias as two groups were compared to assess DIF (De Beer, 2004). Stepwise regression using Winsteps also assessed item bias. Trochim and Donnelly (2006) suggest that such bias can also be assessed through t-tests.

After assessment, only one item was identified as non-uniformly biased. Item 3 showed non-uniform bias for the age group 1965-1981. It appeared that the age group have scored lower on the item than the age group 1982-1988, on the abusive factor of the Toxic Leadership Scale. A possible reason for this finding is that certain concepts or examples are unfamiliar to these groups (Kanjee & Foxcroft, 2009). Keeping the mentioned finding in mind, the specific item

was examined, which refers to employees' perception that their supervisor is inconsiderate towards subordinates' commitments outside of work. In this regard, the non-uniform bias indicates that the difference in scores between age groups depends on the level of a dimension experienced by each individual from each of the age groups.

Regarding uniform bias, only two items were identified, namely Items 9 and 18 ("My current supervisor reminds subordinates of their past mistakes and failures"; "My current supervisor thrives on compliments and personal accolades"). For Item 6, the younger age group scored consistently lower than the other group on the abusive factor, as part of the Toxic Leadership Scale. For Item 18, the older age group scored consistently lower than the younger age group on the narcissistic factor. Possible reasons for differences can be unfamiliar concepts or examples that are unfamiliar, inappropriate, or ambiguous (Kanjee & Foxcroft, 2009).

Confirmatory factor analysis using structural equation modelling was done to confirm the construct equivalence of the Toxic Leadership Scale. Construct equivalence measures whether the constructs in a cross-cultural/societal study have a similar meaning and value in the different cultures/societies that are researched. This measurement included the total population of the study. In terms of the results for the study, the RMSEA value of 0.08 indicated a fit close to good (Cangur & Ercan, 2015) and Fan and Sivo (2007) confirmed that RMSEA was the best model fit measure. CMIN was found to be within the accepted level, measuring 4.42. The CFI was 0.79, IFI 0.79 and TLI, 0.77. All these values are close to the generally accepted minimum norms for satisfactory fit (Bentler, 1990). In light of the findings above, the results are still acceptable.

The mentioned results confirmed acceptable levels of item bias and construct equivalence. This finding supported the research hypothesis *H3*, which stated that the Toxic Leadership Scale will have acceptable levels of construct equivalence and item bias.

Objective 3

The third objective was to investigate the difference between toxic leadership and various demographic variables (e.g. gender, age and ethnicity).

Statistical analysis supported findings of previous studies on the differences between diverse demographic variables. For gender, the results indicated a difference in the way that males and

females experience of toxic leadership. These results are not in line with Chua and Murray (2015) however, who focused on how toxic leaders are perceived in terms of gender; as well as with and Singh et al. (2017), on perceived toxicity and demographics such as age, gender and educational level.

The results from the present (South African) study differ from both studies by Chua and Murray (2015) as well as Singh et al. (2017), who found that the females reported higher perceived toxicity. However, their finding differ from the present study, which indicated that males experience more authoritarian leadership than females do. A possible explanation is the setup of the manufacturing environment as such. This is historically a male dominated industry. In all the organisations where the questionnaires were completed, females were employed mostly in the administration side, therefore not exposed to the day-to-day operations of the business. However, hypothesis *H4* is supported insofar as it relates to gender on a difference in the experience of toxic leadership.

The results in terms of age indicated no significant difference in the way the two age groups experience toxic leadership. In the study by Singh et al. (2017), the breakdown of the age groups was similar to that of the present study. Their results also showed no significant differences in the experience of toxic leadership by employees from different age groups. Therefore, Hypothesis *H4* is not supported for age, seeing that the results indicated no difference in the way the two age groups experience toxic leadership.

For ethnicity, no studies could be found that investigated the difference in experiences of toxic leadership and employees' ethnicity. There is thus no existing studies against which to compare the results of the present study. The present results indicated significant differences between toxic leadership and ethnicity, particularly in respondents' experience of abusive supervision, authoritarian leadership and unpredictability. The *d* values were used to analyse the effect sizes of subgroup comparisons for the toxic leadership factors indicated above (Ellis & Steyn, 2003).

Regarding abusive supervision, particularly the employees of the Indian ethnic group indicated that they experienced this factor differently than employees of the White group. Generally, the Indian group indicated that their experience of abusive supervision was more toxic than that of the White group.

In terms of authoritarian leadership, employees in the Indian ethnic group indicated that they generally experience this factor more frequently than employees from the White group, however, less than the African and Coloured groups.

The unpredictability factor was experienced more frequently by employees of the African ethnic group than from the Coloured group. Employees from the Coloured group found that they experienced this factor more frequently than employees of both the Indian and White groups. Therefore, Hypothesis *H4* on differences experienced by various ethnic groups is supported.

Practical implications

The present results hold certain practical implications for organisations. This study will create the awareness about toxic leadership in the manufacturing organisations (Schmidt, 2008). Practically, the study will help develop a scale that can be used to measure toxic leadership in the organisation. Organisations seeking to attract and retain top talent are constantly examining ways to recognise high performers and exceptional leaders. It is vitally important that organisations wanting to be successful should be aware and vigilant of individuals in positions of power who may impact negatively on the business. However, as Schmidt (2014) indicates, management seldom think proactively about preventing toxic leadership in their business, which may hamper the success of the organisation. Providing organisations with the tools to measure and evaluate toxic leadership will allow organisations, that are truly invested in their staff, to make the necessary interventions before the situation deteriorates beyond control. Organisations that are aware of toxic leadership and its influence on job satisfaction, turnover intention and commitment, can act proactive by strategically plan a programme that will deal with types of leadership effectively.

Limitations and recommendations

Limitations

Due to the nature and scope of the research study, several limitations must be taken into account when the results of the data are analysed and interpreted.

Firstly, the most important limitation is the fact that the data were collected through a cross-sectional design, which did not allow causal interpretation of the results or the effect of the phenomenon (Gravetter & Forzano, 2012).

Secondly, the selected sampling method combined convenience and purposive sampling due to the respondents' availability and willingness to respond. Furthermore, the composition of the sample may also have been based on the judgement of the researcher. Such a composition may raise concerns about potential bias and subjectivity from the researcher, and should be kept in mind when interpreting the findings (De Vos et al., 2011).

Thirdly, toxic leadership was measured from the subordinate's perception only, and no input or self-report was available from the leader. As a result, inferences on toxic leadership were drawn from the subordinate's perspectives only.

Fourthly, the study was confined to the manufacturing sector in South Africa. This restriction of the study population and the sampling procedure may influence the generalisability of the results.

Recommendations

Despite the limitations of the study, the present findings may have important implications for future research and practice. Therefore, recommendations are made below.

Firstly, as mentioned above, due to restricted population and a particular sampling method, the results may not be generalisable for the different business sectors. Therefore, it is recommended that future research should replicate the study in different sectors that represent diverse populations. This approach would provide a true reflection of toxic leadership in South Africa and ascertain whether the results are similar, or differs strongly across the various sectors.

Secondly, most of the study population was male. Thus, future studies should aim to include a larger sample population of females. It is uncertain whether this male majority skewed the results. Therefore, future studies with a larger the female contribution to the population, may find similar results than previous studies where females were found to experience toxic leadership more negatively.

Thirdly, the use of longitudinal studies can help measure the scales' constructs over an extended period. Such an approach will have positive implications for operational

interventions, seeing that it points out the cause-and effect relationships and can therefore guide the interventions (De Vos et al., 2011).

Finally, the results of the present study suggested several additional areas of investigation. An example is deeper understanding of the specific impact which each variable has on the data. This refers particularly to the different factors of the Toxic Leadership Scale. The study did not examine the specific impact of each factor and its contribution to toxic leadership as a whole, in other words, how much variance is explained by each of the factors.

Conclusion

In the present study, the psychometric properties of the Toxic Leadership Scale were investigated for use in the South African context. This study provides the first attempt to date that the researcher could find, which operationalises toxic leadership in South Africa. Therefore, it is important that other researchers build on these findings for future investigations in the study field. Although not all the hypotheses were supported by the findings, the study did establish that toxic leadership is also experienced by employees in South Africa. This study contributes to literature and the validation of the Toxic Leadership Scale, which means that South African manufacturing organisations can use these findings to help them address potential leadership problems. Such interventions will result in clear benefits to the organisation such as possible decrease in turnover, lower absenteeism rates and a more committed workforce.

REFERENCES

Appelbaum, S. H., & Roy-Girard, D. (2007). Toxins in the workplace: Affect on organisations and employees. *Corporate Governance: The International Journal of Business in Society, 7*(1), 17-28.

Arbuckle, J. L. (2006). AMOS (version 7.0)[computer program]. Chicago: SpSS.

Ashforth, B. (1994). Petty tyranny in organizations. *Human Relations, 47*(7), 755-778.

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Personality & Individual Differences, 42*(5), 815-824.

Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin, 88*(3), 588.

Boateng, G. O., Neilands, T. B., Frongillo, E. A., Melgar-Quiñonez, H. R., & Young, S. L. (2018). Best practices for developing and validating scales for health, social, and behavioral research: A primer. *Frontiers in Public Health, 6.* doi: 10.3389/fpubh.2018.00149

Branham, L. (2005). Planning to become an employer of choice. *Journal of Organizational Excellence, 24*(3), 57-68.

Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. *Sage Focus Editions, 154,* 136-136.

Bryman, A., Bell, E., Hirschsohn, P., Dos Santos, A., Du Toit, J., Masenge, A., Van Aardt, I., & Wagner, C. (2014). *Research methodology: Business and management contexts.* Cape Town: Oxford University Press.

Byrne, B. M. (2010). *Structural equation modelling with AMOS: Basic concepts, applications and programming* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum.

Cangur, S., & Ercan, I. (2015). Comparison of model fit indices used in structural equation modeling under multivariate normality. *Journal of Modern Applied Statistical Methods, 14*(1), 14.

Cheng, B. S., Chou, L. F., Wu, T. Y., Huang, M. P., & Farh, J. L. (2004). Paternalistic leadership and subordinate responses: Establishing a leadership model in Chinese organizations. *Asian Journal of Social Psychology, 7*(1), 89-117.

Chua, S. M. Y., & Murray, D. W. (2015). How toxic leaders are perceived: Gender and information-processing. *Leadership & Organization Development Journal, 36*(3), 292-307.

Coolican, H. (2014). *Research methods and statistics in psychology* (6th ed.). New York, NY: Psychology Press.

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches.* Thousand Oaks, CA: Sage.

De Beer, M. (2004). Use of differential item functioning (DIF) analysis for bias analysis in test construction. *SA Journal of Industrial Psychology, 30*(4), 52-58.

De Vos, A. S., Strydom, H., Fouché, C. B., & Delport, C. S. L. (2011). *Research at grassroots: For the social sciences and human service professions* (4th ed.). Pretoria: Van Schaik.

Dobbs, J. M. (2014). *The Relationship between perceived toxic leadership styles, leader effectiveness, and organizational cynicism* (Unpublished doctoral thesis). University of San Diego, San Diego, CA.

Dyck, D, & Roithmayr, T. (2001, March). The toxic workplace: is your organisation making workers sick? *Benefits Canada, 25*(3), 52-57.

Einarsen, S., Aasland, M. S., & Skogstad, A. (2007). Destructive leadership behaviour: A definition and conceptual model. *The Leadership Quarterly*, *18*(3), 207-216.

Ellis, S. M., & Steyn, H. S. (2003). Practical significance (effect sizes) versus or in combination with statistical significance (p-values): Research note. *Management Dynamics: Journal of The Southern African Institute for Management Scientists*, *12*(4), 51-53.

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

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

Fan, X., & Sivo, S. A. (2007). Sensitivity of fit indices to model misspecification and model types. *Multivariate Behavioural Research*, *42*(3), 509-529.

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

Foxcroft, C., & Roodt, G. (2013). *Introduction to psychological assessment in the South African context* (4th ed.). Cape Town: Oxford University Press**.**

Gaskin, J.E. 2014. Exploratory factor analysis. Retrieved from http://statwiki.kolobkreations.com/index.php?title=Exploratory_Factor_Analysis

George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference 11.0 update* (4th ed.). Boston, MA: Allyn & Bacon.

Goldman, A. (2006). High toxicity leadership. Borderline personality disorder and the dysfunctional organisation. *Journal of Managerial Psychology, 21,* 733-746.

Gravetter, F. J., & Forzano, L.B. (2012). *Research methods for the behavioural sciences* (4th ed.). Belmont, CA: Wadsworth

Harlow, L. L., (2014). *The essence of multivariate thinking: Basic themes and methods.* (Multivariate Applications Series). London: Routledge.

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

Hunter, S. T., Bedell-Avers, K. E., & Mumford, M. D. (2007). The typical leadership study: Assumptions, implications, and potential remedies. *The Leadership Quarterly, 18*(5), 435-446.

IBM Corp. Released (2017). *IBM SPSS Statistics for Windows*, Version 25.0. Armonk, NY: IBM Corp.

IDC (Industrial Development Corporation). (2019). Economic trends: Key trends in the South African economy. Retrieved from http://www.idc.co.za/images/download-files/ economicoverviews/RI-publication-Keytrends-in-SA-economy_March2019.pdf

Jöreskog, K. G., & Sörbom, D. (1993). LISREL 8: Structural equation modeling with the SIMPLIS command language. Chicago, IL, US: Scientific Software International; Hillsdale, NJ, US: Lawrence Erlbaum Associates, Inc.

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

Kaiser, R. B., Hogan, R., & Craig, S. B. (2008). Leadership and the fate of organisations. *American Psychologist, 63*(2), 96-110.

Kanjee, A., & Foxcroft, C. (2009). Cross-cultural test adaptation, translation and test in multiple languages. In C. Foxcroft & G. Roodt, *Introduction to psychological assessment in the South African context* (3rd ed.), (pp. 82-84). Cape Town: Oxford University Press.

Kellerman, B. (2004). *Bad leadership: What it is, how it happens, why it matters?* Boston: Harvard Business Press.

Kerlinger, F. N. & Lee, H. B. (2000). *Foundations of behavioral research* (4th ed.). Holt, NY: Harcourt College.

Kusy, M., & Holloway, E. (2009). *Toxic workplace: Managing toxic personalities and their systems of power.* San Francisco, CA: Jossey-Bass.

Laher, S & Cockcroft, K. (2014). Psychological assessment in post-apartheid South Africa: The way forward. *South African Journal of Psychology, 44*(3), 303 -314.

Lance, C. E., Butts, M. M., & Michels, L. C. (2006). The sources of four commonly reported cut off criteria what did they really say? *Organizational Research Methods*, *9*(2), 202-220.

Leet, E. (2011). *The impact toxic or severe dysfunctional leadership has on the effectiveness of an organisation* (Doctoral dissertation). Perth: Murdoch University

Linacre, J. M. (2018). Winsteps® Rasch measurement computer program. Beaverton, OR: Winsteps.com.

Lindridge, A. (2015). Construct equivalence. *Wiley encyclopaedia of management*, *9*, 1-3. https://doi.org/10.1002/9781118785317.weom090375

Lipman-Blumen, J. (2005). *The allure of toxic leaders: Why we follow destructive bosses and corrupt politicians – and how we can survive them.* Oxford: Oxford University Press.

Macklem, K. (2005). The toxic workplace. *Maclean's, 118*(5), 34

Marsh, H. W., Hau, K. T., & Wen, Z. (2004). In search of golden rules: Comment on hypothesis-testing approaches to setting cut off values for fit indexes and dangers in overgeneralizing Hu and Bentler's (1999) findings. *Structural Equation Modeling*, *11*(3), 320-341.

McKinsey Global Institute. (2012). *Manufacturing the future: The next era of global growth and innovation*. Retrieved from http://www.mckinsey.com/business- functions/operations/ our-insights/the-future-of-manufacturing.

Meiring, D., Van de Vijver, A. J. R., Rothmann, S., & Barrick, M. R. (2005). Construct, item, and method bias of cognitive and personality tests in South Africa. *South African Journal of Industrial Psychology*, *31*(1), 1-8.

Mehta, S., & Maheshwari, G. C. (2013). Consequence of toxic leadership on employee job satisfaction and organizational commitment. *Journal of Contemporary Management Research*, *8*(2), 1-23.

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

Pallant, J. (2010). *SPSS survival manual*: *A step by step guide to data analysis using the SPSS program* (4th ed.), New York, NY: McGraw-Hill.

Paterson, H. & Uys, J. S. (2005). Critical issues in psychological test use in the South African workplace. *SA Journal of Industrial Psychology, 31*(3), 12 -22.

Pelletier, K. L. (2010). Leader toxicity: An empirical investigation of toxic behavior and rhetoric. *Leadership*, *6*(4), 373-389.

Pevalin, D., & Robson, K. (2009). *The Stata survival manual.* Berkshire: McGraw-Hill Education.

Popa, M., Rotarescu, V. S., & Sulea, C. (2013). Toxic leadership scale: A Romanian adaptation and validation. *Psychology & Health*, *28*, 291-291.

Reed, G. E. (2004). Toxic leadership. *Military Review,* 67-71.

Yukl, G. A. (2006*). Leadership in Organisations* (6 ed.). Upper Saddle River, NJ: Prentice Hall.

Schmidt, A. A. (2008). *Development and validation of the toxic leadership scale* (Order No. 1453699). Available from ProQuest Dissertations & Theses Global. (193655997). Retrieved from http://nwulib.nwu.ac.za/login?url=https://search-proquest-com.nwulib.nwu.ac.za/docview/193655977?accountid=12865

Schmidt, A. A. (2014). *An examination of toxic leadership, job outcomes, and the impact of military deployment* (Order No. 3627674). Available from ProQuest Dissertations & Theses Global. (1558874321). Retrieved from http://nwulib.nwu.ac.za/login?url=https://search-proquest-com.nwulib.nwu.ac.za/docview/1558874321?accountid=12865

Singh, N., & Dev, S., & Sengupta, S., (2017). Perceived toxicity in leaders: Through the demographic lens of subordinates. *Procedia Computer Science, 122*, 114-121.

Steyn, H. S., & Swanepoel, C. J. (2008). *Praktiese statistiek* (2de uitg.). Potchefstroom: Noordwes Universiteit.

Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed). New York, NY: Pearson Education.

Tay, L., & Jebb, A. (2017). *Scale development*. In S. Rogelberg (Ed.), *The SAGE encyclopedia of industrial and organizational psychology* (2nd ed.). Thousand Oaks, CA: Sage.

Tavanti, M. (2011). Managing toxic leaders: Dysfunctional patterns in organizational leadership and how to deal with them. Retrieved from http://www. https://pdfs.semanticscholar.org/59f7/9382cae6ce9c2e7bb46152c8023c04b56409.pdf

Tepper, B. J. (2000). Consequences of abusive supervision. *Academy of Management Journal*, *43*, 178-190.

Tierney, P., & Tepper, B. J. (2007). The Leadership Quarterly special issue: Destructive leadership. *The Leadership Quarterly, 18*(3*)*, 171-173.

Trochim, W. M. K., & Donnelly, J. P. (2006). *The Research methods knowledge base* (3rd ed.). Mason, OH: Atomic Dog.

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

Van de Vijver, F., & Leung, K. (1997). *Methods and data analysis for cross-cultural research.* London: Sage.

Van de Vijver, F., & Tanzer, N. K. (2004). Bias and equivalence in cross-cultural assessment: An overview. *European Review of Applied Psychology / Revue Européenne de Psychologie Appliquée, 54*(2), 119-135. http://dx.doi.org/10.1016/j.erap.2003.12.004

Van der Merwe, R. P. (2002). Psychometric testing and human resource management. SA Journal of Industrial Psychology, 28(2), 77-86.

Veldsman, T. (2012, October). The growing cancer endangering organisations: Toxic leadership. Paper presented at the Conference on Leadership in Emerging Countries held by the Department of Industrial Psychology and People Management, Faculty of Management, University of Johannesburg, Johannesburg.

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

Walton, M. (2007). Leadership Toxicity – An inevitable affliction of organisations. *Organisations & People*, 14(1), 19-27.

Whicker, M.L., (1996). *Toxic Leaders: When organisations go bad.* Westport, CT. Quorum Books.

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

Yavaş, A. (2016). Sectoral differences in the perception of toxic leadership. *Procedia-Social & Behavioral Sciences, 229,* 267-276.

Young, A. G., & Pearce, S. (2013). A beginner's guide to factor analysis: Focusing on exploratory factor analysis. *Tutorials in Quantitative Methods for Psychology, 9*(2), 79-94.

CHAPTER 3

RESEARCH ARTICLE 2

ASSESSING THE RELATIONSHIP BETWEEN TOXIC LEADERSHIP, JOB SATISFACTION, COMMITMENT, TURNOVER INTENTION AND ORGANISATIONAL CULTURE AMONG EMPLOYEES WITHIN THE SOUTH AFRICAN MANUFACTURING INDUSTRY

Abstract

Orientation: The impact of toxic leadership on employees and organisations have only recently become the focus of certain research studies. These studies all showed that toxic leadership has a detrimental impact on the employees and the organisation alike. However, to date no attempt has been made to assess the relationship between toxic leadership, job satisfaction, commitment and organisational culture within the South African context.

Research purpose: The general objective of this research was to investigate the relationship between toxic leadership, job satisfaction, turnover intention and commitment. The aim further was to test whether organisation culture mediates the relationship between toxic leadership and certain job outcomes such as job satisfaction, turnover intention and commitment.

Motivation for the study: Currently no knowledge is available on the relationships between toxic leadership and job outcomes within the context of South African manufacturing organisations. Neither do any current studies provide insight into the possible mediational effect of organisational culture in the relationship between toxic leadership and specific job outcomes, namely job satisfaction, turnover intention and commitment. Therefore, the present study provides South African organisations and researchers with an insight into such a relationship and the mentioned mediation of organisational culture in the process.

Research design: A cross-sectional research design was used to investigate the South African manufacturing industry. A sample size was used of *N=600* manufacturing employees. Product-moment correlations were applied to determine the relationships between variables (i.e. toxic leadership, job satisfaction, organisational commitment and turnover intention) and the strength of these relationships. Multiple regression was done to determine whether toxic leadership dimensions predict outcomes such as job satisfaction, turnover intention and organisational commitment. Structural equation modelling was used to test the mediation effect of organisational culture between toxic leadership and the mentioned three job outcomes.

Main findings: The study set out to determine the relationships between the variables toxic leadership, job satisfaction, organisational commitment and turnover intention. The results

indicated significant statistical relationships between all the variables tested. For toxic leadership and job satisfaction the relationship was positive statistically and practically significant. The relationship between toxic leadership and organisational commitment showed that the toxic leadership factors all have statistically significant negative relationships with *affective commitment,* while being positively statistically and practically related to *turnover intention.* The results also indicated that toxic leadership is a predictor of job satisfaction, affective commitment and turnover intention. The tests results returned both direct and indirect effects for all the relationships, which indicated only partial mediation in all the tested relationships.

Practical implications: The results of the present study provided an initial empirical evaluation of the relationship between toxic leadership, job satisfaction, organisational commitment and turnover intention in the manufacturing industry, focusing on phenomena within a South African context. Furthermore, organisations are provided insight into the possible consequences of toxic leadership on employees and the organisation's culture.

Contribution: The improved understanding of toxic leadership and the relationship with certain job outcomes contributes to the body of knowledge on both the theory of toxic leadership and on employees' experience of such leadership styles in the work environment.

Keywords: Toxic leadership, job satisfaction, organisation commitment, turnover intention, organisational culture, correlations, mediation, regression, structural equation.

Introduction

Leadership contributes significantly to an organisation's success and or failure (Lok & Crawford, 2003). According to Rasid, Manaf and Quoquab (2013), the capability of the leader to lead and motivate employees should not be disregarded. However, in recent years there have seen a rise in toxic leadership styles within organisations (Metha & Maheshwari, 2013), and Veldsman (2012) argues that as many as three out of ten leaders may manifest such a toxic style. Veldsman (2012) indicates that these levels of toxicity threaten the well-being of both individuals and organisations and this creates an urgent need to understand the nature and evolution of toxic leadership and organisations. Through the initial research into toxic leadership several key themes have emerged. These are the following: toxic leaders are harmful or abusive (Lipman-Blumen, 2005); tend to micromanage (Metha & Maheshwari, 2013); are unpredictable (Schmidt, 2008); display narcissistic tendencies (Schmidt, 2008); show a lack of integrity; and cause divisiveness (Lipman-Blumen, 2005). However, minimal literature is available on the influence of toxic leadership on organisations as well as the individuals who work in these organisations (Leet, 2011).

The manufacturing sector currently contributes around 13.2% of the gross domestic product (GDP) and is the fourth largest sector in the South African economy, as reported in March 2019 (IDC, 2019). Furthermore, according to the Industrial Development Corporation (IDC), the total number employed at the end of the last quarter of 2018 was 1.21 million people (IDC, 2019). The sector has seen a decline of 1.4% over the last six years, increasing the pressures that managers have to deal with in terms of cost, electricity supply, skills shortages and productivity levels (IDC, 2019). Since the manufacturing industry is labour intensive, it is important to recognise the behaviours of leaders that can be detrimental to not only the organisation but also to the performance of the employees (Metha & Maheshwari, 2013). Therefore, it is important to investigate the prevalence and presence of toxic leadership in the manufacturing industry.

Whilst positive leadership styles are correlated with good organisational results, certain negative leadership styles have harmful effects on employees and the work environment (Acka, 2017). In this regard, results from a recent survey by Life Meets Work Consulting indicated that as many as 56% of employees were currently working for a toxic leader whose behaviour was creating an unhealthy work environment (Lazarczyk, 2017). Several studies investigated

negative leadership styles from which the theme of toxic leadership has emerged (e.g. Kusy & Holloway, 2009; Lipman-Blumen, 2005; Metha & Maheshwari, 2014; Schmidt, 2008; 2014).

These initial studies into toxic leadership indicate that this style exists in numerous organisations today. Thus, scores of employees have been exposed to leaders and managers who display toxic behaviour styles (Metha & Maheswari, 2014). However, evident from the initial studies was the insight that toxic leaders may be highly competent and effective in their jobs but help cause an unhealthy climate amongst their subordinates and peers, with the consequences of their actions reaching further than merely a few individuals (Tavanti, 2011). Toxic leadership also appeared to be a leadership style in its own right, not merely defined as the lack of effective leadership (Schmidt. 2008).

Through the above-mentioned studies, toxic leadership have been broadly referred to as individuals who, through their destructive behaviour, inflict serious and enduring harm on individuals, groups, organisations, communities and even nations that they lead (Lipman-Blumen, 2005). According to Metha and Maheshwari (2013), toxic leaders and their decisions do not only affect the organisation, but also every individual with whom they come in contact. Schmidt (2008) agrees that this leadership style has particularly negative consequences for the entire workforce and the organisation as a whole. Organisational outcomes due to toxic leadership include negative effects on a company's performance (Ashforth, 1997), higher turnover intention (Tate, 2009) and a lack of commitment (Weaver & Yancy, 2010). Webster, Brough, Daly and Myors (2011) found that the articles and books outlining the effects of toxic leadership have a conceptual nature, with limited empirical investigations done to test the effect on job outcomes. This finding is supported by Schmidt (2014) who emphasises the limited empirically testing on the relationship between toxic leadership and job-related outcomes.

According to Lok and Crawford (2003), there is also a strong correlation between leadership, organisational culture and its effect on organisational commitment and job satisfaction. Sadri and Lees (2001) found that negative organisational culture impedes an organisation's ability to perform. Van der Post, De Coning and Smit (1997) indicate that organisations are "living entities" that exhibit their own personalities through what is known as "organisational culture". This culture in turn gives meaning and direction to the employees (Van der Post et al., 1997), and creates the environment within which the organisation functions (Sempane, Reiger & Roodt, 2002). Schein (2004) suggests that the leadership of an organisation and its culture are

linked closely and that senior leaders permeate an organisation's culture with their own personal characteristics by establishing goals, values and norms (Schneider, Goldstein & Brent-Smith, 1995). Giberson, Resick, Dickson, Mitchelson, Randall and Clark (2009) assert that toxic leaders create a toxic culture by changing its content.

Recent studies on leadership have indicated that organisational culture may have a mediating effect on the relationship between leadership and job outcomes, and that the mediator's influence is stronger than that of the independent variable (Imran, Zahoor & Zaheer, 2012; Rasid, Manaf & Quoquab, 2013). Therefore, it is necessary to investigate the influence or mediating effect of organisational culture between toxic leadership and certain job outcomes, for example, job satisfaction, organisational commitment, organisational culture and turnover intention. Such an investigation is necessary since, to date, no study in South Africa has attempted to measure the mediating effect of organisational culture on toxic leaders.

Furthermore, in South Africa, limited research has been done on the topic of toxic leadership as such. An introductory study by Veldsman (2012) centred on introducing and defining the concept. Dladla (2011), Du Toit (2015) and Heine (2013) in South Africa restricted their research to investigating certain aspects of negative leadership, such as unethical behaviour and distrust. It is important to understand whether the phenomenon of toxic leadership is also present in the South African workplace, and if so, what its impact is on employees in those organisations. Thus far no study in South Africa has attempted to measure toxic leadership and its relationship with the above-mentioned job-related outcomes, as well as its effect on the organisation and its employees. The manufacturing industry in South Africa is currently under pressure to remain competitive and one of the main reasons for this pressure is due to inefficient leadership (Ebrahim & Pieterse, 2016). Therefore, a study of this nature will help the manufacturing industry assess toxic leadership in the industry, as well as contribute to the limited research available on this topic currently.

Research purpose and objectives

In light of the above-mentioned problem, the general objective of this research was to investigate the relationship between toxic leadership, job satisfaction, turnover intention and organisational commitment. The aim further was to test whether organisational culture

mediates the relationship between toxic leadership and certain job outcomes, such as job satisfaction, turnover intention and organisational commitment.

The following specific objectives flowed from the above-mentioned general aim:

- Determine how the relationship between toxic leadership, job satisfaction, turnover intention, organisational commitment and organisational culture are conceptualised according to the literature.
- Investigate whether there exists a relationship between toxic leadership, job satisfaction, turnover intention and organisational commitment among employees within the manufacturing industry.
- Establish whether toxic leadership predicts certain job outcomes (e.g. job satisfaction, turnover intention and organisational commitment) among employees within the manufacturing industry.
- Determine whether organisational culture mediates the relationship between toxic leadership and certain job outcomes (e.g. job satisfaction, turnover intention and organisational commitment) among employees within the manufacturing industry.
- Ascertain which recommendations can be made for future research and practice

Literature review

Toxic leadership and its dimensions

Since the beginning of the new millennium, research has attempted to understand the nature and consequence of negative leadership, by investigating diverse styles. Einarsen, Aasland and Skogstad (2007) introduced the concept of destructive leadership, which includes all harmful actions towards subordinates, the organisation and any other factors that could have a possible influence. Workplace bullying is another negative leadership style that has been investigated; it refers to harassing, offending, or exhibiting socially exclusive behaviour towards an individual at work, actions that happens regularly or repeatedly (Fox & Stallworth, 2005). Abusive supervision is a concept introduced by Tepper (2007), which indicates hostile behaviour that can be verbal, nonverbal and intentional. Petty tyranny (Ashforth, 1997) refers to the use of one's power negatively to overpower others. However, it became clear that none of these concepts fully encapsulates the diverse aspects of toxic leadership.

Certain distinct differences between toxic leadership and other negative leadership styles are that toxic leaders exhibit an underlying neglect for the well-being of their subordinates, they micromanage to the point where employees are stifled and cowered, and they have an enhanced need to feel important (Lipman-Blumen, 2005). From existing research, it seems as if destructive leadership, petty tyranny and abusive supervision are themes to be researched independently, however, toxic leadership captures the entire spectrum of negative leadership styles (Schmidt, 2008). As studies on the topic of toxic leadership are concluded, several definitions have been developed to give meaning to this phenomenon. However for the purposes of the present study, the definition is used of Schmidt (2008, p. 57):

> Toxic leadership can and should be universally recognised as a unique set of leadership behaviours that negatively impact the subordinate group in a predictable way. Toxic leaders are narcissistic, self-promoters who engage in an unpredictable pattern of abusive and authoritarian supervision.

Taking note of the definition above, it follows that toxic leadership comprises five dimensions: *abusive supervision, authoritarian leadership, narcissism, self-promotion* and *unpredictability*. These dimensions were measured in the study and are discussed in more detail below:

Abusive supervision refers to a leader's perceived intentionally hostile behaviours towards employees (Dobbs, 2014; Schmidt, 2014), excluding physical contact (Tepper, 2007). It is considered to be a continual occurrence or a sustained display until the behaviour changes or the supervisor-subordinate relationship is terminated (Tepper, 2007). This also entails an element of wilful behaviour, seeing that the supervisor's behaviour is purposeful in a negative way (Tepper, 2007).

Authoritarian leadership: attempts to exert excessive authority and control over subordinates (Dobbs, 2014) in such a way that the leaders ultimately control all the work (Schmidt, 2014). Authoritarian leaders are likely to exercise control by initiating structures, issuing rules, promising rewards for compliance, and threatening punishment for disobedience (Aryee, Chen, Sun & Debrah, 2007).

Narcissism: points to a style driven by arrogance and self-absorption, where self-orientated actions are designed to enhance the self (Dobbs, 2014), but often fails to follow company

policies whilst expecting it of employees (Schmidt, 2014). According to Rosenthal and Pittinsky (2006), narcissists are prone to be inefficient leaders, who are overinvolved and abusive, and bound to leave damaged systems and relationships behind.

Self-promotion: advertise their accomplishments and also take credit for others' work (Dobbs, 2014), blame others and deflect responsibility for mistakes (Schmidt, 2014). This dimension also includes a leader who grants privileges to those people who can advance his/her interests (Özer, Uğurluoğlu, Kahraman & Avci, 2017).

Unpredictability: through their actions they keep subordinates afraid and watchful (Dobbs, 2014). These leaders act differently when their superiors are around (Schmidt, 2008) and their consistent unpredictable actions eventually cause their subordinates to give up, feeling helpless and powerless to protect themselves (Schmidt, 2014).

The relationship between toxic leadership, job satisfaction, commitment, turnover intention and organisational culture

Job satisfaction

According to Illies and Judge (2004), job satisfaction refers to employees' attitude towards their jobs. Job satisfaction would thus be individual employees' own assessment of how fulfilled and challenged they feel in their job. Therefore, if individuals show a positive and favourable attitude towards their job, they are experiencing high job satisfaction, whereas a negative and unfavourable attitude can indicate job dissatisfaction (Armstrong, 2006). For the purpose of this study, the concept of job satisfaction is used as defined by Buitendach and Rothmann (2009, p.1):

> Job satisfaction has to do with an individual's perceptions and evaluation of his job, and this perception is influenced by the person's unique circumstances, such as needs, values and expectations.

Metha and Maheshwari (2013) found a statistically significant negative relationship between toxic leadership and job satisfaction. Their findings are supported by Schmidt (2014) who indicated a statistically negative relationship between toxic leadership and job satisfaction on both the individual and group level. Kusy and Holloway (2009), as well as Tepper (2007), concur that toxic, destructive and dysfunctional leadership behaviour has a negative impact on employees' job satisfaction.

Organisational commitment

Organisational commitment refers to the psychological link between employees and the organisation (Meyer & Allen, 1991). This link creates a bond which will make it less likely that individual employees will leave the organisation voluntarily. Meyer and Allen (1991) refer to three forms of organisational commitment, namely affective, continuance and normative. *Affective* commitment refers to the emotional attachment that employees feel towards their organisations. *Continuance* commitment entails employees' decision to remain with their organisation, because they deem the cost of leaving too high. Furthermore, *normative* commitment refers to employees' bond with an organisation due to a perceived sense of obligation towards the organisation (Meyer & Allen, 1991). Mehta and Maheshwari (2013) found a statistically significant negative relationship between toxic leadership and organisational commitment. Schmidt's follow-up study found that toxic leadership does not only affect organisational commitment at individual level, but also at group level. The impact also indicated a statistically negative relationship (Schmidt, 2014), especially concerning the affective commitment dimension of organisational commitment. Furthermore, Weaver and Yancy (2010) also found that forms of destructive leadership behaviour impact negatively on employees' commitment to the organisation.

Turnover intention

Turnover intention is not defined precisely in studies but is viewed broadly as the final step in the decision-making process before an individual actually leaves a workplace (Bester, 2012). The present study accepts the definition of Tett and Meyer, as used by Bothma and Roodt (2013). Tett and Meyer (1993) describe turnover intention as a conscious and deliberate wilfulness (i.e. conscious and deliberate determination) to leave the organisation. The results of Schmidt's follow-up study (2014) indicate that toxic leadership significantly predicts employee outcomes such as turnover intention. This finding supports Tepper's study which found that abusive supervision predicts turnover (Tepper, 2007). Rayner and Cooper (1997) found a positive relationship between employees' turnover intention and toxic leadership. This finding is supported by Zangaro, Yager and Proulx (2009) investigating the influence of toxic leadership in the nursing profession, which indicates increased absenteeism and higher turnover rates.

Organisational culture

Organisations are "living" entities that reflect their own personalities and sets of values; this is what is known as organisational culture (Van der Post, De Coning & Smit, 1997, p. 4):

> Organisational culture refers to a system of shared meaning, the prevailing background fabric of prescriptions and proscriptions for behaviour, the system of beliefs and values and the technology and task of the organization together with the accepted approaches to these.

Organisational culture gives meaning and direction to all employees (Van der Post et al., 1997) by creating the environment within which the organisation functions (Sempane, Reiger, & Roodt, 2002). According to Van der Post et al. (1997), organisational culture can be broken down into 15 different factors, which are discussed briefly below.

Conflict resolution measures the degree to which the organisation is perceived to encourage employees to air conflicts and criticisms openly; *culture management* refers to the extent to which the organisation actively and deliberately engages in shaping its culture; *customer orientation* refers to the extent to which the organisation takes the views of customers seriously, and actively responds to such views; *disposition towards change* focuses on the degree to which employees are encouraged to be creative and innovative, and constantly seek improved ways of getting the job done; *employee participation* refers to the extent to which employees perceive themselves as participating in the decision-making process of the organisation; *goal clarity* considers the degree to which the organisation creates clear objectives and performance expectations; *human resource orientation* indicates the extent to which the organisation is perceived as having a high regard for its human resources; *identification with the organisation* refers to the degree to which employees are encouraged to identify with the organisation; *locus of authority* focuses on the degree of authority, freedom and independence individual employees enjoy in their jobs; *management style* refers to the degree to which managers provide clear communication, assistance and support to their subordinates; *organisation focus* indicates the extent to which the organisation is perceived to be concentrating on activities that form part of the fundamentals of the business; *organisation integration* refers to the degree to which various subunits within the organisation are encouraged actively to operate in a coordinated way, by co-operating effectively to help achieve overall organisational objectives; *performance orientation* deals with the extent to which emphasis is placed on individual accountability for clearly-defined results and a high level of performance; *reward orientation*

refers to the degree to which reward allocations are based on employees' performance, in contrast to seniority, favouritism or other non-performance criteria; and *task structure* refers to the degree to which rules and regulations and direct supervision are applied to manage employees' behaviour (Van der Post et al., 1997).

Organisational culture also provides structure and a system of control that generate behavioural standards within the company (Schein, 2004), and directs employee behaviour (Imran, Zahoor & Zaheer, 2012). Senior leaders permeate an organisation's culture with their own personal characteristics by establishing goals, values and norms (Schneider, Goldstein & Brent-Smith, 1995). Thus, senior leaders guide the appropriate behaviour from employees by reinforcing rewards and sanctions (Imran, Zahoor & Zaheer, 2012). According to Rasid, Manaf and Quoquab (2013), a significant part of an organisation's culture develops as a result of its leadership's actions, while simultaneously bring affected by the development of such leadership.

Various other studies were conducted on organisational culture (e.g. Appelbaum & Roy-Girard, 2007; Bass, 1995). These scholars agree that the survival of an organisation depends on the shaping of its culture by effective leaders. Imran, Zahoor and Zaheer (2012) examined the role of culture as a possible mediator, due to the underlying importance of organisational culture in the overall performance of the organisation. Their results are supported by Rasid, Manaf and Quoquab (2013), who indicate that culture mediates the relationship between leadership and organisational commitment. According to Appelbaum and Roy-Girard (2007), toxic leaders create a toxic workplace, which over time will impact the organisation's culture – due to the cumulative effect of their actions. The scholars argue that the glue which keeps this toxicity together is the culture of the organisation. In other words, the higher up the toxic leaders' position is in the organisation, the stronger their influence would be on the culture (Appelbaum & Roy-Girard, 2007). Therefore, the inference can be drawn that toxic leaders create a toxic culture by changing the content of the organisation's culture (Giberson et al., 2009). It is therefore important that the mediating effect of organisational culture be investigated in the study.

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

H1: There is a significant relationship between toxic leadership and certain job outcomes (e.g. job satisfaction, turnover intention and commitment) among employees in the manufacturing industry.

H1a: There is a significant negative relationship between toxic leadership and *job satisfaction*.

H1b*:* There is a significant positive relationship between toxic leadership and *turnover intention.*

H1c: There is a significant negative relationship between toxic leadership and *organisational commitment*.

H2: Toxic leadership significantly predicts job satisfaction, turnover intention and commitment amongst employees in the manufacturing industry.

H2a: Toxic leadership significantly predicts lower levels of *job satisfaction*.

H2b*:* Toxic leadership significantly predicts higher levels of *turnover intention*.

H2c*:* Toxic leadership significantly predicts lower levels of *organisational commitment.*

H3: Organisational culture mediates the relationship between toxic leadership and certain job outcomes such as job satisfaction, turnover intention and commitment, amongst employees in the manufacturing industry.

Research design

The research approach and the research method followed by the present study are discussed subsequently.

Research approach

The study followed a quantitative research approach and used a cross-sectional research design. According to Nardi (2018), quantitative research is conducted primarily for the purpose of testing previously-stated relationships between independent and dependent variables. Quantitative methods highlight objective measurements and the statistical, mathematical, or numerical analysis of data collected through various accepted methods, or by manipulating pre-existing statistical data (Babbie, 2010). This form of research focuses on gathering numerical data and generalising it across groups of people or explaining a particular phenomenon (Babbie, 2010).

The term “cross-sectional” in a research design refers to the collection of data on more than one case and at a single point in time. Such an approach allows researchers to collect a body of quantifiable data in connection with two or more variables, which are then examined to detect patterns of associations (Bryman et al., 2014). This research approach lends itself to the collection of data over a short space of time (Gravetter & Forzano, 2012), and allows the observation of a phenomenon from a given population (Coolican, 2014). For the present study, the advantage was that the data could be collected at a single point in time and from a specific population in the manufacturing sector. Cross-sectional designs can also be used to assess interrelationships among variables within a population (Struwig & Stead, 2013).

Research method

Research participants

The present study used a convenience non-probability sample, consisting of 600 respondents representative of the population in the steel and paper manufacturing industry, to complete the questionnaires. A combination of two types of a non-probability sampling technique was employed, namely convenience sampling and purposive sampling. Convenience sampling is a non-probability sampling technique where subjects are selected due to their convenient accessibility and proximity to the researcher (Coolican, 2014). Purposive sampling was introduced as well since the sample comprised characteristics and attributes of the population best suited to the purpose of the study (De Vos et al., 2011). Inclusion criteria used was: 1) well-versed in English; b) between the ages of 18 and 65; and c) defined as fulltime working adults. The present study used the mentioned methods, seeing that it was untenable to test the entire population of people employed in the manufacturing sector. In addition, the participants were easily found and readily available, yet still representative of the population. Table 1 below indicates the characteristics of the respondents.

TABLE 1: *Characteristics of participants (N = 600)*

Item	Category	Frequency	Percentage
Age	1951 - 1981	354	58.9
	1982 - 1998	243	40.4
Gender	Male	480	79.9
	Female	120	20.1
Race	African	352	58.6
	Coloured	38	6.3
	Indian	75	12.5
	White	134	22.3
	Other	1	0.2
Language	Afrikaans	66	11
	English	211	35.1
	isiZulu	316	52.6
	Sesotho	2	0.3
	isiXhosa	5	0.8
Educational level	Grade 12/Matric	351	58.4
	Diploma	129	21.5
	Degree	68	11.3
	Post-graduate	16	2.7
	Other	35	5.8
Occupational level	Senior management	17	2.8
	Professional qualified and experienced specialists and mid-management	49	8.2
	Skilled technical and academically qualified workers, junior management, supervisors, foreman, and superintendents	273	45.4
	Semi-skilled and discretionary decision-making	172	28.6
	Unskilled and defined decision-making	83	13.8

Table 1 above presents specified characteristics of the respondents. The data reflects that, at the time of the research, the majority of the respondents (58.9%) were in the age group of 35 to 65 years, whilst 40.4% was under the age of 35. The gender characteristics of the respondents indicate that most were males (79.9%), with only 20.1% females. The majority of the respondents were African (58.6%), followed by White (22.3%), Indian (12.5%), Coloured (6.3%) and other (0.2%). Most of the respondents spoke isiZulu (52.6%), followed by English (35.1%), Afrikaans (11%), isiXhosa (0.8%) and Sesotho (0.3%). In terms of education, most of the respondents had a Grade 12/Matric Certificate (58.4%), followed by a diploma (21.5%), degree (11.3%), post-graduate qualification (2.7%) and other (5.8%). Based on the occupational level, the data indicate that most of the respondents were employed on the skilled

technical level (45.4%), followed by semi-skilled (28.6%), unskilled (13.8%), middle management (8.2%) and senior management (2.8%).

Measuring instruments

The measuring instruments which were utilised in the empirical study are briefly explained below by referring to the instruments.

Biographical questionnaire: Demographical characteristics of the participants were gathered by using a biographical questionnaire. The characteristics include gender, age, language, highest qualification achieved and occupational level. These characteristics were only included to describe the data.

Toxic Leadership Scale (TLS)**:** toxic leadership was measured by this scale developed by Schmidt in 2008. The 30-item scale measures five dimensions, namely: *abusive supervision,* (7 items), with example: "My supervisor speaks poorly about subordinates to other people in the workplace"; *authoritarian leadership* (6 items), with example: "My current supervisor determines all decisions in the unit whether they are important or not"; *narcissism* (5 items), with example: "My current supervisor thrives on compliments and personal accolades"; *self-promotion* (5 items), with example: "My current supervisor denies responsibility for mistakes made in his/her unit"; and *unpredictability* (7 items), with example: "My current supervisor has explosive outbursts".

The above-mentioned dimensions were scored on a 5-point Likert-type scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The reliability of the scale using Cronbach's alpha coefficients was calculated at 0.93 for abusive supervision; 0.89 for authoritarian leadership; 0.88 for narcissism; 0.91 for self-promotion; and 0.92 for unpredictability. The overall Cronbach's alpha score was 0.90, suggesting that the instrument is reliable (Schmidt, 2008).

Minnesota Satisfaction Questionnaire (MSQ): This instrument, measuring job satisfaction, was adapted by Buitendach and Rothmann (2009) for use in the South African context. The questionnaire requires respondents to score experience of their job based on extrinsic and intrinsic job satisfaction. This adapted questionnaire consists of 17 items: 8 which measure extrinsic job satisfaction, and 9 which measure intrinsic job satisfaction. Example of items are:

for extrinsic job satisfaction: "The way my boss handles his/her workers"; for job satisfaction: "The way my job provides for steady employment". The scale was measured on a 5-point Likert-type scale ranging from *very satisfied* to *very dissatisfied.* Buitendach and Rothmann (2009) found the scale to be reliable and valid, with a Cronbach's alpha coefficient of 0.86.

Turnover Intention Scale: This 6-item scale (TIS-6), which was adapted from the 15-item one developed originally by Roodt (2004), was used to measure turnover intention. This adapted scale was validated for use in South Africa by Bothma and Roodt (2013); it was found to be reliable with a Cronbach's alpha coefficient of 0.80, and was therefore used to assess turnover intention (Bothma & Roodt, 2013). An example items is: "How often have you considered leaving your job?" The TIS-6 was scored on a 5-point scale, ranging from a score of 1 (*never*) to 5 (*always*).

Organisational Commitment Scale (OCS): This 24-item scale of Meyer and Allen (1990) was used to measure organisational commitment. This scale measures three dimensions of organisational commitment: continuance, affective and normative. *Continuance commitment* was measured by 8 items, with an example: "Right now, staying with my organisation is a matter of necessity as much as desire". *Affective commitment* (8 items), with example: "I enjoy discussing my organisation with people outside it". *Normative commitment* (8 items), with example: "I was taught to believe in the value of remaining loyal to one organisation".

The OCS was scored on a 5-point Likert-type scale, ranging from a score of 1 (*strongly disagree*) to 5 (*strongly agree*). The reliability and validity for use of the OCS within the South African context was confirmed by studies from Coetzee, Schreuder and Tladinyane (2007), Ferreira (2009), as well as Lumley (2010). The Cronbach's alpha coefficients for these dimensions in the above-mentioned studies ranged between 0.70 and 0.83, which indicates a high reliability for the scale.

Organisational Culture questionnaire (OCQ): This instrument, developed by Van der Post et al. (1997), was used to measure organisational culture. The questionnaire has a total of 97 items, which cover 15 factors that were considered in the present study to measure organisational culture.

The degree to which an organisation encourages employees to air conflicts is measured as the factor called *conflict resolution* (7 items), for example: "Differences of opinion are

welcome in this organisation". *Culture management* (6 items) measures the degree to which the organisation engages actively in its organisation's culture. An example item is: "Employees in this organisation have a clear understanding of what its values and philosophies are". The factor for *customer orientation* (5 items) measures the extent to which the organisation takes the views of its customers seriously, and how it responds to these views. An example item is: "In this organisation there is an emphasis on giving the customer the best quality and service". *Disposition towards change* (5 items) measures the degree to which employees are encouraged to be creative and search for better ways to get the job done. An example item is: "This organisation treats its employees like good performers rather than bad performers". *Employee participation* (7 items) measures the degree to which employees perceive themselves as participating in the decision-making process of the company. An example item is: "Employees in this organisation has very little say in their own work goals". The next factor measures *goal clarity* (7 items), namely the degree to which the organisation creates clear objectives and expectations of performance. An example item is: "Employees in this organisation understand the objectives of the organisation".

Further dimensions for the OCQ can be explicated as follows: The factor *human resources orientation* (5 items) measures the degree to which the organisation is perceived as having a high regard for its human resources. An example item is: "This organisation views its employees as important contributors to the organisation's success". *Identification with organisation* (7 items) measures the degree to which employees are encouraged to identify with the organisation; example item: "Employees in this organisation does not identify with the organisation". The factor *locus of authority* (6 items) measures the degree of authority, freedom and independence that individual employees have in their jobs. An example item is: "Employees in this organisation are encouraged to use their own initiative in doing their jobs". *Management style* (6 items) is the factor which measures the degree to which managers provide clear communication, assistance and support to subordinates. An example item is: "Employees in this organisation cannot rely on management support when needed". The *organisation focus* factor (7 items) measures the extent to which the organisation is perceived to be concentrating on those activities that form part of the fundamentals of the business. An example item is: "This organisation does not allow employees to concentrate their efforts on the right activities". *Organisation integration* (6 items) measures the degree to which various subunits within the organisation are actively encouraged to work together in achieving organisational goals. An example item is: "In this organisation managers go out of their way

to ensure that different departments operate in a coordinated way". The *performance orientation* factor (7 items) measures the extent to which emphasis is placed on individual accountability for performance. An example item is: "In this organisation little emphasis is placed on the achievement of goals". *Reward orientation* (7 items) measures the degree to which reward allocations are based on employees' performance, in contrast to seniority, favouritism or other non-performance criteria. An example item is: "In this organisation employees are rewarded not for who they know but for what they produce". The *task structure* factor (9 items) measures the degree to which rules and regulations and direct supervision are applied to manage employee behaviour. An example item is: "Employees in this organisation are not constrained by rules, regulations, policies and procedures in doing their jobs".

The OCQ was scored on a seven-point Likert-type scale, ranging from 1 (*strongly disagree*) to 7 (s*trongly agree*). The Cronbach's alpha coefficients for the different factors range between 0.79 and 0.93 (Van der Post et al., 1997). The overall reliability of the scale is 0.99 (Erwee et al., 2001).

Research procedure and ethical considerations

Following the approval for the present study from the Ethics Committee of the Faculty of Economic and Management Sciences (ethical approval number: EMSMHW16/04/21-01/01), the researcher approached senior management and Human Resources Departments of the selected organisations for permission to conduct the research at their workplace. Once permission was received to proceed with the study, the Human Resources Departments were briefed on the study, and the various roles were identified to assist with the rollout. A copy of the research letter of intent was given to the companies, explaining the nature of the study and providing guidelines and procedures for the administration of the questionnaires.

The Human Resource Managers of the various companies acted only as gatekeepers, ensuring access to the participants to secure data collection. In total 800 questionnaires were distributed to the various organisations and 600 were collected. Data collection was done in the manufacturing sector and in the work environment, which is familiar to the researcher, using a questionnaire booklet which was individually administered. Accompanying the questionnaire booklets was a letter of introduction and an explanation of the objectives and

importance of the study. Participants were accommodated in the training centre or empty office space of the organisations to complete the questionnaires.

Although this was a self-administrated questionnaire, a field worker working as a human resource intern was available at one of the organisations to assist participants who found it difficult to complete the questionnaire due to low literacy levels. The field worker was trained to assist the participants during the data-collection phase. No personal information was recorded on the booklet, to ensure anonymity, respect privacy and ensure confidentiality (De Vos et al., 2011). Furthermore, no ethical guidelines were breached by the researcher during the process. The researcher maintained the respect and dignity of the participants throughout and adhered to the ethical considerations (De Vos et al., 2011). Sufficient time was allocated for the participants to complete the survey.

The researcher coordinated the distribution of questionnaires, as well as the collection and safe storing of completed booklets. After all the booklets were collected, the data were captured and the statistical analysis commenced.

Statistical analysis

Statistical analysis was carried out using the SSPS program version 25 (IBM SPSS Inc., 2017) and AMOS 20 (Arbuckle, 2011). Data was analysed through descriptive and inferential statistics such as means, standard deviation, skewness and kurtosis. Cronbach's alpha coefficients were calculated to determine reliability, with values of 0.70, which according to Pallant (2010), can be regarded as reliable. Confirmatory factor analysis (CFA) was done on the different scales of toxic leadership, turnover intention, organisational commitment, job satisfaction and organisational culture. The results for all scales indicated that they could be used in their present form to complete the statistical analysis.

To determine the relationships between variables (i.e. toxic leadership, job satisfaction, organisational commitment and turnover intention) and the strength of these relationships, product-moment correlations and Pearson's correlation coefficient were used. The correlation coefficient cut-off scores were set at -1 to +1, with -1 indicating a negative relationship, 0 no relationship and +1 a positive relationship. Statistical significance was set at 95 % ($p \leq 0.05$). Practical significance was determined using effect size, and its cut-off point was set at 0.30 for medium effect and 0.50 for large effect (Steyn & Swanepoel, 2008).

Multiple regression was done using SSPS to determine the total variance explained by the independent variable on the dependant variables. *R* was computed to calculate the strength of the relationships between the independent variable and dependant variables. R^2 was used to explain how much of the variance in the dependant variable was explained by the independent variable, and cut-off points were set between -1 and +1. Statistical significance values were set at 0.05.

The aim was to test whether organisational culture has a mediational effect between toxic leadership and certain job outcomes such as job satisfaction, commitment, and turnover intention. For this test, structural equation modelling (SEM) was used as implemented by AMOS (Arbuckle, 2011). Several goodness-of-fit indices were used, namely Chi-square (χ^2), the Comparative Fit Index (CFI) Tucker-Lewis Index (TLI), and the root mean square error of approximation (RMSEA). Acceptable goodness-of-fit indices had the following cut-off points: non-significant χ^2 values; CFI, and TLI values larger than or equal to 0.90; and RMSEA values smaller than or equal to 0.08 (Byrne, 2010).

Results

Descriptive statistics and Cronbach's alphas

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

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

Constructs	Mean	*SD*	Skewness	Kurtosis	*α*
Abusive supervision	2,67	0,98	0.143	-0.730	0.89
Authoritarian leadership	2.71	0.91	0.111	-0.410	0.83
Narcissism	2.97	0.91	-0.122	-06.07	0.79
Self-promotion	2.70	1.00	0.028	-0.842	0.87
Unpredictable	2.68	1.02	0.226	-0.779	0.92
Intrinsic job satisfaction	2.72	0.77	-0.07	-0.50	0.85
Extrinsic job satisfaction	3.29	0.83	-0.40	-0.16	0.81
Affective commitment	4.22	1.19	-0.09	-0.34	0.78
Continuance commitment	4.41	1.33	-0.06	-0.57	0.77
Normative commitment	4.34	1.24	-0.12	-0.45	0.69
Turnover Intention	3.03	0.91	-0.10	-0.78	0.74
Conflict resolution	3.83	1.30	-0.07	-0.7	0.82
Culture management	4.46	1.27	-0.22	-0.37	0.65
Customer orientation	5.45	1.17	-0.80	0.21	0.80
Disposition towards change	4.43	1.33	-0.44	-0.30	0.77
Employee participation	3.87	1.23	-0.03	-0.60	0.77
Goal clarity	4.57	1.13	-0.12	-0.63	0.73
Human resources orientation	4.11	1.50	-0.06	-0.83	0.82
Identification with the organisation	4.32	1.12	-0.13	-0.17	0.75
Locus of authority	3.69	1.21	-0.14	-0.46	0.70

Management style	3.85	1.30	-0.06	-0.50	0.76
Organisation focus	4.39	1.06	-0.33	0.18	0.71
Organisation integration	4.31	1.15	-0.20	-0.46	0.70
Performance orientation	4.46	1.09	-0.81	-0.44	0.69
Reward orientation	3.93	1.25	0.10	-0.61	0.79
Task structure	2.37	1.10	1.13	1.64	0.66

It is evident from Table 2 above that most variables were found to be distributed normally. The measuring instruments also showed acceptable levels of internal consistency. Furthermore, Table 2 also indicates Cronbach's alpha coefficients with acceptable levels of reliability. These coefficients range between 0.66 and 0.85. All the Cronbach alpha values were found to be above the cut-off point of $\alpha > 0.70$, except for *normative commitment, cultural management, performance orientation* and *task structure,* but these are still regarded as reliable (Pacleb & Cabanda, 2014; Pallant, 2010; Pevalin & Robson, 2009).

Correlations

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

TABLE 3: *Correlation matrix between constructs*

	1	2	3	4	5	6	7	8	9	10	11
1.Abusive	1										
2.Authoritarian	0.73**[b]	1									
3.Narcissim	0.63**[b]	0.65**[b]	1								
4.Self-promotion	0.73**[b]	0.71**[b]	0.69**[b]	1							
5.Unpredictable	0.73**[b]	0.66**[b]	0.61**[b]	0.74**[b]	1						
6.Intrinsic job satisfaction	0.32**[a]	0.32**[a]	0.13**	0.22**	0.24**	1					
7.Extrinsic job satisfaction	0.46**[a]	0.49**[b]	0.29**	0.39**[a]	0.44**[a]	0.54**[b]	1				
8.Affective commitment	-0.37**[a]	-0.32**	-0.29**	-0.38*[b]	-0.38**[a]	-0.42**[a]	0.51**[b]	1			
9.Continuance commitment	-0.01	0.08*	0.06	0.07	0.09*	-0.06	-0.00	0.14**	1		
10. Normative commitment	-0.10*	-0.09*	-0.12**	-0.09*	-0.07	-0.22**	-0.24**	0.46**[a]	0.26**	1	
11. Turnover intention	0.39**[a]	0.34**[a]	0.33**[a]	0.38**[a]	0.38**[a]	0.35**[a]	0.53**[b]	-0.64**[b]	-0.10**	-0.40**[a]	1

**$p < 0.01$ for all values, *$p < 0.05$ for all values; [a] Correlation ≥ 0.30 is practically significant (medium effect) [b] Correlation > 0.50 is practically significant (large effect)

The first objective of the present study was determining the relationship between toxic leadership dimensions, job satisfaction, commitment and turnover intention. The toxic leadership dimensions that were investigated were *abusive supervision, authoritarian leadership, narcissism, self-promotion* and *unpredictability.* The job satisfaction factors were *intrinsic* and *extrinsic job satisfaction.* The commitment constructs were *affective commitment, continuance commitment* and *normative commitment.*

Toxic leadership and job satisfaction: Considering the relationship between toxic leadership dimensions and job satisfaction, it is evident from Table 3 above that *abusive supervision* and *authoritarian leadership* are positively statistically and practically (with a medium effect) related to *intrinsic job satisfaction*. Narcissism, self-promotion and unpredictability and toxic leadership dimensions were statistically and practically related with a small effect to intrinsic job satisfaction. Furthermore, *abusive supervision, authoritarian leadership, self-promotion* and *unpredictability* were positively statistically and practically (with a medium effect) related to *extrinsic job satisfaction*. Only *narcissism* as a toxic leadership dimension was shown to be positively related with small effect to *extrinsic job satisfaction.*

Toxic leadership and turnover intention: The relationship between *toxic leadership dimensions* and *turnover intention* indicates in Table 3 above that all the toxic leadership dimensions are positively statistically and practically (with a medium effect) related to turnover intention.

Toxic leadership and commitment: Regarding the relationship between *toxic leadership dimensions* and *commitment,* it was found that the toxic leadership factors all have statistically a significant negative relationship with affective commitment. The four factors – *abusive supervision, authoritarian leadership, self-promotion and unpredictability* – were all practically significant with medium effect. *Authoritarian and unpredictable leadership* was statistically significantly positive related to continuance commitment, however, this relationship was found to be only to a small extent. Furthermore, *abusive supervision, authoritarian leadership, narcissism and self-promotion* were negatively statistically and practically (with a very small effect) related to normative commitment.

Multiple regression analysis

Multiple regression analysis was done and the results are described in Tables 4 to 9 below. Tables 4, 5, 6, 7, 8 and 9 indicate which toxic leadership predicts job satisfaction, such as intrinsic and extrinsic job satisfaction, organisational commitment, such as affective commitment, continuance commitment and normative commitment, and turnover intention. The multiple regression analysis was done with the five selected toxic leadership dimensions, namely: *abusive supervision, authoritarian leadership, narcissism, self-promotion and unpredictability.* The results for these dimensions are displayed in Tables 4 to 9 to follow.

TABLE 4: *Multiple regression analysis with intrinsic job satisfaction as dependent variable*

Model		**Unstandardised coefficients**		**Standardised coefficients**	***t***	***p***	**F**	**R**	**R^2**	**Δ R^2**
		B	SE	Beta						
1	(Constant)	2.04	0.12		17.58	0.00*	19.61	0.40	0.16	0.15
	Abusive	0.22	0.06	0.27	3.80	0.00*				
	Authoritarian	0.24	0.06	0.28	4.06	0.00*				
	Narcissism	-0.16	0.05	-0.18	-2.95	0.00*				
	Self-promotion	0.02	0.06	0.03	0.35	0.72				
	Unpredictability	-0.04	0.05	-0.05	-0.76	0.45				

*$p \leq 0.05$ = statistically significant

Table 4 above summarises the regression analysis with the five mentioned toxic leadership dimensions as predictors of intrinsic job satisfaction. Entry of the toxic leadership dimensions in the regression analysis produced a statistically significant model ($F_{(5.509)} = 19.61$; $p = 0.00$), accounting for approximately 16% of the variance. In particular, it seems that higher levels of the toxic leadership dimension, abusive supervision, ($\beta = 0.27$; $t = 3.80$; $p \leq 0.05$) is a significant predictor of intrinsic job satisfaction. In addition, higher levels of authoritarian leadership ($\beta = 0.28$; $t = 4.06$; $p \leq 0.05$) predict intrinsic job satisfaction. Furthermore, lower levels of narcissism ($\beta = -0.18$; $t = -2.95$; $p \leq 0.05$) as a dimension from toxic leadership predict intrinsic job satisfaction.

TABLE 5: *Multiple regression analysis with extrinsic job satisfaction as dependent variable*

Model		Unstandardised coefficients		Standardised coefficients	*t*	*p*	F	R	R^2	ΔR^2
		B	SE	Beta						
1	(Constant)	2.00	0.12		17.24	0.00*	39.49	0.53	0.28	0.27
	Abusive	0.18	0.06	0.21	3.18	0.00*				
	Authoritarian	0.26	0.06	0.29	4.42	0.00*				
	Narcissism	-0.09	0.05	-0.10	-1.75	0.08				
	Self-promotion	0.03	0.06	0.03	0.51	0.61				
	Unpredictability	0.10	0.05	0.12	1.92	0.06				

*$p \leq 0.05$ = statistically significant

Table 5 above summarises the regression analysis with the five dimensions of toxic leadership as predictors of extrinsic job satisfaction. Entry of the toxic leadership dimensions in the regression analysis produced a statistically significant model ($F_{(5.509)} = 39.49$; $p = 0.00$), accounting for approximately 28% of the variance. In particular, it seems that higher levels of the toxic leadership dimension, abusive supervision, ($\beta = 0.21$; $t = 3.18$; $p \leq 0.05$) is a significant predictor of extrinsic job satisfaction. In addition, higher levels of authoritarian leadership ($\beta = 0.29$; $t = 4.42$; $p \leq 0.05$) predict extrinsic job satisfaction.

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

Model		Unstandardised coefficients		Standardised coefficients	*t*	*p*	F	R	R^2	ΔR^2
		B	SE	Beta						
1	(Constant)	5.63	0.18		0.32	0.00	18.77	0.40	0.16	0.15
	Abusive	-0.14	0.09	-0.11	-1.63	0.11				
	Authoritarian	-0.04	0.10	-0.03	-0.43	0.66				
	Narcissism	0.03	0.08	0.02	0.34	0.73				
	Self-promotion	-0.22	0.09	-0.18	-2.40	0.02*				
	Unpredictability	-0.15	0.08	-0.12	-1.78	0.08				

*$p \leq 0.05$ = statistically significant

Table 6 above summarises the regression analysis done with the mentioned toxic leadership dimensions as predictors of affective commitment, as dependant variable. Entry of the toxic leadership dimensions in the regression analysis produced a statistically significant model ($F_{(5.509)} = 18.77$; $p = 0.00$), accounting for approximately 16% of the variance. More specifically,

it seems that lower levels of the self-promotion toxic leadership dimension (β = -0.18; t = -2.40; $p \leq 0.05$) is a predictor of affective commitment.

TABLE 7: *Multiple regression analysis with continuance commitment as dependent variable*

Model		Unstandardised coefficients		Standardised coefficients	*t*	*p*	F	R	R^2	ΔR^2
		B	SE	Beta						
1	(Constant)	3.67	0.21		17.60	0.00	5.12	0.22	0.05	0.04
	Abusive	-0.31	0.10	-0.23	-2.95	0.00*				
	Authoritarian	0.03	0.11	0.02	0.30	0.77				
	Narcissism	0.23	0.10	0.16	2.48	0.15				
	Self-promotion	0.06	0.11	0.05	0.57	0.57				
	Unpredictability	0.20	0.10	0.16	2.09	0.04*				

*$p \leq 0.05$ = statistically significant

Table 7 above summarises the regression analysis with the selected five toxic leadership dimensions as predictors of continuance commitment as dependent variable. Entry of the toxic leadership dimensions in the regression analysis produced a statistically significant model ($F_{(5.509)} = 5.12$; $p = 0.00$), accounting for approximately 5% of the variance. More specifically, it seems that lower levels of the abusive supervision toxic leadership dimension (β = -0.23; t = -2.95; $p \leq 0.05$) is a predictor of continuance commitment. In addition, higher levels of the unpredictability toxic leadership dimension (β = 0.16; t = 2.09; $p \leq 0.05$) was found to be a predictor of continuance commitment.

TABLE 8: *Multiple regression analysis with normative commitment as dependent variable*

Model		Unstandardised coefficients		Standardised coefficients	*t*	*p*	F	R	R^2	ΔR^2
		B	SE	Beta						
1	(Constant)	4.74	0.20		23.41	0.00	1.09	0.10	0.01	0.00
	Abusive	0.05	0.10	-0.04	-0.45	0.65				
	Authoritarian	0.05	0.10	-0.04	-0.52	0.60				
	Narcissism	-0.05	0.09	-0.04	-0.62	0.53				
	Self-promotion	-0.05	0.10	-0.04	-0.05	0.62				
	Unpredictability	0.06	0.10	0.05	0.63	0.53				

*$p \leq 0.05$ = statistically significant

Table 8 above summarises the regression analysis with the five mentioned toxic leadership dimensions as predictors of normative commitment as dependent variable. Entry of the toxic leadership dimensions in the regression analysis produced a statistically significant model ($F_{(5.509)} = 1.09$; $p = 0.00$), accounting for approximately 1% of the variance. More specifically, seemingly none of the toxic leadership dimensions was found to be a statistically significant predictor of normative commitment.

TABLE 9: *Multiple regression analysis with turnover intention as dependent variable*

Model		**Unstandardised coefficients**		**Standardised coefficients**	***t***	***p***	**F**	**R**	**R^2**	**ΔR^2**
		B	SE	Beta						
1	(Constant)	2.26	0.12		19.60	0.00	13.42	0.34	0.12	0.11
	Abusive	0.08	0.06	0.10	1.37	0.17				
	Authoritarian	0.01	0.06	0.09	0.11	0.91				
	Narcissism	0.08	0.05	0.10	1.57	0.18				
	Self-promotion	0.02	0.06	0.03	0.34	0.74				
	Unpredictability	0.12	0.06	0.16	2.17	0.03*				

*$p \leq 0.05$ = statistically significant

Table 9 above summarises the regression analysis with the five above-mentioned toxic leadership dimensions as predictors of turnover intention as dependent variable. Entry of the toxic leadership dimensions in the regression analysis produced a statistically significant model ($F_{(5.509)} = 13.42$; $p = 0.00$), accounting for approximately 12% of the variance. More specifically, it seems that higher levels of the unpredictability toxic leadership dimension ($\beta = 0.16$; $t = 2.17$; $p \leq 0.05$) predict turnover intention.

Mediation analysis

The results of the mediation analysis are discussed and displayed in Figure 1 below.

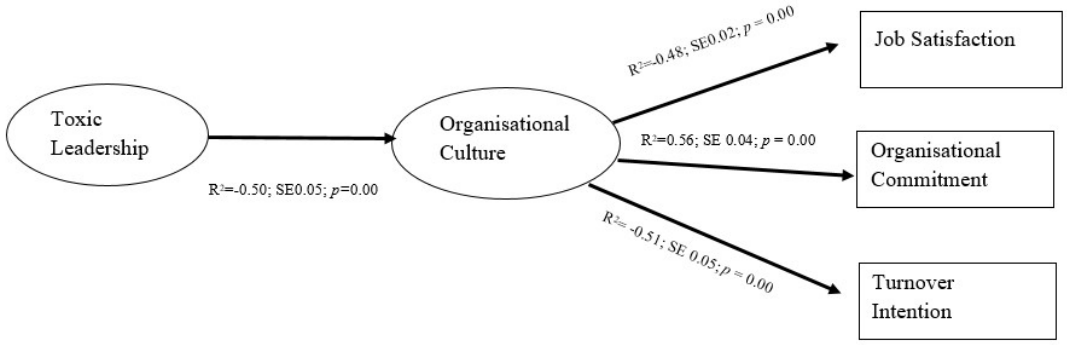

Figure 1: *Organisational culture mediation across the models*

Structural equation modelling was used to test the proposed mediating effect of organisational culture between toxic leadership and job satisfaction, organisational commitment and turnover intention. The hypothesised mediation model above tested whether organisational culture mediates the relationship between toxic leadership and job outcomes, namely turnover intention, job satisfaction and organisational culture. The results indicated a significant negative relationship between toxic leadership and organisational culture (R^2 = -0.50; SE 0.05; p = 0.00). Furthermore, a significant negative relationship was found between organisational culture and job satisfaction (R2 = -0.48; SE 0.02, p = 0.00). The results indicated a significant positive relationship between organisational culture and organisational commitment (R2 = 0.56; SE 0.04, p = 0.00), and a significant negative relationship between organisational culture and turnover intention (R2 = -0.51; SE 0.05, p = 0.00).

The overall model was tested in three separate models, of which the results are displayed below. The mediation was partial for all the models that were tested and explains 45.8% of the variance in job satisfaction, 63.5% of the variation in organisational commitment and 71.6% of the variance in turnover intention.

Table 10 below displays the goodness-of-fit statistics for the three models.

TABLE 10: *Goodness-of-fit statistics for all three models*

Models	χ^2	χ^2/df	TLI	CFI	RMSEA	*P*
Model 1 (Job satisfaction)	1178.69	6.34	0.88	0.90	0.09	0.00
Model 2 (Commitment)	1288.55	6.26	0.87	0.89	0.09	0.00
Model 3 (Turnover intention)	1514.89	5.57	0.86	0.88	0.09	0.00

Marsh, Hau and Wen (2004) caution that an acceptable model can be rejected if there is a strict adherence to cut-off values. Furthermore, whilst fit indices are useful, traditional cut-off values are only rules of thumb" and largely based on intuition. Cut-off points should only be considered as guidelines, as there is little consensus on the values for adequate fit (Lance, Butts & Michels, 2006). According to Hooper, Coughlan and Mullen (2008), researchers must not lose sight of the substantive theory. In other words, by allowing model fit to drive the research, it moves the research away from the original theory-testing purpose.

As mentioned above, the overall model was tested in three separate models and is described below:

Model 1: tested the proposed mediating effect of organisational culture between toxic leadership and job satisfaction. The hypothesised models all provided an adequate fit to the data. The CFI value for Model 1 was found to be at (0.90), the TLI (0.88) value just below the cut-off point of 0.90 and RMSEA is 0.09, which is indicative of a fit that is neither good nor bad. Model 1 therefore shows acceptable model fit.

Model 2: tested the proposed mediating effect of organisational culture between toxic leadership and commitment. In terms of Model 2, both the CFI (0.89) and TLI (0.87) values were found to be just below the cut-off point, but RMSEA is 0.09, which is indicative of a fit that is neither good nor bad. Model 2 shows weak but acceptable fit.

Model 3: tested the proposed mediating effect of organisational culture between toxic leadership and turnover intention. Model 3 has TLI (0.86) and CFI (0.88) just below accepted cut-off point. RMSEA is 0.09, which indicates a fit that is neither good nor bad. Therefore, Model 3 shows weak but acceptable fit.

TABLE 11: *Mediating effects of organisational culture (standardized effects)*

	Job satisfaction (45.8%)			Commitment (63.5%)			Turnover intention (71.6%)		
Predictors	**Direct**	**Indirect**	**Total**	**Direct**	**Indirect**	**Total**	**Direct**	**Indirect**	**Total**
Organisational culture	0.00	0.00	0.00	0.56	0.00	0.56	0.00	0.00	-0.51
Toxic leadership	0.28	0.24	0.52	-0.16	-0.28	-0.44	0.24	0.25	0.49

Table 11 above displays the results of the mediating effects of organisational culture. The mediation model tested whether organisational culture mediates the relationship between toxic leadership, job satisfaction, organisational commitment and turnover intention. The model does not specify whether the mediation is fully or partial. The tests results returned both direct and indirect effects for all the relationships tested, which indicated that mediation is only partial in all of the relationships. In terms of job satisfaction, results indicated that organisational culture does mediate the relationship between toxic leadership and job satisfaction. This mediation is found to be partial and explained 45.8% of the variance in job satisfaction. In addition, organisational culture also mediates the relationship between toxic leadership and organisational commitment. This mediation is partial, and explains 63.5% of the variation in organisational commitment. In terms of the results, it confirmed that organisational culture does mediate the relationship between toxic leadership and turnover intention. This mediation was found to be partial and explains 71.6% of the variance in turnover intention.

DISCUSSION

The aim of the present research was to investigate the relationship between toxic leadership, job satisfaction, turnover intention and commitment. The aim further was to test whether organisation culture mediates the relationship between toxic leadership and job satisfaction, turnover intention and commitment.

In the following section an outline of the results is provided and discussed, practical implications drawn, limitations of the study pointed out and recommendations made.

Outline of the results

The aim of the present study was to assess the relationship between toxic leadership, job satisfaction, commitment, turnover intention and organisational culture among employees within the South African manufacturing industry. To date, toxic leadership and the potential impact on organisations and employees have not been researched in the mentioned workplace context; therefore, the current status is unknown. The manufacturing sector is currently the fourth largest in the economy and provides employment to over 1.2 million people. Therefore, it is important to recognise and investigate the styles of leadership behaviour that may have a detrimental impact on the organisation (IDC, 2019).

Objective 1

The first objective was to investigate whether there exists a relationship between toxic leadership, job satisfaction, turnover intention and organisational commitment among employees within the manufacturing industry.

In the present study, job satisfaction was divided into an extrinsic and intrinsic form. This study theorised that, there will be a statistically significant negative relationship between toxic leadership and job satisfaction. This postulate is in line with other studies by Metha and Maheshwari (2013), Kusy and Holloway (2009), as well as Schmidt (2014), The results did indicate a statistically significant relationship. However, for the present study, the relationship was found to be positive for extrinsic job satisfaction, which implies that the more toxic the leader, the more satisfied the employees seemed to be.

The finding above was the case for especially the authoritarian leadership, abusive supervision factors and extrinsic job factors. These job factors deal with aspects such as company policies, working conditions, remuneration and the way the employees get along. It is suggested that such a result could be due to of the makeup of the study population. A significant number of participants is unskilled and semi-skilled workers (42.4%), and at this level they are also given constant guidance on how to complete tasks. Such constant supervision and guidance may contribute to the perception that they feel secure in their performance. This could be the reason for the positive experience of job satisfaction. Hypothesis *H1a* is therefore not supported.

The relationship between toxic leadership dimensions and turnover intention indicates that all the toxic leadership dimensions are positively statistically and practically significant (with a medium effect) related to turnover intention. In terms of turnover intention, the results of the study support Hypothesis *H1b,* which postulates that the more the leader is viewed as toxic, the stronger the potential for turnover. The results are also in line with those of Schmidt (2008, 2014) and Akca (2017), who found a statistically significant positive relationship between toxic leadership and turnover intention. In the manufacturing industry, which is labour intensive, high turnover rates have a direct impact on productivity, seeing that the new employee will not be as productive as the one who has just left. According to Sarmiento, Rich, Aryee and Francis (2006), employee turnover can potentially cost a company *indirectly:* through failed implementation of continuous improvement practices; and *directly:* through mistakes that untrained, unskilled new employees might cause.

The present study theorised a statistically significant negative relationship between toxic leadership and organisational commitment, similar to the finding of Metha and Maheshwari (2013). As expected, it was found that toxic leadership factors all have statistically significant negative relationships with affective commitment. The current results indicate that the most significant impact of toxic leadership is made on the employees' feelings towards their organisation – or affective commitment. Hypothesis *H1c* postulates a significant negative relationship between toxic leadership and *organisational commitment*, which is therefore supported in this study. Lower levels of commitment in a manufacturing organisation will lead to absenteeism and decrease the production volumes due to staff shortages. This in turn will impact the organisation's financial situation negatively if absenteeism continues unabated (Weaver & Yancy, 2010).

Objective 2

The second objective of this study was to establish whether toxic leadership predicts certain job outcomes (e.g. job satisfaction, turnover intention and organisational commitment) among employees within the manufacturing industry.

The current results indicate that high levels of abusive and authoritarian toxic leadership dimensions predict both intrinsic and extrinsic forms of job satisfaction. In the present study, lower levels of narcissism as a toxic leadership dimension were found to affect intrinsic job

satisfaction. Previous research by Schmidt (2008) indicate that specifically three toxic leadership dimensions significantly predict lower levels of job satisfaction. These dimensions are: self-promotion, unpredictability and abusive supervision. Schmidt confirms that even at group level the toxic leadership dimensions of abusive supervision and unpredictability are key predictors of job satisfaction (Schmidt, 2014).

The results mentioned above, therefore only partially support Hypothesis *H2a*, which postulates that toxic leadership significantly predicts lower levels of job satisfaction. In the manufacturing industry authoritarian leadership has historically been the leadership style of "choice" since the industry is labour intensive (Kathuria, Partovi & Greenhaus, 2010). Leaders and their style also evoke emotive reactions from their subordinates (Burns, 1978). In this context, it is important that manufacturing organisations are aware consistently of the type of leadership styles that are displayed in the organisation. This knowledge will help management intervene where necessary, seeing that productivity and performance are linked directly to the leadership styles (Kathuria, Partovi & Greenhaus, 2010).

Significantly, in the original study by Schmidt (2008), authoritarian leadership consistently predicted turnover intention, whilst in the present study unpredictability was the strongest predictor of turnover intention. This result therefore supports Hypothesis H2b, which states that toxic leadership significantly predicts higher levels of *turnover intention.*

The results indicated that lower levels of self-promotion as a toxic leadership dimension significantly predicts affective commitment. This result is supported by Schmidt's study, which found that self-promotion is seen as a predictor of affective commitment (Schmidt, 2014). Furthermore, the results indicated that lower levels of abusive supervision as a toxic leadership dimension has an effect on continuance commitment. These results partially support Hypothesis *H2c,* which suggests that toxic leadership significantly predicts lower levels of organisational commitment. In this study, it is specifically affective commitment and continuance that are predicted by toxic leadership, which means employees' feelings towards their organisations as well as their evaluation of the cost of leaving their current organisation can be influenced by the leader promoting him/her-self or being verbally abusive towards an individual. Employees' commitment in the manufacturing industry is important. The reason is to reach performance goals, implement business strategies and gain competitive advantage, organisations need committed employees (Swanepoel, Erasmus, Schenk & Tshilongamulenzhe, 2014).

Objective 3

The third objective of this study was to determine whether organisational culture mediates the relationship between toxic leadership and certain job outcomes (e.g. job satisfaction, turnover intention and organisational commitment) among employees within the manufacturing industry.

Direct and indirect effects were returned for all the relationships tested, which indicates that mediation was found to be only partial in all of the relationships. Organisational culture explains 45.8% of the variance in the relationship between toxic leadership and job satisfaction; it further explains 63.5% of the variation in the relationship between toxic leadership and organisation commitment. In terms of turnover intention, organisational culture explains 71.6% of the variance in the relationship between toxic leadership and turnover intention. The partial mediation in all the tested relationship indicates that when employees experience a leader to be toxic, it can have a negative influence on the organisation's culture. Such a toxic organisational culture may in turn cause employees, who are less committed and feel dissatisfied with their workplace, wanting to leave the organisation. These results confirm findings from previous studies that organisational culture functions as a mediator (e.g. Imran, Zahoor & Zaheer, 2012; Rasid, Manaf & Quoquab, 2013; Schmidt, 2014), These results partially support Hypothesis *H3*, which states that organisational culture mediates the relationship between toxic leadership and certain job outcomes.

The findings above are important for the manufacturing industry. Such findings emphasise the need that organisations detect toxic leaders in their fold, as these leaders still impact organisational culture and ultimately create a negative work environment. According to Appelbaum and Roy-Girard (2007), negative work environments may cause feelings of despair, anger, low morale, poor communication, and can manifest in high absenteeism, poor work performance and productivity loss.

Practical implications

According to Metha and Maheshwari (2014), the behaviour and performance of leaders must be monitored and assessed constantly to ensure their interactions with staff are conducive to healthy work environments. Organisations often lack the experience and abilities to counteract the effects of toxic leadership, thus usually being forced to pay the hidden costs inflicted by the dysfunctional behaviour of the toxic leader. These hidden costs may entail: reduced

productivity due to the increase of absenteeism and sick-leaves; weak performance of employees caused by commitment and dissatisfaction at work; decreased brand equity as a result of reputational damages of the organisation and legal costs (Vreja, Balan & Bosca, 2016). It is anticipated that studies such as these will encourage the organisations to focus more on instances of toxic leadership within, and help them put checks and balances in place to ensure the early detection of toxic leaders (Metha & Maheshwari, 2014). In this regard, the present study will help initiate interventions, where management within organisations can focus on dealing with identified toxic leaders.

Leadership studies have indicated that employees tend to blame the organisation as a whole for having a culture that tolerates toxic leadership. Employees respond to this perceived culture of tolerance by being negatively inclined toward the organisation as a whole (Folger & Cropanzano, 2001). The present study has indicated that such a negative response among employees is true to an extent. It has provided empirical data to support the statement that toxic leadership has a significant impact on job outcomes, and in turn on employees having to cope with such an organisational culture.

The focus of the research, being a novel topic in the South African context, has expanded on the knowledge of toxic leadership. In this regard, the present study as such has increased the opportunity to deal effectively with the destructive impact of toxic leadership on employees and organisations at large.

A practical implication for employees in the manufacturing industry is that the present study provides them with an explanation of toxic leadership as a leadership style, and how it is intertwined with an organisation's culture. The results explain further how this leadership style may affect employees in the workplace: an insight which could help them make crucial decisions about their jobs and future career. This study provides human resource professionals an in-depth understanding of the phenomenon, toxic leadership. This focus may be a starting point to help organisations decrease the prevalence of toxic leadership styles, thereby reducing its destructive impact within the workplace.

Limitations and recommendations

Limitations

Due to the nature and scope of the present study, several limitations emerged. These factors have to be taken into account when the results of the data are analysed and interpreted.

Firstly, probably the most important limitations is that the data were collected through a cross-sectional design, which did not allow for causal interpretation of the results or effects of the phenomenon under research (Gravetter & Forzano, 2012).

Secondly, the selected sampling method was a combination of convenience and purposive sampling. Due to this method, the participants were chosen in terms of availability and willingness to respond. The sample was also being based on the judgement of the researcher, which may raise concerns about potential bias and subjectivity on the side of the researcher – a possible factor that should be kept in mind (De Vos et al., 2011).

Thirdly, this was the first time that the toxic leadership scale was used to measure the impact of the phenomenon (toxic leadership) on job outcomes within a South African context. There is thus no current study in South Africa to which comparisons can be drawn.

Finally, the study only covered employees from the manufacturing sector, which means the results cannot be generalised to the others sectors or across South African organisations.

Recommendations

Despite the above-mentioned limitations of the study, the present findings may have important implications for future research and practice; thus the following recommendations are made.

Firstly, the study was confined to the manufacturing sector in South Africa. As indicated, such a restriction of the study population and the sampling procedure may influence the generalisability of the results. Future research should therefore replicate the study in different sectors which represent different populations. Such a broadened research scope would provide a true reflection of toxic leadership in South Africa and indicate whether the results in the various sectors are similar or differ considerably.

Secondly, whilst self-promotion had the strongest impact on job outcomes, certain other dimensions showed an amount of impact as well. Thus, it would be advantageous to

organisations if research could investigate the variance that is unique to all five dimensions of toxic leadership.

Thirdly, the present study confirmed relationships as well as predictors in a small section of the manufacturing industry. Therefore, it would be valuable to continue these studies in other manufacturing organisations to generate more generalised results. Such a focus applies especially to the present study's unique finding on the positive experience of job satisfaction. This finding is not in line with other studies; therefore, future research should replicate the study to assess whether this result is specific to this study population only.

In addition, the study should be expanded into other sectors to confirm the relationships between toxic leadership and job outcomes, predictors and organisational culture as a mediator. Such future research would be valuable, especially in light of the fact that currently there are no other studies in South Africa with which results can be compared.

Finally, although the mediation results indicated directional relationships between toxic leadership and job outcomes, the data were not collected over time; consequently it was not possible to test the assumptions empirically. Therefore, the use of longitudinal studies can assist by measuring directional relationships over an extended period of time. Such an approach will deliver richer data and have positive implications for operational interventions, seeing that it may give a deeper insight to the cause and effect (De Vos et al., 2011).

Conclusion

The present study provided the first analysis of toxic leadership within a South African working environment. The findings indicated and the impact of this leadership style on certain job outcomes such as turnover intention, job satisfaction and organisational commitment. The study also investigated the mediation role of organisational culture. It is important that other researchers build on the above-mentioned recommendations for future studies, seeing that several questions remain unanswered, for example, the unexpected difference in the result of job satisfaction. Not all of the posited hypotheses were confirmed. Nevertheless, the study did establish that employees within a South African work context also experience toxic leadership, which influences their turnover intention, organisational commitment and ultimately, job satisfaction.

REFERENCES

Akca, M. (2017). The impact of toxic leadership on intention to leave of employees. *International Journal of Economics, Business & Management Research, 1*(4), 285-298.

Appelbaum, S. H., & Roy-Girard, D. (2007). Toxins in the workplace: Affect on organizations and employees. *Corporate Governance: The international Journal of Business in Society*, *7*(1), 17-28.

Arbuckle, J. L. (2011). *IBM SPSS Amos 20.0. User's Guide*. Mount Pleasant: Amos Development Corporation.

Armstrong, M. (2006). *A handbook of human resource management practice* (10th ed.). London: Kogan Page

Aryee, S., Chen, Z. X., Sun, L. Y., & Debrah, Y. A. (2007). Antecedents and outcomes of abusive supervision: Test of a trickle-down model. *Journal of Applied Psychology, 92*, 191-201

Ashforth, B. E. (1997). Petty tyranny in organizations: A preliminary examination of antecedents and consequences. *Canadian Journal of Administrative Sciences/Revue Canadienne des Sciences de l'Administration*, *14*(2), 126-140.

Babbie, E. R. (2010). *The practice of social research*. Belmont, CA: Wadsworth Cengage.

Bass, B. M. (1995). *Leadership and performance beyond expectation.* New York, NY: The Free Press.

Bester, F. (2012). *A Model of work identity in multicultural work settings* (Unpublished doctoral thesis). University of Johannesburg, Johannesburg.

Bothma, C. F. C., & Roodt, G. (2013). The validation of the turnover intention scale. *South African Journal of Human Resources Management, 11*(1), 1-12. doi.org/10.4102/sajhrm.v11i1.507

Bryman, A., Bell, E., Hirschsohn, P., Dos Santos, A., Du Toit, J., Masenge, A., Van Aardt, I., & Wagner, C. (2014). *Research methodology: Business and management contexts.* (5th ed.). Cape Town: Oxford University Press.

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

Burns, J. M., 1978. *Leadership*. New York, NY: Harper & Row.

Byrne, B. M. (2010). *Structural equation modelling with AMOS: Basic concepts, applications and programming.* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum

Coetzee, M., Schreuder, A. M. G., & Tladinyane, R. (2007). Organisational commitment and its relation to career anchors. *Southern African Business Review, 11*(1), 65-86.

Coolican, H. (2014). *Research methods and statistics in psychology.* (6th ed.). New York, NY: Psychology Press.

De Vos, A. S., Strydom, H., Fouché, C. B., & Delport, C. S. L. (2011). *Research at grassroots: For the social sciences and human service professions* (4th ed.). Pretoria: Van Schaik.

Dladla, J. T. (2011). *The influence of leader behaviour, psychological empowerment, job satisfaction, and organizational commitment on turnover intention* (Unpublished master's dissertation). University of Stellenbosch, Stellenbosch.

Dobbs, J. M. (2014). *The relationship between perceived toxic leadership styles, leader effectiveness, and organizational cynicism* (Unpublished doctoral thesis). University of San Diego, San Diego, CA.

Du Toit, M. (2015). *The influence of leader integrity on ethical leadership, interactional justice, leader trust and counterproductive work behaviour* (Unpublished master's dissertation). University of Stellenbosch, Stellenbosch, South Africa.

Ebrahim, Z., & Pieterse, J. J. (2016). A strategy to tailor performance interventions based on the nature of organisational maturity of South manufacturing firms. *The South African Journal of Industrial Engineering, 27*(2), 81-94. dx.doi.org/10.7166/27-2-1328

Einarsen, S., Aasland, M. S., & Skogstad, A. (2007). Destructive leadership behaviour: A definition and conceptual model. *The Leadership Quarterly*, *18*(3), 207-216. doi.org/10.1016/j.leaqua.2007.03.002

Ferreira, N. (2009). *The relationship between psychological career resources and organisational commitment* (Unpublished master's dissertation). University of Pretoria, Pretoria.

Folger, R., & Cropanzano, R. (2001). Fairness theory: Justice as accountability. *Advances in Organizational Justice*, *1*, 1-55.

Fox, S., & Stallworth, L. E. (2005) Racial/ethnic bullying: Exploring the links between bullying and racism in the US workplace. *Journal of Vocational Behavior, 66*, 438-456. doi.org/10.1016/j.jvb.2004.01.002

Giberson, T. R., Resick, C. J., Dickson, M. W., Mitchelson, J. K., Randall, K. R., & Clark, M. A. (2009). Leadership and organizational culture: Linking CEO characteristics to cultural values. *Journal of Business & Psychology*, *24*(2), 123-137.

Gravetter, F. J., & Forzano, L. B. (2012). *Research methods for the behavioural sciences* (4th ed.). Belmont, CA: Wadsworth.

Heine, G. (2013). *The influence of integrity and ethical leadership on trust and employee work engagement* (Unpublished master's dissertation). University of Stellenbosch, Stellenbosch.

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

IBM Corp. (2017). *IBM SPSS Statistics for Windows*, Version 25.0. Armonk, NY: IBM Corp.

IDC (Industrial Development Corporation). (2019). Economic trends: Key trends in the South African economy. Retrieved from http://www.idc.co.za/images/download-files/economicoverviews/RI-publication-Keytrends-in-SA-economy_March2019.pdf

Ilies, R., & Judge, T. A. (2004). An experience-sampling measure of job satisfaction: Its relationships with affectivity, mood at work, job beliefs, and general job satisfaction. *European Journal of Work & Organizational Psychology*, *13*(3), 367-89. doi.org/10.1080/13594320444000137

Imran, R., Zahoor, F., & Zaheer, A. (2012). Leadership and performance relationship: Culture matters. *International Journal of Innovation, Management & Technology*, *3*(6), 713.

Kathuria, R., & Partovi, F. Y., & Greenhaus, J. H., 2010. Leadership practices, competitive priorities, and manufacturing group performance. *International Journal of Operations & Production Management*, *30*(10), 1080-1105.

Kusy, M., & Holloway, E. (2009). *Toxic workplace: Managing toxic personalities and their systems of power.* San Francisco, CA: Jossey-Bass.

Lance, C. E., Butts, M. M., & Michels, L. C. (2006). The sources of four commonly reported cut-off criteria: What did they really say?. *Organizational Research Methods*, *9*(2), 202-220. doi.org/10.1177%2F1094428105284919

Leet, E. (2011). *The impact toxic or severe dysfunctional leadership has on the effectiveness of an organisation* (doctoral dissertation). Murdoch University, Australia.

Lazarczyk, L. (2017). *Life meets work survey finds 56% of employees have a toxic leader.* Retrieved from https://www.prnewswire.com/news-releases/life-meets-work-survey-finds-56-of-employees-have-a-toxic-leader-300473884.html

Lipman-Blumen, J. (2005). *The allure of toxic leaders: Why we follow destructive bosses and corrupt politicians – and how we can survive them.* Oxford: Oxford University Press.

Lok, P., & Crawford, J. (2003). The effect of organisational culture and leadership style on job satisfaction and organisational commitment: A cross national comparison. *Journal of Management Development, 23*(4), 321-328. doi.org/10.1108/02621710410529785

Lumley, E. (2010). *Exploring the relationship between career anchors, job satisfaction and organisational commitment* (Unpublished master's dissertation). University of South Africa, Pretoria.

Marsh, H. W., Hau, K. T., & Wen, Z. (2004). In search of golden rules: Comment on hypothesis-testing approaches to setting cut off values for fit indexes and dangers in overgeneralizing Hu and Bentler's (1999) findings. *Structural Equation Modeling*, *11*(3), 320-341. doi.org/10.1207/s15328007sem1103_2

Mehta, S., & Maheshwari, G. C. (2013). Consequence of toxic leadership on employee job satisfaction and organizational commitment. *Journal of Contemporary Management Research*, *8*(2), 1-23.

Metha, S., & Maheshwari, G. C. (2014). Toxic leadership: Tracing the destructive trail. *International Journal of Management, 5*(10), 18-24

Meyer, J. P. & Allen, N. J. (1991). A three-component conceptualisation of organisational commitment. *Human Resource Management Review, 1*(1), 61-89.

Nardi, P.M. (2018). *Doing Survey Research: A Guide to Quantitative Methods.* (4th ed.) New York: Routledge.

Özer, Ö., Ugurluoglu, Ö., Kahraman, G., & Avci, K. (2017). A study on toxic leadership perceptions of healthcare workers. *Global Business & Management Research*, *9*(1), 12.

Pacleb, T. G., & Cabanda, E. (2014, June). *Examining the role of leadership styles and leader communication styles on leader-member exchange relationship and conflict management among bank employees in the Philippines.* Paper presented at the Asian Conference on the Social Sciences, Osaka.

Pallant, J. (2010). *SPSS Survival Manual*: *A step by step guide to data analysis using the SPSS program* (4th ed.), New York, NY: McGraw-Hill.

Pevalin, D., & Robson, K. (2009). *The stata survival manual.* Berkshire: McGraw-Hill Education.

Rayner, C., & Cooper, C. (1997). Workplace bullying: Myth or reality can we afford to ignore it? *Leadership & Organization Development Journal,* 18 (4), 211-214. doi.org/10.1108/01437739710182313

Rasid, S. Z. A., Manaf, M. A. A., & Quoquab, F. (2013). Leadership and organizational commitment in the Islamic banking context: The role of organizational culture as a mediator. *American Journal of Economics,* 3(5), 171-176. doi:10.5923/c.economics.201301.29

Roodt, G. (2004). *Turnover intentions.* (Unpublished document). Johannesburg: University of Johannesburg.

Rosenthal, S. A., & Pittinsky, T. L. (2006). Narcissistic leadership. *The Leadership Quarterly*, *17*(6), 617-633. doi.org/10.1016/j.leaqua.2006.10.005

Sadri, G., & Lees, B. (2001). Developing corporate culture as a competitive advantage. *Journal of Management Development, 20*(10), 853-859. doi.org/10.1108/02621710110410851

Sarmiento, R., Rich, N., Aryee, G., & Francis, M. (2006). *Employee turnover and its effect on sustainable manufacturing operations.* Retrieved from http://www.semanticscholar.org/paper

Schein, E. (2004). *Organisational culture and leadership* (3rd ed.). San Francisco, CA: Jossey-Bass.

Schmidt, A. A. (2008). *Development and validation of the toxic leadership scale.* Available from ProQuest Dissertations & Theses Global. (193655997). Retrieved from http://nwulib.nwu.ac.za/login?url=https://search-proquest-com.nwulib.nwu.ac.za/docview/193655977?accountid=12865

Schmidt, A. A. (2014). *An examination of toxic leadership, job outcomes, and the impact of military deployment.* Available from ProQuest Dissertations & Theses Global (1558874321). Retrieved from http://nwulib.nwu.ac.za/login?url=https://search-proquest-com.nwulib.nwu.ac.za/docview/1558874321?accountid=12865

Schneider, B., Goldstiein, H. W., & Smith, D. B. (1995). The ASA framework: An update. *Personnel Psychology,* 48(4), 747-773.

Sempane, M. E., Rieger, H. S., & Roodt, G. (2002). Job satisfaction in relation to organisational culture. *South African Journal of Industrial Psychology, 28*(2), 23-30.

Steyn, H. S., & Swanepoel, C. J. (2008). *Praktiese statistiek* (2de uitg.). Potchefstroom: Noord-Wes Universiteit.

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

Swanepoel, B. J, & Erasmus, B. J., & Schenk, H. W., & Tshilongamulenzhe, H. C. (2014). *South African human resource management: theory and practice* (5th ed.). Claremont: Juta.

Tate, B. W. (2009). *Bad to the bone: Empirically defining and measuring negative leadership.* Available from ProQuest Dissertations & Theses Global. (304989652). Retrieved from http://nwulib.nwu.ac.za/login?url=https://search-proquest-com.nwulib.nwu.ac.za/docview/304989652?accountid=12865

Tavanti, M. (2011). Managing toxic leaders: Dysfunctional patterns in organizational leadership and how to deal with them. *Human Resource Management, 6*, 127-136.

Tepper, B. J. (2007). Abusive supervision in work organisations: Review, synthesis and research agenda. *Journal of Management, 33*(3), 261-289. doi.org/10.1177%2F0149206307300812

Tett, R. P., & Meyer, J. P. (1993). Job satisfaction, organisational commitment, turnover intention and turnover: Path analyses based on meta-analytic findings. *Personnel Psychology, 46*(2), 259-293. doi.org/10.1111/j.1744-6570.1993.tb00874.x

Van der Post, W. Z., De Coning, T. J., & Smit, E. V. (1997). An instrument to measure organisational culture. *South African Journal of Business Management, 28*(4), 147-168.

Veldsman, T. (2012, October). *The growing cancer endangering organisations: Toxic leadership.* Paper presented at the Conference on Leadership in Emerging Countries presented by Department of Industrial Psychology and People Management, Faculty of Management, University of Johannesburg, Johannesburg.

Vreja, L. O., Balan, S., & Bosca, L. C. (2016). An evolutionary perspective on toxic leadership. *Management & Economics Review*, *1*(2), 217-228.

Webster, V., Brough, P., Daly, K., & Myors, B. (2011). Consequences of toxic leadership behaviours: A qualitative investigation. Retrieved from: https://www.anzam.org/wp-content/uploads/pdf-manager/563_ANZAM2011-314.PDF

Weaver, S. G., & Yancey, G. B. (2010). The impact of dark leadership on organizational commitment and turnover. *Leadership Review, 10,* Summer, 104-124.

Zangaro, G., Yager, K., & Proulx, J. (2009). *Recognizing and overcoming toxic leadership.* Retrieved from: http://www.rnjournal.com/journal_of_nursing/recognizing_and_overcoming_toxic_leadership.htm

CHAPTER 4

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

This chapter presents conclusions drawn from the study according to the general and specific objectives. Limitations of the current study is identified and discussed. Recommendations are made for organisations, as well as for future research in this field.

4.1. Conclusions

The general objective of this study was to determine whether the Toxic Leadership Scale as developed by Schmidt (2008) can be used as a reliable and valid instrument to measure toxic leadership within a South African context (Article 1). The further aim was to measure the influence of toxic leadership on certain job outcomes (Article 2).

Article 1: The psychometric properties of the Toxic Leadership Scale in the South African manufacturing industry

The general objective of **Article 1** was to determine the psychometric properties of the Toxic Leadership Scale for the South African context.

From the results of the research, the following conclusions can be drawn for the specific objectives set out for the article.

Specific objective 1: To determine how toxic leadership and the Toxic Leadership Scale is conceptualised according to the literature.

To answer the requirements of the first objective, an extensive literature review was carried out. This entailed searching for definitions and explanations on toxic leadership and other negative leadership styles and how they differ. The literature review revealed the limited research available on the specific topic of toxic leadership and scant empirical research undertaken (Metha & Maheswari, 2013, Schmidt, 2008; Veldsman, 2012). From the initial attempts to investigate the phenomenon, several key themes emerged specific to toxic leadership, namely that toxic leaders are harmful or abusive (Lipman-Blumen, 2005); tend to micromanage their subordinates (Metha & Maheshwari, 2013); are unpredictable (Schmidt, 2008); display narcissistic tendencies (Schmidt, 2008); show a lack of integrity; and cause division between subordinates (Lipman-Blumen, 2005).

The review discovered that Schmidt (2008) followed a mixed method approach, which was informed by the theory that the Leader-member exchange theory (LMX) measures the positive

aspects of the subordinate-supervisor relationship and that the strength of this relationship would be impacted negatively by a toxic leader. He concluded that toxic leadership is made up of five factors, namely abusive supervision, authoritarian leadership, narcissism, self-promotion and unpredictability (Schmidt, 2008). Schmidt developed a measurement scale and his research indicated that toxic leadership was an umbrella term that encapsulated an array of destructive behaviour styles. He developed a comprehensive definition on which the present study was based (Schmidt, 2008).

Specific objective 2: To establish the reliability and validity of the Toxic Leadership Scale for employees in the manufacturing industry

To achieve the second objective, the first requirement was to examine the distribution of the data from the descriptive statistics. The items that made up the Toxic Leadership Scale showed a normal distribution, with and average mean of more or less 2.74, which indicated that the responses are not overly skewed to the positive or negative end of the scale (Gravetter & Forzano, 2012). These findings showed that the participants gravitated towards a "disagree" or "undecided", which may imply that participants were not overly biased towards either side of the response scale. Such indecision could further indicate that the participants may have had insufficient information to make an informed decision or was attempting to avoid a socially unacceptable response (Cooper & Johnson, 2016).

Following the analysis of the distribution, all items were included to assess reliability and validity. Reliability was measured by calculating Cronbach's alphas; all five factors of the scale measured above the 0.70 cut-off point as suggested by Pallant (2010). Therefore, it was accepted that the scale in its current format showed acceptable levels of reliability for use in the manufacturing industry.

In terms of validity, firstly an exploratory factor analysis (EFA) with principle component analysis (PCA) was done to examine the original five factors of the TLS, which included all 30 items of the original TLS. Conditions for KMO, Bartlett's Test of Sphericity and Kaiser's criterion factors were all met and the original five-factor model with 30 items as proposed by Schmidt (2008), were found to fit the data the best.

A confirmatory factor analysis (CFA) confirmed that the Toxic Leadership Scale was valid as the goodness-of-fit indices showed adequate fit. All the items showed good regression weights ranging between 0.51 and 0.88.

Specific objective 3: To determine the construct equivalence and item bias of the Toxic Leadership Scale

By addressing specific objective 3, construct equivalence and item bias was determined using CFA and stepwise multiple regression.

Item bias was determined measured using differential item functioning (DIF). The aim was to determine the presence of uniform and non-uniform item bias, and for the purpose of the present study, age was used. After performing stepwise regression, item bias was found for certain items, which then were further explained and addressed. The results indicated acceptable levels of item bias

Construct equivalence was examined through confirmatory factor analysis (CFA) using AMOS. In research, CFA measures whether the constructs being measured in a cross-cultural or societal study hold the same meaning and value in the different cultures or societies under researched (Lindridge, 2015). The goodness-of-fit indices was found to be within accepted levels; therefore, the factor structure was confirmed.

Specific objective 4: To investigate the difference between toxic leadership and various demographic variables (e.g. gender, age, ethnic groups)

The present study analysed the results for toxic leadership and various demographic variables, following the fourth objective. The findings showed that for gender, there was a difference in the way males and females experienced toxic leadership, especially in terms of the authoritarian leadership factor of the scale. These results are in line with other studies by Chua and Murray (2015) as well as Singh, Dev and Sengupta (2017), namely that females experience toxic leadership differently than males.

In terms of age, the results indicated no significant difference in the way that the various age groups experience toxic leadership. The study of Singh et al. (2017), investigated age groups similar to the present study. Their results also show no significant differences in the experience of toxic leadership and employees from diverse age groups.

Regarding ethnicity, the results from the present the study also indicated a significant correlation between toxic leadership and ethnicity, specifically related to the participants' experience of abusive supervision, authoritarian leadership and unpredictability.

(The final specific objective, recommendations for future research and practice, are discussed under 4.3.)

Article 2: Assessing the relationship between toxic leadership, job satisfaction, commitment, turnover intention and organisational culture among employees within the South African manufacturing industry

From the results of the present research, the following conclusions can be drawn for **Article 2,** based on the specific objectives set out for the article.

Specific objective 1: To determine how the relationship between toxic leadership, job satisfaction, turnover intention, organisational commitment and organisational culture are conceptualised according to the literature

To answer the first objective, an extensive literature study was undertaken around toxic leadership and other studies regarding job satisfaction, turnover intention, commitment and organisational culture.

Studies by several researchers investigated toxic leadership as phenomenon (e.g. Schmidt, 2008; 2014; Pelletier, 2010; Lipman-Blumen, 2005). Their studies indicated that among several negative leadership styles, toxic leadership is a comprehensive style as such made up of several types of behaviour. As was mentioned, Schmidt views toxic leadership as an umbrella term that covers several distinct negative leadership behaviours, which are related (Schmidt, 2008). He developed the Toxic Leadership Scale in 2008 based on this finding.

Job satisfaction refers to how people feel about their work – their attitude towards their job and work environment (Illies & Judge, 2004). For the purpose of this study, the understanding of Buitendach and Roodt (2009) was used as the reference point. They define job satisfaction as employees' individual perception and evaluation of their job. Job satisfaction can be unpacked in terms of intrinsic and extrinsic factors.

The literature review of organisational commitment centred on the work of Meyer and Allen (1991), seeing that the present study used their Organisational Commitment scale. Organisational commitment refers to the relationship that individual employees' have with organisation, or more specifically the bond that has implications for individuals' decision to continue or discontinue their tenure with the organisation (Meyer & Allen, 1991).

Turnover intention, according to the literature, points to employees' plan to leave the organisation and specifically, refers to the final step in the decision-making to leave their job (Bester, 2012). Tett and Meyer (1993) view such a step as a conscious and wilful decision.

Specific objective 2: To investigate whether there exists a relationship between toxic leadership, job satisfaction, turnover intention and organisational commitment among employees within the manufacturing industry

The results of the study revealed significant relationships between the various variables that were investigated – to be discussed subsequently.

The investigation, according to the second objective, into the relationship between toxic leadership and job satisfaction showed that a relationship did exist. Regarding the relationship between toxic leadership and intrinsic job satisfaction, however, all the dimensions were found to be statistically and practically related to intrinsic job satisfaction. The results also indicated that for extrinsic job satisfaction, all the dimension of the toxic leadership scale are statistically and practically related. Although the present study found relationships, the positive relationship was unexpected, seeing that other studies showed negative relationships (e.g. Metha & Maheshwari, 2013; Kusy & Holloway, 2009; Schmidt, 2014). It is suggested that this result may be due to the makeup of the study population, where a significant number are unskilled and semi-skilled and therefore tend to have strongly guided jobs.

Using the Organisational Commitment scale (Meyer & Allen 1991), the results indicated statistically significant relationships across all five factors of the toxic leadership scale. From the five factors making up toxic leadership, abusive supervision, authoritarian leadership, self-promotion and unpredictability all showed a practically significant relationship with affective commitment. Authoritarian leadership and unpredictability was found to be statistically significantly related to continuance commitment. Regarding normative commitment and toxic leadership, the findings showed a statistically significant relationship with abusive supervision, authoritarian leadership, narcissism and self-promotion. These findings are supported by those of Metha and Maheshwari (2013), that showed a statistically significant relationship with affective commitment and toxic leadership.

The investigation into the relationship between turnover intention and toxic leadership indicated a relationship and that all the dimensions of toxic leadership are statistically related

to turnover intention. These findings are supported by those of Schmidt (2008, 2014) and Akca (2017), which show similar results from their respective studies.

Specific objective 3: To establish whether toxic leadership predict certain job outcomes (e.g. job satisfaction, turnover intention and organisational commitment) among employees within the manufacturing industry

This third objective set out to investigate whether toxic leadership predicts certain job outcomes amongst employees in the manufacturing industry.

To achieve this objective, regression analyses was done on the five toxic leadership dimensions as the constant (independent variables). The present study found predictions between the dimensions and job outcomes, which are expounded below.

The findings revealed that higher levels of the abusive supervision and authoritarian leadership as dimension of toxic leadership is a significant predictor of intrinsic job satisfaction. Lower levels of narcissism was also found to be a predictor of intrinsic job satisfaction. On the other hand, higher levels of the toxic leadership dimension, abusive supervision and authoritarian leadership, turned out to be a significant predictor of extrinsic job satisfaction. These results were unexpected and not supported by any previous studies (e.g. Metha & Masheshwari, 2013; Schmidt, 2014).

Organisational commitment was measured in terms of each of the factors that make up commitment according to Meyer and Allen (1991), namely, affective, continuance and normative. The findings of the present study showed that lower levels of the self-promotion as toxic leadership dimension is a predictor of affective commitment. These finding are in line with that of Schmidt (2014), that self-promotion is one of the most important predictors of affective commitment. Furthermore, lower levels of the toxic leadership dimension, abusive supervision, was found to be a predictor of continuance commitment, whilst higher levels of the toxic leadership dimension, unpredictability, predicts continuance commitment. None of the toxic leadership dimensions were found to predict normative commitment.

The findings of the study revealed further that higher levels of the toxic leadership dimension, unpredictability, predict turnover intention. In Schmidt's (2008) study however the authoritarian leadership dimension was a stronger predictor of turnover intention.

Specific objective 4: To determine whether organisational culture mediates the relationship between toxic leadership and certain job outcomes (e.g. Job satisfaction, turnover intention and organisational commitment) among employees within the manufacturing industry.

The results returned both direct and indirect effects which indicates only partial mediation. To test the mediation relationship as set out in this objective, the overall model was tested over three models to attain objective 4.

Model 1: tested organisational culture as mediator between toxic leadership and job satisfaction. The mediation was found to be partial for the model and explained 45.8% of the variance in job satisfaction.

Model 2: tested organisational culture as mediator between toxic leadership and organisational commitment. The mediation was found to be partial and explained 63.5% of the variation in organisational commitment. The results of this study correspond with those by Rasid, Manaf and Quoquab (2013), which found that organisational culture mediates the relationship between leadership and organisational commitment.

Model 3: tested organisational culture as mediator between toxic leadership and turnover intention. The mediation was found to be partial and explained 71.6% of the variance in turnover intention.

The results of this study corresponded with those by Schmidt (2014) as well as Imran, Zahoor and Zaheer (2012), which found that organisational culture mediates the relationship between leadership and organisational culture.

(The final specific objective, recommendations for future research and practice, are discussed under 4.3.)

4.2 Limitations

Due to the nature and scope of the research study certain limitations emerged and it is important to expand on these.

The first limitation was the research design. A cross-sectional design was used where data were collected from several groups only once at a specific point in time (Bryman et al., 2014). As a result, no casual inferences could be drawn.

The second limitation concerned the selected method of convenience sampling. This method was chosen for the study, seeing that it would be untenably to test the entire population of people employed in the manufacturing sector. Furthermore, the participants were easily contacted and readily available, yet still representative of the population. However, this sampling method introduced potential bias into the study, which means that it would not be possible to generalise the results to a broader South African population across industries. Due to the make-up of the sample it was distributed unequally in terms of gender, race, age and language groups. The researcher also involved the most easily accessible participants for the study since convenience sampling is the quickest and most cost-effective way to gather data (Coolican, 2014).

A third limitation is the use of self-reported questionnaires. This type of questionnaires provide a practical way of obtaining meaningful information and can be considered as a cost-effective method to collect data. However, this form of collection can lead to an increase in self-reporting bias (Rosenman, Tennekoon and Hill, 2011).

The fourth limitation was the environment in which the study was undertaken. The manufacturing environment is time sensitive and labour intensive. The organisations involved in the study also run on a shift basis and production lines. This implied thorough planning to get employees switched around for periods when they had time available to complete the questionnaire.

The fifth limitation is the fact that this is the first time that the Toxic Leadership Scale was used to measure the impact of a phenomenon on job outcomes in South Africa. To the knowledge of the researcher, to date there is no study in South Africa to which comparisons in the results can be drawn.

The sixth limitation was the large amount of variables measured due to the nature and scope of the study. This broad scope resulted in a questionnaire that could be considered long and tedious. A number of participants complained about the length of the questionnaire, which may have hindered participants from completing the questionnaires thoroughly, or influenced the way in which they responded to the items.

A seventh limitation is that only English was used as a language for all the measuring instruments used to collect data for the study. Therefore, the language barrier may have caused inaccurate results. The problem is that English is not the primary language of a large percentage of the participants, even if it is considered the business language of this country.

A final limitation flows from the fact that the bias and equivalence of the Toxic Leadership Scale was only investigated in terms of age. According to Van de Vijver and Tanzer (2004), other characteristics can also create bias such as language, gender and ethnicity. In the unique diverse context of South Africa, it is especially important to investigate differences in test scores on other characteristics.

4.3. Recommendations

Despite the limitations discussed above, the study has important implications for organisations and future research. In this regard, the final specific objective for both research articles was reached and recommendations are discussed below.

4.3.1 Recommendation for the manufacturing organisations

The first and most important result of the present study is that organisations it has provided current organisations with a validated instrument to measure toxic leadership among their ranks. By identifying a potentially toxic leader in the organisation, the human resources practitioner will be able to develop applicable interventions, which can assist the organisation and employees as well as the toxic leader.

This study has brought attention that toxic leadership is also present in the manufacturing industry in South Africa, although the impact or the prevalence is still unclear and undiscussed. It is vitally important that organisations seeking to be successful should be aware and vigilant of individuals in positions of power who may have a negative impact on the business. However, as Schmidt (2014) indicates, organisations seldom think proactively about preventing toxic leadership in their business and how this may hamper the success of the organisation. By increasing the awareness about toxic leadership, there may be more opportunities to counter its prevalence in the workplace and reduce its destructive impact (Schmidt, 2014).

It is therefore recommended that organisations review areas in the business were management are experiencing high levels of turnover, problems with employees' engagement and absenteeism, by examining the current leadership style. When applying the validated Toxic Leadership Scale, the organisation may understand these problems also relate to a toxic leader. Finding the cause of the problem will allow the organisation to manage the situation and take

corrective action where necessary. On the employees' side, it will allow them to be more aware of this type of leadership style and understand how to deal with it effectively.

4.3.2. Recommendations for future research

Based on results of the study and the subsequent limitations that were highlighted, the following recommendations are made for future research.

This is the first study that empirically measures toxic leadership in organisations and its impact on job outcomes such as job satisfaction, organisational commitment and turnover intention. As was indicated, the research focus was on employees in South Africa in the manufacturing industry. Therefore, it is recommended that this research be repeated in other economic sectors to ascertain whether the Toxic Leadership Scale can be validated for use across industries and whether similar results are obtained.

This is especially relevant when pointing to the unexpected result for job satisfaction. According to findings from Research article 2, the positive experience of job satisfaction is not in line with other studies undertaken by Metha and Maheshwari (2013) and Schmidt (2014). Thus, future research should replicate the present study to assess whether this result is specific to the particular selected study population.

Furthermore, most of the study population was male and future studies should include a larger population sample of females for a better understanding of how toxic leadership affects this gender. This is especially relevant since the present study's results in this regard differed from previous ones on gender by Chua and Murray (2015) as well as Singh et al. (2017). According to the present study, males experience toxic leadership more than females in terms of the dimension authoritarian leadership. A repeat of this study among other more gender-balanced research populations would indicate whether this finding applied only to the present study's selected population.

Future research studies should expand the present research to different demographical areas which represents diverse populations in terms of language. The reason is that South Africa has 11 recognised official languages. A broader study scope will provide a truer reflection regarding employees' understanding of the concept of toxic leadership in South Africa. Such research would indicate whether the prevalence of this leadership style are similar or differs significantly across diverse demographic groups.

From Research article 1, a recommendation is that future studies should investigate the bias and equivalence based on other characteristics such as language and occupation as well. Such

research will help make studies using the Toxic Leadership Scale as unbiased and equivalent as possible (Van de Vijver & Tanzer, 2004).

The results of the present study suggested several other areas of investigation such as an in-depth understanding of the specific impact that each variable has on the data. This refers specifically to the different factors of the Toxic Leadership Scale. This study did not delve into the specific contribution each the five factors of the scale may have on toxic leadership as a whole, for example, how much variance is explained by each factor.

Finally, a longitudinal research design is suggested for future research since this will allow for the measuring of participants' job-related experiences over an extended period. Such an approach in turn will provide a richer data set from which more accurate conclusions can be drawn (De Vos, Strydom, Fouché, & Delport, 2011).

In conclusion: the present study has only touched the surface of the topic, but recent leadership challenges at some of the bigger corporate organisations in South Africa indicate that toxic leadership could be a much bigger problem than previously thought.

REFERENCES

Akca, M. 2017. The impact of toxic leadership on intention to leave of employees. *International Journal of Economics, Business & Management Research, 1*(4), 285-298.

Bester, F. (2012). *A model of work identity in multicultural work settings* (Unpublished doctoral thesis). University of Johannesburg, Johannesburg.

Bryman, A., Bell, E., Hirschsohn, P., Dos Santos, A., Du Toit, J., Masenge, A., Van Aardt, I., & Wagner, C. (2014). *Research methodology: Business and management contexts.* Cape Town:Oxford University Press.

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

Chua, S. M. Y., & Murray, D. W. (2015). How toxic leaders are perceived: Gender and information-processing. *Leadership & Organization Development Journal, 36*(3), 292-307.

Coolican, H. (2014). *Research methods and statistics in psychology.* (6th ed.). New York, NY: Psychology Press.

Cooper, D., & Johnson, T. P. (2016). How to use survey results. *Journal of the Medical Library Association 104 (2)* 174-177.

De Vos, A. S., Strydom, H., Fouché, C. B., & Delport, C. S. L. (2011). *Research at grassroots: For the social sciences and human service professions* (4th ed.). Pretoria: Van Schaik.

Gravetter, F. J., & Forzano, L.B. (2012). *Research methods for the behavioural sciences.* (4th ed.). Belmont, CA: Wadsworth.

Ilies, R., & Judge, T. A. (2004). An experience-sampling measure of job satisfaction: Its relationships with affectivity, mood at work, job beliefs, and general job satisfaction. *European Journal of Work & Organizational Psychology*, *13*(3), 367-389.

Imran, R., Zahoor, F., & Zaheer, A. (2012). Leadership and performance relationship: Culture matters. *International Journal of Innovation, Management & Technology*, *3*(6), 713.

Kusy, M., & Holloway, E. (2009). *Toxic workplace: Managing toxic personalities and their systems of power.* San Francisco, CA: Jossey-Bass.

Lindridge, A. (2015). Construct equivalence. *Wiley Encyclopaedia of Management*, *9*, 1-3.

Lipman-Blumen, J. (2005). *The allure of toxic leaders: Why we follow destructive bosses and corrupt politicians – and how we can survive them.* Oxford: Oxford University Press.

Mehta, S., & Maheshwari, G. C. (2013). Consequence of toxic leadership on employee job satisfaction and organizational commitment. *Journal of Contemporary Management Research*, *8*(2), 1-23.

Meyer, J. P. & Allen, N. J. (1991). A three-component conceptualisation of organisational commitment. *Human Resource Management Review, 1*(1), 61-89.

Pallant, J. (2010). *SPSS survival manual*: *A step-by-step guide to data analysis using the SPSS program* (4th ed.), New York, NY: McGraw-Hill.

Pelletier, K. L. (2010). Leader toxicity: An empirical investigation of toxic behavior and rhetoric. *Leadership*, *6*(4), 373-389.

Rasid, S. Z. A., Manaf, M. A. A., & Quoquab, F. (2013). Leadership and organizational commitment in the Islamic banking context: The role of organizational culture as a mediator. *American Journal of Economics,* 3(5), 171-176.

Rosenman, R., Tennekoon, V., & Hill, L. G. (2011). Measuring bias in self-reported data. *International Journal of Behavioural & Healthcare Research*, *2*(4), 320-332. doi:10.1504/IJBHR.2011.043414

Schmidt, A. A. (2008). *Development and validation of the toxic leadership scale* (Order No. 1453699). Available from ProQuest Dissertations & Theses Global. (193655997). Retrieved from http://nwulib.nwu.ac.za/login?url=https://search-proquest-com.nwulib.nwu.ac.za/docview/193655977?accountid=12865

Schmidt, A. A. (2014). *An examination of toxic leadership, job outcomes, and the impact of military deployment* (Order No. 3627674). Available from ProQuest Dissertations & Theses Global. (1558874321). Retrieved from http://nwulib.nwu.ac.za/login?url=https://search-proquest-com.nwulib.nwu.ac.za/docview/1558874321?accountid=12865

Singh, N., & Dev, S., & Sengupta, S. (2017). Perceived toxicity in leaders: Through the demographic lens of subordinates. *Procedia Computer Science, 122*, 114-121.

Tett, R. P., & Meyer, J. P. (1993). Job satisfaction, organisational commitment, turnover intention and turnover: Path analyses based on meta-analytic findings. *Personnel Psychology, 46*(2), 259-293.

Van de Vijver, F., & Tanzer, N. K. (2004). Bias and equivalence in cross-cultural assessment: An overview. *Revue Européenne de Psychologie Appliquée/European Review of Applied Psychology*, *54*(2), 119-135. doi: 10.9707/2307-0919.1111

Veldsman, T. (2012, October). *The growing cancer endangering organisations: Toxic leadership.* Paper presented at the Conference on Leadership in Emerging Countries presented by Department of Industrial Psychology and People Management, Faculty of Management, University of Johannesburg, Johannesburg.