Communication style inventory: Validation and investigation of relationships with leadership styles in the South African manufacturing industry

EL Crews

orcid.org/0000-0001-7311-6424

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Supervisor: Dr M Brouwers

Co-Supervisor: Prof JC Visagie

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Student number: 23070935

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*, as it is in line with a significant part of the APA style. Construction of tables was followed in accordance with APA guidelines.

DECLARATION

I, El-Roy Lawrence Crews, hereby declare that **Communication style inventory: Validation and investigation of relationships with leadership styles 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.

El-Roy Lawrence Crews
November 2018

DECLARATION FROM LANGUAGE EDITOR

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TO WHOM IT MAY CONCERN:

I hereby confirm that the MCom dissertation, *Communication style inventory: Validation and investigation of relationships with leadership styles in the South African manufacturing industry*, by E L Crews (student no: 23070935) 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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SUMMARY

Title:

Communication style inventory: Validation and investigation of relationships with leadership styles in the South African manufacturing industry

Keywords:

Communication Styles Inventory, preciseness, verbal aggressiveness, emotionality, impression manipulativeness, internal validity, convergent validity, transformational leadership styles, transactional leadership styles

Interpersonal communication is a major organisational concern to the relevant stakeholders within the South African manufacturing environment. Leadership's communication has a significant impact on an organisation. The reason is that employees are reportedly experiencing conflict situations and deviant behaviour due to inefficiently managed communication styles. However, to date, no interpersonal scale for communication styles has been validated and shown to be reliable for measurements within a South African organisation. Thus, organisations and researchers are unable to measure the communication styles of employees accurately to identify the eventual effect within a South African context.

The present study underwrites the notion that supervisors, who utilise strong leadership and communication styles, may have a positive impact on employees, which in turn will improve the performance of the organisation, giving it a competitive edge. Therefore, it is important to create an awareness of leadership styles and concurrent communicational styles within organisations. Presently, there is a lack of research on the impact that leadership styles have on communication styles of leaders as perceived by their subordinates, Therefore, it is important to assess these relationships.

The general objective of this study was firstly to evaluate the internal and convergent validity of the subscales from the Communication Styles Inventory (CSI). Secondly the relationships were determined between perceived leadership styles (transformational and transactional) and communication styles among employees within South African manufacturing organisations. A cross-sectional research design was used. A combined non-probability purposive and

convenient sample (N = 564) was done among employees from various South African manufacturing organisations. Exploratory factor analysis (EFA) was used to determine the internal validity of all the CSI subscales individually by investigating the items loading on the subscales and its reliability. Furthermore, the convergent validity was determined by examining the relationships between the CSI subscales and the sub-constructs of the Communication Styles Measure (CSM). The methods used to analyse the data was descriptive statistics (i.e. means, standard deviation, skewness, and kurtosis) and inferential statistics (i.e. correlations and multiple regression analysis). The reliability of the constructs was also established through Cronbach's alpha coefficients as tested by the IBM SPSS version 25 statistical programme.

The results provided evidence that not all the subscales of the CSI were completely valid to use, as most of the items did not show acceptable item loadings and reliability on the subscales. Only the subscales of *preciseness, verbal aggressiveness, emotionality,* and *impression manipulativeness* showed acceptable validity and reliability. In addition, convergent validity was provided. The findings revealed significantly positive and negative statistical relationships between the perceived transformational as well as transactional leadership styles with the perceived communication styles.

The findings showed that perceived leadership (transformational and transactional) significantly predicted lower or higher levels of perceived communication styles. This indicates that a leader may utilise a specific communication style to impact the relationship between superior and subordinates. This could encourage communication behaviour for improved organisational outcomes among employees in a South African manufacturing environment.

Finally, recommendations were made for organisations to follow up and for future research on the topic.

OPSOMMING

Titel:

Kommunikasiestylinventaris: Validasie en ondersoek na verhoudings met leierskapstyle in die Suid-Afrikaanse vervaardigingsbedryf

Sleutelwoorde:

Kommunikasiestylinventaris, akkuraatheid, verbale aggressiwiteit, emosionaliteit, indrukmanipulasie, interne geldigheid, konvergente geldigheid, transformasionele leierskapstyle, transaksionele leierskapstyle

Interpersoonlike kommunikasie is ’n uiters belangrike organisatoriese kwessie vir die relevante belanghebbendes binne die Suid-Afrikaanse vervaardigingsomgewing. Die leierskap se kommunikasie oefen ’n wesenlike invloed op ’n organisasie uit. Die rede is dat werknemers na bewering konfliksituasies en afwykende gedrag ervaar as gevolg van ondoeltreffend bestuurde kommunikasiestelsels. Nogtans is daar tot op hede geen skaal van interpersoonlike kommunikasiestyle bevestig en as betroubaar bevind om metings binne 'n Suid-Afrikaanse organisasie te kan doen nie. Organisasies en navorsers kan gevolglik nie die kommunikasiestyle van werknemers akkuraat meet om uiteindelik die uitwerking binne die Suid-Afrikaanse omgewing te kan uitwys nie.

Die huidige studie onderskryf die idee dat toesighouers, wat sterk leierskapstyle en kommunikasiestyle gebruik, ’n positiewe impak op werknemers kan hê, wat dan weer die prestasie van die organisasie sal beïnvloed en daaraan ’n mededingende voordeel bied. Daarom is dit belangrik om 'n bewustheid te skep van leierskapstyle en ooreenstemmende kommunikasiestyle binne organisasies. Huidig is daar is ’n gebrek aan navorsing oor die impak wat leierskapstyle het op kommunikasiestyle van leiers, soos hulle ondergeskiktes dit beskou. Daarom was dit belangrik om hierdie verhoudings te beoordeel.

Die algemene doelstelling van hierdie studie was eerstens om die interne en konvergente geldigheid van die Kommunikasiestylinventaris (CSI) se subskripsies te ontleed. Tweedens is die verhoudings vasgestel tussen waargenome leierskapstyle (transformasioneel en transaksioneel) met kommunikasiestyle onder werknemers binne Suid-Afrikaanse vervaardigingsorganisasies. ’n Dwarsdeursnitnavorsingsontwerp is hiervoor gebruik. Daarby

is gekombineerde nie-waarskynlike doelgerigte en gerieflike steekproefneming (N = 564) gedoen onder werknemers in Suid-Afrikaanse vervaardigingsorganisasies. Verkennende faktor analise is gebruik om die interne geldigheid van alle subskripsies van die Kommunikasiestylinventaris afsonderlik te evalueer deur die items wat op die subskale laai asook die betroubaarheid daarvan te ondersoek. Voorts is konvergente geldigheid vasgestel deur die verhouding tussen die CSI-subskripsies en die sub-konstrukte van die Kommunikasiestylmaatreël (CSM) te ondersoek. Die metodes wat gebruik is om die data te analiseer, was beskrywende statistiek (d.w.s., standaardafwyking, skeefheid en kurtose) en inferensiële statistiek (d.w.s., korrelasies en meervoudige regressie-analise). Die betroubaarheid van die konstrukte is ook vasgestel deur Cronbach se alfa-koëffisiënte soos getoets deur die IBM SPSS- weergawe 25 se statistiese program.

Die resultate het bewys dat nie al die subskale van die Kommunikasiestylinventaris (CSI) heeltemal geldig was om te gebruik nie, aangesien die meeste items nie aanvaarbare itembeladings en betroubaarheid op die subskale getoon het nie. Slegs die subskale van *akkuraatheid, verbale aggressiwiteit, emosionaliteit* en *indrukmanipulasie* het aanvaarbare geldigheid en betroubaarheid getoon. Daarbenewens is konvergente geldigheid voorsien. Die bevindings het getoon dat daar aansienlike positiewe en negatiewe statistiese verhoudings bestaan tussen waargenome transformasionele asook transaksionele leierskapstyle en die genoemde waargenome kommunikasie style.

Die bevindings het getoon dat waargenome leierskapstyle (transformasioneel en transaksioneel) aansienlik laer of hoër vlakke van waargenome kommunikasiestyle voorspel. Dit dui daarop dat ’n leier 'n spesifieke kommunikasiestyl kan benut om moontlik die verhouding tussen hoofde en ondergeskiktes te verbeter. Dit kan kommunikasiegedrag aanmoedig wat verbeterde organisatoriese uitkomste onder werknemers binne ’n Suid-Afrikaanse vervaardigingsomgewing kan oplewer.

Ten slotte is aanbevelings gemaak vir organisasies om op te volg en vir toekomstige navorsing oor die onderwerp.

CHAPTER 1
INTRODUCTION

Introduction

The present study on which this dissertation is based assessed the validity and reliability of the Communication Styles Inventory (CSI). Furthermore, the study investigated the relationship between the styles of transformational and transactional leadership and their relationship with communication styles among employees within the South African manufacturing industry.

This chapter presents a problem statement and discusses research objectives (both general and specific) as well as the expected contribution of the study. Furthermore, the chapter explicates the research method that is utilised and outlines the chapter division.

1.1 Problem statement

The failure of leadership communication to yield productivity in manufacturing poses an exciting challenge in enhancing the South African manufacturing industry (Beneke, 2015; Mollo, Stanz & Groenewald, 2005; Steyn & Bell, 2016). Over the years, the manufacturing industry has been in a juncture of decline, confronting challenges around productivity, costs, labour issues, skills shortages, efficiency, and the emerging new technology (Makhene, 2015). This mentioned sector is currently the fourth largest after finance, general government operations, and trade within the South African economy and contributes around 13% to the Gross domestic product (GDP) according to a publication from the Industrial Development Corporation released in March 2016 (IDC, 2016).

The Minister of Trade and Industry of South Africa indicated that this country's current growth rate is well below trend and far-off from the 5% objective as set out in the National Development Plan (NDP) according to a report by the Department of Trade and Industry (DTI) released in August 2016 (The DTI, 2016). Considering these circumstances, the DTI have attempted to alleviate manufacturing sectors through policy, strategy, and programmes positioned for growth. This would help the new sectors develop through domestic and global demands, thus creating economic opportunities (The DTI, 2016). The aim of the NDP (2016) is to reduce poverty and inequality by 2030. The focus is also on promoting leadership as one of the six interlinked priorities of the NDP.

The manufacturing sector is one of the highest multipliers of growth and employment in South Africa (The DTI, 2016). The added manufacturing value grew from R370.4 billion in 2007 to R379.4 billion in 2015 (The DTI, 2016). In July 2016, the manufacturing production increased by 0.4% compared to that of July 2015 (Statistics SA, 2016). This was mainly due to higher production in the divisions of petroleum, chemical products as well as rubber and plastic products (Statistics SA, 2016). According to Govender and Abratt (2016), stakeholders' perception of their manufacturing organisations' reputation, places a strong responsibility on managers. They must advance strategies and direct communication that consider the stakeholders and respond to the challenges of managing conflicting needs of these groups. Furthermore, managers must deal with communication issues in organisations involving the Internet, knowledge sharing, customers, employee input, and ethical messages (Robbins, & Coulter, 2016).

Ebrahim and Pieterse (2016) reported that the South African manufacturing sector is facing global pressure to remain competitive. Thus, there is an increasing need to implement interventions to improve performance. Poor leadership commitment and deficient communication have been identified as two of the current barriers in South African manufacturing companies that impede a successful programme for performance improvement (Ebrahim & Pieterse, 2016). These barriers underline the importance of constructs of leadership communication and its influence on organisational outcomes. Schnurr (2008) views communication as a crucial aspect for leadership performance, emphasising that the communication process must be viewed in terms of being productive to produce workplace outcomes.

Problems that organisations face of ineffective communication and a specific leadership style amongst manufacturing employees, may lead to increased conflict behaviour (Beneke, 2015). Concurrently, there still is a need to research leadership styles within the South African manufacturing industry (Khoza, 2015). Leadership communication is a concern within the manufacturing organisations of South Africa since the communication of most employees is lacking, fragmented, deficient, problematic, even absent; thus, this matter should be addressed (Mollo et al., 2005).

Manda (2014) emphasises that leaders should be authentic in their actions and communication. They should lead with integrity and humility within the South African manufacturing industry. The South African Management Index 2015/2016 report covers the

perception of 1 228 South African managers across South Africa (15.1% of the manufacturing sectors). This report underlines the concern from more than half of the respondents that top leadership spends insufficient time on communication with employees. Moreover, leaders are not communicating clearly in their own organisations (Steyn & Bell, 2016). According to Brandt and Uusi-Kakkuri (2016), there is unsatisfactory awareness about the development of communication skills among leaders; future research on this topic should redress this status quo. Therefore, the need arose to conduct the present study on the aforementioned aspects within a South African manufacturing context.

In South Africa, improved leadership dynamics of workforce diversity requires a different approach to the way leadership styles affect interpersonal communication styles. This is necessary for the scientific debate on leadership aiming to build a transparent culture within the organisation of mutual trust and honesty between the leadership and employees (Steyn, & Bell, 2016). Therefore, as a priority, attention should be placed on leadership competencies such as communication, focus, production, human capital, control, and feedback within a multicultural South African manufacturing environment (Mollo et al., 2005). It should be noted that only 63% of South African managers feel they are given sufficient opportunities to develop their leadership skills (Steyn, & Bell, 2016).

From the literature mentioned above, it is already evident that leadership and communication plays a pivotal role within an organisation. The researcher conducted a cursory literature review on this matter (Bakker-Pieper & De Vries, 2013; Brandt & Uusi-Kakkuri, 2016; De Vries, Bakker-Pieper & Oostenveld, 2010; Gudykunst et al., 1996; Gudykunst & Nishida, 2000; Norton, 1978). The review established the lack of a measuring instrument for communication styles available for the South Africa context. Since most of these studies were not conducted in South Africa and not in relation to the manufacturing industry, a practical contribution towards leadership styles and communication styles is still required.

It was found that the most recent measuring tool to assess communication styles, namely the Communication Style Inventory (CSI) by De Vries, Bakker-Pieper, Siberg, van Gameren & Vlug, (2009) was developed and used in the Netherlands. Furthermore, the Employment Equity Act of South Africa (1998), specifically stipulates that any psychometric measurement or tool must be scientifically reliable and valid, fairly applicable to all employees and avoid bias against any employee or group (Visser & Viviers, 2010; South Africa, 1998). It is thus necessary to assess instruments for a South African context in order to align practice with the

legal demands. This implies validating existing instruments for use in multicultural groups within the South African context (Van De Vijver & Rothmann, 2004). This makes it also necessary to assess the psychometric properties (e.g. reliability and validity) of the CSI within the South African context, to measure employees' communication styles in South African organisations. The measurement tool will allow South African organisations to provide an accurate assessment of their employee's communication styles, which currently are not clarified.

Since South Africa is a multicultural society with diverse cultural views and beliefs, employees or subordinates may perceive superiors' leadership and communication styles through different lenses. To address this knowledge gap within the literature, the present study attempted to establish the significance of the relationship between leadership and communication styles (Brandt & Uusi-Kakkuri, 2016; Schnurr, 2008). Thus, the aim was to support the investigation on whether employees in the manufacturing industry have a comparable understanding of these social dimensions.

Supplementary research have examined the relationship of leadership styles towards effective communication skills and interpersonal communication (Brandt, & Uusi-Kakkuri, 2016; De Vries, Bakker-Pieper, Konings & Schouten, 2013; Pacleb & Bocarnea, 2016; Robbins, Judge, Odendaal & Roodt, 2013; Roussel, Thomas & Harris, 2016). Khoza (2015) recommends a comparative study between non-management and subordinates in the manufacturing industry within South Africa. The aim would be to establish whether these two groups of employees experience the duality of transformational and transactional leadership styles differently.

Greeff (2012) points out that within a South African context, conflicting communication messages can prevent employees from achieving their own tasks. Several barriers may restrict effective communication, namely: filtering, emotions, information overload, defensiveness, language and national culture (Robbins, & Coulter, 2016). Within a South African context, such a barrier may also be low literacy levels, which means that numerous employees are excluded from information sharing as well as influences such as fear of communication and gender differences (Robbins et al., 2013). It is important for effective communication in a multi-cultural environment to include dialogue instead of one-way communication (Robbins et al., 2013).

Effective interpersonal communication has also been described as an activity where leaders know how to articulate ideas and understand their audience (Bianco, Dudkiewicz & Linette,

2014). Furthermore, lack of access to tools such as the Internet, challenges the empowerment of employees since they lack access to means of information sharing (Robbins et al., 2013). Another challenge is that in 71% of cases, electronic communication currently is the primary medium to transfer information in organisations (Robbins et al., 2013). Noticeably, send-and-receiving emails have become an indispensable part of employees' daily routine, as their preferred communication medium due to technological development (Men, 2014; Maritz, 2012).

Research points out that leadership can be strengthened through effective communication (Brandt & Uusi-Kakkuri, 2016; Barge, 1994; De Vries et al., 2010; Madlock, 2009; Mikkelson, York & Arritola, 2015; Schnurr, 2008; Tjosvold, 2008). Therefore, this points to a significant relationship between supervisors' competence in communication as well as their leadership styles (task or relational) – and the corresponding performance of their employees (Fayyaz, Naheed & Hasan, 2014). In addition, effective and transparent internal personal communication is assured to enhance employee trust and engagement (Mishra, Boynton, & Mishra, 2014). Bakker-Pieper and De Vries (2013) note that a leader showing an expressive communication style is more approachable and will be much easier to interact with. This also applies to a leaders' clear communication style since more precise information will assure subordinates know what is expected of them. This is in line with Madlock (2009) who recommend that practitioners must urge management that more could be done to enhance the communication skills and leadership-related competencies of supervisors.

According to Fayyaz et al. (2014) leaders can influence their employees significantly through their ability to communicate effectively. Charismatic leadership was found to be significantly related to five of the six CSI communication styles (De Vries et al., 2010). Furthermore, findings suggest that human-oriented leadership styles are embedded in the communication styles of leaders and that a leader showing a task-oriented style does not communicate as well as one with a human-oriented style (De Vries et al., 2010). Bottom-up communication, which involves the employees in the organisation through face-to-face meetings, can be regarded as transformational leadership. In contrast, top-down communication and interaction through email can be considered as indication of transactional leadership (Elshout, Scherp & van der Feltz-Cornelis, 2013).

Contemporary views of leadership thus may consider this duality: transformational leadership is defined as those who motivate and inspire followers through personal interaction to achieve astonishing outcomes, whereas transactional leadership is predominantly led by

unpersonal social exchanges (Robbins & Coulter, 2016). Findings indicate that certain leader communication styles form a direct causal connection, meaning there is a direct link between the communications of the leader, which causes action from the subordinate. Thus using a certain leadership style with a certain communication style can influence subordinates work outcomes, behaviour and ultimately the dyadic workplace relationship. This explains how the behaviour of transformational and transactional leadership affects the quality of dyadic workplace relationships (Pacleb & Cabanda, 2014). Hence there is a difference between communication perspectives, monologic (one-way) towards employees and dialogic (two way) between employees (Thomas, & Mefalopulos, 2009). Therefore, two-way communication is intrinsic to dialogue and relationships for instance the dyad (two-person) relationships between employees (Lane, 2014). For example, leader-member dyadic communication influences the social skills used and relationship quality between employees, in addition to the interactions amongst leader-member workgroup (Abu Bakar, & McCann, 2018). It is important to identify the type of leadership that communication stakeholders or subordinates regard as the most efficient. This may show that the leaders' communication style can be developed to be more in line with the transformational style for a higher quality relationship between management and employees.

It would be useful to investigate whether South African subordinates prefer similar communication styles or whether leaders need to adjust their communicating approach in this regard. It would be beneficial to examine whether these communication styles are congruent with the South African management culture to develop more effective leadership. Thus, there is an urgent need to understand these constructs from an academic perspective. This implies determining the interrelation of transformational and transactional leadership with corresponding communication styles. This connection has not commanded much attention in South Africa, presenting a gap within the literature.

Leadership has been studied thoroughly, yet there is still much to be investigated about the relationship that leadership shows with other constructs and behaviours. To date, there are various leadership approaches, styles and behaviours with varying definitions. According to Roussel et al. (2016) "leadership is not about the exercise of power, but rather empowering other(s)" (p. 31). Furthermore, the essence of leadership is power and if used correctly it can initiate acts of intention into practice and also sustain it (Roussel et al., 2016). In addition, for Matheri (2015), effective leadership is determined by the leader, the followers and the tasks

to be completed. Robbins et al. (2013) define leadership as "the ability to influence a group toward the achievement of a vision or set of goals" (p. 290).

Leaders who act transformational are more effective than their transactional colleagues (Bass & Avolio, 1995). It is also indicated that transformational leaders deal more effectively with change and is therefore, in a South African context, needed more than transactional leaders (Handford & Coetsee, 2003; Maritz, 2012; Matjie, 2010). Roussel et al. (2016) explains that transformational leaders are "flexible and can adapt their leadership style to chaos and rapid changes" (p. 35). According to Khoza (2015), research results indicated that acceptable levels of both transformational and transactional leadership are recognised in steel manufacturing organisations. He found an almost fair balance between the two leadership styles within a South African steel manufacturing company (Khoza, 2015). In light of these findings, the focus of the present study is to utilise the two foremost theories on leadership styles namely: transformational and transactional leadership.

In addition, Claasen (2015) views leadership styles as a combination of individuals' general personality, demeanour and communication patterns through which they guide employees towards reaching organisational or personal goals. Roussel et al. (2016) identifies coaching and mentoring as essential skills for transformational leaders, coupled with communication skills that help them interact and network with others, for best practices. According to Men (2014), transformational leaders' most important responsibilities are to instil a desirable, inspirational and attainable vision by which to shape the organisation's internal symmetrical communication. In this regard, Claasen (2015) highlights one of the major challenges in the South African chemical industry as deficient internal communication. This view connects with the recommendation of Men (2014) that further empirical research should assess the influence of leadership on internal communication, which is currently lacking.

As is evident from the discussion above, certain pivotal situations can cause ineffective communication due to specific leadership styles. This underlines the importance of gaining more knowledge of and insight into this phenomenon. Furthermore, South African society comprises various cultures, languages, work ethic, values, and beliefs. Therefore, the type of communication styles for effective leadership may differ from other countries (Foxcroft & Roodt, 2013). Therefore, it is necessary to investigate the psychometric properties of the CSI and apply the validated instrument to organisations such as the manufacturing sector within the South African context.

Communication and the Communication Style Inventory Scale

Existing researchers recognise the critical role played by communication within organisations (Bakker-Pieper & De Vries, 2013; Brandt & Uusi-Kakkuri, 2016; Robbins, & Coulter, 2016). Communication can be enforced to control employees' behaviour through motivation, release of emotional expression, or providing information for numerous practical outcomes within the organisation (Robbins & Coulter, 2016).

Throughout literature, various definitions of communication have been suggested. However, the present study follows the definition recommended by Norton (1978), who was first to conceptualise the communicator style as "the way one verbally, nonverbally and paraverbally interacts to signal how literal meaning should be taken, interpreted, filtered, or understood" (p. 11). This definition was redefined as follows by De Vries et al. (2009):

> Interpersonal communication style is defined as the characteristic way a person sends verbal, paraverbal, and nonverbal signals in social interactions denoting (a) who he or she is or wants to (appear to) be, (b) how he or she tends to relate to people with whom he or she interacts, and (c) in what way his or her messages should usually be interpreted (p. 179).

Inherent in all definitions of communication is a person's ability to perceive emotions and motivations of a conversation with others for accurate dialogue (Roussel et al., 2016). In addition, communication as the transfer and understanding of meaning can be understood in two ways:

- interpersonal: between two or more individuals; or
- organisational: the different patterns, networks, and systems within an organisation (Robbins, & Coulter, 2016).

Interpersonal communication describes the way individuals or group members deal with the transfer of meaning through oral, written, and non-verbal actions (Robbins et al., 2013). De Vries et al. (2010) view interpersonal communication as a distinct set of communicative behaviours "geared toward the optimization of hierarchical relationships in order to reach certain group or individual goals" (p. 368). In this field, researchers have conducted various studies to define and measure employees' communication in organisations by integrating varied communication style scales (Brandt & Uusi-Kakkuri, 2016; De Vries et al., 2009;

Men, 2014; Michael, 2014; Pacleb & Cabanda, 2014). These studies underline the need for further research on communication as a key instrument in guiding organisational behaviour.

The above-mentioned research focused strongly on interpersonal communication of the past decades to help employees administer leadership. Therefore, the purpose of **Article 1** within the dissertation is to utilise the most recent comprehensive communication styles scale, the CSI, to measure the leader's six interpersonal communication styles namely: (X) *expressiveness,* (Q) *questioningness,* (P) *preciseness,* (E) *emotionality,* (VA) *verbal aggressiveness,* and (IM) *impression manipulativeness.* The CSI is designed either for individuals to measure themselves, or for observers such as subordinates, to rate a leader's interpersonal communication styles (De Vries et al., 2009).

The CSI was developed through a multiphase lexical study using 744 adjectives and 837 verbs from the dictionary to determine the dimensions of the preliminary lexical communication styles (De Vries et al., 2009). This framework of communication styles presented preliminary evidence for seven dimensions of lexical communication styles defined as follows: (1) *Expressiveness* reflects a mixture of talkativeness (vs. uncommunicativeness), certainty (vs. uncertainty), energy, and eloquence. (2) *Preciseness* reflects a combination of clarity (vs. vagueness), conciseness, efficiency, and (business-like) composure. (3) *Niceness* reflects friendliness (vs. unfriendliness), uncriticalness (vs. argumentativeness), modesty, and cheerfulness. (4) *Supportiveness* reflects accommodation, admiration, supportiveness, and stimulation. (5) *Threateningness* reflects abuse, threateningness, and deceptiveness. (6) *Emotionality* reflects sadness, irritability, anger, and tension. (7) *Reflectiveness* reflects engagement, analytical reflectiveness, and philosophical or poetic communication behaviours (De Vries et al., 2009). Only six of the seven dimensions were supported by the results when convergent validity was determined between the lexical study and the CSI (De Vries et al., 2013). Therefore, only six of the leader's interpersonal communication styles of the CSI will be utilised and validated during the first study.

Psychometric properties of the Communication Style Inventory

According to Ginty (2013), in order for a questionnaire to have satisfactory psychometric properties the construction must be evaluated and the measuring instrument validated to ascertain whether the questionnaire is a reliable and valid form of measurement. Therefore, it

is necessary to evaluate the CSI by De Vries et al. (2010). This instrument should show acceptable reliability and validity to be classified as a suitable measurement with psychometric properties that can be utilised for psychological tests within a South African context. Such a test would also help ensure equity in assessment (Paterson & Uys, 2005).

The above-mentioned requirement is in line with the Employment Equity Act of South Africa (1998):

> Psychological testing and other similar assessments of an employee are prohibited unless the test or assessment being used – (a) has been scientifically shown to be valid and reliable; (b) can be applied fairly to all employees; and (c) is not biased against any employee or group (p. 16).

Recent research indicates that all six sub-scales of the CSI demonstrated acceptable internal reliabilities ranging from 0.69 to 0.87 (Pacleb & Cabanda, 2014). De Vos, Strydom, Fouché and Delport (2011) define reliability as instances when scores of Cronbach's alpha coefficients α range above 0.70 is to be regarded as reliable values. Cronbach's reliabilities of the CSI domain-level scales ranged from 0.82 to 0.88 in a community sample and from 0.83 to 0.87 in a student sample (De Vries et al., 2013). The CSI is supported psychometrically and aligned with the dimensions of lexical communication and other instruments to measure communication styles (De Vries et al., 2013). Based on the empirical model of communication styles, De Vries et al. (2009) found that the lexical study indicated adjectives and verbs that describe the way individuals communicate. The CSI scales indicated medium to high levels of convergent validity with the lexical communication marker scales and an integrated framework of behaviour-oriented communication scales, which motivated the use of the CSI within the present study (De Vries et al., 2011; Bakker-Pieper & De Vries, 2013).

Furthermore, the Communication Style Scale (CSS) of Gudykunst et al. (1996) provides evidence for the CSS scales' construct validity (De Vries et al., 2013). Construct validity refers to the degree to which a measure assesses the underlying theoretical construct it is supposed to measure (Bryman et al., 2014). In addition, convergent validity measures similar theoretical constructs which show convergence and correspondence, since the measures are related to each other (Trochim, 2006). According to Ziegler and Bäckström (2016), to explain the selection of convergent facet measures theoretically, the nomological net of hierarchically

structured multifaceted traits should contain information about overlapping constructs and their facets as well.

De Vries et al. (2009) recommend that the CSI should be applied to other cultures to ascertain whether it reproduces the same communication styles as well as the mentioned relationship towards leadership and other mentioned constructs. In this regard, the CSI scale has yet to be applied for research in the manufacturing industry within a South African context. It should also be noted that the 96-item version of the CSI questionnaire relies on predictive validity if conducted in other situations and industries instead of other cross-cultural contexts in which the measure was originally applied to.

De Vries et al. (2010) conducted further research through a Principal Axis Factoring (PAF) analysis with varimax rotation based on the scree plot. This was done to identify the item content of the six factors: *expressiveness* (10 items, α = 0.89), *preciseness* (10 items, α = 0.90), *verbal aggressiveness* (10 items, α = 0.92), *assuredness* (10 items, α = 0.81), *supportiveness* (9 items, α = 0.89), and *argumentativeness* (4 items, α = 0.68). However, in another study De Vries et al. (2013) indicate that after numerous rounds of data collection and versions of the preliminary communication styles instrument, they found that *threateningness*, *niceness*, and *supportiveness* loaded onto *verbal aggressiveness* as a single overarching factor. Furthermore, they constructed a scale to measure a deceptive communication style, namely the newly-added dimension of *impression manipulativeness.* The latter mentioned communication behaviour is associated with status or other rewards from *impression management;* however, this dimension was not associated strongly with any lexical scales.

This final finding indicated that the CSI should consist of six behavioural dimensions of communication styles: *expressiveness* (X), *preciseness* (P), *verbal aggressiveness* (VA – comprising the lexical factors of *threateningness*, reversed niceness, and reversed *supportiveness*), *questioningness* (Q; as *reflectiveness* factor in the lexical study), *emotionality* (E), and *impression manipulativeness* (IM) (De Vries et al., 2013). Only thereafter De Vries et al. (2013) developed the new CSI consisting of 96 communication behaviour items (16 items per scale), which are divided equally among the following six domain-level scales, each consisting of four facets, each with four items. These six domain-level can be conceptualised as follow: *expressiveness* - talkativeness, conversational

dominance, humor, informality; *questioningness* - unconventionality, philosophicalness, inquisitiveness, argumentativeness; *precisenes* - structuredness, thoughtfulness, substantiveness, conciseness; *verbal aggressiveness* - angriness, authoritarianism, derogatoriness, nonsupportiveness; *emotionality* - sentimentality, worrisomeness, tension, defensiveness; *impression manipulativeness* - ingratiation, charm, inscrutableness, concealingness. The present study utilised the latest short form version of the CSI developed by De Vries et al. (2013), this version consists of 48-items for the six behavioural dimensions of communication styles. Each dimension consists 8 items per CSI dimension.

The relationship between transformational leadership, transactional leadership and communication styles

Mikkelson et al. (2015) state that "leadership is enacted through communication" (p. 350). Hackman and Johnson (2013), give a communication-based definition of leadership: "Leadership is human (symbolic) communication that modifies the attitudes and behaviours of others in order to meet shared group goals and needs" (p. 11). Thus, effective communication through the clear transfer of directions and goals may motivate employees to complete tasks more readily since they know exactly what their supervisor expects of them (Mikkelson et al., 2015). In this regard, De Vries et al. (2010) point out strong correlations between leaders' communication styles and their specific leadership style. As was mentioned previously, transformational leadership *involves* others (relationship focus), whilst transactional leadership *directs* others (task focused) (Bass, 1991; Burns, 1978). Employees expect their supervisors to be competent communicators by combining task and relational leadership styles (Madlock, 2009). Additionally, De Vries, et al. (2010) found that charismatic and human-oriented leadership are mainly communicative, whereas a supervisor's task-oriented leadership is significantly less communicative.

Furthermore, the communication styles were found to relate strongly to knowledge-sharing behaviours, perceived performance by the leader, satisfaction with the leader, and subordinates' commitment to the team (Brandt & Uusi-Kakkuri, 2016; De Vries et al., 2010). In this regard, mediation analyses indicate that the leadership styles mediate the relations between the communication styles and leadership outcomes (De Vries et al., 2010). Furthermore, regression analysis established that behavioural patterns of effective communication and relations-oriented leadership of a supervisor were the best predictors of

employees' work satisfaction, motivation, and commitment to the organisation (Mikkelson et al., 2015). Based on the finding above, De Vries et al. (2010) point out that leadership styles vary in the extent to which communication styles generally contribute to the perception of leadership, and also in the extent to which different communication styles are used. Therefore, leaders' behavioural patterns of competence in communication increase their ability to accomplish tasks (Mikkelson et al., 2015).

According to Bass (1991), it is apparent that transformational leaders concentrate on the long- and short-term requirements of their followers. In line with Bass (1991), researchers base the characteristics of transformational leadership on idealised influences that provide inspirational motivation. In addition, transformational leaders communicate high expectations as well as intellectual stimulation and give individualised consideration to personal attention, mentoring, and advice of employees (Bass, 1991). Therefore, specialists praise a leadership style that empowers employees through collaboration instead of competition (Roussel et al., 2016). Transformational leaders assemble their employees by focusing on well-being and by humanising the technological work environment (Roussel et al., 2016).

Leadership research focusing on a South African steel organisation indicated that the managers have adopted the transformational leadership approach; however, subordinates only view their managers as mentors to an extent (Khoza, 2015). In addition, managers of the selected South African steel organisation have also demonstrated the transactional leadership style (Khoza, 2015). The leadership styles relationship with communication is evident since it is established that transformational leadership demonstrate significant positive effects on symmetrical communication within organisations (Men, 2014). In other words, transformational leaders listen to the feedback and opinions of their employees and are tolerant of individual differences, whilst delegating power and tasks to develop their followers (Maritz, 2012; Men, 2014).

The motive for the present research to examine the established hypotheses for transformational leadership, is that such a leadership style focuses on inspirational relationships (Bass & Avolio, 1990, 1994; Bass & Riggio, 2006; De Vries et al., 2010). This is seen as the preferred approach to effective leadership (Bass, 1985). A reputable transformational leader's qualities inspire followers to rise above their own self-interest to serve the organisation and may even surprise their followers (Robbins et al., 2013).

On the other hand, transformational leadership expands on transactional leadership, which means these leadership styles do not carry the same weight (Robbins et al., 2013). Therefore, to achieve leadership effectiveness it is suggested that leaders should apply a transformational leadership style (Maritz, 2012). According to Matjie (2010), literature points out that a transformational leader is "capable of influencing employees in their jobs, their importance and the value of their contributions" (p. 30). Different ways of communication can inspire and elevate follower's motivation to transcend their self-interest (Burns, 1978). Furthermore, communication styles may relate positively or negatively with others (De Vries et al., 2010).
Transactional leadership theory teaches that employees are motivated by rewards or punishment if their outcomes are not reached (Petersen, 2012). Robbins et al. (2013) point out that good transactional leadership without good transformational leadership qualities may be problematic. In contrast, contingent-reward leadership is sometimes more effective than transformational leadership since rewarding employees is quick to engage employees in the short-term objectives. On the other hand, it is more valuable to inspire employees to reach long-term objectives willingly (Robbins et al., 2013).

Transactional leadership implies a task-oriented approach that uses directive, controlling, and power-oriented communication styles to achieve the successful completion of tasks (Bass & Avolio, 1990, 1994; De Vries et al., 2010). This form of leadership takes on the exchange of mutually beneficial outcomes in a dyadic relationship – between management and employees (Burns, 1978). According to Bass (1991) transactional leadership consists of three factors, namely: contingent reward leadership; management-by-exception (active); and management-by-exception (passive). Robbins et al. (2013) point out that contingent-reward can be an effective style of leadership and "positively relates to satisfaction with the organisation, organisational commitment, workforce engagement, and job satisfaction" (p. 327). Nevertheless, leaders practising this style will not help their employees' function more effectively or with increased productivity; moreover, leaders who apply management-by-exception leadership, will be likely to assist with problems when it is too late (Robbins et al., 2013).

The aim of **Article 2** is to review recent research where the application of the CSI has found positive and negative relationships between transformational and transactional leadership styles and concurrent communication styles. Previous research found that transformational, and to an extent, the transactional leadership styles related positively to the leaders' styles of *expressiveness, questioningness* and *preciseness.* These mentioned styles were also found to relate negatively to the styles of *verbal aggressiveness, emotionality,* and *impression manipulativeness* (Pacleb & Bocarnea, 2016; Pacleb & Cabanda, 2014).

Results from a post-facto research by Pacleb and Cabanda (2014) corroborate certain relationships found in the present study, through hypotheses that have been tested already. Their findings indicate that certain relationships are supported, while others are not or not even significant, which necessitates the re-test of these findings. As was mentioned previously, according to the model by De Vries et al. (2010), it can be inferred that communication styles predict leadership styles. De Vries et al. (2010) found a high-level prediction of a human-oriented leadership for *supportiveness* and *expressiveness,* but a lack of *verbal aggressiveness* as communication styles. There were also high-level predictions of task-oriented leadership styles for *preciseness* and *assuredness* (De Vries et al., 2010).

Thereafter, the model was reversed to examine leadership styles, thereby predicting leaders' communication styles (Pacleb & Bocarnea, 2016; Pacleb & Cabanda, 2014). In this regard, the presence of significant co-variation patterns makes accurate predictions possible in regression models, which supports the proposed predictions of the hypotheses in this study (Pacleb & Bocarnea, 2016; Pacleb & Cabanda, 2014). The regression models by Pacleb and Bocarnea (2016) provide strong evidence that transformational leadership predict two leader communication styles – *preciseness* and *verbal aggressivenss,* whilst transactional leadership predicted three leadership communication styles – *expressiveness, questioningness* and *preciseness,* proceeding in the positive direction.

Brandt and Uusi-Kakkuri (2016) also found that a robust transformational leadership was associated with an emotionally intelligent, controlled and transparent communication style with the absence of the avoiding or dominating approaches. These concepts are related to Norton's attentive, dramatic and open communicator styles respectively (Norton, 1983). Thereafter, an average transformational leadership style tends to adopt a dominating communication style, which indicates lack of leadership or communication skills, whereas

the lowest level of transformational tends to adopt an avoiding communication style (Brandt & Uusi-Kakkuri, 2016).

Thus, supporting several of the hypotheses posed in the present study, a general assumption can be made that transformational and transactional leadership styles are enacted through leader communication styles (Pacleb & Bocarnea, 2016; Pacleb & Cabanda, 2014). This means that the proposed prediction amongst certain leadership styles to support high and low levels of communication styles should be investigated within this study. Research to date has established some predictions, yet further research is required about the viability to reproduce consistent evidence through these predictions. Following the results of Pacleb and Bocarnea (2016) and Pacleb and Cabanda (2014), it can be inferred that the proposed hypotheses necessitates an empirical investigation.

In summary, the present study intended to examine the CSI factor structure (e.g. six factors), reliability (internal consistency) and construct validity. This study also applied the CSI to a South African context, to determine and confirm the significant correlations and predictions of transformational or transactional leadership styles on certain communication styles within the manufacturing industry. This was done to establish the nature of this phenomenon, followed by recommendations for future research and practice.

The research questions for the proposed studies are formulated as follows:

Article 1:

- Determine how communication and communication styles are conceptualised according to scientific literature.
- Determine the internal validity of each six subscale of the CSI in particular.
- Establish whether the CSI subscales show acceptable reliability.
- Ascertain the convergent validity of the CSI with other similar theoretical constructs.
- Draw conclusions and make recommendations for future research and practice.

Article 2:

- How are the styles of transformational and transactional leadership and communication styles conceptualised as well as the relationship between the two leadership styles and concordant communication styles established, according to literature?
- What is the relationship between perceived transformational leadership styles and communication styles among employees working in the South African manufacturing industry?
- What is the relationship between perceived transactional leadership styles and perceived communication styles among employees working in South African manufacturing organisations?
- Will perceived transformational leadership styles have an effect on perceived communication styles among employees working in South African manufacturing organisations?
- Will perceived transactional leadership styles have an effect on perceived communication styles among employees working in South African manufacturing organisations?
- What recommendations can be made for future research and practice?

1.2 Expected contributions of the study

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

1.2.1 Contribution for the individual

The present study aimed to provide findings with noteworthy contributions to improve individuals' awareness and understanding of the relationship that transformational and transactional leadership styles have with communication styles of employees working in a South African manufacturing industry. Since as previously stated supervisors' leadership competencies and skills of communication may be more effective when they utilise it with the preferred leadership styles the subordinates requires (Mollo et al., 2005). These leadership

styles should be coupled with the most significant and preferred communication styles, of which the subordinates identified. Thus, the CSI instrument was applied within the different levels of the company to identify the practical and managerial issues that currently are impeding leadership's communication. Measurements within the various departments gave a general understanding of the individual preferences among these employees. By evaluating and understanding the work traits of employees, the present study explored the impact these styles have on these employees as individuals. In other words, ascertain individual employees' most preferred leadership and communication styles and organisational outcomes, for example, effective leadership communication.

This study intended to provide researchers/training staff and mangers with an instrument to measure communication styles. Such a measuring tool could possibly be used to assess the work traits of employees in the South African manufacturing industry. This study may also provide understanding of how these employees view their organisation's climate with regard to these two constructs: leadership and communication. Such understanding should prove particularly valuable since effective leadership communication tend to enhance the effectiveness, satisfaction, performance, and well-being of the individual in the workplace. Wessels (2015) points out that effective internal communication will lead to increased performance, loyalty, and retention of employees.

1.2.2 Contribution for manufacturing organisations

Beneke (2015) indicates that ineffective communication and a specific leadership style amongst manufacturing employees may increase conflict behaviour. Such a negative tendency underlines how important it is to asses this industry. The present study provided findings according to which manufacturing organisations should facilitate and implement training sessions for employees to help them identify leadership and communication styles. This could be done through training programmes, seminars and workshops on leadership communication. These practices will allow supervisors to develop a participative environment when they are able to identify employees' communication and leadership styles beforehand (Odoardi, Montani, Boudrias, & Battistelli, 2015).

Organisations will benefit from the present study to sustain business revenue and success by improved handling of communication between employees. This will lead to a faster and more

accurate decision-making process with outcomes of efficiency, satisfaction and competitiveness. The main findings in this research augment the interpretation and recommendations about the manufacturing company's transformational and transactional leaderships' effectiveness when dealing with interpersonal communication. Thus, new and extended interpretations are provided to the manufacturing industry. The assessment of instruments within a South African context is necessary according to the Employment Equity Act for organisations to align practice with the legal demands. This implies validating existing instruments for use in a South African working environment (South Africa, 1998). The applied and validated measuring instrument for communication styles may also be used to assess and identify ineffective communication styles for individual employees' work traits. These measurements could be used to improve leadership communication within the South African manufacturing industry.

1.2.3 Contribution for the Human Resource Management literature

The findings provide an important contribution to the field of human resource management, since the study aimed for a validation of the CSI within a South Africa context and an analysis of the relation towards leadership. The study was unique by its application to the South African workforce. Furthermore, this provides a foundation for further studies to compare with other constructs. These would include: situational leadership styles, conflict-handling styles, perceived leadership communication, supervisor support, emotional intelligence, and coping styles of groups or industries. The study contributes to the conceptualisation of this topic within a South African context, which helps build the effectiveness, satisfaction, performance, and well-being of South African employees. Therefore, the validation of the CSI in a diverse South African context aimed to confirm reliable and valid responses and results for future research and use of this instrument within organisations.

The measuring instruments in this study can be used by HR professionals, managers and organisations to measure and create strategies and awareness by identifying communication and leadership styles. This may allow organisations to minimalise ineffective communication for both employees and the leadership. The application of the CSI to a South African context, determined and confirmed significant correlations and predictions of these styles within the manufacturing industry.

Finally, validating the CSI measurement within the South African context, helped address the knowledge gap in research, where causality was tested about the constructs among the South African manufacturing industry.

1.3 Research objectives

The research objectives for the present study were divided into general objective and specific objectives.

1.3.1 General objective

The general objective of **Article 1** was to validate the Communication Styles Inventory (CSI) as developed by De Vries et al. (2009), for the South African context. The general objective of **Article 2** was to investigate and determine the relationship that perceived transformational and transactional leadership styles have with perceived communication styles, among employees working in South African manufacturing organisations.

1.3.2 Specific objectives

The specific objectives for each study are presented as follows:

Article 1:

- Determine how communication and communication styles are conceptualised according to scientific literature.
- Determine the internal validity of each six-subscale of the CSI individually.
- Determine whether the CSI subscales have acceptable reliability.
- Determine the convergent validity of the CSI with other similar theoretical constructs.
- Make recommendations for future research and practice.

Article 2:

- Determine how transformational leadership styles, transactional leadership styles and communication styles as well as their relationships are conceptualised in scientific literature.
- Establish whether a relationship exists between perceived transformational leadership styles and perceived communication styles among employees working in South African manufacturing organisations.
- Establish whether a relationship exists between perceived transactional leadership styles and perceived communication styles among employees working in South African manufacturing organisations.
- Ascertain whether perceived transformational leadership styles have an effect on perceived communication styles among employees working in South African manufacturing organisations.
- Ascertain whether perceived transactional leadership styles have an effect on perceived communication styles among employees working in South African manufacturing organisations.
- Make recommendations 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 Communications Styles inventory (CSI) six-factor construct, consisting of *expressiveness, questioningness, preciseness, verbal aggressiveness, emotionality,* and *impression manipulativeness* will show internal validity for each of the subscales separately.

H2: The Communications Styles inventory (CSI) is a reliable scale within the South African context.

H3: The Communications Styles inventory (CSI) indicates convergent validity in the South African context.

Research hypotheses for **Article 2:**

H1: There is a significant relationship between perceived transformational leadership styles and perceived communication styles among employees working in a South African manufacturing industry, more specifically:

H1a: There is a significant positive relationship between perceived transformational leadership styles and perceived *preciseness* as communication style among employees working in a South African manufacturing industry.

H1b: There is a significant negative relationship between perceived transformational leadership styles and perceived *verbal aggressiveness* as communication style among employees working in a South African manufacturing industry.

H1c: There is a significant negative relationship between perceived transformational leadership styles and perceived *emotionality* as communication style among employees working in a South African manufacturing industry.

H1d: There is a significant negative relationship between perceived transformational leadership styles and perceived *impression manipulativeness* as communication style among employees working in a South African manufacturing industry.

H2: There is a significant relationship between perceived transactional leadership styles and perceived communication styles among employees working in a South African manufacturing industry, more specifically:

H2a: There is a significant positive relationship between perceived transactional leadership styles and perceived *preciseness* as communication style among employees working in a South African manufacturing industry.

H2b: There is a significant negative relationship between perceived transactional leadership styles and perceived *verbal aggressiveness* as communication style among employees working in a South African manufacturing industry.

H2c: There is a significant negative relationship between perceived transactional leadership styles and perceived *emotionality* as communication style among employees working in a South African manufacturing industry.

H2d: There is a significant negative relationship between perceived transactional leadership styles and perceived *impression manipulativeness* as communication style among employees working in a South African manufacturing industry.

H3: Perceived transformational leadership styles have a significant effect on perceived communication styles among employees working in a South African manufacturing industry, more specifically:

H3a: Perceived transformational leadership styles (idealised influence, individual consideration and intellectual stimulation) predict higher levels of the leaders' perceived communication style of *preciseness.*

H3b: Perceived transformational leadership styles (idealised influence, individual consideration and intellectual stimulation) predict lower levels of the leaders' perceived communication style of *verbal aggressiveness.*

H3c: Perceived transformational leadership styles (idealised influence, individual consideration and intellectual stimulation) predict lower levels of the leaders' perceived communication style of *emotionality.*

H3d: Perceived transformational leadership styles (idealised influence, individual consideration and intellectual stimulation) predict lower levels of the leaders' perceived communication style of *impression manipulativeness.*

H4: Perceived transactional leadership styles have a significant effect on perceived communication styles among employees working in a South African manufacturing industry, more specifically:

H4a: Perceived transactional leadership styles (contingent rewards, passive management-by-exception and active management-by-exception) predict higher levels of the leaders' perceived communication style of *preciseness.*

H4b: Perceived transactional leadership styles (contingent rewards, passive management-by-exception and active management-by-exception) predict lower levels of the leaders' perceived communication style of *verbal aggressiveness.*

H4c: Perceived transactional leadership styles (contingent rewards, passive management-by-exception and active management-by-exception) predict lower levels of the leaders' perceived communication style of *emotionality.*

H4d: Perceived transactional leadership styles (contingent rewards, passive management-by-exception and active management-by-exception) predict lower levels of the leaders' perceived communication style of *impression manipulativeness.*

1.5 Research design

1.5.1 Research approach

The empirical study was based on a quantitative research approach and a cross-sectional research design. Biggerstaff (2012) views quantitative research designs as a formal, objective, and systematic process through which numerical data are gathered to receive information from across the world. According to Struwig and Stead (2013), quantitative research entails a structure of "conclusive research involving large, representative samples and data collection procedures that are comparatively structured" (p. 11). The quantitative approach can be described as a form of conclusive research involving large representative samples and fairly structured procedures for data collection (Roberts, 2012).

A cross-sectional research design was implemented to collect the data and achieve the research objectives from the respondents who completed the questionnaire. Cross-sectional research is often used in developmental psychology, as well as in numerous other areas of the social sciences and education (Cherry, 2012). This non-experimental research design ensures the research variables are not manipulated and the research can be measured by focusing on the relevant variables at a specific time (De Vos et al., 2011). The benefit of the cross-sectional survey design is that it is simple and an inexpensive method to reach the desired objectives (De Vos et al., 2011; Struwig & Stead 2013). In the present study, the objectives were obtained by using existing questionnaires with primary data collection methods. Agrawal (2014) describes primary data as information gathered from first-hand experiences, for example the measuring instruments in the present study.

1.5.2 Literature review

According to Boote and Beile (2005), the literature review represents the most important step of the research process in qualitative, quantitative, and mixed-method research studies. In **Article 1,** a comprehensive review was done of the following topics: communication styles, Communication Style Inventory, internal validity, convergent validity and reliability. **Article 2,** conducted a comprehensive review examining the topics of communication and communication styles, transformational leadership styles, transactional leadership styles, and its relationships.

Keywords used during literature searches were: *Communication styles, Communication Style Inventory, internal validity, convergent validity, reliability, psychometric properties, transformational leadership, transformational leadership styles, transactional leadership, transactional leadership styles, manufacturing industry*, and *South Africa*.

For a thorough literature review and a well-described background, the following sources were consulted: Google Scholar, Lexis Nexis, SA e-Publications, EbscoHost, Sabinet Online. The review also focused on international magazines, journals and textbooks, prior dissertations, theses, and lastly services of the Ferdinand Postma Library of the North-West University. The relevant journals consulted included; *South African Journal of Human Resource Management, SA Journal of Industrial Psychology, Communication Research, Intercultural Communication Studies, Management and Leadership for Nurse Administrators and Journal of Public Relations Research*.

1.5.3 Research participants

For both **Articles 1** and **2**, a combination of non-probability convenience and purposive sampling were used among employees within South African manufacturing organisations (*N*=564) (Field, 2013; Steyn, Smit, Du Toit & Strasheim, 1998). According to Sarstedt, Bengart, Shaltoni and Lehmann, (2018), non-probability techniques such as convenience and purposive sampling, fall within an efficacy continuum to produce representative samples.

Convenience sampling can be described as a process of gathering data from a population that the researcher can reach effortlessly (Baker et al., 2013; Rahi, 2017; Sarstedt, et al., 2018). Ary, Jacobs, Irvine and Walker, (2018) defines convenience sampling as "choosing a sample based on availability, time, location, or ease of access" (p. 384). This method is also regarded as economical, stress-free and the least time-consuming one (Baker et al., 2013; De Vos et al., 2011).

In purposive sampling, the researcher makes a judgment call on whom to include in the sample. Those selected individuals would then be key informants on the topic under investigation (Quilan, Babin, Carr, Griffin & Zikmund, 2015). Two inclusion criteria applied to respondents: a) a good understanding of the English language to complete the questionnaire successfully; and b) between the ages of 18 and 65, as this is the representative

age of the working class in South Africa. The characteristics of the respondents included in the study are diverse, such as gender, ethnicity, highest qualification, language and tenure.

1.5.4 Measuring instruments

The following measuring instruments were used in the present study:

Biographical questionnaire: Used to determine characteristics, namely: gender, ethnicity, highest qualification, language, and tenure. The information gathered from this questionnaire was used for descriptive statistical purposes.

Communication styles: Measured by using the Communication Styles Inventory (CSI) developed by De Vries et al. (2009). The scale measured the superiors/leaders' perceived communication styles as assessed by their subordinates within a manufacturing company. The leaders' communication styles were measured by the version of De Vries et al. (2013) using the CSI six-dimensional behavioural model with the selected 48 items (8 items per subscale).

Examples of questions are: (1) *expressiveness* – "He/she always has a lot to say"; (2) *questioningness* – "He/she often say unexpected things"; (3) *preciseness* – "When he/she tells a story, the different parts are always clearly related to each other"; (4) *verbal aggressiveness* – "If something displeases him/her, he/she sometimes explode in anger"; (5) *emotionality* – "When he/she sees others cry, he/she has difficulty holding back his/her tears"; and (6) *impression manipulativeness* – "He/she sometimes praise somebody at great length, without being really genuine, in order to make them like him/her". The CSI can be measured through a five-point Likert rating scale, ranging from 1 (*completely disagree*), 2 (*disagree*), 3 (*neutral*), 4 (*agree*), to 5 (*completely agree*) (De Vos et al., 2011). Recent research indicates that all sub-scales demonstrate acceptable internal reliabilities ranging from 0.69 to 0.88 (De Vries et al., 2013; Pacleb & Cabanda, 2014).

The Communicator Style Measure (CSM): This questionnaire, developed by Norton (1978), was utilised to measure the communication styles of leaders/superiors as viewed from a subordinate perspective within the manufacturing company. The questionnaire was adopted and therefore the 1983 version utilised. According to Norton (1983), the measurement was designed to measure 51 items and consists of nine independent variables (*dominant,*

dramatic, contentious, animated, impression leaving, relaxed, attentive, open, and *friendly*) and one dependent variable (*communicator image*). The purpose for using this scale was to determine convergent validity in **Article 1.** The measurement has similar theoretical constructs related to the CSI measurement (Trochim, 2006). Examples of questions are: (a) "He/she readily expresses admiration for others"; (b) "He/she is a very relaxed communicator".

Once the filler items and items related to *communicator image* which are not relevant to the present study were cleared, each communication construct consisted of four items, of which as many as three were reversed for analysis. The answer sheet for the questionnaires can be answered and measured by using a five-point Likert rating scale. This scale consists of five levels where the participants respond to each statement, namely: YES! = 5 strong agreement with the statement; yes = 4 agreement with the statement; ? = 3 neither agreement nor disagreement with the statement; no = 2 disagreement with the statement; NO! = 1 strong disagreement with the statement (Norton, 1983).

According to Brown et al. (2011), the reliability estimates of the communication styles' internal consistency were satisfactory. In this regard, transformational leadership's four constructs obtained a very high value of Cronbach's alpha: *Friendly* (α=0.60), *impression leaving* (α=0.65), *relaxed* (α=0.74), *contentious* (α=0.71), *attentive* (α=0.41), *precise* (α=0.54), *animated* (α=0.46), *dramatic* (α=0.63), *open* (α=0.70) and *dominant* (α=0.72). Certain constructs did, however, indicate alphas which were lower than usually accepted. Reliability coefficients for the communicator style measure ranged from highest (α=0.86) for the *impression leaving* to a lowest of 0.55 for *attentiveness* (David & Larry, 2000). Evidence was evident of content validity (Norton, 1978).

Transformational leadership styles: Measured by using the 22-item transformational leadership questionnaire (TFLQ) developed by Khoza (2015). The questionnaire was utilised to identify the managers' transformational leadership style as perceived by their subordinates'. Examples of questions are: "My manager provides a sense of fairness"; "My manager pays attention to my career needs," and "My manager encourages me to be creative and innovative." The questionnaire was measured through a four-point Likert rating scale ranging from (1) *strongly disagree* and (4) *strongly agree* (De Vos et al., 2011). In recent research by Khoza (2015) the leadership style's reliability estimates for internal consistency were satisfactory. In this regard, transformational leadership's four constructs obtained a very

high value of Cronbach's alpha; *idealised influence* (α=0.90), *inspirational motivation* (α=0.85), *intellectual stimulation* (α=0.86), and *individualised consideration* (α=0.83). All the constructs obtained above the minimum acceptable value of Cronbach's alpha, namely ($\alpha \geq 0.70$). These results indicate that the scale used to measure transformational leadership was reliable.

Transactional leadership styles: Measured by using the 14-item transactional leadership questionnaire (TSLQ) developed by Khoza (2015). The questionnaire was utilised to identify the manager's transactional leadership style as the subordinates rated their superiors. Examples of questions are: "My manager sets clear and achievable targets for me" and "My manager encourages me to achieve agreed targets". The questionnaire was measured through a four-point Likert rating scale ranging from (1) *strongly disagree* and (4) *strongly agree* (De Vos et al., 2011).

In recent research by Khoza (2015), the reliability estimates for the leadership styles' internal consistency were satisfactory. In this regard, the transactional leadership's three constructs obtained moderate values of the reliability coefficient, namely the use of *contingent rewards* (α=0.68), *active management-by-exception* (α=0.64), and *passive management-by-exception* (α=0.76). An average Cronbach's alpha of α=0.69 was obtained for transactional leadership. All constructs obtained above the minimum acceptable value of Cronbach's alpha, ($\alpha \geq 0.70$). These results indicate that the scale used to measure transactional leadership was reliable.

1.5.5 Research procedure

After approval for the study from the Faculty's Scientific and Ethics Committee, the management of several manufacturing organisations in South Africa were approached to participate in the study. Once permission had been obtained from the Human Resource Departments of the manufacturing organisations, an informed consent form including a letter was distributed to all the participants. This letter contained the important information on the study as well as the questionnaire booklet. Electronic administration was also used for respondents upon request.

The researcher ensured personal information and responses were kept confidential with respect to anonymity as well as by placing questionnaires in sealed envelopes and providing

collection boxes in which respondents could return the questionnaire booklets sealed in the envelopes (De Vos et al., 2011; Polonsky & Waller, 2014). The participants were allowed four weeks to complete the questionnaire and a reminder was sent a week prior to the collection date. Thereafter, the sealed questionnaires were collected from collection boxes, while the researcher dealt with the emailed questionnaires. When the data collection was completed, the information was captured and the analysis began. Participation in this study was voluntary and the researcher dealt anonymously and confidentially with the results and the participants' particulars.

1.5.6 Statistical analysis

The statistical analysis for both **Article 1** and **2** is explicated below.

Statistical analysis for Article 1

Statistical analysis for **Article 1** was done by using the SPSS programme (IBM, 2017). With SPSS, the descriptive statistics and internal validity for each of the 48-item CSI subscales were investigated separately, and Cronbach's alpha coefficients were calculated. Specific items with reverse scoring were also accounted for and the data were reviewed for missing values. Descriptive statistics were analysed to determine the mean, standard deviation, skewness, and kurtosis of the items in the 48-item CSI. The distribution of the items was determined as well to ascertain whether items were answered in a consistent or random way.

To determine the internal validity of the six subscales of the 48-item CSI separately, exploratory factor analysis (EFA) was used. EFA is a technique that analyses the minimum number of continuous latent variables or factors that can describe the correlations correctly among a set of observed variables (Muthén, & Muthén, 2015). According to Suhr (2006), factor analysis is done to help determine the number of items necessary to include in further analysis. EFA was done for each of the subscales of the 48-item CSI separately. The reason was that these subscales of the 48-item instrument were developed and tested by De Vries et al. (2013) in the Netherlands, which falls outside the current population sample (South Africa).

According to Foxcroft and Roodt (2005), validated instruments used in alternative countries must be validated for a South African context. It is not unusual to implement foreign-developed psychological tests in South Africa (Oakland, 2004). However, transportability of such tests should be substantiated by investigating the psychometric properties of the instrument to provide evidence of validation when used on a South African sample (Görgens-Ekermans, & Herbert, 2013). Furthermore, the Employment Equity Act (1998) of South Africa stipulates that psychological testing and other similar assessments of an employee are prohibited unless the test or assessment has been scientifically shown to be valid and reliable. Subsequently, Van De Vijver and Rothmann (2004) assert that by validating existing instruments for use in multicultural groups such as within South Africa, the practice is aligned with the legal demands.

Before EFA can be performed, several conditions must to be met. Firstly, the Kaiser-Meyer Olkin (KMO) test must produce values greater than 0.50 for data to be appropriate for factor analysis (Williams, Onsman &, Brown 2012). Secondly, Bartlett's test of sphericity needs to produce significant results indicating that the scale items correlate adequately with another. Finally, Kaiser's criterion factors must produce Eigenvalues greater than 1.00 (Kaiser, 1970).

The above-mentioned conditions were met in the present study. The principle component analysis (PCA) was employed as extraction method, followed by no rotation for each subscale of the 48-item CSI, since only one factor was extracted for each of the subscales. The goodness-of-fit, communalities and item loadings on the factor was determined. When a communality for a specific item is low (in this case < .2), it will be difficult for that item to load significantly on the specific factor; thus, it is suggested that these items should be removed from further analysis. The results of the component matrix were used to determine the item loadings on the factor and the strength of the loading. Loadings smaller than 0.30 indicate that an item is a poor measure of the factor being studied (Child, 2006; Kerlinger & Lee, 2000) therefore, it was decided to omit such items.

Furthermore, Eigenvalues were identified of 1 and greater to the total variance explained. After the EFA was completed, the subscales of the CSI were created, followed by calculating Cronbach's alpha coefficients to ascertain whether the subscales could be considered reliable (i.e. 0.70 and higher) (Cicchetti, 1994; Nunnally & Bernstein, 1994). In addition, Cronbach's

alpha coefficients of the CSM sub-constructs were determined and only those sub-constructs considered as reliable were included for further analysis.

After the reliability analysis, the descriptive statistics for the selected subscales of the CSI was done as well as the analysis of product-moment correlation in order to determine convergent validity. For such validity, effect sizes are considered to be medium for (*r*) values of 0.30 and above, and large for (*r*) values of 0.50 and above (Cohen, 1988). In this case, the selected subscales of the CSI and selected sub-constructs of the (CSM) were utilised in the analysis to determine any statistically significant correlation and practically significant correlation.

Statistical analysis for Article 2

The data for **Article 2** were captured and the statistical analysis done with the IBM SPSS programme version 25 (IBM, 2017). Descriptive statistics (e.g. means, standard deviations, skewness, and kurtosis) and inferential statistics were used to describe the data (Field, 2013). Reliability of the constructs was assured by assessing whether Cronbach's alpha coefficient α scores range are above 0.70 and can be regarded as reliable values (cut-off point of 0.70 – De Vos et al., 2011; Tabachnick & Fidell, 2001).

Product-moment correlations (*r*) were used to determine the relationship between the variables. Product-moment correlation coefficient (*r*) was computed to determine the strength of the relationships between leadership styles and communication styles to establish whether the relationship was mostly linear (Field, 2013). These tests were done on a confidence level of 95% ($p \leq 0.05$) statistical significance (Struwig & Stead, 2013). Correlation coefficients (*r*) indicated the amount of variation in one variable was defined by the variation in an alternative variable with the range from -1 negative relation, 0 no relationship to +1 positive relationship (Struwig & Stead, 2013). The following guidelines and cut-off points determined practical significance for the *r* –values used: $r \geq 0.10$ (small effect); $r \geq 0.30$ (medium effect), and $r = \geq 0.50$ (large effect) (Cohen, 1988; Field, 2013). Since the data could not consider skewness, Spearman's rho was used, which is based on the rank order of the variable values. The computed value of Spearman's rho will be either positive or negative and will vary between 0 and 1 (Bryman et al., 2014).

Multiple regression analysis was done through the SPSS programme by focusing on the relationship between independent and dependent variables. As was mentioned, the *independent* variables of leadership styles consisted of perceived transformational styles, namely idealised influence, inspirational motivation, intellectual stimulation and individual consideration; and perceived transactional styles: contingent rewards, active management-by-exception and passive management-by-exception. The analysis was done to conclude which independent variables predict the *dependent* variables, namely perceived communication styles, which comprise preciseness, verbal aggressiveness, emotionality and impression manipulativeness (Struwig & Stead, 2013). The R^2 is used to explain the amount of variance accounted for in the relationships between the different constructs (Salkind, 2010). Correlation cut-off points were set between -1 and +1 (Tabachnick & Fidell, 2013). Determining the connection of the statistical significance values concerned only the use of the values 0.05.

1.5.7 Ethical considerations

For the present study to be successful, certain ethical issues were taken into consideration. The respondents were requested to provide the researcher with informed consent to participate in this research. This implies that the participants agreed to take part in the study, that their participation was voluntary, and that they could withdraw from the study at any stage if they so wished without repercussions (De Vos et al., 2011). Confidentiality and voluntary participation are of utmost importance since respondents must have the option to refuse to disclose certain information about themselves (Struwig & Stead, 2013).

The researcher adhered to the above-mentioned ethical measures and guidelines to ensure confidentiality, respect, and privacy as respondents needed to complete questionnaires on a nameless basis to protect their anonymity (De Vos et al., 2011). The ethical areas covered were: voluntary participation, informed consent, confidentiality and anonymity, the potential for harm and communicating the results. This was to ensure the necessary ethical standards were followed throughout the study (Polonsky & Waller, 2014). If there was uncertainty or unethical behaviour became apparent, the researcher would have dealt with it promptly. Finally, before the study could commence, the research proposal was submitted and reviewed by the Scientific and Ethical Committee of the institution to gain approval.

1.6 Overview of chapters

The chapters in the dissertation are outlined as follows:

Chapter 1 – Introduction

Chapter 2 – Research article 1

Chapter 3 – Research article 2

Chapter 4 – Conclusions, limitations and recommendations

1.7 Chapter summary

This chapter provided an overview of the problem statement and research objectives for the present research. The method followed to approach this study was explained, followed by a brief overview of the chapters to follow.

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CHAPTER 2
RESEARCH ARTICLE 1

The validation of the Communication Styles Inventory among employees in the South African Manufacturing Industry

Abstract

Orientation: Interpersonal communication is a significant organisational concern to managers, employees, researchers and human resource practitioners. The reason is that employees are reportedly experiencing conflict situations and deviant behaviour due to inefficiently managed communication styles. However, no interpersonal communication styles scale has been validated and shown to be reliable for measurements within a South African organisation. Thus, organisations and researchers are unable to measure the communication styles of employees accurately and determine its effect within South African organisations.

Research purpose: The objective of the present study was to evaluate the internal and convergent validity of the Communication Styles Inventory (CSI) subscales within a South African manufacturing industry.

Motivation of study: Currently, it is a challenge to identify and measure the communication styles of employees within the South African context. The absence of a valid and reliable scale necessitates the validation of the communication style inventory. This will provide South African organisations and researchers with a communication style measurement tool that can possibly be used to assess and identify the communication styles of employees within the South African manufacturing environment.

Research design: A cross-sectional research design was used, with a sample of South African manufacturing industry employees (N = 564). Exploratory factor analysis was used to evaluate the internal validity of all the Communication Style Inventory (CSI) subscales individually by investigating the items loading on the subscales and its reliability. Furthermore, the convergent validity was determined by examining the relationship between the Community Styles Inventory (CSI) subscales and the sub-constructs of the Communication Styles Measure (CSM).

Main findings: The results provided evidence that not all the subscales of the Communication Styles Inventory (CSI) were completely valid to use, as most of the items did not show acceptable item loadings and reliability on the subscales. Only the subscales of *preciseness, verbal aggressiveness, emotionality,* and *impression manipulativeness* showed acceptable validity and reliability. In addition, convergent validity was provided.

Practical implications: The results provided a sample of items that researchers and managers can utilise to measure the communication styles of employees within the South African context.

Contribution: The study contributes to the limited research available on communication styles and the validation of this measuring instrument.

Keywords: Communication Styles Inventory, expressiveness, preciseness, verbal aggressiveness, questioningness, emotionality, impression manipulativeness, internal validity, reliability, convergent validity.

Introduction

Communication is an essential notion within organisation and management theory (Thompkins, 1987). To a large extent, the nascent research on this topic has emerged from other countries (i.e. Bakker-Pieper & De Vries, 2013; Brandt & Uusi-Kakkuri, 2016; De Vries, Bakker-Pieper & Oostenveld, 2010; Gudykunst et al., 1996; Gudykunst & Nishida, 2000; Hargie, 2018; Norton, 1978; Robbins, & Coulter, 2018). Researchers of human resource issues view communication as a management instrument, which help progress organisational outcomes (Beneke, 2015; Bornman & Puth, 2017; Burger, 2018; Claassen, 2015; Khoza, 2015; Ocasio, Laamanen, & Vaara, 2018; Robbins, Judge, Odendaal & Roodt, 2013; Robbins, & Coulter, 2018; Van der Merwe, & Bussin, 2006). Consequently, Martinez (2012) emphasised that an all-inclusive communication style is paramount to manage a workforce or team effectively for efficient and productive outcomes.

Relational dynamics is based on dyadic (two-way) communication (Bakar & McCann, 2016). In other words, not only a specific leadership style can determine enhanced work performance, but also the mutual communication style between superiors and subordinates (Graen, 2013). When a leader and follower's communication fits well, they may achieve a high level of dyadic agreement, which can result in high-quality leader–member exchange (LMX) and improved work outcomes (Bakar & McCann, 2014; Fan, & Han, 2018; Kristof-Brown, Zimmerman, & Johnson 2005). This is evident from research where the leader–member exchange (LMX) quality of leaders and followers scores higher when their communication style indicates a good fit, and when each style fitted more significantly (Fan, & Han, 2018). However, if the leader and followers' communication style does not fit, then a several difficulties may appear caused by ineffective and conflicting dyadic communication and low-quality LMX (Bakar & McCann, 2016; Fan, & Han, 2018). The way of communicating may also be determined by the extent of the power distance between the employees. Thus, this distance will be significant in the style employees address each other (Brooks, 2018).

Background to the study

Over the years, the South African manufacturing industry had to deal with various organisational challenges such as institutional change, affirmative action programmes, scarce resources, or change management. In this regard, behavioural processes imply that conflict situations may be increasing in these sectors of the South African economy (Havenga & Visagie, 2006).

A notable example of confronting challenges is still apparent from finance to human capital, concerning productivity, efficiency, costs, labour issues, skills shortages and new technology (Makhene, 2015). Nonetheless, ineffective communication is destructive as it can cause low performance, stressed interpersonal relations, inefficient service, and dissatisfied customers (Jones & George, 2016). Furthermore, leaders must deal with communication issues in organisations regarding the Internet, knowledge sharing, customers, employee input and communicating ethically (Robbins, & Coulter, 2016). It is imperative for effective communication in a multi-cultural environment to include dialogue instead of one-way communication (Robbins et al., 2013). Interestingly, recent research shows significant relationships between the preferences of "open" communication styles with all four culture types: hierarchy, adhocracy, market and clan culture (Hansen, 2018). Yet several barriers contribute to ineffective communication, (Robbins & Coulter, 2016).

Hlatshwayo, Munapo and Mavetera, (2017) found evidence of inefficient communication among employees within manufacturing operations in South Africa. In addition, reduced manufacturing operations were found to be due mainly to poor leadership, competition among departments, customers' not receiving orders on time, and incorrect quantities sent (Hlatshwayo et al., 2017). In turn, Vahed (2012) points out that South Africa's lean manufacturing success is impacted negatively by barriers caused by inconsistent and unclear communication. Inefficient communication leads to unhealthy employment relations, which increases high turnover rates of employees within manufacturing operations (Hlatshwayo et al., 2017).

Thus, communication can be used as a tool to gain control over employees' behaviours through motivation, release to express feelings and providing information for numerous practical organisational outcomes (Robbins & Coulter, 2016). Communication within organisations, between superiors and subordinates is an essential motivation element (Brooks, 2018). For example, employees are more likely to be motivated by recognition and constructive feedback from their line manager (Brooks, 2018). However, within the South African business environment little is known about communication and the communication styles which superiors and subordinates use. Various measuring instruments are employed to measure communication styles, for example the Communicator Style Measure (CSM) or Communication Styles Inventory (CSI)). However, there are no valid and reliable tool to measure communication styles within the South African work context (De Vries, Bakker-Pieper, Siberg, Van Gameren & Vlug, 2009; Norton, 1978).

According to the Employment Equity Act of 1998 it is required that any psychometric measurement or tool must be scientifically reliable and valid, applied fairly to all employees and avoid bias towards any employee or group (Visser & Viviers, 2010). Therefore, within the South African working environment, it is necessary to determine the reliability and validity of a communication tool (such as the CSI). To ascertain the psychometric properties of such a measuring instrument, reliability, construct validity (i.e. internal validity) and convergent validity may be used as indicators (Foxcroft & Roodt, 2013).

The assessment or determining of psychometric properties of the above-mentioned instruments is necessary to align practice with the legal demands such as validating existing instruments for multicultural groups as the case is in South Africa (Van De Vijver & Rothmann, 2004). The measuring tool will furthermore allow South African organisations (such as the manufacturing industry) to assess individual employee's communication styles accurately – where currently these are uncertain.

Research indicates a need to enhance communication practices and create a fair working environment that would encourage productive behaviours (Chan & Lai, 2017). However, the current position of the South African economy and the manufacturing sector highlights the pressures and conditions that managers and employees must contend with to succeed within their organisations. The South African economy became all the more passive as the gross domestic product (GDP) went from growing 3,1% in the fourth quarter of 2017, to shrinking with 2,2% in the first quarter of 2018 (Stats, 2018a). The 2,2% plunge is the largest quarter-on-quarter decline since the first quarter of 2009 (Stats, 2018a), seeing that approximately 13% of the gross domestic product (GDP) is contributed from the manufacturing sector (IDC, 2016).

In 2017 the manufacturing sector rose with 4.3% and was driven mainly by further production of products in the subdivision of food and beverages, petroleum, basic iron and steel (Stats, 2018b). Unfortunately, in the first quarter of 2018, manufacturing did not provide a positive input to the economic growth, declining by 6.4% (Stats, 2018a). The decline was driven mainly by lower production of petroleum, chemical products, basic iron and steel (Stats, 2018a).

Regardless of the decline in economic activities, South African businesses still strive for economic success through the manufacturing environment's industrial productivity. Fortunately, the South African manufacturing industry is stimulated by the Industrial Development Corporation (IDC) as a state-owned finance institution that funds the development of the countries' industry (IDC, 2017).

The IDC also contributes directly to manufacturing employment. This can be seen in the first quarter of 2018, where the manufacturing employment has increased with 58 000 employees (Stats, 2018a). The metals and machinery enterprises employ the most individuals in the manufacturing industry, after which the food and beverages, petroleum and chemicals enterprises (Stats, 2018a). The deficient performance of the manufacturing sector in South Africa can be recognised from the increased competition from South-East Asia, and due to South Africa's skills shortage (Bhorat & Rooney, 2017).

The above-mentioned harsh financial times contribute to management' burden of attempting to enhance work performance, productivity and profitability. Yet internal communication, in particular, is critical to building and sustaining relationships among employees to achieve these organisational outcomes (Mishra, Boynton & Mishra, 2014). For this to happen, internal communication should build trust between management and their employees to increase their engagement (Mishra et al., 2014). Consequently, workplace relationships can be linked to mutual communication styles between supervisors and their subordinates.

Research problem

The paucity of research on interpersonal communication styles within the South African manufacturing field should be addressed. Extensive research has been conducted on communication (Hargie, 2018), however certain areas remain unexplored. For example, interpersonal communication styles have not attracted sufficient attention in South Africa, which therefore presents a gap in the literature on this topic. Gundhus (2018) emphasised the necessity for future research to continue developing a valid and reliable measure of communication styles, as well as investigate the potential applications of such a tool. As a result, the present study aimed to addressing the gap within the literature by validating the first communication styles scale to date within the South African manufacturing environment to provide a reliable measurement that could support this organisational problem

At present, behavioural issues in manufacturing operations indicate that ineffective communication among employees cause dysfunctional conflict (Hlatshwayo et al., 2017). It was found that conflict is an inevitable part of organisations and should not be disregarded, but handled effectively by subordinates and superiors alike (Ada, 2014). In particular, a significant number of employees' experience conflict since they use a specific communication style (Beneke, 2015). Differences in

communication styles may lead to misunderstandings, conflict, and ineffective decision-making (Magpili-Smith, 2017). Should leaders fail to deal with this conflict behaviour, then this may lead from ineffective communication to possible workplace incivility or even more severe forms of deviant workplace behaviour; even victimisation or bullying (Smidt, De Beer, Brink & Leiter, 2016). Therefore, this topic necessitates further investigation to identify employees' communication styles, to comprehend its significant relationship to other organisational behaviours.

The organisational conflict occurring among employees of South African manufacturing enterprises mostly entails disagreements between two employees or subgroups based on resentment and discontent (Emerson 2015). Therefore, clear and open communication between employees and their supervisors is critical. This helps deflate possible conflicting behaviours which restrict employees to work productively within the organisation. Findings on management of South African workplace relations indicate that organisational trust has decreased with 12% from the year 2013 to 2015. This deficiency can be corrected by mutual open, honest and effective communication practices coupled with transparent focus from the leadership (Steyn & Bell, 2016).

Based on the aforementioned background and research problem, the main aim of the present study was to validate a communication styles measuring instrument and to identify employee's communication styles within the manufacturing environment. This will help suggest ways to eradicate the current behavioural issues of ineffective communication within the manufacturing industry.

Research purpose and objectives

Based on the research problem explication above, the general objective of the present study was to validate the Communication Styles Inventory (CSI) as developed by De Vries et al. (2009), for the South African context. Flowing from this main aim, the following specific objectives were investigated:

- Determine how communication and communication styles are conceptualised according to scientific literature.
- Determine the internal validity of each six subscale of the CSI in particular.
- Establish whether the CSI subscales show acceptable reliability.
- Ascertain the convergent validity of the CSI with other similar theoretical constructs.
- Draw conclusions and make recommendations for future research and practice.

Literature review

Communication and communication style as concept

Communication is essential and prevalent among human beings, allowing them to interact with others (Salija, Muhayyang & Muhammad, 2018). In this regard, communication entails the transfer and understanding of meaning. This consists of interpersonal communication between two or more individuals, as well as all patterns, networks, and systems regarded as organisational communication (Robbins, & Coulter, 2018). Communication is based on the transfer of symbols to form meaning and create a shared reality between message sources and receivers (Johnson, & Hackman, 2018). Such interaction utilises symbols to signify ideas, thereby ensure meanings can be mutual (Solomon, & Theiss, 2012). Thus, communication can be defined as a symbolic, interpretive, transactional, contextual process where individuals form and exchange shared meaning (Lustig, & Koester 2010).

Throughout the literature, various definitions have been suggested for the concept of communication. The present study, in this regard, is based on the well-grounded theoretical definition of Norton's communication styles. These styles were considered for this study since the theory and definition are well rooted into multiple independent communication styles. Norton (1978) was the first to conceptualise the communicator style as "the way one verbally, nonverbally and paraverbally interacts to signal how literal meaning should be taken, interpreted, filtered, or understood" (p. 11). More than 40 years ago, Norton (1978) formulated his communicator style theory, centred on his development of the mentioned Communicator Style Measure (CSM). Norton's theory and measurement were originally founded on collaborative researched that began in 1972, and refined the measuring tool a few years later (Norton, 1978). Norton's CSM classifies the communicator style into multiple independent variables as well as one dependent variable (Norton, 1978; 1983). These are elucidated further below.

The independent variables for the styles uses (1) *Impression-leaving*: visible and memorable style of communicating. (2) *Contentious*: interacts in a negative, argumentative manner. (3) *Open*: conversational, unreserved and approachable. (4) *Dramatic*: emphasises or understates content of the communication. (5) *Dominant*: often features up front in social situations. (6) *Precise*: prefers accurateness and rightness. (7) *Relaxed*: remains calm, excluding tension. (8) *Friendly*: approach

ranges from being sociable to deep intimacy. (9) *Animated*: frequently uses physical and nonverbal signals. (10) *Attentive*: ensures others know he/she is paying attention to their conversation.

The single dependent variable refers to *communicator image*: signifies whether the communicator is efficient with constructive communication abilities (Norton, 1978).

Based on the work of Norton, De Vries et al. (2009) recently redefined the concept of communication style as follows:

> "The characteristic way a person sends verbal, paraverbal, and nonverbal signals in social interactions denoting (a) who he or she is or wants to (appear to) be, (b) how he or she tends to relate to people with whom he or she interacts, and (c) in what way his or her messages should usually be interpreted" (p. 179).

This latest comprehensive communication style definition by De Vries et al. (2009) was used for this study. Furthermore, De Vries et al. (2009) also developed the already-mentioned communication styles inventory (CSI), consisting of six interpersonal styles, namely (X) *expressiveness,* (Q) *questioningness,* (P) *preciseness,* (E) *emotionality,* (VA) *verbal aggressiveness,* and (IM) *impression manipulativeness.* The CSI is designed to measure either self or an observer such as a subordinate, to rate a leader's interpersonal communication styles (De Vries et al., 2009). For this study the CSI was used to measure the subordinates' perception of their leaders' interpersonal communication styles.

Communication Styles Inventory

The development of the Communication Styles Inventory (CSI) took place through a multiphase lexical study using 744 adjectives and 837 verbs from the dictionary to determine the preliminary lexical communication styles' dimensions (De Vries et al., 2009). The communication-styles framework presented preliminary evidence for seven lexical dimensions defined as follows: (1) *Expressiveness* reflects a mix of talkativeness (vs. uncommunicativeness), certainty (vs. uncertainty), energy, and eloquence. (2) *Preciseness* reflects a mix of clarity (vs. vagueness), conciseness, efficiency, and (business-like) composure. (3) *Niceness* reflects friendliness (vs. unfriendliness), uncriticalness (vs. argumentativeness), modesty, and cheerfulness. (4) *Supportiveness* reflects accommodation, admiration, supportiveness, and stimulation. (5)

Threateningness reflects abuse, threateningness, and deceptiveness. (6) *Emotionality* reflects sadness, irritability, anger, and tension. (7) *Reflectiveness* reflects engagement, analytical reflectiveness, and philosophical or poetic communication behaviours (De Vries et al., 2009).

Based on the above-mentioned empirical model of communication styles, De Vries et al. (2009) found that the lexical study brought to the fore adjectives and verbs that described the way people communicate. After further analysis, the original seven-dimensional model was adapted two years thereafter due to concerns about internal validity (De Vries, Bakker-Pieper, Konings & Schouten, 2011). Only six of the seven dimensions were supported when convergent validity was tested between the lexical study and the CSI (De Vries, Bakker-Pieper, Konings & Schouten, 2013).

Further research by De Vries et al. (2010) was conducted through a principal-axis-factoring (PAF) analysis with varimax rotation based on the scree plot to identify the item content of the six factors. The results were: *expressiveness* (10 items, α = 0.89); *preciseness* (10 items, α = 0.90); leader's *verbal aggressiveness* (10 items, α = 0.92); *assuredness* (10 items, α = 0.81); *supportiveness* (9 items, α = 0.89); and *argumentativeness* (4 items, α = 0.68). However, with another study De Vries et al. (2013) indicated that after numerous rounds of data collection and versions of the preliminary communication styles instrument, they found that *threateningness*, *niceness*, and *supportiveness* loaded on *verbal aggressiveness* as a single overarching factor. Furthermore, they constructed a scale to measure a deceptive communication style, namely the newly-added dimension of *impression manipulativeness.* The reason was that this communication behaviour associated with status or other rewards based on impression management, although this dimension was not associated strongly with any lexical scales.

This final finding indicated that the CSI consists of six behavioural communication style dimensions: *expressiveness* (X), *preciseness* (P), *verbal aggressiveness* (VA, comprising the lexical factors of threateningness, reversed niceness, and reversed supportiveness); *questioningness* (Q; as reflectiveness factor in the lexical study), *emotionality* (E), and *impression manipulativeness* (IM) (De Vries et al., 2013). Based on this finding, De Vries et al. (2013) developed the new CSI consisting of 96 communication behaviour items (16 items per scale) that are divided equally among the six domain-level scales, consisting of four facets, each with four items.

The mentioned six domain-level can thus be conceptualised as follows: *expressiveness* – talkativeness, conversational dominance, humor, informality; *questioningness* – unconventionality, philosophicalness, inquisitiveness, argumentativeness; *preciseness* – structuredness, thoughtfulness,

substantiveness, conciseness; *verbal aggressiveness* – angriness, authoritarianism, derogatoriness, nonsupportiveness; *emotionality* – sentimentality, worrisomeness, tension, defensiveness; *impression manipulativeness* – ingratiation, charm, inscrutableness, concealingness.

Within the present study, as mentioned earlier, the subordinates will indicate how they perceive their superiors'/leaders' communication style. For practical reasons of data collection and administration within an operational manufacturing environment the need for a shortened version of the CSI was requested from De Vries. This 48-item measure was obtained with permission from De Vries who personally compiled the short-form 48-item CSI measure in 2016. Therefore, the leader's communication style was measured by the latest shortened version of the CSI as De Vries et al. (2013) provided it. The measure consists of the same six-dimensional behavioural model with the selected 48-item (8 items per scale) short-form (United States English other-version). The present study investigated this adapted version of the scale.

Evaluating the internal validity of the Communication Styles Inventory

According to Ginty (2013), for a questionnaire to have satisfactory psychometric properties it requires an evaluation of the construction and validation of the measurement tool. This will indicate whether the questionnaire is a reliable and valid form of measure. Within the South African context, measures are required to be scientifically reliable and valid. For example, the Employment Equity Act of South Africa (1998) states,

> Psychological testing and other similar assessments of an employee are prohibited unless the test or assessment being used – (a) has been scientifically shown to be valid and reliable; (b) can be applied fairly to all employees; and (c) is not biased against any employee or group (p. 16).

Therefore, it is necessary to evaluate the CSI by De Vries et al. (2010) determining acceptable reliability and validity for it to be classified as a suitable measuring instrument with psychometric properties for use within a South African work context (Paterson & Uys, 2005). According to DeVellis (1991), it is imperative to use measuring instruments that show evidence of reliability and validity, since such instruments have various implications for relationships with other variables. Therefore, it was deemed necessary to investigate the psychometric properties (e.g. reliability and validity) of the CSI.

De Vos, Stydom, Fouchè and Delport, (2011) describe reliability as the degree to which a measure is consistent. Cronbach's alpha is the most widely-used reliability coefficient to determine the

internal-consistency of a measure. When Cronbach's alpha coefficients score above 0.70, it can be regarded as reliable (Nunnally & Bernstein, 1994). A study among university students found reliable Cronbach's alphas ranging between 0.60 to 0.70 for the CSI scale. A further study by Pacleb and Cabanda (2014) found acceptable internal reliabilities ranging from 0.69 to 0.87 for the CSI. It is essential that a measuring instrument should be found reliable, before its validity can be determined (Foxcroft & Roodt, 2013).

An indicator that can be used to determine the validity of measuring instruments is construct validity (i.e. internal validity). The construct validity of a measuring instrument is the degree to which it measures the theoretical construct or trait that it is supposed to measure (Foxcroft & Roodt, 2013). Factor analytical procedures may be used to determine validity. Factor analysis is a statistical method that analyses the number of underlying dimensions contained in a set of observed variables and help identify the subset of variables that corresponds to each of the underlying dimensions (Muthén, & Muthén, 2017). The underlying dimensions are referred to as continuous latent variables or factors (Muthén, & Muthén, 2017). There are two types, namely: exploratory factor analysis (EFA) and confirmatory factor analysis (CFA).

EFA is a technique that analyses the minimum number of continuous latent variables or factors, which can provide a correct description of the correlations among a set of observed variables (Muthén, & Muthén, 2017). CFA examines whether the established dimensionality and factor-loading pattern fits a new sample from the same population. Thus EFA explores the validity of the measurement with results indicating the extraction of factors, whereas CFA generally test a variety of models including those with the number of factors (Burns & Machin, 2009).

The decision was to use only EFA instead of CFA for the present study. The reason was that the study aimed to explore the internal validity of each of the factors separately to indicate which items load onto each factor. In this regard, De Vries et al. (2011) employed EFA to indicate construct validity by doing principle component analysis (PCA). Multiple criteria were applied to help determine the number of factors to be retained, including eigenvalues greater than 1.0 and explained variance greater than 60%. Furthermore, only items that loaded at 0.5 or higher on the intended factor and less than 0.3 on any other factor were retained (De Vries et al., 2011).

Another indicator that can be used to determine the validity of measuring instruments is known as convergent validity. This form of validity is found if a measurement correlates highly with other variables with which it should correlate theoretically (Foxcroft & Roodt, 2013). De Vries et al. (2011) conducted convergent validity between the communication styles inventory (CSI) and the communication style scale (CSS) of Gudykunst et al. (1996). The correlations used to examine convergent validity all indicated significant and medium to strong convergent correlations ($\leq .40$),

which were observed for both the CSI and CSS scales. The correlations ranged from 0.40 to 0.72, thus indicating evidence of convergent validity. The present study tested convergent validity by using Norton's (1987) Communicator Style Measure (CSM) as De Vries et al. (2009) based their study on the theoretical framework set by Norton.

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

H1: The Communications Styles inventory (CSI) six-factor construct, consisting of *expressiveness, questioningness, preciseness, verbal aggressiveness, emotionality,* and *impression manipulativeness* will show internal validity for each of the subscales separately.
H2: The Communications Styles inventory (CSI) is a reliable scale within the South African context.
H3: The Communications Styles inventory (CSI) indicates convergent validity in the South African context.

Research design

The research approach and the research method are discussed subsequently.

Research approach

The research objectives were obtained through a quantitative research approach and by means of a cross-sectional research design. Ary, Jacobs, Irvine and Walker, (2018) view a quantitative research approach as collecting numeric data through controlled procedures and analyses. According to Biggerstaff (2012), quantitative research designs can be considered as formal, objective and systematic processes where numerical data are processed to gather information from across the world. In accordance, Ary et al. (2018) explain that quantitative approaches generalise findings from a randomised sample to a larger population. Furthermore, a quantitative approach makes it easy to implement, describe, and report the data (Creswell, & Creswell, 2017).

A cross-sectional research design was used, which measures all the variables simultaneously (Blaikie, 2003) and is applied in studies occurring at a single point in time (Keppel, Saufley, & Tokunaga, 1992). Such a design is also used to assess interrelationships among variables within a population (Struwig & Stead, 2013). The benefit of a cross-sectional survey design is that it is an inexpensive method and easy to utilise when conducting research (Ary et al., 2018; De Vos et al.,

2011). Therefore, the desired objectives could be reached without the hampering requirements coupled with it, thus limiting possible discrepancies (De Vos et al., 2011**;** Struwig & Stead 2013).

Research method

Research participants

Employees (*N*=564) within the South African manufacturing industry were the target population chosen for the study. The employees from large organisations who participated in the study were selected based on their availability and willingness. Therefore, a combination of convenience and purposive sampling techniques were used (Foxcroft & Roodt, 2013). According to Sarstedt, Bengart, Shaltoni and Lehmann, (2018) non-probability techniques such as convenience and purposive sampling "fall within an efficacy continuum to produce representative samples" (p. 6).

Convenience sampling can be described as a process of gathering data from a population that the researcher is able to reach effortlessly to (Rahi, 2017; Sarstedt et al., 2018). According to Ary et al. (2018) convenience sampling is defined as "choosing a sample based on availability, time, location, or ease of access" (p. 384). Furthermore, in purposive sampling the researcher makes a judgment call about who to include in the sample. Thus, individuals chosen to be included in such a sample would be key informants on the topic under investigation (Quinlan, Babin, Carr, Griffin & Zikmund, 2015). Inclusion criteria are the following: a) respondents must be well-versed in the English language to complete the questionnaire successfully; and b) the respondents must be between the ages of 18 and 65 and regarded as fulltime working adult employees.

The characteristics of the respondents included in the study are diverse, such as gender, ethnicity, highest qualification, language and tenure as are provided in Table 1 below.

TABLE 1: Characteristics of participants (N = 564)

Item	Category	Frequency	Percentage
Gender	Male	310	55.0
	Female	254	45.0
Ethnicity	African	206	36.5
	Coloured	52	9.2
	Indian	50	8.9
	White	256	45.4
Highest qualification	St 8 (Gr.10) or lower	19	3.4
	St. 9 (Gr. 11)	37	6.6
	St. 10 (Gr. 12)/N3	200	35.5
	Diploma/Certificate	162	28.7
	Undergraduate degree	65	11.5
	Post-graduate Degree	80	14.2
	Other	1	0.2
Language	English	120	21.3
	Afrikaans	258	45.7
	Setswana	52	9.2
	Sesotho	31	5.5
	isiXhosa	15	2.7
	isiZulu	36	6.4
	isiNdebele	4	0.7
	SiSwati	2	0.4
	Tshivenda	3	0.5
	Xitsonga	17	3.0
	Sepedi	26	4.6
Amount of years working in the company	1 – 4 years	253	44.9
	5 – 10 years	163	28.9
	11 – 15 years	57	10.1
	16 – 20 years	35	6.2
	21 – 25 years	25	4.4
	26 – 30 years	11	2.0
	30 + years	19	3.4

The sample comprised various participants from multiple organisations within the manufacturing environment (N = 564). It is evident from Table 1 above, that the sample consisted of 55% males and 45% females. In terms of race, most of the participants were White (45.5%) employees, and 36.5% were African. Only 8.9% of the participants were Indian and 9.2% were Coloured. Regarding language, most (45.7%) of the participants were Afrikaans-speaking. Furthermore, the majority of the sample (35.5%) had obtained St. 10 (Gr. 12 qualification, or general high school education) or the (N1 to N3 engineering studies qualifications), followed by 28.7% who had obtained a diploma or certificate. In terms employment within the manufacturing environment, 44.9% of the participants had been employed between 1 to 4 years, while 3.4% have been employed for 30 years or more.

Measuring instruments

A brief biographical questionnaire was used to gather information from the participants, regarding gender, ethnicity, highest qualification, language and amount of years working in the company.

The Communication Styles Inventory (CSI): developed by De Vries et al. (2009) was utilised to measure the communication styles of superiors within the manufacturing company as found by the subordinates. The leader's communication styles were measured by the version of De Vries et al. (2013) that used the (CSI) six-dimensional behavioural model with the selected 48-item (8 items per subscale) as mentioned previously. Examples of questions are: (1) *expressiveness* – "He/she always has a lot to say"; (2) *questioningness* – "He/she often say unexpected things"; (3) *preciseness* – "When he/she tells a story, the different parts are always clearly related to each other"; (4) *verbal aggressiveness* – "If something displeases him/her, he/she sometimes explode in anger"; (5) *emotionality* – "When he/she sees others cry, he/she has difficulty holding back his/her tears"; and (6) *impression manipulativeness* – "He/she sometimes praise somebody at great length, without being really genuine, in order to make them like him/her".

The Communicator Style Measure (CSM) developed by Norton (1978) was utilised to measure the communication styles of leaders/superiors from a subordinate perspective within the manufacturing company. The questionnaire was adopted and thus the 1983 version was utilised. According to Norton (1983), the instrument was designed to measure 51 items and consists of nine independent variables as was mentioned previously (*dominant, dramatic, contentious, animated, impression leaving, relaxed, attentive, open, and friendly*) and one dependent variable (*communicator image*).

Examples of the items in the questionnaire were: (a) "He/she readily expresses admiration for others"; (b) "He/she is a very relaxed communicator". However, once the filler items and items related to communication image not relevant to the study were cleared, each communication construct comprised four items and all together three items were reversed for analysis. The answer sheet for the questionnaires were answered and measured by using a five-point Likert rating scale consisting of five levels where the participant responds to each statement, namely: YES! = 5 strong agreement with the statement; yes = 4 agreement with the statement; ? = 3 neither agreement nor disagreement with the statement; no = 2 disagreement with the statement; NO! = 1 strong disagreement with the statement (Norton, 1983).

According to Brown et al. (2011), the communication styles' estimates of internal consistency reliability were satisfactory since the Cronbach's alpha's coefficients of each item reported accordingly: *friendly* (α=0.60); *impression leaving* (α=0.65); *relaxed* (α=0.74); *contentious* (α=0.71); *attentive* (α=0.41); *precise* (α=0.54); *animated* (α=0.46); *dramatic* (α=0.63); *open* (α=0.70); and *dominant* (α=0.72). Certain constructs, however, reported alphas lower than usually accepted. Nevertheless, another study identified reliability coefficients for the communicator style measure that ranged from highest (α=0.86) for *impression-leaving*, to a lowest of 0.55 for *attentiveness* (David, & Larry, 2000). Thus, showing clear evidence of content validity (Norton, 1978).

Research procedure and ethical considerations

Ethical clearance for the present study was obtained from the respective University's Scientific and Ethical Committee (Ethical approval number: *EMSMHW16/12/02-01/02*). After permission was granted the research commenced. The relevant manufacturing organisations' human resources departments, operations departments, line managers and directors were approached for permission to conduct the research at their workplace. The research letter of intent clarified the nature of the study, providing ethical guidelines and procedures for the questionnaires' administration. This letter explained motivation for the research as gaining authorisation for administering questionnaires to their employees, to reach the objectives of this study. These parties merely had to give permission for the study to commence within the manufacturing organisations.

After the various manufacturing departments granted permission and access, the questionnaires were distributed accordingly. The researcher distributed 600 paper-based booklets within these organisations, to each individual who consented to partake in the study. Electronic of administration was also used by respondents upon request. Both these modes of administration were utilised due to an adequate level of agreement that no administration bias would occur (Rasmussen et al., 2016). Furthermore, Rutherford, Costa, Mercieca-Bebber, Rice, Gabb and King, (2016) point out that there is no evidence of bias for paper above of electronic self-complete administration. In total, 564 booklets were completed and collected from the organisations, which indicates a high response rate of 94%.

The questionnaire's cover letter explained the motive for the research study to the respondents. This was accompanied with a brief discussion of the ethical considerations as well as the necessity of informed consent, voluntary participation and the assurance of confidentially. In terms of voluntary participation, participants were allowed to withdraw from the survey at any time if needed, without

repercussions. The researcher ensured avoidance of harm to all the participants (De Vos et al., 2011; Polonsky & Waller, 2014). Each participant's personal information and responses to the survey were kept confidential (De Vos et al., 2011). Thus, to ensure confidentiality, respect, and privacy, respondents needed to complete questionnaires namelessly, as a strategy to protect their anonymity (De Vos et al., 2011). The researcher ensured no ethical guidelines were breached by being aware of and maintaining human dignity and respect towards others throughout the research. The researcher increased awareness on ethical procedures by following the ethical guidelines (Ary et al., 2018; Creswell, & Creswell, 2017; De Vos et al., 2011; Gravetter, & Forzano, 2018).

The respondents were given sufficient time (four weeks) to complete the questionnaires with frequent encouragement as reminder notices about the submission date. The questionnaire took approximately half an hour to complete. Thereafter, the researcher collected the booklets and emailed questionnaires at each organisation. The data was captured and screened for possible errors before statistical analysis was done.

Statistical analysis

Statistical analysis was conducted by using the IBM SPSS statistics program version 25.0 (IBM Corp, 2017). With SPSS, the descriptive statistics, internal validity for each of the 48-item CSI subscales were investigated separately, and Cronbach's alpha coefficients were calculated. Specific items with reverse scoring were also accounted for and the data were checked for missing values. Descriptive statistics were analysed to determine the mean, standard deviation, skewness and kurtosis of each item. The distribution of the items was determined and ascertained whether items were answered in a consistent or random way. To determine the internal validity of the six subscales of the 48-item CSI separately, exploratory factor analysis (EFA) was used. This technique analyses the minimum number of continuous latent variables or factors that can describe the correlations among a set of observed variables correctly (Muthén, & Muthén, 2017). According to Suhr (2006), factor analysis is done to help determine the number of items that should be included in further analysis. In this regard, EFA was done for each of the subscales of the 48 items separately. The reason is that the subscales of the 48-item CSI were developed and tested by De Vries et al. (2013) in the Netherlands, which fell outside of the current population sample (South Africa).

Foxcroft and Roodt (2013) emphasise that validated instruments used in alternative countries must also be validated for the South African context. It is not infrequent to use foreign-developed

psychological tests in South Africa (Oakland, 2004). However, it should first be substantiated that tests are transportable to the South African context. This is done by investigating the psychometric properties of the instrument to provide evidence of validation when used on a South African sample (Görgens-Ekermans & Herbert, 2013). Furthermore, the South African Employment Equity Act prohibits psychological testing and other similar assessments of individual employees unless the applied test or assessment has been scientifically shown to be valid and reliable (South Africa, 1998). Subsequently, validating existing instruments for use in multicultural groups as in South Africa means aligning practice with the legal demands (Van De Vijver & Rothmann 2004).
Before EFA can be performed, several conditions must be met. Firstly, the Kaiser-Meyer Olkin (KMO) test must produce values greater than 0.50 for data to be appropriate for factor analysis (Williams, Onsman &, Brown 2012). Secondly, Bartlett's test of sphericity must produce significant results to show that the scale items correlated adequately. Lastly, 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 principle component analysis (PCA) as extraction method was employed, followed by no rotation for each subscale of the 48-item (CSI) since only a single factor was extracted for each of the subscales. Thereafter, the researcher determined goodness-of-fit, communalities and item loadings on the factor. When a communality for a specific item is low (in this case < .2), it will be difficult for this item to load significantly on the specific factor. Thus, it is suggested that such items are removed from further analysis.

The results of the component matrix were used to determine the item loadings on the factor and to ascertain how strong the loading was. Loadings smaller than 0.30 indicates that an item does not effectively measure the studied factor (Child, 2006; Kerlinger & Lee, 2000). Therefore, it was decided to omit such items. Furthermore, eigenvalues were identified of 1 and greater to the total variance that was explained. After the EFA was completed, the subscales of the CSI were created, followed by calculating Cronbach's alpha coefficients to determine whether the subscales could be considered as reliable (i.e. an alpha coefficient of 0.70 and higher; Cicchetti, 1994; Nunnally & Bernstein, 1994). Furthermore, the alpha coefficients of the (CSM) sub-constructs were also determined and only sub-constructs that were found to be reliable were included for further analysis.

After the reliability analysis, the descriptive statistics for the selected subscales of the CSI were done as well as the analysis of product-moment correlations to determine convergent validity. For

convergent validity effect, sizes were considered to be medium for (*r*) values of 0.30 and above, and large for (*r*) values of 0.50 and above (Cohen, 1988). In this case, the analysis used selected subscales of the (CSI) as well as selected sub-constructs of the CSM to determine whether there is a statistical significant and practical significant correlation.

Results

Descriptive statistics of items for the CSI

The first step of the analysis involved the examination of the descriptive statistics of all 48 items from the CSI. Table 2 below describes the quality of the data of the inventory, by examining the skewness and kurtosis of the items.

TABLE 2: Descriptive statistics on CSI

Code	Items of the CSI	Mean	*SD*	Skewness	Kurtosis
B1	He/she always have a lot to say.	3.29	1.05	-0.08	-0.55
B25	He/she is never the one who breaks a silence by starting to talk	3.50	1.09	-0.38	-0.59
B7	He/she often takes the lead in a conversation.	3.79	0.99	-0.77	0.41
B31	Most of the time, other people determine what the discussion is about, not him/her.	3.42	1.06	-0.40	-0.36
B13	Because of his/her humor, he/she is often the centre of attention among a group of people.	2.89	1.11	-0.02	-0.69
B37	He/she has a hard time being humorous in a group.	3.61	1.08	-0.64	-0.13
B19	He/she addresses others in a very casual way.	3.24	1.02	-0.39	-0.40
B43	He/she comes across as somewhat stiff when dealing with people.	3.41	1.15	-0.42	-0.72
B2	He/she always expresses a clear chain of thoughts when he/she argues a point.	3.73	0.96	-0.66	0.06
B26	His/her stories always contain a logical structure.	3.69	0.93	-0.71	0.30
B8	The statements he/she makes are not always well thought out.	3.56	1.15	-0.68	-0.36
B32	He/she chooses his/her words with care.	3.55	1.12	-0.64	-0.23
B14	Conversations with him/her always involve some important topic.	3.62	1.08	-0.71	-0.05
B38	He/she rarely if ever just chatters away about something.	2.74	1.07	0.17	-0.58
B20	He/she doesn't need a lot of words to get his/her message across.	3.50	1.03	-0.72	0.10
B44	Most of the time, he/she only needs a few words to explain something.	3.42	1.03	-0.60	-0.11
B3	Even when he/she is angry, he/she won't take it out on someone else.	2.48	1.21	0.47	-0.70
B27	He/she tends to snap at people when he/she gets annoyed.	2.61	1.30	0.38	-1.01
B9	He/she sometimes insists that others do what he/she says.	3.24	1.22	-0.24	-1.01

B33	When he/she feels others should do something for him/her, he/she asks for it in a demanding tone of voice.	2.55	1.23	0.54	-0.73
B15	He/she has at times made people look like fools.	2.38	1.29	0.66	-0.72
B39	He/she has humiliated someone in front of a crowd.	2.29	1.32	0.78	-0.55
B21	He/she always shows a lot of understanding for other people's problems.	2.29	1.17	0.75	-0.33
B45	He/she always treats people with a lot of respect.	2.17	1.17	0.80	-0.26
B4	In discussions, he/she often puts forward unusual points of view.	2.84	1.11	0.10	-0.80
B28	In conversations, he/she often toys with some very wild ideas.	2.67	1.04	0.36	-0.41
B10	He/she never engages in so-called philosophical conversations.	2.88	1.03	0.10	-0.41
B34	He/she regularly has discussions with people about the meaning of life.	2.87	1.17	0.12	-0.79
B16	He/she asks a lot of questions to uncover someone's motives.	3.30	1.09	-0.29	-0.60
B40	He/she always asks how people arrive at their conclusions.	3.49	0.99	-0.44	-0.22
B22	He/she likes to provoke others by making bold statements.	2.51	1.17	0.54	-0.58
B46	He/she tries to find out what people think about a topic by getting them to debate with him/her about it.	3.43	1.09	-0.47	-0.45
B5	During a conversation, he/she is not easily overcome by emotions.	2.49	1.19	0.54	-0.62
B29	People can tell that he/she is emotionally touched by some topics of conversation.	3.05	1.03	-0.16	-0.55
B11	People can tell when he/she feels anxious.	3.10	1.14	-0.04	-0.80
B35	When he/she worries, everybody notices.	2.83	1.18	0.07	-0.86
B17	He/she can be visibly tense during a conversation.	2.57	1.17	0.48	-0.67
B41	He/she is able to address a large group of people very calmly.	2.57	1.17	0.48	-0.67
B23	The comments of others have a noticeable effect on him/her.	2.95	1.09	-0.01	-0.60
B47	When people criticize him/her, he/she is visibly hurt.	2.65	1.13	0.37	-0.51
B6	Sometimes he/she uses flattery to get someone in a favorable mood.	2.56	1.14	0.31	-0.84
B30	To be considered likeable, he/she sometimes says things his/her conversation partner likes to hear.	2.78	1.10	0.29	-0.67
B12	He/she sometimes uses his/her charm to get something done.	2.55	1.23	0.36	-0.95
B36	He/she sometimes flirts a little bit to win somebody over.	2.19	1.16	0.73	-0.38
B18	He/she makes sure that people cannot read it from his/her face when he/she doesn't appreciate them.	2.86	1.10	0.03	-0.75
B42	Even when people ask for his/her thoughts on something, he/she seldom speaks his/her mind if those thoughts are unacceptable for others.	2.79	1.09	0.20	-0.62
B24	He/she sometimes conceals information to make him/her look better.	2.51	1.22	0.57	-0.67
B48	Even if he/she would benefit from withholding information from someone, he/she would find it hard to do so.	2.97	1.13	-0.03	-0.73

It is evident from Table 2 above, that all the items of the CSI are relatively normally distributed, as stipulated by the guidelines of skewness (<2) and kurtosis (<4) (George & Mallery, 2010). Therefore, all items of the CSI were included in the exploratory factor analysis (EFA) to determine the internal validity of the inventory.

After analysing the distribution of the items, EFA was done on each of the subscales of the 48-item CSI separately, to determine communalities and loadings. The focus of the EFA was to extract the individual factors' items and remove less important ones of which communalities were too insignificant for each construct (Burns & Machin, 2009). Loadings smaller than 0.30 and communalities smaller than 0.20 indicate that an item does not sufficiently measure the factor under study (Child, 2006; Veth et al., 2018). The EFA analysed the minimum number of continuous latent variables/factors that can correctly describe the correlations among a set of observed variables (Muthén & Muthén, 2017).

The principle component analysis (PCA) was employed as extraction method, followed by no rotation for each subscale of the CSI, seeing that only a single factor was extracted for each subscale. The *expressiveness* subscale was analysed first with a one-factor solution, to determine whether the eight items load onto this subscale. A goodness-of-fit value of 285.370 (chi-square) was found, while eight items explained 21.997% variance with a one-factor solution. The communalities and factor loadings are presented in Table 3 below.

TABLE 3: Expressiveness subscale of the CSI communalities and factor loadings (first EFA with a one-factor solution)

Code	Item of expressiveness subscale of the CSI	h^2	loadings
B1	He/she always have a lot to say.	.044	.211
B25	He/she is never the one who breaks a silence by starting to talk	.224	.474
B7	He/she often takes the lead in a conversation.	.225	.475
B31	Most of the time, other people determine what the discussion is about, not him/her.	.299	.547
B13	Because of his/her humor, he/she is often the centre of attention among a group of people.	.151	.389
B37	He/she has a hard time being humorous in a group.	.442	.665
B19	He/she addresses others in a very casual way.	.033	.182
B43	He/she comes across as somewhat stiff when dealing with people.	.341	.584

From Table 3 above, it is evident that items B1, B13 and B19 did not show communalities (h^2) of 0.20 and higher. It also seems from the factor loadings that only items B25, B7, B31, B13, B37 and B43 indicated high loadings on the one-factor solution. It was decided to omit the items that showed

both low communalities (i.e. B1, B13 and B19) and low factor loadings (i.e. B1, B19). After these items were removed, the analysis was re-done and it showed more acceptable factor loadings as found in Table 4 below. The variance explained for the remaining five items with a one-factor solution was 33.614% and showed an improved model-fit with a chi-square of 169.799. The new results are presented in Table 4. It was decided to retain these five items since the factor loadings were above the 0.30 mark as required (Clark & Watson, 1995).

TABLE 4: Expressiveness subscale of CSI communalities and factor loadings (second EFA with a one-factor solution)

Code	Item of expressiveness subscale of the CSI	h^2	loadings
B25	He/she is never the one who breaks a silence by starting to talk	.209	.457
B7	Most of the time, other people determine what the discussion is about, not him/her.	.133	.365
B31	He/she often takes the lead in a conversation.	.390	.625
B37	He/she has a hard time being humorous in a group.	.516	.718
B43	He/she comes across as somewhat stiff when dealing with people.	.432	.658

Furthermore, to determine the validity of the *expressiveness* subscale of the CSI, the internal consistency (Cronbach's alpha coefficients) was calculated. Only the five items from the second EFA on the one-factor solution was included in the subscale, showing a coefficient of 0.70 and higher – thus considered reliable (Struwig, & Stead, 2013). If a scale does not show this reliability, it is suggested that the items in these subscales did not correlate strongly with other items. Thus, they have low internal consistency and should be discarded (Dewberry, 2004).

The results indicated that Cronbach's alpha coefficient of the *expressiveness* subscale with five items scored 0.49. The results indicated further that by deleting item B7 (not showing a communality (h^2) of 0.20 and higher), the alpha coefficient will be $\alpha = 0.50$. This points out that the *expressiveness* subscale did not correlate strongly with the other items and shows low internal consistency (Dewberry, 2004). It was concluded that due to its unreliability for four items, that this subscale should be excluded from the overall instrument (CSI).

A similar analysis was done on the *preciseness* subscale, for which a one-factor solution was sought of the 8-items CSI after using the PCA as extraction method. A goodness-of-fit value of 529.256 (chi-square) was indicated, and the eight items of the *preciseness* subscale explained 31.098% variance. Table 5 below indicates the communalities and loadings of the items.

TABLE 5: Preciseness subscale of CSI communalities and factor loadings (first EFA with a one-factor solution)

Code	Item of preciseness subscale of the CSI	h^2	loadings
B2	He/she always expresses a clear chain of thoughts when he/she argues a point.	.384	.620
B26	His/her stories always contain a logical structure.	.499	.706
B8	The statements he/she makes are not always well thought out.	.341	.584
B32	He/she chooses his/her words with care.	.378	.614
B14	Conversations with him/her always involve some important topic.	.194	.440
B38	He/she rarely if ever just chatters away about something.	.015	-.122
B20	He/she doesn't need a lot of words to get his/her message across.	.358	.599
B44	Most of the time, he/she only needs a few words to explain something.	.319	.565

From Table 5 above, it evident that items B14 and B38 did not show communalities (h^2) of 0.20 and higher. It is also clear that only item B38 did not show loadings of 0.30 and higher. It was decided to omit items B14 and B38 due to their low communalities and a low factor loading. After these items were removed, the analysis was re-done and it showed more acceptable factor loadings than those presented in Table 5. The variance explained for the remaining six items with a one-factor solution was 39.195%. The new results are presented in Table 6 below.

TABLE 6: Preciseness subscale of the CSI communalities and factor loadings (second EFA with a one-factor solution)

Code	Item of preciseness subscale of the CSI	h^2	loadings
B2	He/she always expresses a clear chain of thoughts when he/she argues a point.	.404	.636
B26	His/her stories always contain a logical structure.	.470	.685
B8	The statements he/she makes are not always well thought out.	.342	.585
B32	He/she chooses his/her words with care.	.392	.626
B20	He/she doesn't need a lot of words to get his/her message across.	.392	.626
B44	Most of the time, he/she only needs a few words to explain something.	.351	.593

As indicated by Table 6 above, the factor loadings were above the .30 mark as required (Hair, Black, Babin, Anderson & Tatham, 2010). Thus, it was decided to keep these six items.

Furthermore, to determine whether the *preciseness* subscale of the CSI measures what it is supposed to, the reliability (Cronbach's alpha coefficients) of the subscale items was determined. Only the six items from the second EFA on the one-factor solution was included in the mentioned subscale, seeing that they showed sufficient communalities and loadings regarding items on the one-factor solution. The results indicated that the reliability of the *preciseness* subscale was $\alpha = 0.68$. As was mentioned, Cronbach's alpha coefficient of 0.70 and higher is considered as reliable

(Nunnally and Bernstein, 1994). However, an alpha coefficient of 0.68 can also be considered acceptable since various statisticians have suggested that alphas in the 0.65-0.80 range are acceptable (e.g., Cortina, 1993; DeVellis, 2003; Spector, 1992; Vaske, 2008).

The *verbal aggressiveness* subscale of the CSI included eight items and during the EFA, a principle component analysis was done (PCA) as extraction method, followed by no rotation. A goodness-of-fit value of 1788.148 (chi-square) was found, while eight items explained 53.020% variance with a one-factor solution. The results in terms of communalities and factor loadings are shown in Table 7 below.

TABLE 7: Verbal aggressiveness subscale of the CSI communalities and factor loadings (first EFA with a one-factor solution)

Code	Item of verbal aggressiveness subscale of the CSI	h^2	loadings
B3	Even when he/she is angry, he/she won't take it out on someone else.	.430	.655
B27	He/she tends to snap at people when he/she gets annoyed.	.608	.780
B9	He/she sometimes insists that others do what he/she says.	.386	.621
B33	When he/she feels others should do something for him/her, he/she asks for it in a demanding tone of voice.	.519	.720
B15	He/she has at times made people look like fools.	.602	.776
B39	He/she has humiliated someone in front of a crowd.	.640	.800
B21	He/she always shows a lot of understanding for other people's problems.	.474	.689
B45	He/she always treats people with a lot of respect.	.583	.764

Table 7 above indicates that all the items showed good communalities (h^2) of 0.20 and higher as well as good loadings of 0.30 and higher. Therefore, no items were omitted for the *verbal aggressiveness* subscale of the CSI. To determine further whether this subscale is useable, the internal consistency (Cronbach's alpha coefficients) of the items was calculated. All eight items from the EFA on the one-factor solution were included. The results showed that the mentioned subscale has a good reliability of $\alpha = 0.87$. According to Struwig and Stead, (2013) this subscale can be used due to a coefficient of 0.70 and higher, and thus is reliable.

The analysis of the *questioningness* subscale was done similar to the previous subscales. As with the others, a one-factor solution was found for this subscale of the 8-items CSI, after using PCA as extraction method. A goodness-of-fit value of 264.233 (chi-square) was indicated, and the eight items explained a variance of 20.469%. Table 8 below provides the results regarding the communalities and loadings of the items.

TABLE 8: Questioningness subscale of CSI communalities and factor loadings (first EFA with a one-factor solution)

Code	Item of questioningness subscale of the CSI	h^2	loadings
B4	In discussions, he/she often puts forward unusual points of view.	.338	.581
B28	In conversations, he/she often toys with some very wild ideas.	.381	.617
B10	He/she never engages in so-called philosophical conversations.	.055	.235
B34	He/she regularly has discussions with people about the meaning of life.	.014	-.116
B16	He/she asks a lot of questions to uncover someone's motives.	.324	.569
B40	He/she always asks how people arrive at their conclusions.	.043	.207
B22	He/she likes to provoke others by making bold statements.	.466	.683
B46	He/she tries to find out what people think about a topic by getting them to debate with him/her about it.	.017	.129

From Table 8 above, it is evident that items B10, B34, B40 and B46 did not show communalities (h^2) of 0.20 and higher. It also seems from the items loading on the factor, that B10, B34, B40 and B46 indicated low loadings. It was thus decided to omit the items B10, B34, B40 and B46, due to both low communalities and factor loadings. After these four items were removed, the analysis was re-done and it showed more acceptable factor loadings than those indicated in Table 8 above.

The variance explained for the remaining four items with a one-factor solution was 39.475% and showed an improved model-fit with a chi-square of 110.187. The new results are viewed in Table 9. It was decided to keep these four items as the factor loadings were above the .30 mark as required (Clark & Watson, 1995).

TABLE 9: Questioningness subscale of the CSI communalities and factor loadings (second EFA with a one-factor solution)

Code	Item of questioningness subscale of the CSI	h^2	loadings
B4	He/she always expresses a clear chain of thoughts when he/she argues a point.	.363	.602
B28	In conversations, he/she often toys with some very wild ideas.	.420	.648
B16	He/she asks a lot of questions to uncover someone's motives.	.316	.562
B22	He/she likes to provoke others by making bold statements.	.481	.693

To determine further whether the four items of the questioningness subscale is reliable, the internal consistency was calculated (alpha coefficients). Only the four items from the second EFA on the one-factor solution was included. A Cronbach's alpha coefficient of $\alpha = 0.49$ was indicated in the results. Due to the low reliability coefficient, it was suggested that this subscale should not be considered as part of the CSI (Dewberry, 2004).

The analysis of the emotionality subscale of the CSI was done similar to the other subscales. The one-factor solution was found after utilising PCA as extraction method. Table 10 below indicates the results in terms of communalities and loadings of the items.

TABLE 10: Emotionality subscale of the CSI communalities and factor loadings (first EFA with a one-factor solution)

Code	Item of emotionality subscale of the CSI	h^2	loadings
B5	During a conversation, he/she is not easily overcome by emotions.	.105	.325
B29	People can tell that he/she is emotionally touched by some topics of conversation.	.202	.449
B11	People can tell when he/she feels anxious.	.391	.625
B35	When he/she worries, everybody notices.	.441	.664
B17	He/she can be visibly tense during a conversation.	.639	.800
B41	He/she is able to address a large group of people very calmly.	.639	.800
B23	The comments of others have a noticeable effect on him/her.	.210	.458
B47	When people criticize him/her, he/she is visibly hurt.	.292	.540

From Table 10 above, it is evident that item B5 did not show communalities (h^2) of 0.20 and higher, therefore it was decided to omit this item. After this single item was removed, the analysis was re-done. These new results are shown in Table 11 below.

TABLE 11: Emotionality subscale of the CSI communalities and factor loadings (second EFA with a one-factor solution)

Code	Item of emotionality subscale of the CSI	h^2	loadings
B29	People can tell that he/she is emotionally touched by some topics of conversation.	.211	.459
B11	People can tell when he/she feels anxious.	.400	.633
B35	When he/she worries, everybody notices.	.446	.668
B17	He/she can be visibly tense during a conversation.	.640	.800
B41	He/she is able to address a large group of people very calmly.	.640	.800
B23	The comments of others have a noticeable effect on him/her.	.213	.461
B47	When people criticize him/her, he/she is visibly hurt.	.297	.545

The results from Table 11 above, indicated that all the items of the emotionality subscale of the CSI had acceptable communalities (h2) of 0.20 and higher, and acceptable factor loadings of 0.30 and higher. To determine further whether the seven items of this subscale were reliable, their internal consistency was tested. The results indicated that this subscale had a Cronbach's alpha coefficient of $\alpha = 0.75$, which can be considered as reliable (Foxcroft & Roodt, 2013). Thus, this scale was considered acceptable to use for the CSI.

The final CSI subscale, *impression manipulativeness,* consists of eight items. During the EFA the extraction method was done of PCA, followed by no rotation. A goodness-of-fit value of 629.374 (chi-square) was found, while the eight items explained 31.317 % of the variance.

TABLE 12: Impression manipulativeness subscale of the CSI communalities and factor loadings (first EFA with a one-factor solution)

Code	Item of impression manipulativeness subscale of the CSI	h^2	loadings
B6	Sometimes he/she uses flattery to get someone in a favorable mood.	.496	.704
B30	To be considered likeable, he/she sometimes says things his/her conversation partner likes to hear.	.444	.666
B12	He/she sometimes uses his/her charm to get something done.	.587	.766
B36	He/she sometimes flirts a little bit to win somebody over.	.495	.704
B18	He/she makes sure that people cannot read it from his/her face when he/she doesn't appreciate them.	.049	.222
B42	Even when people ask for his/her thoughts on something, he/she seldom speaks his/her mind if those thoughts are unacceptable for others.	.002	.039
B24	He/she sometimes conceals information to make him/her look better.	.430	.656
B48	Even if he/she would benefit from withholding information from someone, he/she would find it hard to do so.	.002	-.050

From Table 12 above, it is evident that items B18, B42 and B48 did not show communalities (h^2) of 0.20 and higher. The factor loadings also indicated that only items B6, B30, B12, B36 and B24 showed high loadings on the one-factor solution. Thus, it was decided to omit the items that showed both low communalities and factor loadings (i.e. B18, B42 and B48). After these items were removed, the analysis was re-done and it showed more acceptable factor loadings than those presented in Table 12. The variance explained for the remaining five items with a one-factor solution was 49.449 % and showed an improved model-fit with a chi-square of 572.893. The new results are provided in Table 13 below. It was decided to keep these five items, seeing that the factor loadings were above the .30 mark as required (Clarke & Watson, 1995; Netemeyer, Bearden, & Sharma, 2003).

TABLE 13: Impression manipulativeness subscale of the CSI communalities and factor loadings (second EFA with a one-factor solution)

Code	Item of impression manipulativeness subscale of the CSI	h^2	loadings
B6	Sometimes he/she uses flattery to get someone in a favorable mood.	.503	.709
B30	To be considered likeable, he/she sometimes says things his/her conversation partner likes to hear.	.444	.667
B12	He/she sometimes uses his/her charm to get something done.	.598	.773
B36	He/she sometimes flirts a little bit to win somebody over.	.501	.708
B24	He/she sometimes conceals information to make him/her look better.	.426	.653

To determine further whether the five items of this subscale is reliable, the internal consistency of the items was tested. Only the five items from the second EFA on the one-factor solution was included. A Cronbach's alpha coefficient of $\alpha = 0.74$ was indicated in the results, which thus is considered reliable (cf. Field, 2013). Therefore, this subscale did include reliable items and was found acceptable for use in the final CSI.

Based on the results for internal validity and reliability of each CSI subscale, it was decided to include only the following: *preciseness* (P), *verbal aggressiveness* (VA), *emotionality* (E) and *impression manipulativeness* (IM). The reason is that these subscales' items showed high communalities, high factor loadings and acceptable Cronbach's alpha coefficients. The final items for the subscales are presented in Table 14 below.

TABLE 14: Final items of the CSI subscales

Code	Item of the final subscales of the CSI	P	VA	E	IM
B2	He/she always expresses a clear chain of thoughts when he/she argues a point.	**.636**			
B26	His/her stories always contain a logical structure.	**.685**			
B8	The statements he/she makes are not always well thought out.	**.585**			
B32	He/she chooses his/her words with care.	**.626**			
B20	He/she doesn't need a lot of words to get his/her message across.	**.626**			
B44	Most of the time, he/she only needs a few words to explain something.	**.593**			
B3	Even when he/she is angry, he/she won't take it out on someone else.		**.655**		
B27	He/she tends to snap at people when he/she gets annoyed.		**.780**		
B9	He/she sometimes insists that others do what he/she says.		**.621**		
B33	When he/she feels others should do something for him/her, he/she asks for it in a demanding tone of voice.		**.720**		
B15	He/she has at times made people look like fools.		**.776**		
B39	He/she has humiliated someone in front of a crowd.		**.800**		
B21	He/she always shows a lot of understanding for other people's problems.		**.689**		
B45	He/she always treats people with a lot of respect.		**.764**		
B29	People can tell that he/she is emotionally touched by some topics of conversation.			**.459**	
B11	People can tell when he/she feels anxious.			**.633**	
B35	When he/she worries, everybody notices.			**.668**	
B17	He/she can be visibly tense during a conversation.			**.800**	
B41	He/she is able to address a large group of people very calmly.			**.800**	
B23	The comments of others have a noticeable effect on him/her.			**.461**	
B47	When people criticize him/her, he/she is visibly hurt.			**.545**	
B6	Sometimes he/she uses flattery to get someone in a favorable mood.				**.709**
B30	To be considered likeable, he/she sometimes says things his/her conversation partner likes to hear.				**.667**

B12	He/she sometimes uses his/her charm to get something done.	**.773**
B36	He/she sometimes flirts a little bit to win somebody over.	**.708**
B24	He/she sometimes conceals information to make him/her look better.	**.653**

Convergent validity was determined by examining the coefficients of the correlations between the four subscales of the CSI: *preciseness* (P), *verbal aggressiveness* (VA), *emotionality* (E) and *impression manipulativeness* (IM), and only three of the sub-constructs of the Communication Style Measure (CSM) from Norton (1978). The reason for only including three of the 10 sub-constructs (i.e. impression leaving, contentious and attentive) was that after analyses, only these three showed acceptable reliability coefficients (displayed in Table 15 below). Furthermore, it was decided to compare the 48-item CSI to the CSM based on theoretical foundation and relational assumptions between the constructs (De Vries et al., 2010). Convergent validity was confirmed by using a matrix of the correlation coefficients between the subscales of the CSI with 48 items and the sub-constructs of the (CSM). These correlations are reported in Table 15 below.

TABLE 15: Descriptive statistics, Cronbach's alpha coefficients and product-moment correlations of the subscales of the CSI and sub-constructs of the CSM

Subscales/constructs	Mean	*SD*	Skewness	Kurtosis	1	2	3	4	5	6	7
1. Preciseness	3.574	.646	-.537	.317	*0.68*						
2. VA	2.502	.900	.593	-.110	-.613**	*0.87*					
3. Emotionality	2.817	.714	.237	.124	-.337**	.505**	*0.75*				
4. IM	2.518	.820	.477	-.131	-.313**	.462**	.503**	*0.74*			
5. Impression leaving	3.747	.752	-.785	1.036	.425**	-.299**	-.091*	-.099**	*0.82*		
6. Contentious	2.938	.962	.050	-.602	-.329**	.633**	.421**	.442**	-.086*	*0.75*	
7. Attentive	3.637	.799	-.675	.497	.643**	-.560**	-.227**	-.165**	.558**	-.285**	*0.69*

Cronbach's alpha coefficients reflects *italic* on the diagonal; *p < .05; ** p< .01

As indicated in Table 15 above, all subscales of both CSI and CSM were distributed normally. Furthermore, the subscales indicated acceptable internal consistencies; however, the *preciseness* subscale of the CSI and the *attentive* sub-construct of the CSM showed less acceptable Cronbach's alpha coefficients. According to various scholars, alphas in the 0.65-0.80 range are still considered to be acceptable (e.g. Cortina, 1993; DeVellis, 2003; Spector, 1992; Vaske, 2008).

Table 15 also indicated statistically significant correlations between the subscales of the CSI and sub-constructs of the CSM. Thus, it can be concluded that there is sufficient evidence for convergent validity.

Discussion

The general objective of the present study was to determine whether the subscales of the Communication Styles Inventory (CSI) was valid and reliable and could be used fairly and objectively within a South African population sample. The outline of the results, practical implications, limitations and recommendations are addressed in the following sections.

Outline of the results

The results were examined of the CSI's distribution and the performance of the items from its subscales. All 48 items of the CSI were measured on a 5-point Likert scale where the participants responded to each statement: 1) completely disagree; 2) disagree; 3) neutral; 4) agree; and 5) completely agree. When examining the mean scores of the response scale, it was found that the average was more or less 2.97. This score indicated that the participants responded in a way leaning towards a "disagree" or "neutral" response. A possible reason may be that respondents were not overly biased towards either side of the response scale. Furthermore, respondents may also have interpreted the meaning of items differently from its intended meaning (Colton & Covert, 2007). The results also indicated that the 48 items of the CSI were distributed normally (DeCarlo, 1997). Therefore, it can be inferred that none of the 48 items have deviated from the normal distribution, thus, the responses of participants were not sporadically. Based on this finding, it can be concluded that the respondents answered the items in a consistent manner.

Regarding the first aspect, internal validity of each of the CSI subscales was indicated by examining the goodness-of-fit (chi-square), variance explained, communalities and loadings of items on the subscales. The CSI consisted of eight items for each of the six subscales: *expressiveness, preciseness, verbal aggressiveness, questioningness, emotionality,* and *impression manipulativeness*). For each of these six subscales a principle component analysis (PCA) was used as extraction method. This was followed by no rotation for each subscale since only a single factor was extracted for each of the subscales.

The first exploratory factor analysis was conducted for the *expressiveness* (CSI) subscale. From the results it is clear that the initial variance explained improved (21.997% to 33.614%) when removing the items that did not show desirable communalities and factor loadings. These were items *B1 – He/she always have a lot to say, B13 – Because of his/her humor, he/she is often the centre of attention among a group of people; and B19 – He/she addresses others in a very casual way.* It is recommended that items with weak communalities should be removed to increase the overall explained variance (Floyd & Widaman. 1995). A possible reason for omitting these items may be

that the respondents found them difficult and not understandable. The remaining five items were: *B25 – He/She is never the one who breaks a silence by starting to talk; B7 – He/She often takes the lead in a conversation; B31 – Most of the time, other people determine what the discussion is about, not him/her; B37 – He/she has a hard time being humorous in a group; and B43 – He/she comes across as somewhat stiff when dealing with people*. These items, however, showed acceptable levels of communalities.

After doing an exploratory factor analysis on the *expressiveness* (CSI) subscale individually, the reliability of the scale was determined. According to the results, the Cronbach's alpha coefficient of the scale was $\alpha = 0.49$, after omitting item B7 – *He/She often takes the lead in a conversation.* Thus, the remaining four items indicated a reliability coefficient of $\alpha = 0.59$, whereas the margin for reliability should be 0.70 (Nunnaly & Bernstein, 1994). Based on these results, it was suggested that the *expressiveness* subscale should be omitted in total since it does not show an acceptable reliability.

For the *preciseness* subscale of the CSI, exploratory factor analysis (EFA) was used with a principle component analysis (PCA) as extraction method. The initial variance explained of 31.098% was improved to 39.195% when two of the items from the subscale were removed. These were: *B14 – Conversations with him/her always involve some important topic; and B38 – He/she rarely if ever just chatters away about somethin*g. The items were removed since they indicated low communality and factor loadings. A possible reason may be that the participants found the wording difficult, for example the term "chatters".

The remaining six items were: *B2 – He/she always expresses a clear chain of thoughts when he/she argues a point; B26 – His/her stories always contain a logical structure; B8 – The statements he/she makes are not always well thought out; B32 – He/she chooses his/her words with care; B20 – He/she doesn't need a lot of words to get his/her message across; and B44 – Most of the time, he/she only needs a few words to explain something*. These items showed a reliability coefficient of $\alpha = 0.68$. This reading can also be considered acceptable since various statisticians concur on alphas in the 0.65-0.80 range as reliable (e.g., Cortina, 1993; DeVellis, 2003; Spector, 1992; Vaske, 2008). Therefore, it can be inferred that the *preciseness* subscale of CSI with six items can be regarded as reliable and be used in further analysis within the South African context.

The results for the subscale *verbal aggressiveness* showed that the exploratory factor analysis using a PCA rotation, explained 53.020% of the variance. Streiner (1994) suggests that factors in a study

should explain at least 50% of the common variance. This applies to the following eight items: *B3 – Even when he/she is angry, he/she won't take it out on someone else; B27 – He/she tends to snap at people when he/she gets annoyed; B9 – He/she sometimes insists that others do what he/she says; B33 – When he/she feels others should do something for him/her, he/she asks for it in a demanding tone of voice; B15 – He/she has at times made people look like fools; B39 – He/she has humiliated someone in front of a crowd; B21 – He/she always shows a lot of understanding for other people's problems; and B45 – He/she always treats people with a lot of respect*. These mentioned subscale items indicate that high variance is explained, and the items show high communalities and factor loadings.

Furthermore, the *verbal aggressiveness* subscale ended up with a successful reliability value of $\alpha = 0.87$ and adheres to the cut-off of 0.70 set by Nunnally and Bernstein (1994). This demonstrates that the scores of the mentioned subscale is accurate, consistent and stable (Struwig & Stead, 2013).

Exploratory factor analysis using a PCA rotation was done on the *questionningness* subscale individually, the variance that were explained improved from 20.469% to 39.475% after removing four items: *B10 – He/she never engages in so-called philosophical conversations; B34 – He/she regularly has discussions with people about the meaning of life; B40 – He/she always asks how people arrive at their conclusions; and B46 – He/she tries to find out what people think about a topic by getting them to debate with him/her about it*. The remaining four items were: *B4 – He/she always expresses a clear chain of thoughts when he/she argues a point; B28 – In conversations, he/she often toys with some very wild ideas; B16 – He/she asks a lot of questions to uncover someone's motives; and B22 – He/she likes to provoke others by making bold statements*. These items, however, showed a low Cronbach's alpha coefficient of $\alpha = 0.49$, which is below the limit set for reliable scales (Cicchetti, 1994; Nunnally & Bernstein, 1994). Therefore, it was decided to omit *questioningness* from the CSI since this subscale did not provide accurate, consistent, and reliable responses of the participants (Struwig & Stead, 2013).

For the *emotionality* subscale only one item did not show acceptable communality loadings: *B5 – During a conversation, he/she is not easily overcome by emotions*. Therefore, this item was removed. A possible reason may be that participants did not understand the wording *"easily overcome by emotions"*, or it may have presented a double meaning for them. The remaining seven items were: *B29 – People can tell that he/she is emotionally touched by some topics of conversation; B11 – People can tell when he/she feels anxious; B35 – When he/she worries, everybody notices; B17 – He/she can be visibly tense during a conversation; B41 – He/she is able*

to address a large group of people very calmly; B23 – The comments of others have a noticeable effect on him/her; and B47 – When people criticize him/her, he/she is visibly hurt. These seven items of the *emotionality* subscale showed an acceptable Cronbach's alpha coefficient of $\alpha = 0.75$ – thus reliable, and adheres to the general guidelines of $\alpha = 0.70$ (Cicchetti, 1994; Nunnally & Bernstein, 1994).

The results for the final subscale, *impression manipulativeness*, showed that the exploratory factor analysis (EFA) using a PCA rotation, explained 31.317% of the variance. Three items were removed: *B18 – He/she makes sure that people cannot read it from his/her face when he/she doesn't appreciate them; B42 – Even when people ask for his/her thoughts on something, he/she seldom speaks his/her mind if those thoughts are unacceptable for others; and B48 – Even if he/she would benefit from withholding information from someone, he/she would find it hard to do so*. Thereafter, the variance that was explained did improve (49.449%). According to Streiner (1994), the factors in a study should explain at least 50% of the common variance. However, Ping (2009) suggests that if a measuring instrument are new to a respondent, and the researcher aims to add to theory about the instrument in a new context (such as the South African manufacturing industry), a variance below 50% explained is still acceptable.

The remaining five items were: *B6 – Sometimes he/she uses flattery to get someone in a favorable mood; B30 – To be considered likeable, he/she sometimes says things his/her conversation partner likes to hear; B12 – He/she sometimes uses his/her charm to get something done; B36 – He/she sometimes flirts a little bit to win somebody over; and B24 – He/she sometimes conceals information to make him/her look better*. These five items loaded successfully onto the subscale and showed acceptable levels of communalities. The Cronbach's alpha coefficient of this subscale was $\alpha = 0.75$. Therefore, it can be concluded that the subscale, *impression manipulativeness*, of the CSI can be considered reliable since it adheres to the guidelines ($\alpha \geq 0.70$) as set out by Nunnally and Bernstein (1994). Based on these results hypotheses one and two of this study was partially accepted.

After the CSI subscales were computed (by using the retained items), further analysis was done on the subscales. Convergent validity was analysed by examining the product-moment correlation between the four subscales of the CSI, and the three sub-constructs of the CSM, which showed statistically significant relationships. Hypothesis three was fully accepted as the results indicated that the subscales of the CSI and the sub-constructs of the CSM have convergent validity. This

result is expected since the items of both scales are based on a similar theoretical framework (Pallant, 2016).

Practical implications

The results of the present study have helped expand the existing body of knowledge on communication styles. This was done by providing evidence on the validity and reliability of the Communication Style Inventory (CSI) developed by De Vries et al. (2009) to be applied within the South African manufacturing industry. By utilising the validated scale, it helps organisations within South Africa identify and measure employees' communication styles. By determining the styles within organisations, this could increase awareness about effective communication in the South African work environment. This can also give way to understanding the employees working environment, internal and external circumstances as well as identifying other behavioural causes and consequences.

If managements are aware of communication styles, they can consider strategies which can be implemented to eradicate the possible negative impact on the organisational outcomes and behaviours. Such impediments are: ineffective communication, workplace incivility, conflict, conflict-handling, deviant behaviour, bulling, coping, organisational commitment, job satisfaction, performance, productivity, leadership, leadership communication.

A practical approach may be to consult with the Human Resource managers on developing internal communication programmes which also address the way employees communicate through specific communication styles. Thus, researchers and managers can utilise this validated instrument (CSI) to measure communication styles and assess such styles among employees within South African organisations.

Limitations and recommendations

The present research yielded valuable information about the CSI's communication styles validation and prospects for future implementation in similar contexts and working environments, for example, the chemical, iron, steel and construction industries. However, certain limitations had to be factored in as well. Firstly, the method of convenience sampling introduced a potential bias in the present study, although participants were selected from various manufacturing organisations.

Therefore, the results may not be generalisable for a broader South African manufacturing population (Etikan, Musa & Alkassim, 2016; Sarstedt et al., 2018). Secondly, the information for this research was gathered through subordinates reporting on their perceptions of their superiors'/leaders' communication styles. It would be recommended that subordinates should use self-reported questionnaires to indicate their perceptions of their own communication style. Finally, the use of a cross-sectional design, resulted in the no distinguishing of casual relationships and effects.

Despite the mentioned limitations, certain recommendation can be made. Firstly, as was emphasised above, organisations can utilise this instrument to measure the communication styles of their employees. This validated measuring instrument will help human resource practitioners understand dyadic communication patterns and develop interventions and manage communication styles in their organisations more sufficiently. Secondly the instrument can be used across the spectrum of occupations and organisations within South Africa to determine validity generalisation. Lastly, future research could explore causal relationships between various antecedents and outcomes associated with communication styles specifically for the South African work context.

Conclusion

In conclusion, the present study contributes to the literature, by validating the subscales of the Communication Styles Inventory (CSI) individually. Evidence was reported on the internal validity of each subscale separately of the CSI, the reliability coefficients, and the convergent validity of the items. Although several items had to be removed from the analysis, the remaining items have shown sufficient reliability coefficients. As was pointed out, these items were captured from the CSI subscales: *preciseness, verbal aggressiveness, emotionality,* and *impression manipulativeness.* Thus, as final conclusion, these subscales can be used for future research within the South African working environment.

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CHAPTER 3

RESEARCH ARTICLE 2

Investigating the relationship between communication styles, transformational leadership styles and transactional leadership styles among employees in the South African manufacturing industry

Abstract

Orientation: Leadership has a significant impact on an organisation. By utilising strong leadership and communication styles, may impact positively on employees, which in turn will improve the performance of the organisation. Therefore, it is important to create an awareness of leadership styles and its relationships with communicational styles within organisations. There is a lack of research on the impact leadership styles have on leaders' communication styles as perceived by their subordinates; thus, it is important to assess these relationships.

Research purpose: The objective of the present study was to investigate the relationship between perceived leadership styles (i.e. transformational and transactional) and the various communication styles among employees in manufacturing organisations within South Africa.

Motivation for the study: This study will contribute to current literature on human resource management by signifying the relationship between leadership and communication styles. It will also help manufacturing organisations develop effective interventions and training to improve the leadership and communication styles of their leaders and employees.

Research design, approach and method: A cross-sectional research design was used. A combined non-probability purposive and convenient sample (N = 564) was used among employees within South African manufacturing organisations. The methods used to analyse the data was descriptive statistics (i.e. means, standard deviation, skewness and kurtosis) and inferential statistics (i.e. correlations and multiple regression analysis). The reliability of the constructs was also established through Cronbach's alpha coefficients.

Main findings: The findings revealed significant positive and negative statistical relationships between perceived transformational leadership styles (i.e. idealised influence, inspirational motivation, intellectual stimulation and individual consideration) perceived transactional leadership styles (i.e. contingent rewards, active management-by-exception and passive management-by-exception) linked to perceived communication styles (i.e. preciseness, verbal aggressiveness, emotionality and impression manipulativeness). It was found that transformational leadership styles and perceived transactional leadership styles significantly predicted lower or higher levels of communication styles. This indicates that leaders can utilise a specific communication style to enhance the relationship with subordinates. This could encourage communication behaviour for

improved organisational outcomes among employees within a South African manufacturing environment.

Practical/managerial implications: The results gave insight into the existing leadership and communicational styles used by superiors/leaders within South African manufacturing organisations. The findings provide evidence to increase the awareness of the links between current communication and leadership styles used by managers in the manufacturing industry. Such organisations will be able to plan and implement effective interventions and training on leadership and communication styles.

Contribution/value-add: The findings contribute to the literature by indicating the relationships between leadership styles (transformational and transactional) and the various communication styles within South African manufacturing organisations. In addition, the study contributes by showing which specific leadership styles can predict communication styles.

Keywords: Communication styles, preciseness, verbal aggressiveness, emotionality, impression manipulativeness, transformational leadership styles, transactional leadership styles, manufacturing organisations, South Africa.

Introduction

Leaders are perceived as the heart and soul of an organisation (Spinks & Wells, 1995). Through their behaviour, leaders can guide the performance of their subordinates to levels exceeding expectations (Antonakis, 2006). 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 a report by the Industrial Development Corporation (IDC) released in December 2013 (IDC, 2013). According to the IDC, the manufacturing sector employs as many as 1.7 million people within South Africa (15% of those in active employment).

It is also found that 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 electricity supply, volatile currency, skills constraints and impeded productivity levels (IDC, 2013). 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, as this will be the key to a sustainable competitive advantage in the market place (Mehta & Maheshwari, 2013). Therefore, strong leadership and direction is required in this environment, as it will impact the employees, which in turn will improve the performance of the organisation (Kaiser, Hogan & Craig, 2008).

Leadership can be defined as "a process whereby an individual influences a group of individuals to achieve a common goal" (Northouse, 2016, p. 6). Within the work environment, leadership can be viewed as a process of social influence in which a manager/superior seeks voluntary participation by subordinates to achieve the organisation's goals (Bhatti, Maitlo, Shaikh, Hashmi & Shaikh, 2012). By achieving these goals, leadership styles of managers/superiors (consisting of their personality, demeanour and communicative behaviour) plays a significant role to improve or undermine the motivation of employees and directing them to reach the organisation's objectives (Claassen, 2015; Obiwuru, Okwu & Akpa, 2011). Various leadership styles are discussed in literature (Koech & Namusonge, 2012). These styles include the following: authentic, transactional, transformational, laissez-faire leadership, to name a few. The present study focused specifically on transformational and transactional leadership.

Transformational leadership: aims to satisfy the basic and higher-order needs of subordinates by inspiring them to achieve desired goals (Bass, 1997). This form of leadership is often distinguished from transactional leadership in which transactions form the basis of followers' motivation (Kim & Yoon, 2015).

Transactional leadership: focuses on rewarding and/or punishing subordinates since they are expected to act according to the leader's instructions in order to be rewarded (Javed, Jaffari & Rahim, 2014).

According to Bass and Avolio (1995), transformational leaders are more influential than transactional ones. Research also indicates that transformational leaders are more effective communicators since they are open to interaction, careful listeners and transmitters (Berson & Avolio, 2004). In essence, evidence indicates that leadership is linked inherently to communication (De Vries, Bakker-Pieper, & Oostenveld, 2010; Brandt & Uusi-Kakkuri, 2016).

Communication is based on the transfer of symbols to form meaning and create a shared understanding between sources and receivers of messages (Johnson, & Hackman, 2018). Furthermore, interpersonal communication is conceptualised as the verbal and nonverbal interaction between two or more interdependent individuals (DeVito, 2013). Interpersonal communication between two employees is also known as *dyadic* communication (Bakar & McCann, 2016). When two-way communication between superiors/leaders and their subordinates fit well, they may achieve a high level of dyadic agreement (Kristof-Brown, Zimmerman, & Johnson 2005). Such agreement may result in high-quality leader-member exchange (LMX) and improved work outcomes (Bakar & McCann, 2014; Fan, & Han, 2018).

It can be argued that a leader/superior with a particular leadership style may use a specific communication style during the dyadic interaction, which leads to enhanced work performance or improved outcomes (Graen, 2013). Therefore, the leadership and, concurrently, communication style that superiors/leaders choose, could influence subordinates' work behaviours and job attitudes, which could ultimately affect the outcomes of the organisation at large.

Extensive research has been undertaken by previous academic researchers (De Vries et al., 2010; Pacleb & Bocarnea, 2016; Pacleb & Cabanda, 2014) to assess the possible link of transactional and transformational leadership styles with concurrent communication styles. Most of these studies were, however, not conducted in a South African setting, and those focusing on manufacturing organisations are not that noticeable. A reasonable contribution is needed on the relationship between leadership (transformational and transactional) styles and communication styles from within the South Africa context. This applies especially to the manufacturing industry since it contributes a vast amount of income toward the economy of South Africa.

Research purpose and objectives

The general aim of the present study was to investigate and determine the relationship between perceived transformational leadership styles, perceived transactional leadership styles and perceived communication styles among employees in South African manufacturing organisations.

The following specific objectives flowed from the mentioned general aim:

- Determine how transformational leadership styles, transactional leadership styles and communication styles as well as their relationships are conceptualised in scientific literature.
- Establish whether a relationship exists between perceived transformational leadership styles and perceived communication styles among employees working in South African manufacturing organisations.
- Establish whether a relationship exists between perceived transactional leadership styles and perceived communication styles among employees working in South African manufacturing organisations.
- Ascertain whether perceived transformational leadership styles have an effect on perceived communication styles among employees working in South African manufacturing organisations.
- Ascertain whether perceived transactional leadership styles have an effect on perceived communication styles among employees working in South African manufacturing organisations.
- Make recommendations for future research and practice.

Literature review

Communication and communication styles as a concept

Over the years, various researchers have defined communication (Johnson & Hackman, 2018; Lustig & Koester 2010; Robbins & Coulter, 2016; Solomon & Theiss, 2013). Communication entails the transfer and understanding of meaning between two or more individuals (Robbins, & Coulter, 2016). The process also utilises symbols to signify ideas ensuring meanings can be mutual (Solomon & Theiss, 2013). Communication can be referred to as a symbolic, interpretive, transactional, and contextual process through which individuals form shared meaning (Lustig, & Koester 2010). Inherent in the various definitions of communication is an individual's ability to perceive emotions and motivations of a conversation from senders to receivers to enable accurate dialogue and create meaning (Roussel, Thomas & Harris, 2016). It should be noted that the definition used within the present study can be regarded as a high-quality conceptualisation of the

communication theory: Communication is based on the transfer of symbols to form meaning and create a shared reality between sources and receivers of messages (Johnson, & Hackman, 2018).

The concept of communication as a skilled activity was introduced only around 1960 (Hargie, 2006). The concept expanded as interpersonal communication as described by Robbins (2013) in terms of the way group members deal with the transfer of meaning among each other through oral, written and nonverbal interaction. Congruent interpersonal communication can be defined as the verbal and nonverbal interaction between two or more interdependent individuals (DeVito, 2013). Interpersonal communication taking place between individuals creates a mutual personal bond (Solomon & Theiss, 2013).

In light of the descriptions above, interpersonal communication can also be regarded as a process of sending and receiving messages between two individuals or among a small group, providing several effects and feedback (DeVito, 2013). For example, workplace interpersonal communication takes place daily between various employees in different forms among several work levels. Employees' interpersonal communication plays a critical role in the workplace, especially through different communication styles (Bakker-Pieper & De Vries, 2013; Brandt & Uusi-Kakkuri, 2016; De Vries et al., 2010; Gudykunst et al., 1996; Gudykunst & Nishida, 2000; Norton, 1978; Robbins, & Coulter, 2016).

Communication styles can be defined as "the way one verbally, nonverbally and paraverbally interacts to signal how literal meaning should be taken, interpreted, filtered, or understood" (Norton, 1978, p. 11). The present study is based on the well-grounded theoretical definition of Norton (1978) circumscribing communication styles. According to Norton (1983), the communication style theory assumes that the communication processes influence human behaviour, especially interpersonal exchanges. In accordance, Norton (1983) views interpersonal communication as the signals provided to help process, interpret, filter, or understand the literal meaning between the sender and receiver. In this regard, communication styles signify the persons' way of thinking, temperament, and perception of social reality during interaction or while distributing information (Norton, 1983).

Norton (1983) further operationalised and developed the Communicator Style Measure (CSM), in which he classified the communicator styles into ten multiple independent variables: *impression-leaving, contentious, open, dramatic, dominant, precise, relaxed, friendly, animated,* and *attentive;* and one dependent variable: *communicator image* (Norton, 1978; 1983). The measurement can

indicate a communicator's self-perception or an observer's perception of his/her individual communication style.

Norton's 10 communication styles (independent and dependent variables) identify the following characteristics of a communicator (Norton, 1978): Independent variables: (1) *Impression-leaving*: remembered for visible and memorable style of communicating. (2) *Contentious*: communicates in a negative argumentative manner. (3) *Open*: acts conversational, unreserved and approachable. (4) *Dramatic*: emphasises or understates communication. (5) *Dominant*: often being up front in social situations. (6) *Precise*: refers to accurateness and rightness. (7) *Relaxed*: remains calm without tension. (8) *Friendly*: ranges from being sociable to deep intimacy. (9) *Animated*: frequently uses physical and nonverbal signals. (10) *Attentive*: ensure others know he/she is paying attention to their conversation (p. 100-101). Dependent variable; *Communicator image*: refers to whether the communicator is a good communicator with constructive communication abilities (Norton, 1978).

During the beginning of the 21st century, De Vries, Bakker-Pieper, Siberg, van Gameren & Vlug, (2009) redefined the conceptualisation of the communicator/communication style as outlined by Norton, (1978). De Vries et al. (2009) defined communication style as follows:

> "… the characteristic way a person sends verbal, paraverbal, and nonverbal signals in social interactions denoting (a) who he or she is or wants to (appear to) be, (b) how he or she tends to relate to people with whom he or she interacts, and (c) in what way his or her messages should usually be interpreted" (p. 179).

This latest comprehensive definition by De Vries et al. (2009) can be regarded as the most recent theoretical definition for communication style and was therefore used in the present study. Furthermore, based on the theoretical definition, De Vries, Bakker-Pieper, Konings and Schouten, (2013) recently developed the communication style inventory (CSI) consisting of a 48-item short-form US English version. The CSI consists of six behavioural communication style dimensions, namely: *expressiveness*, *preciseness, verbal aggressiveness*, *questioningness, emotionality*, and *impression manipulativeness* (De Vries et al., 2013). Based on the findings of the exploratory factor analysis (EFA) and reliability as indicated in chapter 1, only four of the dimensions were used in the present study: *preciseness, verbal aggressiveness, emotionality* and *impression manipulativeness.* These dimensions are expounded subsequently.

Preciseness: individuals communicating in an organised, well-structured, and well-articulated way to others (De Vries et al., 2013). Such a precise communication style indicates that a leader is sufficiently in control of the content to transfer knowledge or information by explaining this content enabling the receiver to understand correctly (Norton, 1983).

Verbal aggressiveness: perceived as an aggressive form of communication that can have destructive effects on employees (Bekiari & Spyropoulou, 2016). This form of aggressiveness is defined as a message behaviour towards individuals' self-concept that intends to attack and cause psychological pain by making the subordinate feel less favourable (Infante & Wigley, 1986).

Emotionality: inability to control emotions and suggest unpredictable behaviour since the leader is incapable of discussing important matters rationally; instead demonstrates more anxiety, tension, and defensiveness (De Vries et al., 2009).

Impression manipulativeness: can be seen employees often reverting to deception or self-management to try and impress others and be viewed in a positive way (Ahmed & Naqvi, 2015). According to Vevere (2014), deception is defined as meaningfully trying to mislead others.

The present study focused on the subordinates' perception of the communication style their superiors/leaders present in the workplace. De Vries et al. (2010) view leadership from a communicative perspective, and define a leader's communication style as "a distinctive set of interpersonal communicative behaviors geared toward the optimization of hierarchical relationships in order to reach certain group or individual goals" (p. 368). Therefore, the four communication styles of leaders can be assessed by focusing on their subordinates' perceptions.

Transformational and transformational leadership styles

Bass (1997) explains that "transformational leaders move followers to transcend their self-interests for the good of the group, organisation, or country" (p. 133). Transformational leaders motivate followers to do more than initially expected of them as they strive for higher-order outcomes (Burns, 1978). According to Bass (1990a) such leaders concentrate on the long- and short-term requirements regarding their followers. Therefore, scholars praise a leadership style that empowers employees through the act of collaboration instead of competition (Roussel et al., 2016). Transformational leaders unite their employees by focusing on well-being and humanising the technological work environment (Roussel et al., 2016). This type of leaders communicates a vision,

engage in creative process development, initiate and implement innovative ideas, and facilitate learning to facilitate changes (Afsar, Badir, Saeed, & Hafeez, 2017).

Transformational leadership is also considered as the relation-oriented leadership style, which focuses on inspirational relationships by encouraging and motivating subordinates (Bass & Avolio, 1990, 1994; Bass & Riggio, 2006; De Vries et al., 2010; Yukl, 2010). Furthermore, a reputable transformational leader's qualities inspire followers to transcend their self-centeredness and serve the organisation's interests. This form of leadership is known to have an astounding influence on the followers (Robbins et al., 2013).

For the purpose of the present study, transformational leadership are understood according to the definition of Bass (1997, p. 133): namely that: "Authentic transformational leaders motivate followers to work for transcendental goals that go beyond immediate self-interests." In this regard, transformational leadership comprises four dimensions: *idealised influence (charisma), inspirational motivation, intellectual stimulation,* and *individualised consideration* (Bass, 1985: Bass & Avolio, 1990). These dimensions are discussed in more detail below.

Idealised influence (charisma): leaders demonstrate conviction; emphasise trust and respond affirmative to difficult issues. They present their most essential norms, morals, values, purpose, commitment, and emphasise the ethical consequences of decisions (Bass, 1997). Leaders who show such influence are admired as role models who generate pride, loyalty, confidence, and alignment for a mutual purpose (Bass, 1997). Idealised influence (charisma) means leaders behave in excellent ways, and therefore subordinates identify with them and consider them as worth following (Judge & Piccolo, 2004). Since leaders expressing idealised influence display confidence and persuasion, they also inspire and connect with employees emotionally (Judge & Piccolo, 2004).

Inspirational motivation: leaders communicate an appealing vision of the future; challenge followers to achieve high standards; and talk optimistically with enthusiasm to instil encouragement and meaning (Bass, 1997). Through such motivation the leader expresses a vision that inspires followers (Judge & Piccolo, 2004). Thus, the focus of such leadership is motivating others (Avolio, 1999). Leaders with inspirational motivation challenge followers through their high standards, meaning and optimism, to strive and attain their goals (Judge & Piccolo, 2004).

Intellectual stimulation: leaders question set assumptions, traditions, and beliefs; encourage others to implement and utilise new perspectives; and encourage the expression of ideas and reasons to be more innovate and entrepreneurial (Bass, 1997). Intellectual stimulation means the leader

challenges assumptions, takes risks and solicits followers' ideas (Judge & Piccolo, 2004). Leaders with this trait stimulate and encourage creativity in their followers.

Individualised consideration: leaders interact with others as individuals by considering their needs, abilities, and aspirations; listening attentively and communicating clearly; and further their development. In this way the leaders' advice, teach, and coach their employees helping them achieve the desired organisational outcomes (Bass, 1997). Individualised consideration means the leader attends to each follower's needs, acts as a mentor or coach to the follower, and attends to individual concerns and needs (Judge & Piccolo, 2004).

Transactional leadership and transactional leadership styles

Bass (1997) explains that "transactional reinforcement can be materialistic or symbolic, immediate or delayed, partial or whole, implicit or explicit, and regarding rewards or resources" (p. 133). The characteristics of transactional leadership are based on contingent reward and management by exception through active and passive actions, where even the laissez-faire style can be applied (Bass, 1991).

Transactional leadership theory identifies that rewards or punishment motivate employees if they achieve, or fail to reach outcomes respectively (Petersen, 2012). Thus, this type of leadership directs followers' goal attainment (Bass, 1997). Transactional leaders clarify their expectations; exchange promises; and negotiate resources for their support. In the process, they arrange mutually satisfactory agreements; exchange assistance for effort; and give praise for successful performances of employees (Bass, 1997). Concurring with Robbins, Judge, Odendaal and Roodt, 2013), an excellent transactional leadership without sound transformational leadership qualities may be problematic. In contrast, contingent-reward leadership (i.e., the leader sets clear and achievable targets and provides encouragement, rewards and recognition when employees achieved their agreed targets) at times seems more effective than transformational leadership (Robbins et al., 2013).

The motive for the present research was to identify the most significant transactional leadership styles corresponding with the communication styles. Therefore, the following definition of transactional leadership by Bass (1997, p. 133) was used for the purpose of this study: "… the leader's power to reinforce subordinates for their successful completion of the bargain". Three dimensions of transactional leadership styles were identified: *contingent reward, active*

management-by-exception, and *passive management-by-exception* (Bass, 1985: Bass & Avolio, 1990). These dimensions are expounded below.

Contingent reward: leaders engage in a path-goal transaction of reward for increased job performance (Bass, 1997). Contingent reward means the leader has constructive transactions or exchanges with followers. During this interaction, the leader specifies what is expected of the subordinates and spell out rewards should they obtain these expected outcomes (Judge & Piccolo, 2004).

Active management-by-exception (MBEA): leaders take corrective action based on leader-follower transactions (Judge & Piccolo, 2004). As noted by Howell and Avolio (1993), management by exception, actively means a leader intervenes to correct a problem or situation. Active management-by-exception occurs where leaders observe employees' performances and take corrective action to retain high standards (Bass, 1997). Active leaders typically enforce rules to prevent mistakes (Bass, 1997). Such leaders monitor followers' behaviour, anticipate problems, and take corrective actions before the behaviour creates severe difficulties.

Passive management-by-exception (MBEP): leaders rely on employees to take responsibility for their actions, and only intervene when problems become acute (Bass, 1997). Passive leaders fail to take action since they only wait until mistakes are brought to their attention (Bass, 1997). This type of leaders wait until the behaviour has created problems before considering corrective action (Judge & Piccolo, 2004).

The difference between transformational and transactional leadership

Bass (1985) distinguishes transformational and transactional leadership as separate concepts, and argues that the same leader could present both styles. However, transformational leadership builds on transactional leadership, which means these leadership styles may both be present, but are not equivalent (Robbins et al., 2013).

Bass (1985) established his theory of transformational and transactional leadership on Burns's (1978) notion, with certain amendments. Burns (1978) indicates a difference between a transformational (leadership) and transactional (management) style. For instance, transformational leadership involves relationship focus and support, while transactional leadership is task-focused and structured (Bass, 1990b; Burns, 1978). A transformational leader emphasises charisma, relationships and creativity, whereas a transactional leader focuses more on structured procedures,

contingent reward, and management by exception (Bass & Avolio, 1990; 1994; Bass & Riggio, 2006; De Vries et al., 2010; Yukl, 2010).

Bass argues that transformational and transactional leadership are separate notions, implying that the top leaders present both styles to an extent (Bass, 1985). Bass's (1985) theory specify that transactional leadership implies followers must meet expectations after reaching the goals set out for them and are rewarded accordingly. However, for Bass, transactional leadership forms the basis. Thus leaders/supervisors require the additional dimension of transformational leadership, to inspire and motivate followers helping them move beyond these expectations (Bass, 1998).

The relationship between communication styles, transformational leadership and transactional leadership

It is said that "leadership is the heart and soul of an organization" (Spinks & Wells, 1995, p. 14). Through their behaviour, leaders can guide the performance of their subordinates to surpass original expectations (Antonakis, 2006). It is well known that leaders spend most of their day busy with communication (Mintzberg, 1990), which implies a strong link between successful leadership and sound communication. Research indicates limited literature on the relationship of transformational and transactional leadership and corresponding communicational styles. Nevertheless, a relationship was found between leaders' style of *impression management* and the perception of transformational leadership (Gardner & Cleavenger, 1998).

Furthermore, research on a sample of domestic banks in the Philippines and the United States significantly predicted correlations where the transformational, and to an extent, the transactional, leadership styles related positively to the leaders' communication styles of *expressiveness, questionings* and *preciseness* (Pacleb & Bocarnea, 2016; Pacleb & Cabanda, 2014). Research also indicates that transformational and transactional leadership styles were related negatively to the leaders' communication styles of *verbal aggressiveness, emotionality* and *impression manipulativeness* (Pacleb & Bocarnea, 2016; Pacleb & Cabanda, 2014).

De Vries et al. (2010), postulate that communication styles predict leadership styles. They found a high-level prediction of a human-oriented leadership with communication styles *supportiveness* and *expressiveness,* and a low-level prediction with *verbal aggressiveness*. Furthermore, high-level predictions were found of task-oriented leadership regarding communication styles of *preciseness* and *assuredness* (De Vries et al., 2010). Pacleb and Bocarnea (2016) provide substantial evidence from their research that transformational leadership predicts *preciseness* and *verbal aggressiveness*

as communication styles; while transactional leadership predicts high levels of *expressiveness, questioningness* and *preciseness* as leadership communication styles.

Thus, it is evident that several studies were undertaken on the relationship between communication styles, as linked to transformational and transactional leadership styles. However, to date, there is no significant evidence on these relationships from within a South African context, especially a manufacturing environment.

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

H1: There is a significant relationship between perceived transformational leadership styles and perceived communication styles among employees within a South African manufacturing industry, more specifically:

H1a: There is a significant positive relationship between perceived transformational leadership styles and perceived *preciseness* as communication style among employees within a South African manufacturing industry.

H1b: There is a significant negative relationship between perceived transformational leadership styles and perceived *verbal aggressiveness* as communication style among employees within a South African manufacturing industry.

H1c: There is a significant negative relationship between perceived transformational leadership styles and perceived *emotionality* as communication style among employees within a South African manufacturing industry.

H1d: There is a significant negative relationship between perceived transformational leadership styles and perceived *impression manipulativeness* as communication style among employees within a South African manufacturing industry.

H2: There is a significant relationship between perceived transactional leadership styles and perceived communication styles among employees within a South African manufacturing industry, more specifically:

H2a: There is a significant positive relationship between perceived transactional leadership styles and perceived *preciseness* as communication style among employees within a South African manufacturing industry.

H2b: There is a significant negative relationship between perceived transactional leadership styles and perceived *verbal aggressiveness* as communication style among employees within a South African manufacturing industry.

H2c: There is a significant negative relationship between perceived transactional leadership styles and perceived *emotionality* as communication style among employees within a South African manufacturing industry.

H2d: There is a significant negative relationship between perceived transactional leadership styles and perceived *impression manipulativeness* as communication style among employees within a South African manufacturing industry.

H3: Perceived transformational leadership styles have a significant effect on perceived communication styles among employees within a South African manufacturing industry, more specifically:

H3a: Perceived transformational leadership styles (idealised influence, individual consideration and intellectual stimulation) predict higher levels of the leaders' perceived communication style of *preciseness.*

H3b: Perceived transformational leadership styles (idealised influence, individual consideration and intellectual stimulation) predict lower levels of the leaders' perceived communication style of *verbal aggressiveness.*

H3c: Perceived transformational leadership styles (idealised influence, individual consideration and intellectual stimulation) predict lower levels of the leaders' perceived communication style of *emotionality.*

H3d: Perceived transformational leadership styles (idealised influence, individual consideration and intellectual stimulation) predict lower levels of the leaders' perceived communication style of *impression manipulativeness.*

H4: Perceived transactional leadership styles have a significant effect on perceived communication styles among employees within a South African manufacturing industry, more specifically:

H4a: Perceived transactional leadership styles (contingent rewards, passive management-by-exception and active management-by-exception) predict higher levels of the leaders' perceived communication style of *preciseness.*

H4b: Perceived transactional leadership styles (contingent rewards, passive management-by-exception and active management-by-exception) predict lower levels of the leaders' perceived communication style of *verbal aggressiveness.*

H4c: Perceived transactional leadership styles (contingent rewards, passive management-by-exception and active management-by-exception) predict lower levels of the leaders' perceived communication style of *emotionality.*

H4d: Perceived transactional leadership styles (contingent rewards, passive management-by-exception and active management-by-exception) predict lower levels of the leaders' perceived communication style of *impression manipulativeness.*

Research design

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

Research approach

The empirical study was based on a quantitative research approach and a cross-sectional research design. Quantitative designs can be perceived as formal, objective, and a systematic process where numerical data are collected to acquire information (Biggerstaff, 2012). Struwig and Stead (2011) define quantitative research as "conclusive research involving large representative samples and data collection procedures that are comparatively structured" (p. 11).

A cross-sectional research design was followed to gather the data and attain the research objectives making use of respondents to whom the questionnaire was distributed. This approach ensured homogeneity in the sense that the questionnaires were administered similarly to all respondents at once. Cross-sectional research is frequently used in developmental psychology, but is employed in several other areas of the social sciences and education (Cherry, 2012).

Such a non-experimental research design assured that the research variables were not manipulated. Furthermore, the research was intended to measure the relevant variables for several groups of people all at a specific time (De Vos et al., 2011; Struwig & Stead 2011). The advantage of the cross-sectional survey design is that it is effortlessly achievable and an inexpensive method to reach the desired objectives, while factoring in minor discrepancies that could occur (De Vos et al., 2011; Struwig & Stead 2011).

Research method

Research participants

For the present study, a combination of non-probability convenience and purposive sampling were used, targeting employees working within South African manufacturing organisations (*N*=564) (Field, 2009; Steyn, Smit, Du Toit & Strasheim, 1998). The method of convenience sampling was used to select respondents based on their availability. This approach is regarded as economical, stress-free and the least time consuming (Baker et al., 2013). Thereafter, the purposive sampling was used by applying the inclusion criteria to identify and select the respondents or groups required for the study topic.

Purposive sampling is also recognised as judgement sampling, the deliberate choice of individual participants based on their qualities (Etikan, Musa & Alkassim, 2016). The prerequisite was that the respondents must understand English sufficiently to complete the questionnaire successfully. The study targeted only employees between the ages of 18 and 65 as fulltime working adults within the South African manufacturing organisations. Table 1 below presents the characteristic of the respondents.

TABLE 1: Characteristics of participants (*N* = 564)

Item	Category	Frequency	Percentage
Gender	Male	310	55.0
	Female	254	45.0
Ethnicity	African	206	36.5
	Coloured	52	9.2
	Indian	50	8.9
	White	256	45.4
Highest qualification	St 8 (Gr.10) or lower	19	3.4
	St. 9 (Grade 11)	37	6.6
	St. 10 (Grade 12)/N3	200	35.5
	Diploma/certificate	162	28.7
	Undergraduate degree	65	11.5
	Post-graduate degree	80	14.2
	Other	1	0.2
Language	English	120	21.3
	Afrikaans	258	45.7
	Setswana	52	9.2
	Sesotho	31	5.5
	isiXhosa	15	2.7
	isiZulu	36	6.4
	isiNdebele	4	0.7
	SiSwati	2	0.4
	Tshivenda	3	0.5
	Xitsonga	17	3.0
	Sepedi	26	4.6
Amount of years working in the company	1 – 4 years	253	44.9
	5 – 10 years	163	28.9
	11 – 15 years	57	10.1

	16 – 20 years	35	6.2
	21 – 25 years	25	4.4
	26 – 30 years	11	2.0
	30 + years	19	3.4

From Table 1 above, it is evident that the sample consisted of various participants from different organisations within the manufacturing industry. Those were the respondents who were accessible and willing to participate (N = 564). The participants were predominantly male (55%). Furthermore, the sample consisted of White (45.4%), African (36.5%), Coloured (9.2%), and Indian (8.9%) participants of whom 45.7% were Afrikaans and 21.3% English speaking. In addition, 35.5% of the participants obtained a high school qualification or an equivalent, followed by 28.7% who had obtained a diploma or certificate. Considering the participants' employment tenure within the manufacturing organisation, 44.9% have been employed between a period of 1 to 4 years, whereas 3.4% were employees for 30 years or more.

Measuring instruments

For the present study, several measuring instruments were utilised, as expounded below.

Short biographical questionnaire: used to request the subsequent information that describes the data in terms of: gender, ethnicity, highest qualification achieved, language, and tenure at the company.

The Communication Styles Inventory (CSI): developed by De Vries et al. (2009) was utilised to measure the communication styles of superiors within the manufacturing company as perceived by their subordinates. After an exploratory factor analysis and establishing the reliability of the items, four factors were extracted with a total of 22 from the 48 items. The extracted factors were: (1) *preciseness* with 6 items; (2) *verbal aggressiveness* with 8 items; (3) *emotionality* with 7 items; (4) *impression manipulativeness* with 5 items. Examples of questions are (1) *preciseness:* "He/she always expresses a clear chain of thoughts when he/she argues a point"; (2) *verbal aggressiveness:* "He/she sometimes insists that others do what he/she says"; (3) *emotionality:* "During a conversation, I am not easily overcome by emotions" (4); *impression manipulativeness:* "To be considered likeable, he/she sometimes says things his/her conversation partner likes to hear".

The CSI section of the answer sheet was measured by using a five-point Likert rating scale where each statement was answered specifically as follows: (1) *completely disagree*; (2) *disagree*; (3) *neutral*; (4) *agree*; and (5) *completely agree* (De Vos, Strydom, Fouchè & Delport, 2011).

Acceptable Cronbach's alpha coefficients were found for each factor: *preciseness* (α=0.86); *verbal aggressiveness* (α=0.83); *emotionality* (α=0.84); and *impression manipulativeness* (α=0.82) (De Vries et al., 2013). These results confirm that the scale that was employed to measure communication styles was reliable.

The Transformational leadership questionnaire (TFLQ): This 22-item questionnaire was utilised to measure the dominance of transformational leadership styles of leaders/superiors within a manufacturing company of South Africa and was adapted by Khoza (2015). The focus of the questionnaires was to identify the leaders' *transformational leadership style* by subordinates rating their superior. Examples of questions are (1) *idealised influence:* "My manager provides a sense of fairness"; (2) *individualised consideration:* "My manager pays attention to my career needs"; (3) *intellectual stimulation:* "My manager encourages me to be creative and innovative". The questionnaires were measured by a four-point Likert rating scale ranging from (1) *strongly disagree* and (4) *strongly agree* (De Vos et al., 2011).

In recent research by Khoza (2015) the leadership styles' reliability estimates for internal consistency were satisfactory since Cronbach's alpha's coefficients of each item reported as follows: transformational leadership's four constructs obtained a very high value of Cronbach's alpha – *idealised influence* (α=0.90); *intellectual stimulation* (α=0.86); and *individualised consideration* (α=0.83). All constructs obtained above the minimum acceptable value of Cronbach's alpha ($\alpha \geq 0.70$). These results specify that the scale used to measure transformational leadership was reliable.

The Transactional leadership questionnaire (TSLQ): This 14-item instrument was utilised to measure the dominance of transactional leadership styles of leaders/superiors within a South African manufacturing company and was adapted by Khoza (2015). The focus of the questionnaire was identifying the leaders' transactional leadership style as rated by their subordinates. Examples of questions are (1) *contingent rewards:* "My manager sets clear and achievable targets for me"; (2) *passive management-by-exception:* "My manager only gets involved when problems arise"; (3) *active management-by-exception:* "My manager monitors my performance". The questionnaires were measured by using a four-point Likert rating scale consisting of four levels where the participants responded to each statement as follows: (1) *strongly disagree* ranging to (4) *strongly agree* (De Vos et al., 2011).

In recent research by Khoza (2015) the reliability estimates of the leadership styles' internal consistency were found to be satisfactory since Cronbach's alpha coefficients of each item reported

as follows: transactional leadership's three constructs obtained moderate values of the reliability coefficient, namely: *contingent rewards* (α = 0.68); *active management-by-exception* (α = 0.64); and *passive management-by-exception* (α = 0.76). All constructs obtained above the minimum acceptable Cronbach value ($\alpha \geq 0.70$). These results thus verify that the scale used to measure transactional leadership was reliable.

Research procedure and ethical considerations

After permission was granted from the Scientific and Ethical Committee of the particular higher education institution, the research commenced. Meetings were held with various manufacturing organisations' relevant gatekeepers, namely human resources managers, operation managers, and directors. The aim was to gain permission for data collection at their workplace. Gatekeepers provide access to a research field and control or limit researchers' access to the targeted participants (Crowhurst, 2013).

A research letter of intent was provided to the gatekeepers to gain authorisation and to explain the study's objectives, data collection procedures, questionnaire administration and adherence to ethical guidelines. After permission was granted, the questionnaires were distributed through the organisations' human resources departments. The electronic mode of administration was also used upon request. Research has found that paper-based and electronic modes of contribution both imply an adequate level of agreement that no administration bias would occur (Rasmussen et al., 2016; Rutherford et al., 2015).

The questionnaire's cover letter explained the motive, ethical considerations, issues of informed consent, voluntary participation and confidentially of the research study to the respondents. Thus, respondents were free to withdraw from the research at any stage, if necessary – without repercussions. The researcher ensured personal information and responses were kept confidential to maintain anonymity. The questionnaires were sealed in envelopes and collection boxes provided in which respondents could return the sealed questionnaire booklets (De Vos et al., 2011; Polonsky & Waller, 2014).

Furthermore, the researcher maintained human dignity and respect by avoiding harm to respondents and by following ethical guidelines (Ary, Jacobs, Irvine & Walker, 2018; Creswell, & Creswell, 2017; De Vos et al. 2011). The respondents had to complete the survey within a timeframe of four weeks. Thereafter, the sealed questionnaires were collected from the collection box, and the emailed questionnaires accounted for by the researcher. The researcher screened the final data set for any errors prior the statistical analysis.

Statistical analysis

The data were captured and analysed through the IBM SPSS program version 25 (IBM Corp, 2017). Descriptive statistics such as means, standard deviations, skewness and kurtosis, and inferential statistics were used to describe the data (Field, 2013). Reliability of the constructs was assured by ascertaining whether Cronbach's alpha coefficients' α score range is above 0.70 (cut-off point) to be regarded as reliable values (De Vos et al., 2011; Tabachnick & Fidell, 2013).

Product-moment correlations (*r*) were sought to determine the relationship between the variables. The coefficient of product-moment correlations (*r*) was computed to determine the strength of the relationships between leadership styles and communication styles and to establish whether the relationship was mostly linear (Field, 2013). These tests were done on a confidence level of 95% ($p \leq 0.05$) statistical significance (Struwig & Stead, 2011). A correlation coefficient (*r*) indicates that the amount of variation in one variable can be defined by the variation in an alternative variable ranging from -1 negative relation, 0 no relationship, to + 1 positive relationship (Struwig & Stead, 2011). The following guidelines and cut-off points determined practical significance for the *r* values used: $r \geq 0.10$ (small effect); $r \geq 0.30$ (medium effect) and $r = \geq 0.50$ (large effect) (Cohen, 1988; Field, 2013). Since the data could not consider skewness, Spearman's rho was used, which is based on the rank order of the variable values. The computed value of Spearman's rho will be either positive or negative and will vary between 0 and 1 (Bryman et al., 2014).

Multiple regression analysis was done through the SPSS program, focusing on the appointed independent variables. These are: perceived transformational leadership styles (i.e. idealised influence, inspirational motivation, intellectual stimulation and individual consideration) and the perceived transactional leadership styles (i.e. contingent rewards, active management-by-exception and passive management-by-exception). The aim was to ascertain which of the aforementioned independent variables predict the dependent variables of perceived communication styles (i.e. preciseness, verbal aggressiveness, emotionality and impression manipulativeness) (Struwig & Stead, 2011). The R^2 used to explain the amount of variance. Correlation cut-off points were set between -1 and +1 (Tabachnick & Fidell, 2013). Determining the connection of the statistical significance values concerned only the use of the values 0.05.

Results

Descriptive statistics of items for the CSI

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

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

Constructs	Mean	*SD*	Skewness	Kurtosis	*α*
Idealised influence	3.09	0.68	-0.77	0.14	0.91
Inspirational motivation	3.18	0.74	-0.80	0.14	0.84
Intellectual stimulation	3.09	0.66	-0.60	0.44	0.85
Individual consideration	2.89	0.73	-0.47	-0.31	0.89
Contingent rewards	2.92	0.69	-0.35	0.83	0.84
Active management-by-exception	2.86	0.60	-0.54	0.83	0.78
Passive management-by-exception	2.26	0.74	0.15	-0.38	0.73
Preciseness	3.57	0.65	-0.54	0.32	0.69
Verbal aggressiveness	2.50	0.90	0.59	-0.11	0.87
Emotionality	2.82	0.71	0.24	0.12	0.74
Impression manipulativeness	2.52	0.82	0.48	-0.13	0.70

It is evident from Table 2 above that most variables were distributed normally. The measuring instruments also show acceptable levels of internal consistency. Furthermore, Table 2 also indicates Cronbach's alpha coefficients with acceptable levels of reliability. These coefficients range between 0.69 and 0.91. All the Cronbach's alpha values were found to be above the cut-off point of $\alpha > 0.70$ with the exception of *preciseness,* but can still be regarded as reliable (Pacleb & Cabanda, 2014).

Correlations

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

TABLE 3: Correlation matrix between transformational leadership, transactional leadership and Communication Style Inventory

	1	2	3	4	5	6	7	8	9	10
1.Idealised influence										
2.Inspirational motivation	0.85*[b]									
3.Intellectual stimulation	0.69*[b]	0.74*[b]								
4.Individual consideration	0.76*[b]	0.77*[b]	0.69*[b]							
5.Contingent rewards	0.72*[b]	0.70*[b]	0.67*[b]	0.75*[b]						
6. MBEA	0.53*[b]	0.54*[b]	0.59*[b]	0.54*[b]	0.60*[b]					
7.MBEP	-0.33*[a]	-0.32*[a]	-0.26*	-0.29*	-0.30*[a]	-0.18*				
8.Preciseness	0.60*[b]	0.52*[b]	0.43*[a]	0.47*[a]	0.46*[a]	0.35*[a]	-0.28*			
9.Verbal aggressiveness	-0.59*[b]	-0.55*[b]	-0.39*[a]	-0.51*[b]	-0.50*[b]	-0.30*[a]	0.33*[a]	-0.61*[b]		
10.Emotionality	-0.25*	-0.23*	-0.13*	-0.18*	-0.19*	-0.06*	0.22*	-0.34*[a]	0.51*[b]	
11.Impression manipulativeness	-0.29*	-0.22*	-0.12*	-0.18*	-0.21*	-0.09*	0.24*	-0.31*[a]	0.46*[a]	0.50*[b]

*$p < 0.01$ 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 relationships between leadership styles and communication styles. The transformational leadership styles that were investigated were: *idealised influence, inspirational motivation, intellectual stimulation* and *individual consideration.* The transactional leadership styles were identified as: *contingent rewards, active management-by-exception (MBEA) and passive management-by-exception (MBEP).* The communication styles extracted as follows: *preciseness, verbal aggressiveness, emotionality* and *impression manipulativeness.*

Transformational and communication: Considering the relationship between transformational leadership and communication styles, it is evident from Table 3 that *idealised influence* and *inspirational motivation* was found to be statistically and practically significantly positively related with a large effect to the *preciseness* communication style; and *intellectual stimulation* and *individual consideration* related positively with a medium effect. Furthermore, *idealised influence, inspirational motivation, intellectual stimulation* (with a medium effect) and *individual consideration* as transformational leadership styles was found to be negatively (statistically and practically significant) related with a large effect to the *verbal aggressiveness* communication style. It also emerged that all the transformational leadership styles were statistically negatively related with a practically significant small effect to both communication styles of *emotionality* and *impression manipulativeness*.

Transactional and communication: Regarding the relationship between transactional leadership styles and communication styles it evident that *contingent rewards* and *active management-by-exception (MBEA)* was positively statistically and practically significantly related (with a medium effect) to *preciseness* as communication style. Furthermore, *contingent rewards* were found to be negatively statistically and practically significantly related (with a large effect) to *verbal aggressiveness* as communication style as well as to *active management-by-exception (MBEA)* (negatively related) and *passive management-by-exception (MBEP)* (positively related) with a medium effect. For both *emotionality* and *impression manipulativeness* the transactional leadership styles were statistically related with a small effect to *contingent rewards* and *active management-by-exception (MBEA)* with a negative relationship as well as to *passive management-by-exception (MBEP)* with a positive relationship.

Multiple regression analysis

Multiple regression analyses were done and the results are described in Tables 4 to 11 below. Tables 4, 5, 6 and 7 indicate which transformational leadership styles (i.e. idealised influence, inspirational motivation, intellectual stimulation, and individual consideration) predict communication styles. Thereafter, Tables 8, 9, 10 and 11 below indicate the transactional leadership styles (i.e. contingent reward, active management-by-exception, and passive management-by-exception) that predict specific communication styles.

TABLE 4: Multiple regression analysis with *preciseness* as dependent variable

Model		Unstandardised coefficients		Standardi-sed coefficients	*t*	*p*	*F*	*R*	R^2	ΔR^2
		B	SE	Beta						
1	(Constant)	1.80	0.11		16.15	0.00*	79.54	0.60	0.36	0.36
	Idealised influence	0.54	0.06	0.58	8.45	0.00*				
	Inspirational motivation	0.02	0.06	0.02	0.26	0.80				
	Intellectual stimulation	0.01	0.05	0.01	0.23	0.82				
	Individual consideration	0.00	0.05	0.00	0.07	0.94				

*$p \leq 0.05$ = statistically significant

Table 4 above summarises the regression analyses with the above-mentioned transformational leadership styles as predictors of *preciseness* as communication style. Entry of the transformational leadership styles in the regression analysis produced a statistically significant model ($F_{(4.559)} = 79.54$; $p = 0.00$), accounting for approximately 36% of the variance. In particular, it seems that the idealised influence leadership style ($\beta = 0.58$; $t = 8.45$; $p \leq 0.05$) is the only significant predictor of the communication style, *preciseness.*

TABLE 5: Multiple regression analysis with *verbal aggressiveness* as dependent variable

Model		Unstandardised coefficients		Standardised coefficients	*t*	*p*	*F*	*R*	R^2	ΔR^2
		B	SE	Beta			81.38	0.61	0.37	0.36
1	(Constant)	4.87	0.16		31.48	0.00*				
	Idealised influence	-0.57	0.09	-0.43	-6.40	0.00*				
	Inspirational motivation	-0.21	0.09	-0.18	-2.45	0.02*				
	Intellectual stimulation	0.18	0.07	0.13	2.46	0.01*				
	Individual consideration	-0.16	0.07	-0.13	-2.30	0.02*				

*$p \leq 0.05$ = statistically significant

Table 5 above outlines the regression analyses done with the mentioned transformational leadership styles as predictors of *verbal aggressiveness* as communication style. Entry of the transformational leadership styles in the regression analysis produced a statistically significant model ($F_{(4.559)} = 81.38$; $p = 0.00$), accounting for approximately 37% of the variance. It seems that all four transformational leadership styles were predictors of the *verbal aggressiveness* communication

style. In particular, it seems that lower levels of the *idealised influence* leadership style (β = -0.43; t = -6.40; $p \leq 0.05$), *inspirational motivation* (β = -0.18; t = -2.45; $p \leq 0.05$) and *individual consideration* (β = -0.13; t = -2.30; $p \leq 0.05$) are significant predictors of the communication style, *verbal aggressiveness.* Furthermore, it seems that higher levels of the *intellectual stimulation* leadership style (β = 0.13; t = 2.46; $p \leq 0.05$) is a significant predictor of *verbal aggressiveness.*

TABLE 6: Multiple regression analysis with *emotionality* as dependent variable

Model		**Unstandardised coefficients**		**Standardised coefficients**	***t***	***p***	***F***	***R***	R^2	ΔR^2
		B	SE	Beta			11.14	0.27	0.07	0.07
1	(Constant)	3.53	0.15		23.80	0.00*				
	Idealised influence	-0.26	0.09	-0.25	-3.04	0.00*				
	Inspirational motivation	-0.13	0.08	-0.13	-1.55	0.12				
	Intellectual stimulation	0.14	0.07	0.13	2.08	0.04*				
	Individual consideration	0.02	0.07	0.02	0.30	0.77				

*$p \leq 0.05$ = statistically significant

Table 6 above presents the regression analyses done with transformational leadership styles as predictors of *emotionality* as communication style. Entry of the transformational leadership styles in the regression analysis produced a statistically significant model ($F_{(4.559)}$ = 11.14; p = 0.00), accounting for approximately 7% of the variance. It seems that three of the transformational leadership styles were predictors of the communication style, *emotionality*. Particularly, it seems that lower levels of the *idealised influence* leadership style (β = -0.25; t = -3.04; $p \leq 0.05$), is a significant predictor of *emotionality*. Furthermore, seemingly higher levels of the i*ntellectual stimulation* leadership style (β = 0.13; t = 2.08; $p \leq 0.05$) is a significant predictor of *emotionality.*

TABLE 7: Multiple regression analysis with *impression manipulativeness* as dependent variable

Model		Unstandardised coefficients		Standardised coefficients	*t*	*p*	*F*	*R*	R^2	ΔR^2
		B	SE	Beta			15.82	0.32	0.10	0.10
1	(Constant)	3.38	0.17		20.13	0.00*				
	Idealised influence	-0.52	0.10	-0.44	-5.38	0.00*				
	Inspirational motivation	-0.01	0.10	-0.00	-0.05	0.96				
	Intellectual stimulation	0.20	0.08	0.16	2.60	0.01*				
	Individual consideration	0.05	0.08	0.04	0.61	0.54				

*$p \leq 0.05$ = statistically significant

Table 7 above summarises the regression analyses done with the mentioned transformational leadership styles as predictors of *impression manipulativeness* as communication style. Entry of the transformational leadership styles in the regression analysis produced a statistically significant model ($F_{(4.559)} = 15.82$; $p = 0.00$), accounting for approximately 10% of the variance. More specifically, it seems that lower levels of the *idealised influence* leadership style ($\beta = -0.44$; $t = -5.38$; $p \leq 0.05$), is a significant predictor of the communication style, *impression manipulativeness.* Furthermore, higher levels of the *intellectual stimulation* leadership style ($\beta = 0.16$; $t = 2.60$; $p \leq 0.05$) makes it a significant predictor of *impression manipulativeness.*

TABLE 8: Multiple regression analysis with *preciseness* as dependent variable

Model		Unstandardised coefficients		Standardised coefficients	*t*	*p*	*F*	*R*	R^2	ΔR^2
		B	SE	Beta						
1	(Constant)	2.58	0.16		15.71	0.00*	59.37	0.49	0.24	0.24
	Contingent rewards	0.32	0.05	0.34	7.24	0.00*				
	MBEA	0.13	0.05	0.12	2.52	0.01*				
	MBEP	-0.13	0.03	-0.15	-3.95	0.00*				

*$p \leq 0.05$ = statistically significant

Table 8 above presents the regression analyses done with transactional leadership styles as predictors of *preciseness* as communication style. Entry of the transactional leadership styles in the regression analysis produced a statistically significant model ($F_{(3.560)} = 59.37$; $p = 0.00$), accounting for approximately 24% of the variance. It seems that all three transactional styles predict *preciseness* as communication style. More specifically, it seems that higher levels of the *contingent*

rewards leadership style (β = 0.34; t = 7.24; $p \leq 0.05$) and *active management-by-exception (MBEA)* (β = 0.12; t = 2.52; $p \leq 0.05$) are significant predictors of *preciseness.* Furthermore, seemingly, lower levels of the *passive management-by-exception (MBEP)* leadership style (β = -0.15; t = -3.95; $p \leq 0.05$) is a significant predictor of *preciseness.*

TABLE 9: Multiple regression analysis with *verbal aggressiveness* as dependent variable

Model		**Unstandardised coefficients**		**Standardised coefficients**	***t***	***p***	***F***	***R***	***R²***	***Δ R²***
		B	SE	Beta			72.86	0.53	0.28	0.28
1	(Constant)	3.62	0.22		16.28	0.00*				
	Contingent rewards	-0.57	0.06	-0.44	-9.42	0.00*				
	MBEA	0.00	0.07	0.00	-0.00	0.99				
	MBEP	0.24	0.05	0.20	5.22	0.00*				

*$p \leq 0.05$ = statistically significant

Table 9 above outlines the regression analyses done with above-mentioned transactional leadership styles as predictors of *verbal aggressiveness* as communication style. Entry of the transactional leadership styles in the regression analysis produced a statistically significant model ($F_{(3.560)}$ = 72.86; p = 0.00), accounting for approximately 28% of the variance. More specifically, it seems that lower levels of the *contingent rewards* leadership style (β = -0.44; t = -9.42; $p \leq 0.05$) is a significant predictor of *verbal aggressiveness.* Furthermore, it seems that higher levels of the *passive management-by-exception (MBEP)* leadership style (β = 0.20; t = 5.22; $p \leq 0.05$) is a significant predictor of *verbal aggressiveness.*

TABLE 10: Multiple regression analysis with *emotionality* as dependent variable

Model		**Unstandardised coefficients**		**Standardised coefficients**	***t***	***p***	***F***	***R***	***R²***	***Δ R²***
		B	SE	Beta			13.94	0.26	0.07	0.07
1	(Constant)	2.71	0.20		13.49	0.00*				
	Contingent rewards	-0.20	0.05	-0.19	-3.58	0.00*				
	MBEA	0.10	0.06	0.09	1.67	0.10				
	MBEP	0.17	0.04	0.18	4.13	0.00*				

*$p \leq 0.05$ = statistically significant

Table 10 above summarises the regression analyses with transactional leadership styles as predictors of *emotionality* as communication style. Entry of the transactional styles in the regression

analysis produced a statistically significant model ($F_{(3.560)}$ = 13.94; p = 0.00), accounting for approximately 7% of the variance. More specifically, it seems that lower levels of the *contingent rewards* leadership style (β = -0.19; t = -3.58; $p \leq 0.05$) is a significant predictor of *emotionality*. Furthermore, seemingly higher levels of the *passive management-by-exception (MBEP)* leadership style (β = 0.18; t = 4.13; $p \leq 0.05$) is a significant predictor of *emotionality.*

TABLE 11: Multiple regression analysis with *impression manipulativeness* as dependent variable

Model		**Unstandardised coefficients**		**Standardised coefficients**	***t***	***p***	***F***	***R***	R^2	ΔR^2
		B	SE	Beta			16.56	0.29	0.08	0.08
1	(Constant)	2.44	0.23		10.64	0.00*				
	Contingent rewards	-0.22	0.06	-0.18	-3.51	0.00*				
	MBEA	0.08	0.07	0.06	1.11	0.27				
	MBEP	0.22	0.05	0.20	4.64	0.00*				

*$p \leq 0.05$ = statistically significant

Table 11 above presents the regression analyses undertaken with transactional leadership styles as predictors of *impression manipulativeness* as communication style. Entry of the transactional styles in the regression analysis produced a statistically significant model ($F_{(3.560)}$ = 16.56; p = 0.00), accounting for approximately 8% of the variance. More specifically, it seems that lower levels of the *contingent rewards* leadership style (β = -0.18; t = -3.51; $p \leq 0.05$) is a significant predictor of *impression manipulativeness.* Furthermore, higher levels of the *passive management-by-exception (MBEP)* leadership style (β = 0.20; t = 4.64; $p \leq 0.05$) seems to be a significant predictor of *impression manipulativeness.*

Discussion

The present study first investigated perceived communication styles, namely: *preciseness, verbal aggressiveness, emotionality* and *impression manipulativeness.* The objective was to determine the relationships between these communication styles and perceived leadership styles that employees demonstrate in South African manufacturing industries. Two forms of leadership styles emerged: transformational (i.e. idealised influence, inspirational motivation, intellectual stimulation and individual consideration) and transactional (i.e. contingent rewards, active management-by-exception [MBEA] and passive management-by-exception [MBEP]).

The following section discusses the outline of the results, draw practical implications, point out limitations and make recommendations for the study field.

Outline of the results

Within the South African context, limited research has been done on the relationship between leadership and communication styles, especially among employees working in the manufacturing industry (Maritz, 2012; Matjie, 2010; Mollo, Stanz & Groenewald, 2005; Khoza, 2015; Robbins et al., 2013; Wessels, 2015). The same applies to assessing the effects of leadership styles (transformational and transactional) on communication styles within the South African context (Khoza, 2015). Therefore, the present study will add to existing literature in the field of human resource management by investigating the communication styles and leadership styles of employees within the South African manufacturing industry. The results are outlined below according to the stated objectives.

Objective 1

The first objective of this study was to determine the relationship between perceived transformational leadership styles (i.e. idealised influence, inspirational motivation, intellectual stimulation and individual consideration) and perceived communication styles (i.e. preciseness, verbal aggressiveness, emotionality and impression manipulativeness) among employees within South African manufacturing organisations.

The results of the relationships between the transformational styles and communication styles clearly showed that *idealised influence* and *inspirational motivation* are related positively with a (large effect) to *preciseness* as communication style and *intellectual stimulation* and *individual consideration* related positively with a medium effect. Therefore, these results confirm hypothesis 1a: **There is a significant positive relationship between perceived transformational leadership styles and perceived *preciseness* as communication style among employees working in a South African manufacturing industry.**

The result may indicate that subordinates within the manufacturing industry experience their transformational superiors/leaders as in control of the content. Thus, these leaders are able to transfer knowledge or information by explaining this content sufficiently to facilitate understanding. Simultaneously, these leaders utilise all four transformation leadership styles by motivating, inspiring, and influencing subordinates positively to reach organisational goals (De Oliveira

Rodriguez & Ferreira, 2015). This finding corresponds with previous research indicating that transformational leadership styles relate positively to the leaders' communication style of *preciseness* (Pacleb & Bocarnea, 2016; Pacleb & Cabanda, 2014).

Furthermore, the results indicate a relationship between perceived transformational leadership styles and perceived *verbal aggressiveness* as communication style. This finding showed that *idealised influence, inspirational motivation* and *individual consideration* is related negatively with a (large effect) to the *verbal aggressiveness* communication style, and *intellectual stimulation* related negatively with a medium effect. Therefore, the results confirmed hypothesis 1b: **There is a significant negative relationship between perceived transformational leadership styles and perceived *verbal aggressiveness* as communication style among employees working in a South African manufacturing industry.**

The finding above showed that subordinates within the manufacturing industry experience their superior/leader's style as transformational by using less of a *verbal aggressiveness* communication style. Therefore, it can be assumed that the leader will influence, motivate, stimulate in a positive way and consider the subordinates without acting verbally aggressive or destructive (Bekiari & Spyropoulou, 2016). This finding corresponds with previous research pointing out that transformational leadership styles relate negatively to the leaders' communication style of *verbal aggressiveness* (Pacleb & Bocarnea, 2016; Pacleb & Cabanda, 2014).

The results showed that all the transformational leadership styles were related negatively with a (small effect) to the communication style of *emotionality*. Therefore, the results confirmed hypothesis 1c: **There is a significant negative relationship between perceived transformational leadership styles and perceived *emotionality* as communication style among employees working in a South African manufacturing industry.**

However, the aforementioned relationship was found to be weak. The reason may be that subordinates perceive the transformational leader using less of an *emotionality* communication style. In this regard, it can be assumed that transformational leaders may control their emotions and show predictable behaviour towards their subordinates, experiencing anxiety, tension and defensiveness to a very limited extent (De Vries et al., 2009). This finding is in accordance with previous research that also found a negative relationship between transformational leadership styles and *emotionality* as communication style (Pacleb & Bocarnea, 2016; Pacleb & Cabanda, 2014).

Furthermore, the findings indicated that all the transformational leadership styles were related negatively with a (small effect) to the *impression manipulativeness* communication style. Therefore, the results confirmed hypothesis 1d: **There is a significant negative relationship between perceived transformational leadership styles and perceived *impression manipulativeness* as communication style among employees working in a South African manufacturing industry.**

Again the above-mentioned relationship was found to be weak. This may indicate that subordinates perceive their transformational superiors/leaders as those who display less *impression manipulativeness.* Therefore, it can be inferred that the transformational leader uses less deception (trying to mislead others) and are less involved in self-management (trying to impress others) (Ahmed & Naqvi, 2015; Vevere, 2014). This result is in accordance to prior research that found a negative relationship between transformational leadership styles and *impression manipulativenss* (Gardner & Cleavenger, 1998; Pacleb & Bocarnea, 2016; Pacleb & Cabanda, 2014).

Objective 2

The second objective of the present study was to determine the relationships between perceived transactional leadership styles (i.e. contingent rewards, active management-by-exception [MBEA] and passive management-by-exception [MBEP]) and perceived communication styles (i.e. preciseness, verbal aggressiveness, emotionality and impression manipulativeness) among employees working within South African manufacturing organisations.

The results indicated that *contingent rewards* and *MBEA* was related positively with a (medium effect), and *MBEP* related negatively (with a small effect) to the *preciseness* communication style. Therefore, the results partially confirm hypothesis 2a: **There is a significant positive relationship between perceived transactional leadership styles and perceived *preciseness* as communication style among employees working in a South African manufacturing industry.**

This finding may indicate that subordinates within the manufacturing organisation perceive their superiors/leaders as those who utilise transactional leadership styles (*contingent rewards* and *MBEA*) and follow precise communication procedures (*structuredness, thoughtfulness* and *conciseness*). This is done to influence subordinates' work behaviour through rewards and actions aimed at achieving more and better organisational outcomes. Therefore, subordinates will agree to complete an assigned task from a transactional leader in exchange for praise, rewards, and resources (Bass, Avolio, Jung & Berson, 2003). Furthermore, the transactional leaders also communicate in a

structured way, by following rules, if they observe problems that may arise (Bass, 1997; Howell & Avolio, 1993). Previous research provides evidence of a positive relation between *preciseness* as communication style and transactional leadership (De Vries, et al., 2010; Pacleb & Bocarnea, 2016; Pacleb & Cabanda, 2014).

From the results of the relationship between perceived transactional leadership styles and perceived *verbal aggressiveness* as a communication style, it is evident that *contingent rewards* (with a large effect) and *MBEA* (with a medium effect) was related negatively to *verbal aggressiveness;* and *MBEP* positively (with a medium effect). Therefore, the results partially confirm hypothesis 2b: **There is a significant negative relationship between perceived transactional leadership styles and perceived *verbal aggressiveness* as communication style among employees working in a South African manufacturing industry.**

These results may indicate that subordinates within the manufacturing organisation perceive their supervisors/leaders as those who specify what is expected of their followers and provide rewards if the latter satisfy these expectations (Judge & Piccolo, 2004). Furthermore, subordinates perceive their leaders as those who monitor their behaviour/s, anticipate problems, and take corrective actions before misconduct may cause severe difficulties. Due to these actions it can be assumed that such transactional leaders utilise less of *verbal aggressiveness* as communication style.

Additionally, the results indicated that leaders' perceived transactional style of *passive management-by-exception (MBEP)* related positively with a medium effect to *verbal aggressiveness* as communication style (i.e. angriness, authoritarianism, derogatoriness and non-supportiveness). When using *MBEP*, leaders rely on employees to be accountable for their own actions and would only intervene when problems become critical (Bass, 1997). Passive leaders fail to take action and wait until mistakes are brought to their attention before starting to intervene (Bass, 1997). Therefore, being a passive leader may mean that the organisation's goals are not being achieved. As a result, such leaders may revert to communication that is verbally aggressive towards their subordinates. The results were partially in accordance with previous research indicating that transactional leadership styles relate negatively to the leaders' communication style of *verbal aggressiveness* (Pacleb & Bocarnea, 2016; Pacleb & Cabanda, 2014).

Considering results of the relationship between perceived transactional leadership styles and perceived *emotionality* as communication style it is evident that *contingent rewards* and *MBEA* was related negatively (with a small effect) to *emotionality,* and *MBEP* related positively (with a small

effect). Therefore, the results partially confirm hypothesis 2c: **There is a significant negative relationship between perceived transactional leadership styles and perceived *emotionality* as communication style among employees working in a South African manufacturing industry.**

Furthermore, the results of the relationship between perceived transactional leadership styles and the perceived communication style of *impression manipulativeness* revealed that *contingent rewards* and *MBEA* was related negatively (with a small effect), and MBEP related positively (with a small effect) to the mentioned communication style. Therefore, the results partially confirm hypothesis 2d: **There is a significant negative relationship between perceived transactional leadership styles and perceived *impression manipulativeness* as communication style among employees working in a South African manufacturing industry.**

Both mentioned communicational styles (i.e. *emotionality* and *impression manipulativeness*) showed a relationship with transactional leadership style, however, it was extremely weak. Thus, it can be assumed that the subordinates in manufacturing organisations perceive their transactional leaders to be using the mentioned two specific communication styles to an extremely limited extend. This finding partially concurs with previous research indicating that transactional leadership styles are related negatively to the leaders' communication styles of *emotionality* and *impression manipulativeness* (Pacleb & Bocarnea, 2016; Pacleb & Cabanda, 2014).

Objective 3

The third objective of the present study was to ascertain whether perceived transformational leadership styles have an effect on perceived communication styles among employees in South African manufacturing organisations. The results revealed that the style *individualised influence* has an effect on *preciseness* as a communication style. This, therefore partly confirms hypothesis 3a: **Perceived transformational leadership styles (idealised influence, individual consideration and intellectual stimulation) predict higher levels of the leaders' perceived communication style of *preciseness.***

This finding may indicate that a leader displays acts of loyalty and confidence and can inspire a purpose in subordinates through a communication style of *preciseness* (i.e. structuredness, thoughtfulness and conciseness) in a supportive way to reach performance, satisfaction, and commitment from the subordinates.

The results revealed that lower levels of *individualised influence, inspirational motivation,* and *individual consideration* and high levels of *intellectual stimulation* were associated with the communication style of *verbal aggressiveness.* This therefore partially confirms hypothesis 3b: **Perceived transformational leadership styles (idealised influence, individual consideration and intellectual stimulation) predict lower levels of the leaders' perceived communication style of *verbal aggressiveness.***

A significant finding was that high levels of *intellectual stimulation* functions as predictor of the communication style, *verbal aggressiveness*. Leaders who challenge assumptions, take risks, and implement followers' ideas show traits of *intellectual stimulation* (Judge & Piccolo, 2004). This may indicate that when leaders employ a transformational style of *intellectual stimulation* they may be perceived as displaying a verbally aggressive communication style (i.e. angriness, authoritarianism, derogatoriness and non-supportiveness). This perceivably would be directed towards subordinates to get their assumptions across enabling the latter to achieve their work-related tasks.

Regarding *emotionality,* results indicated that higher levels of *intellectual stimulation,* and lower levels of *individualised influence* were considered as predictors of this communication style. Therefore, hypothesis 3c can be confirmed partially: **Perceived transformational leadership styles (idealised influence, individual consideration and intellectual stimulation) predict lower levels of the leaders' perceived communication style of *emotionality.***

Since leaders expressing *idealised influence* display confidence and persuasion, they also inspire and connect with employees emotionally (Judge & Piccolo, 2004). Therefore, when leaders employ the mentioned transformational style (*idealised influence*), they would need to show less of an *emotionality* communication style (i.e. sentimentality, worrisomeness, tension and defensiveness) towards subordinates to help them achieve their work-related tasks.

Furthermore, *intellectual stimulation* was found to be a high-level predictor of *emotionality* as communication style. The reason is that leaders who express such stimulation encourage others to implement and utilise new perspectives; express ideas and reasons to be more innovate (Bass, 1997). In other words, when leaders utilise a transformational style (*intellectual stimulation*) they would link it to a communication style of *emotionality* (i.e. sentimentality, worrisomeness, tension and defensiveness) aimed to help subordinates achieve their work-related tasks.

Lower levels of *individualised influence* and higher levels of *intellectual stimulation* were considered as predictors of the communication style, *impression manipulativeness.* Therefore, hypothesis 3d can be confirmed partially: **Perceived transformational leadership styles (idealised influence, individual consideration and intellectual stimulation) predict lower levels of the leaders' perceived communication style of *impression manipulativeness.***

The findings showed that leaders who follow an approach of *idealised influence* will need to utilise a communication style of reduced *impression manipulativeness* to display persuasion, trust, values, purpose, commitment and ethical decisiveness towards subordinates. Subordinates within the manufacturing industry may perceive leaders showing *idealised influence* as role-models having pride, loyalty, and confidence (Bass, 1997; Bass, & Riggio, 2006). When leaders avoid a communication style of *impression manipulativeness,* their subordinates may perceive them as open and honest (De Vries et al., 2011). Furthermore, there are leaders who utilise *intellectual stimulation,* thereby challenging assumptions, taking risks and enacting followers' ideas (Judge & Piccolo, 2004). Such leaders may employ the communication style of *impression manipulativeness* to obtain status or other rewards. This is achieved through communicative behaviours such as ingratiation, use of charm, and concealing harmful information (De Vries et al., 2011).

The results in answer to the study's third objective, correspond partially with previous research, which indicates that transformational leadership styles predict high levels of leaders' *preciseness* as communication style (Pacleb & Bocarnea, 2016; Pacleb & Cabanda, 2014).

Objective 4

The fourth objective was to ascertain whether perceived transactional leadership styles (i.e. contingent rewards, active management-by-exception [MBEA] and passive management-by-exception [MBEP]) have an effect on perceived communication styles (i.e. preciseness, verbal aggressiveness, emotionality and impression manipulativeness) among employees within South African manufacturing organisations. The findings revealed that high levels of *contingent reward* and *MBEA,* as well as low levels of *MBEP* were predictors of *preciseness.* Furthermore, low levels of *contingent reward* and high levels of *MBEP* were predictors of *verbal aggressiveness, emotionality* and *impression manipulativeness.* Therefore, hypotheses 4a-d can be confirmed partially:

H4a: **Perceived transactional leadership styles (contingent rewards, passive management-by-exception and active management-by-exception) predict higher levels of the leaders' perceived communication style of *preciseness.***

H4b: **Perceived transactional leadership styles (contingent rewards, passive management-by-exception and active management-by-exception) predict lower levels of the leaders' perceived communication style of *verbal aggressiveness.***

H4c: **Perceived transactional leadership styles (contingent rewards, passive management-by-exception and active management-by-exception) predict lower levels of the leaders' perceived communication style of *emotionality.***

H4d: **Perceived transactional leadership styles (contingent rewards, passive management-by-exception and active management-by-exception) predict lower levels of the leaders' perceived communication style of *impression manipulativeness.***

The findings above indicate that a subordinate may experience leaders who use *contingent rewards* as those who will show more *preciseness* and less *verbal aggressiveness, emotionality* and *impression manipulativeness* as communication styles. *Contingent reward* as transactional leadership style implies constructive transactions or exchanges with followers where leaders specify what is expected of their followers and provide rewards for fulfilling these expectations (Judge & Piccolo, 2004). Therefore, it can be assumed that when leaders communicate precisely and clearly to subordinates what is expected at the workplace and the rewards involved, these leaders do not have to follow a verbal aggressive, emotional and impression-manipulative approach.

Furthermore, at times, transactional leaders act passively and rely on subordinates to take responsibility for their action, and only intervene until mistakes are brought to their attention (Bass, 1997). In such a case, subordinates may perceive their leaders' communication as being verbally aggressive, emotional and impression manipulative. As a result, these subordinates experience their leader in a negative way. These findings correspond partially with previous research, which found that transactional leadership styles predict high levels of communication styles (Pacleb & Bocarnea, 2016; Pacleb & Cabanda, 2014).

Practical implications

The present study emphasises the significance of communicative behaviour for leaders. The results of the research hold certain practical implications, which are discussed below.

Leader-subordinate interaction: Firstly, the newly identified predictors could help further researchers' and practitioners' understanding of successful leadership through further study. It is important to note that when leadership and communication are investigated, more emphasised should be placed on the supervisor-subordinate co-worker interaction, relationship (LMX) and supervisor support. The outcomes of this study could thus be useful to facilitate leadership development regarding such interaction.

Impact of leadership-communication styles: Secondly, the study provides insight into specific leadership styles and how these can impact communicating styles for leaders within a South African manufacturing environment. The evidence indicates to individual employees as well as manufacturing organisations which styles are most predominant and how to take the necessary precaution to deal with conflicting events. Furthermore, the results increase awareness of the ways manufacturing leaders utilise specific leadership styles together with their communication styles, aligning these approaches with their interaction toward subordinates for optimised results. The findings of the present study help manufacturing organisations at present identify subordinates' perception of the communication styles which their leaders are utilising and understand how such styles can impact co-worker relationships and communication within the workplace.

Interventions embedded: Thirdly, the results enable manufacturing organisations to plan interventions for subordinates and leaders while amplifying the impact of certain communication styles on their work-related well-being. These interventions can also be embedded in organisational culture. This could be done by training and making employees aware of available interventions through communication workshops. Thereby, employees are empowered and sensitised towards the consequences of ineffective communication within the organisation. They are also trained in understanding, thus applying and implementing different communication styles to enhance engagement, increase satisfaction, and build performance amongst employees.

By initiating such interventions, subordinates and leaders can understand and recognise the benefits that particular styles of communication could hold for their work-related well-being, efficiency and minimising conflict behaviour.

Focused communication training: Fourthly, the mentioned communication training can be made specific. This could be done by determining gaps in the interaction between leaders and subordinates where there are communication deficiencies. Communication training should be focused on specific areas that are identified such as conflict, satisfaction with leaders, supervisor support, toxic leadership, or performance. These aspects can be correlated with the identified leader-subordinate interactions. Future communication training or workshops can also create

awareness of the leader's primary communication styles to be applied within the manufacturing industry (i.e. preciseness, verbal aggressiveness, emotionality, and impression manipulativeness).

On boarding training: Fifthly, considering the aforementioned communication styles, case studies can be developed where leaders' *expressiveness* and *preciseness* abilities are applied within training sessions (De Vries et al., 2013). This will help optimise leader-subordinate interactions. Return on training investments of organisations can be increased when training manuals are amended to illustrate specific styles that subordinates require from superiors/leaders to improve the communication process.

The results from the present study again focus the attention on the relationship between leadership and subordinates and the significant effect it has on communicative behaviour, as viewed from the subordinates' perspective. Thus, it can be deduced that if the subordinate-leader relationship is influenced negatively, this may lead to deficient organisational outcomes.

Limitations and recommendations

Limitations

Despite the contributions outlined above, certain limitations had to be taken in consideration for the present study. These are expounded below.

Firstly, to obtain the results, it was necessary to utilise a cross-sectional research design. This means that the data were collected on several groups only once during the same period (De Vos et al., 2011).

Secondly, the communication styles were measured from the subordinates' perception about their supervisors and excluded self-report from leaders. Thus, these leadership and communication styles could only be interpreted indirectly and requires further research that incorporate leaders' self-report.

Thirdly, not all of the dimensions from the communication styles developed by De Vries et al. were included for the present study. This was based on the results of the exploratory factor analysis discussed in chapter 1. These reduced dimensions provided an incomplete perspective of the communication styles that leaders use within the South African context.

Finally, the sampling method specifically used a combined non-probability purposive and convenient sample due to time and financial considerations. In this regard, the concern about purposive and convenient sampling is the potential bias and subjectivity of the researcher, which should be factored in (De Vos et al., 2011).

Recommendations

Recommendations can also be made with the purpose of contributing to future study and literature on human resource management on this topic.

Firstly, longitudinal research designs can be used to measure the study's constructs over a prolonged period and a longitudinal analysis can be applied to advance operational interventions even further (De Vos et al., 2011).

Secondly, it is suggested that forthcoming studies concentrate on measuring all six dimensions of the CSI communication styles again and include the self- and other reports from both superiors and subordinates.

Thirdly, forthcoming research may consider it beneficial to test additional samples throughout South Africa, including other manufacturing environments, organisations and industries.

Fourthly, the findings confirm positive and negative correlations as well as predictions for manufacturing organisations' subordinates who perceived the leadership styles of their superiors/leaders and the corresponding perceived communication styles within various organisations from the South African manufacturing environment. Therefore, it would be beneficial to continue studies on this relationship as perceived in other manufacturing organisations and industries to provide more generalised results.

Finally, future research may find it beneficial to include variables based on work-related outcomes such as engagement, burnout, and commitment, to test its relationships with both communication and leadership styles.

Conclusion

To conclude, the present study aimed to contribute to the literature, by determining the relationships as well as the predictions between perceived leadership styles (transformational and transactional) with perceived communication styles (i.e. preciseness, verbal aggressiveness, emotionality and impression manipulativeness). The perspective was from subordinates who identified these styles in their superiors within a South African manufacturing environment. Evidence was reported on the relationships as well as the predictions between the two leadership styles and communication styles. Therefore, South African manufacturing organisations can use these findings to develop their leadership and enhance communication, thereby creating positive organisational outcomes.

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CHAPTER 4

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

This chapter presents the conclusions on the general and specific objectives of each research article by explaining the findings. Thereafter, limitations are pointed out and recommendations made for future research and practice regarding the use of communication and leadership styles.

4.1 Conclusions

The general objective was firstly to validate the Communication Styles Inventory (CSI) as developed by De Vries, Bakker-Pieper, Siberg, Van Gameren, and Vlug, (2009) for the South African context (Article 1). Secondly the study investigated and determined the relationship that perceived transformational and transactional leadership styles have with perceived communication styles among employees in South African manufacturing organisations (Article 2).

Article 1: *The validation of the Communication Styles Inventory among employees in the South African manufacturing industry*

The general objective for **Article 1** was to validate the CSI as developed by De Vries et al. (2009) for the South African context.

The conclusions drawn from the results of the specific objectives of this research article are as follows:

Specific objective 1: Determine how communication and communication styles are conceptualised according to scientific literature

From the literature various explanations emerged for the term ‘communication’. According to Johnson and Hackman (2018), communication is based on the transfer of symbols to form meaning and to create a shared reality between sources and receivers of messages. Furthermore, Jones and George (2016) explain that communication occurs as a recurring process with two actions: transmission and feedback. Communication plays an essential role in organisations, especially its leadership (Schneider, Maier, Lovrekovic & Retzbach, 2015). According to Schneider et al. (2015), leaders have to provide their subordinates with work-related information, for instance, feedback

about their job performance and consider their interests, in order to establish sound work relationships. Therefore, effective communication is essential. Leaders may use specific communication styles to portray their message, thereby increasing recognition and improving interaction with subordinates. The latter may interpret the message according to the signals that the leader sends.

In general, Norton (1983) defines communication style as the individual way of thinking, temperament, and perception of social reality through interaction or sending and receiving information. In literature, De Vries et al. (2009) developed a communication styles inventory (CSI), based on the theory of Norton (1983), consisting of six interpersonal communication styles, namely: (X) *expressiveness,* (Q) *questioningness,* (P) *preciseness,* (E) *emotionality,* (VA) *verbal aggressiveness,* and (IM) *impression manipulativeness.* The CSI is designed to measure either self or an observer such as a subordinate, to rate leaders interpersonal communication styles (De Vries et al., 2009).

Specific objective 2 and 3: Determine the internal validity of each six-subscale of the CSI individually and to establish whether the CSI subscales has acceptable reliability

For the second objective of this study, the items' performance and the distribution of the CSI revealed that the descriptive statistics showed a normal distribution of the data. This indicates that the respondents did not overly skew their responses towards the positive or the negative end of the scale (George & Mallery, 2010; Pallant, 2016). Considering the mean scores of the response scale, it was found that the average mean was more or less 2.97, which indicated that the participants tended towards a "disagree" or "neutral" response. A possible reason may be that respondents were not overly biased towards either side of the response scale. Furthermore, respondents may also have interpreted the meaning of items differently from its intended meaning (Colton & Covert, 2007).

After analysing the distribution of the items, all items of the CSI were included to determine the internal validity of the inventory. Exploratory factor analysis (EFA) was done on each of the subscales of the 48-item CSI separately to determine communalities and loadings. The EFA extracted the items of individual factors and removed less important items of which the communalities were too insignificant for each construct (Burns & Machin, 2009). Loadings smaller than 0.30 and communalities smaller than 0.20 indicate that an item is a poor measure of the factor being studied (Child, 2006; Veth, Van der Heijden, Korzilius, De Lange & Emans, 2018). The EFA

identifies the minimum number of continuous latent variables/factors that can describe the correlations correctly among a set of observed variables (Muthén & Muthén, 2017).

The Principle Component Analysis (PCA) was employed as extraction method, followed by no rotation for each subscale of the CSI, seeing that only one factor was extracted for each subscale. The results of the investigation produced a 26-item measuring instrument. Therefore, 22 items were eliminated. The remaining 26 items provided excellent internal consistency for each of the remaining subscales. The following results emerged: *preciseness* – 6 items; *verbal aggressiveness* – 8 items; *emotionality* – 7 items; and *impression manipulativeness* – 5 items.

Specific objective 4: Ascertain the convergent validity of the CSI with other similar theoretical constructs

Convergent validity was determined by using the *Communication Styles Inventory (CSI):* developed by De Vries et al. (2009) as well as the *Communicator Style Measure* (CSM): developed by Norton (1983). As explained above, The CSI consists of four sub-scales, namely: *preciseness, verbal aggressiveness, emotionality,* and *impression manipulativeness.* In comparison, the CSM entails three constructs: *impression leaving, contentiousness* and *attentiveness.* The reason for including only these three of the ten CSM sub-constructs was that after analysis only these three showed acceptable reliable Cronbach's coefficients. The results indicated that the subscales of the CSI and the sub-constructs of the CSM show convergent validity, which can be expected since the items of both scales are based on a similar theoretical framework (Pallant, 2016). Therefore, the conceptual overlap between these constructs was illustrated.

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

Article 2: *Investigating the relationship between communication styles, transformational leadership styles and transactional leadership styles among employees in the South African manufacturing industry*

The general objective of this study was to investigate and determine the relationship that perceived transformational and transactional leadership styles have with perceived communication styles among employees in South African manufacturing organisations.

The conclusions of the specific objectives for **Article 2** are presented and discussed below.

Specific objective 1: Determine how transformational leadership styles, transactional leadership styles and communication styles as well as their relationships are conceptualised in scientific literature.

An extensive literature study answered the first objective. This study entailed in-depth research and understanding of the different communication styles: transformational and transactional.

The communication styles for this study consisted of four sub-scales namely*: preciseness, verbal aggressiveness, emotionality* and *impression manipulativeness* (De Vries et al., 2009). *Preciseness* is when an individual communicates in an organised, well-structured, and well-articulated way to others (De Vries et al., 2013). *Verbal aggressiveness* entails a message behaviour towards individual employees' self-concept, on the offensive, aiming to cause psychological pain and make others feel less favourable (Infante & Wigley, 1986). *Emotionality* implies the inability to control emotions and points to unpredictable behaviour since important issues are not discussed rationally; instead the leader presents increased anxiety, tension, and defensiveness (De Vries et al., 2009). *Impression manipulativeness* implies that employees often use deception or self-management to impress others and be viewed in a positive way (Ahmed & Naqvi, 2015).

Bass (1997) defines transformational leadership as follows: "Motivate followers to work for transcendental goals that go beyond immediate self-interests" (p. 133). Research identifies four dimensions of transformational leadership styles (Bass, 1985; Bass & Avolio, 1990), which can be conceptualised as follows: *Idealised influence (charisma)* – demonstrate conviction; emphasise trust; are affirmative on difficult issues; present their most essential norms, morals, values, purpose, and commitment; and accept the ethical consequences of decisions (Bass, 1997). *Inspirational motivation* – communicate an appealing vision of the future, challenge followers to achieve high standards and talk optimistically with enthusiasm to instil encouragement and meaning (Bass, 1997). *Intellectual stimulation* as transformational leadership style questions old assumptions, traditions, and beliefs; encourages others to implement and utilise new perspectives; and encourage the expression of ideas and reasons to be more innovate and entrepreneurial (Bass, 1997). *Individualised consideration* – interact with individuals by considering their needs, abilities, and aspirations; occurs by listening attentively and communicating clearly; further other's development; provide advice; teach; and coach subordinates (Bass, 1997).

Transactional leadership is defined as "the leader's power to reinforce subordinates for their successful completion of the bargain" (Bass, 1997, p. 133). Three dimensions of transactional leadership styles emerged (Bass, 1985: Bass & Avolio, 1990). These styles can be conceptualised as follows: *Contingent reward* – engage in a path-goal transaction of reward for increased job performance (Bass, 1997). *Active management-by-exception (MBEA)* – take corrective action through the results of leader-follower transactions (Judge, Piccolo & Ilies, 2004). *Passive management-by-exception (MBEP)* – rely on employees to take responsibility for their action and only intervene when problems become severe (Bass, 1997).

Specific objective 2: Establish whether a relationship exist between perceived transformational leadership styles and perceived communication styles among employees working in South African manufacturing organisations

The study revealed significant findings on the relationship between transformational leadership styles *preciseness* and *verbal aggressiveness,* and concurrent communication styles. Statistically significant positive relationships were found between *idealised influence* and *inspirational motivation* (with a large effect) as well as *intellectual stimulation* and *individual consideration* positively (with a medium effect) with the communication style of *preciseness.* This finding indicates that a transformational leadership style together with a communication style of *preciseness,* can be a solution for effective communication. According to Ahmed and Naqvi (2015) literature indicates that employees who are rational, concise, hardworking, and conscientious are more inclined to use a precise communication style. In a typical leadership situation, employees tend to consider high levels of preciseness as a sign of competent leadership (De Vries, Bakker-Pieper, Konings & Schouten, 2011). These are particular useful findings since leaders may apply these specific styles to reduce various obstructive behaviours encountered within the organisation, for example, interpersonal conflict.

Furthermore, the results showed that the transformational leadership styles, *idealised influence, inspirational motivation, intellectual stimulation* (with a medium effect) and *individual consideration* (with a large effect), was related negatively (statistically and practically significant) to *verbal aggressiveness* as communication style. These findings raise the possibility that the use of a verbally aggressive communication style together with a transformational leadership style may hamper effective communication and cause other destructive organisational behaviours. These findings raised intriguing questions on the presence and possible solution of *verbal aggressiveness*

as communication style among South African manufacturing leaders. To be verbally aggressive may be regarded as a destructive expression of an assertive or dominant communication style (De Vries et al., 2011).

Specific objective 3: Establish whether a relationship exist between perceived transactional leadership styles and perceived communication styles among employees working in South African manufacturing organisations

The findings indicated statistically significant relationships between *preciseness* and *verbal aggressiveness* as communication styles with the transactional leadership style. In particular, the relationship between transactional leadership styles and communication styles indicated that *contingent rewards* and *active management-by-exception (MBEA)* was positively statistically and practically significantly related (with a medium effect) to *preciseness* as communication style. This may be explained by the fact that the use of a preciseness communication style together with the transactional leadership styles mentioned above may also help provide the solution for effective communication.

The finding above is in line with De Vries et al. (2011) who point out that employees with a precise diction are more thoughtful, concise, and are considered highly conscientiousness. Moreover, employees who use precise communication styles are perceives as more conscientious and logical (Ahmed & Naqvi, 2015). This specifies that transactional leaders (through contingent rewards and active management-by-exception) may use *preciseness* as communication style to be more conscientious, concise, and logical, thus helping employees achieve the organisation's set goals and mitigating negative behaviours within the organisation.

Furthermore, according to the results, *contingent rewards* were related negatively (with a large effect) to *verbal aggressiveness* as communication style and *active management-by-exception (MBEA)* (with a medium effect). This finding indicates that a leader with a transactional leadership style (e.g. contingent rewards) who applies a verbally aggressive communication style, could possibly cause negative organisational behaviour and even escalate interpersonal conflict among employees. The results also indicated that *passive management-by-exception (MBEP)* related positively (with a medium effect) to *verbal aggressiveness* as communication style.

This finding was unexpected and suggests that a leader with a transactional style (passive management-by-exception) who utilises a communication style of *verbal aggressiveness* could

possibly influence behaviour within the organisation in a negative way. The reason is that leaders would be avoiding action until problems arises, however, still communicate verbally aggressive such as expressing a destructively dominant/assertive communication. Thus, it is disappointing that verbal aggressive behaviour among manufacturing leaders may be causing abusive supervision to an extent. Such behaviour may degenerate into toxic leadership, workplace incivility, and bullying – which ultimately indicates a lack of supervisor support for the subordinates. In addition subordinates will cease supporting the supervisor.

Specific objective 4: Ascertain whether perceived transformational leadership styles have an effect on perceived communication styles among employees working in South African manufacturing organisations

The results of the present study indicated specific predictions between transformational leadership styles and perceived communication styles. A higher level of *individualised influence* as transformational leadership style was associated with the communication style of *preciseness*. Furthermore, the findings showed that lower levels of *individualised influence, inspirational motivation,* and *individual consideration* was associated with the style *verbal aggressiveness.* Leaders who challenge assumptions, take risks, and implement followers' ideas, tend to show traits of *intellectual stimulation* (Judge et al., 2004). This may indicate that when leaders utilises the transformational style of *intellectual stimulation,* they may be perceived as communicating in verbally aggressive style (i.e. angriness, authoritarianism, derogatoriness and non-supportiveness) to get their assumptions across to subordinates enabling the latter to achieve their work-related tasks.

The results also revealed that high levels of *intellectual stimulation* were associated with the communication style of *verbal aggressiveness.* Interestingly, results indicated that higher levels of *intellectual stimulation* and lower levels of *individualised influence* were seen as predictors for the communication style of *emotionality*. Furthermore, lower levels of *individualised influence* and higher levels of *intellectual stimulation* were also considered as predictors of *impression manipulativeness* as communication style.

Specific objective 5: Ascertain whether perceived transactional leadership styles have an effect on perceived communication styles among employees working in South African manufacturing organisations

The present study found specific predictions between transactional leadership and perceived communication styles. The findings revealed that higher levels of *contingent reward* and *MBEA* as well as low levels of *MBEP* were predictors of *preciseness.* Furthermore, low levels of *contingent reward* and high levels of *MBEP* were found to be predictors of *verbal aggressiveness, emotionality* and *impression manipulativeness.* These findings partially correspond with previous research, which found that transactional leadership style predicted high levels of communication styles (Pacleb & Bocarnea, 2016; Pacleb & Cabanda, 2014).

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

4.2 Limitations

Regardless of the significant results various limitations emerged while conducting this study. These are expounded below.

Firstly, the sampling method (i.e., convenience sample) introduced a potential bias in this study, although participants were selected from various manufacturing organisations. Therefore, the results cannot be generalised to a broader South African manufacturing population (Etikan, Musa & Alkassim, 2016; Sarstedt, Bengart, Shaltoni & Lehmann, 2018). The sample was distributed unequally among different genders, ethnic, age, and language groups. In addition, the researcher involved the most easily accessible participants for the study since convenience sampling was deemed the quickest and most cost-effective way (Baker et al., 2013).

Secondly, the manufacturing environment is rushed and disruptive with extremely busy schedules. Since the questionnaires took approximately 30 minutes, the researcher had to make an effort ensuring that respondents had sufficient time within a conducive environment to complete the questionnaires.

Thirdly, the present study was limited to the perceptions manufacturing employees' have of their superior's communication styles. This sample limited the collected data to that of the bottom line/blue-colour workers and did not provide rich enough data for detailed guidelines to South African manufacturing organisations on ways to improve leadership communication.

Fourthly, in order to achieve the study objectives, the researcher followed a cross-sectional research design, which means that the data were collected from several groups only once at the same stretch

of time (De Vos, Strydom, Fouché & Delport, 2011). Thus, this research method did not provide sufficiently rich data.

Finally, the study only utilised the other-report questionnaires and not the self-report types. Using both reports could have been more beneficial for a 360 degrees' evaluation.

4.3 Recommendations

The final specific objective of both research articles was to make recommendations for future research, which will be discussed subsequently.

4.3.1 Recommendations for the manufacturing organisations

Notwithstanding the limitations of this study, the present findings have important implications for organisations, as explicated below.

Firstly, these institutions can utilise this validated instrument to measure the communication styles of their employees. The instrument will help human resource (HR) practitioners understand dyadic communication patterns, which would help them develop applicable interventions and training programmes.

Secondly, through the present and similar studies, managements are made aware of the most prevalent styles of communication in their company. It is recommended that they plan and implement interventions that would manage these styles. From their side, employees can be sensitised toward their communication style and adapt their style when dealing with different co-workers, depending on the situation. This will allow HR practitioners to manage communication styles in organisations more sufficiently.

Finally, managements are informed of the different transformational and transactional leadership styles and which communication styles these types of leaders tend to favour. It is recommended that leaders should receive training on the various communication styles and understand the styles they use for transformational or transactional leadership. This training should focus on providing leaders with the necessary skills to use different communication styles when dealing with co-supervisors and subordinates. By implementing such training, leaders and employees alike will learn to utilise communication styles more effectively, which will result in increased productivity and enhanced

performance of the organisation within the wider economic sphere (Arshad, Masood & Amin, 2013; Mustapha & Daud, 2013).

4.3.2 Recommendations for future research

Based on the findings and deduced from the limitations, specific recommendation can be made for future research.

Firstly, considering the significant amount of information and findings gained from the present study, further research is recommended on the validation of the CSI. In addition, these relationships and predictions can be assessed in other organisations and sectors within South Africa for more generalised results. Several organisations in South Africa may have similar organisational issues with leadership and communication styles. Therefore, it is essential for HR management to utilise such an instrument to identify the communication styles of employees within their organisations.

Secondly, future research at the levels where supervisors and subordinates are operating can be expanded by investigating various other organisations, sectors and industries. A more specific recommendation is to investigate how communication styles are perceived by employees in terms of a 360-degree feedback. In other words, including all employees' perceptions of their leaders' communication styles, not only subordinates. Such an investigation at all levels of the organisation is vital since it will determine whether effective communication is influenced, evoked or decreased mainly by communicative behaviours or skills from supervisors or subordinates.

Thirdly, building on the previous recommendation, research must determine how the subordinates' communication styles impact their supervisor as well. Such an assessment is necessary due to a notion that subordinates may avoid or communicate ineffectively with supervisors. This may be due to subordinates' communication styles or skills, or for other unknown reasons, which also cause destructive behaviour and impact outcomes and relationships within the workplace negatively. Further research may also reveal additional barriers to effective communication, which may lead to negative behaviour patterns (e.g. conflict) in the organisation.

Fourthly, it is recommended that future researchers conduct a comprehensive analysis on ways leaders implement their communication styles according to employees' expectations. Such a broad analysis could provide insight into the diverse nature of communication within the climate and culture of the South African manufacturing industry.

Fifthly, communication plays a vital role in organisations' functioning at strategic and practical levels. Since communication is inevitable and interrelated among the various levels of an organisation, further research is necessary. In this regard, focused research must distinguish *internal* (between members or parts of an organisation) from *external* communication, which takes place amongst customers, suppliers, investors or shareholders (Robbins, Judge, Odendaal & Roodt, 2013). The research can investigate the nature or difference of leadership styles and communication styles for internal and external communication in an organisation.

Sixthly, since communication takes place at various levels, the different styles could be explored across organisations and sectors to determine whether the problematic factors, and causes form part of the organisation's structure or culture, or rather are specific to individual traits. Through such a comprehensive research focus, supervisors and HR professionals will gain a better understanding of how communication styles and leadership styles influence employees. A broader research will also identify the prevalent variables and how these emerge within the investigated organisations, sectors or industries. Results from such a comprehensive study will help workplace professionals develop a more accurate, effective, and efficient working environment that may help the organisation gain and maintain a competitive advantage.

Finally, it is suggested that a longitudinal research design be used since it allows the researcher to measure participants over an elongated period, providing more conclusions drawn from richer data (De Vos et al., 2011; Menard, 2002).

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