

**THE STRUCTURAL VALIDATION OF THE SECURE BASE LEADERSHIP SCALE  
WITHIN THE SOUTH AFRICAN CONTEXT**



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## **Declaration**

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Signed: Kaylie Kriel

Date: December 2021

## Abstract

In today's business climate, business leaders compete to stay relevant in a fast-paced, highly innovative, technologically orientated environment. Leadership and executive coaching are a widely recognised and effective strategy for leadership development and change in complex environments. Coaching professionals often utilise psychological instruments to identify opportunities in leaders for training and development purposes. However, the question remains whether these assessments still measure what they set out to, and more specifically whether they are structurally valid (i.e., deemed reliable and valid).

Anchored in Attachment theory, the objective of this study was to assess the structural validity of the Secure Base Leadership Scale (SBLS) developed by Coombe (2010). The Secure Base Leadership Scale (SBLS) consists of 37 items and evaluates the propensity of the leader to possess secure base leadership traits. The SBLS was completed by 137 participants in the South African business sector drawn by means of convenient snowball sampling. Data analysis by means of a confirmatory factor analysis (CFA) and Partial Least Mean Squares (PLS) suggest a poor fit model. Additionally, an exploratory factor analysis (EFA) was performed from which only two high order factors resulted out of the anticipated three. From the results it can be concluded that the Secure Base Leadership Scale (SBLS) did not successfully replicate in a multicultural South African context and therefore cannot be deemed structurally valid. This research provides evidence that the existing Secure Base Leadership Scale (SBLS) cannot be confidently utilised by leadership development practitioners in a South African context and requires further empirical development.

*Keywords: Attachment Theory, Secure Base Attachment, Secure Base Leadership, Structural Validity, confirmatory factor analysis, partial least mean squares, exploratory factor analysis*

## Opsomming

In die huidige sakeklimaat ding sakeleiers dikwels mee om kompetent te kan wees in 'n vinnige, hoogs innoverende en tegnologies-georiënteerde omgewing. Leierskap en uitvoerende afrigting word algemeen erken as effektiewe strategie vir leierskapontwikkelings en verandering in kompleks omgewings. Professionele afrigters gebruik dikwels sielkundige instrumente om geleenthede in leiers te identifiseer vir opleidings- en ontwikkelingsdoeleindes. Die vraag bly egter of hierdie assesserings wel meet wat dit veronderstel is om te meet, en meer spesifiek of dit struktureel geldig is (d.w.s. as betroubaar en geldig geag word).

Gebaseer op Gehegtheidsteorie was die doel van hierdie studie om die strukturele geldigheid van die Secure Base Leadership Scale (SBLS), ontwikkel deur Coombe (2010), te beoordeel. Die Secure Base Leadership Scale (SBLS) bestaan uit 37 items en evalueer die geneigdheid van leiers om gehegheidsleierskapseienskappe te demonstreer. Die Secure Base Leadership Scale (SBLS) was voltooi deur 137 deelnemers in die Suid-Afrikaanse sakesektor verkry by wyse van gerieflike sneeubalmonsterneming. Dataontleding deur die gebruik van bevestigende faktor analise (Confirmatory factor Analysis of CFA) en PLS (Partial Least Mean Squares) dui op 'n swak pasmodel. Daarbenewens, is die data onderwerp aan verkenende faktor analise (exploratory factor analysis) waaruit slegs twee hoë-orde faktore uit die verwagte drie konstruke bevestig is. Uit die resultate kan die gevolgtrekking dus gemaak word dat die SBLS nie suksesvol repliseer in 'n multikulturele Suid-Afrikaanse konteks nie en kan dit dus nie as struktureel geldig geag word nie. Hierdie navorsing lewer bewys dat die bestaande Secure Base Leadership Scale (SBLS) nie met vertroue deur leierskapsontwikkelingspraktisyns in 'n Suid-Afrikaanse konteks gebruik kan word nie en dat dit verdere empiriese ontwikkeling benodig.

Sleutelwoorde: Gehegtheidsteorie, veilige basishegtheid, veilige basisleierskap, strukturele geldigheid, bevestigende faktorontleding, gedeeltelike minste gemiddelde kwadrate, ondersoekende faktorontleding

## Acknowledgements

This research originates from Duncan Coombe's (2010) doctorate. This work was further developed by George Kohlrieser and Susan Goldworthy whom subsequently published this research in a book titled "Care to Dare: Unleashing astonishing potential through secure base leadership".

This research challenged me to reflect on the type of leader I currently am, the kind of leader that I want to become and the types of leaders that I have crossed paths with. I believe a leader is someone who has the courage to see the potential in others and are brave enough to take the responsibility to develop that potential.

I would like to sincerely thank the following people, who have supported me during this challenging academic journey:

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## Research Caveat

This study was originally titled: *Structural validity and measurement invariance across gender of the Secure Base Leadership Scale (SBLs)*. The study was directed by the research question which stated: *What are the psychometric properties of the Secure Base Leadership Scale (SBLs) in a South African business context and how does it perform across gender groups?*

The study aimed to: 1) *Evaluate the structural validity of the Secure Base Leadership Scale (SBLs) when administered in the South African context, and 2) Evaluate the measurement invariance across gender groups for the Secure Base Leadership Scale (SBLs)*.

Due to the nature of the research design (i.e., measurement invariance), the original study aimed to collect data from a large sample population ( $N = 400$ ; 200 males and 200 female responses) which met specific sample criteria. The ideal participant would be a South African leader (in junior, middle, or senior management) in a medium to large organisation (> 60 employees), who had at least one direct report and at least one year's experience in a leadership position. Prior to submitting the proposal for ethical clearance, the researcher identified and obtained organisational permission from suitable organisations to distribute the research survey to assist in achieving the desired sample size. Ethical clearance for the original study was granted in July 2020. Thereafter, data collection commenced in August 2020.

In August 2020, the South African world of work was severely affected by the COVID-19 pandemic. The economy had gone through a severely restrictive hard lockdown (level 5 and 4) with no indication of a successful recovery.

In September (after a month of data collection efforts, lockdown level 3), only 84 participants had completed the survey. The researcher then contacted the identified organisations and individuals in the researcher's personal network for feedback. The following challenges were apparent:

- The sample criteria was limiting for individuals in the researcher's personal network as most leaders were entrepreneurs or small business owners and did not meet the full criteria (specifically the item of working for a medium- to large organisation with more than 60 employees)
- Due to the COVID-19 pandemic, the large pre-identified organisations were downsizing and/or restructuring and postponed and/or cancelled the permission to assist with data collection.

After consultation with the Departmental Ethics Committee, a decision was taken to amend the sample criteria. These changes did not require additional ethical clearance. It was determined that the ideal participant would be a South African leader (in junior, middle, or senior management) *in any sized organisation across any industry*, who had at least one direct report and at least one year's experience in a leadership position. After the second month of data collection the researcher had collected an additional 46 responses ( $n = 120$ ). However, this was still well below the desired 400 responses required to run the original proposed study.

In subsequent consultation with the Centre for Statistical Consultation it was determined that a minimum of 100 responses would be sufficient to run a validation study. Thereafter, the researcher and research supervisor made the decision to amend the research title, question, and objectives. This decision was based on the response rate for data collection after three months of attempts at aggressive data collection. A further 32 responses were obtained, and the survey was closed in November 2020. The following study reports on the amended research question and objectives stated in section 1.2.

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## 1. Introduction

Modern-day organisations are faced with a more complex, uncertain, and competitive landscape than in earlier times (Landy & Conte, 2016), due to globalisation and rapid technological innovation (Uhl-Bien et al., 2007). Bohn (2002) found that there is a direct relationship between the overall perceptions of organisational effectiveness and how leaders behave. Similar studies (Larsson & Vinberg, 2010; Wu & Parker, 2017) show that between 20% – 67% of the variance in measures of climate for creativity in organisations is directly attributable to leadership behaviour. Analysts suggest that due to inadequate leadership styles (i.e., the inability to encourage and foster an environment for innovation and ingenuity), South Africa is battling to sustain economic growth and is falling behind other non-western countries (i.e., Nigeria), in terms of relative competitiveness (Alden & Schoeman, 2013). It is evident that leader behaviour and leadership style can promote/demote and support/deteriorate an organisation's ability to foster innovation and development. Consequently, companies invest large sums of time and money into impressive leadership development programmes to improve the functioning of the increasingly diverse management teams and their members (Hogg & van Knippenberg, 2003).

In the quest for leadership development, the last decade has borne witness to an exponential growth in coaches, coaching programmes, and coaching publications (Bachkirova et al., 2014; Bolch, 2001; Campbell Quick & Macik-Frey, 2004; Goldsmith & Lyons, 2011; Passmore & Theeboom, 2015). For instance, the International Coaching Federation (ICF, 2020) reports a 33% increase from 2015 to 2019 with an estimate of 71 000 globally registered coaches. To this end, leadership and executive coaching has emerged as a recognised strategy and is the most widely used intervention utilised for relational leadership development and change in complex environments (Day et al., 2014; Odendaal, 2016; Sperry, 2013). Anecdotal evidence suggests that coaches, within their coaching practices, tend to freely utilise



measurements that do not necessarily have adequate psychometric properties for the context in which they are applied. Therefore, it is of crucial importance to determine the utility of the measurements administered by leadership development domain. With the increased prevalence of leadership coaching in organisations, leadership development programmes and assessment evaluation are imperative to assess the quality of leadership development of interventions (i.e., summative evaluations). In addition, these verification exercises play an important role in the attempt to empirically advance both the development of appropriate assessment metrics and the implementation of different leadership theories and the implementation of leadership development initiatives (i.e., formative evaluation) (Ely et al., 2010; Jones et al., 2016, Odendaal, 2016). More specifically, this study will explore the concept and measurement of secure base leadership in more detail as it extends to the relational leadership development domain. In the world of work, psychological instruments are often utilised for selection and development purposes (Loewenthal & Lewis, 2018). However, there is much debate about the use of these measurements in a multicultural context such as South Africa. With specific reference to leader-follower relationships, not all psychometric assessments successfully replicate in contexts with different cultures and socio-economic circumstances (Meiring et al., 2006)

Traditional leadership assessment focuses on the characteristics of leaders, how they behave, think, and feel (Uhl-Bien et al., 2007). Osborn et al. (2002), suggest that due to the swift context in which leaders operate, it is necessary that measurements should adapt and go beyond the more traditional categorisations of leadership perspectives (i.e., trait approaches, behavioural approaches and/or contingency/situational approaches) (Lourenço et al., 2014; Seers, 2004; Stel, 2015; Yukl, 2013). Researchers (Davidovitz et al., 2007; Mayselless, 2010; Mayselless & Popper, 2007; Popper, 2002; Qu et al., 2015), have found that the affective components responsible for the success and effectiveness of a leader and the organisation are

attributable to the quality of the leader-follower relationship. Consequently, leaders and their followers play a key role in determining whether organisations meet and/or exceed various environmental challenges (Kafetsios et al., 2014; Uhl-Bien et al., 2007; Wu & Parker, 2017). Many researchers have considered exploring the nature and practice of leader-follower-led relationships in the application of the organisation such as Leader-Member Exchange (LMX) theory (Bauer, & Green, 1996; Dansereau et al., 1975; Graen & Uhl-Bien, 1995) and more recently, Attachment Theory (Davidovitz et al., 2007; see also Bowlby, 1973; Coombe, 2010; Maysel, 2010; Maysel & Popper, 2007). However, the question remains as to whether these theories are accurately assessed and measure what they set out to? More specifically whether they are structurally valid (i.e., deemed reliable and valid) in continuously changing environments where leaders rely on their discernment to address various environmental challenges whilst cultivating secure relationships amongst followers which promotes taking calculated risks for the benefit of advancing the organisation.

Anchored in attachment theory, secure base leadership is used for leadership development purposes. The concept of secure base leadership is used by coaches to unlock the potential for high performance – defined as a leader that is attached to the goal and the relationships in context (Coombe, 2010; Kohlrieser et al., 2012). The secure base leadership development process equips the leader to build trust, deliver change and inspire others through reducing feelings of anxiety and fears and to promote an environment fuelled by trust and innovative expression. In response to the Volatile, Uncertain, Complex and Ambiguous (VUCA) state of today's market, the importance of proving the securely based leadership theory is critical (Mumford et al., 2002; Zhang & Bartol, 2010).

Attachment theory (Bowlby, 1973, 1980, 1982) originates in the concept of the relationship between a child and parent, where the child plays a novice dependent role and the parent plays the role of the experienced independent attachment figure (Ainsworth et al., 1978).

Ainsworth and Bowlby (1991) proposed that attachment as a theory and a concept can be applied to social-cognitive and social-relational processes of adult relationships (Andersen & Chen, 2002; Uhl-Bien, 2011). More specific to this research, Popper and Mayseless (2003) suggested that adult attachment theory provides insight into adult relationships in the workplace, with reference to leadership processes and leader-follower relations. Consequently, secure base attachment theory, relates to the nature of the professional relationship between a leader and their followers in the workplace and how it affects leadership and organisational effectiveness (Coombe, 2010; Drake, 2009; Kafetsios et al., 2014; Kohlrieser et al., 2012; Popper & Mayseless, 2003; Wu & Parker, 2017).

With direct reference to Ainsworth's and Bowlby's (1991) original conceptions of the Secure Base attachment style, Secure Base Leadership extends the theory to the leader-follower relationship by relating to the concept of dual control system (i.e., attachment vs. exploration) (Ainsworth et al., 1978). The secure base attachment style is associated with one of four attachment styles. The remaining three 'insecure' adult attachment patterns include Anxious-preoccupied, Dismissive-avoidant, and Fearful-avoidant (Ainsworth et al., 1978). Therefore, secure base leadership is an explicitly 'positive' relationship-based approach to leadership in that it seeks to understand the behaviours of an exemplary type of "leadership as a relationship" (Coombe, 2010), in the absence of the insecure attachment styles. In support of this, Mayseless (2012) argues that leaders with insecure attachment styles are less likely to become effective leaders as compared to leaders who exhibit secure attachment. More so, literature (Davidovitch et al., 2007; see also Coombe, 2010; Mayseless, 2010; Mayseless & Popper, 2007), suggests that secure base leadership predicts the outcomes of leadership effectiveness, psychological safety, and follower job satisfaction.

In comparison to other relational theories (i.e., Leader-Member Exchange), safety and comfort are referred to as the essence of leadership (Wayne et al., 1997), yet research is silent

on the importance of the dynamic in providing opportunities of risk and exploration (Popper & Mayselless, 2003). Alternatively, secure base leadership suggests the importance of providing opportunities for risk and exploration while providing safety and support to obtain optimal benefit for both individuals (i.e., leader and follower) and the organisation (Combes, 2010; Mayselless, 2010). Secure base leadership is anchored attachment theory with a specific focus on the leadership development domain specifically leadership coaching and development (Patterson & Joseph, 2007). Coombe defines secure base leadership as:

A positive relationship-based theory of leadership, that delivers three key tasks: a) providing safety through valuing, accepting, and appreciating; b) providing exploration through offering a source of inspiration and energy for daring, risk-taking and seeking challenge which emphasizes growth, development and potential; and c) dealing with tasks and situations in a positive manner. Coombe (2010, p.24)

To evaluate the associations between a leader's attachment and leadership style, research studies tend to utilise self-report inventories (Davidovitz et al., 2007; Mayselless, 2010). Until recently, one of three versions of the Experiences of Close Relationships (ECR) scale has been the only self-report measurement instruments utilised in the measurement of adult attachment styles in the workplace. However, research is unclear on the psychometric soundness of the ECRs (Wei et al., 2007). Some studies (Coombe, 2010; Davidovitz et al., 2007; Mayselless, 2010) found that the ECR does not translate well to various contexts unless modified. Admittedly, Fraley (2002) and Wei et al., (2007) argue that the ECR is problematic in some applications despite the fact that it appears to be a reliable and valid measure that has been widely utilised in coaching and development practises, assessing attachment patterns across the domains of psychology, academia and corporate workplace in the western context (Fraley et al., 2011).

A literature review shows that there appears to be only one measurement tool used to evaluate secure base leadership in an organisational context: the Secure Base Leadership Scale (SBLS) (Coombe, 2010). Coombe (2010) provided evidence that secure base leadership predicts variance on outcome variables (i.e., job satisfaction, psychological safety, and leader effectiveness) in a manner that is distinct from existing leadership as relationship constructs (specifically LMX). However, due to the novelty and positive focus of the measurement, the Secure Base Leadership Scale (SBLS) disregards the measurement of the insecure attachment styles and in and of itself requires improvements in item reliability and overall psychometric properties (Coombe, 2010).

Furthermore, the Secure Base Leadership Scale (SBLS) is a product of an explorative study which investigated a combination of positive relationships, love, and secure base attachment to discern whether there is any empirical support for the underlying conceptual work (Coombe. D, email communication, February 23, 2019). Coombe describes the Secure Base Leadership Scale (SBLS) to be in its early stages of development, and that it would benefit from a few more iterations and further development (Coombe. D, email communication, February 23, 2019). In addition, the Secure Base Leadership Scale (SBLS) has only been tested in a Western context utilising European samples and has not been administered or validated in the South African context. Due to the nature of the secure base leadership approach (i.e., positive approach which promotes safety and innovation/risk), this research proposes that it is necessary to structurally validate the Secure Base Leadership Scale (SBLS) in a South African context for the purpose of justifying whether it can be utilised for the development of future business leaders in South Africa. The study will provide the necessary foundation on which future Secure Base Leadership Scale (SBLS) research in a South African context could be based to further develop a more robust Secure Base Leadership Scale (SBLS). Coaches and organisational practitioners would benefit from the use of this measure as the results could

highlight areas of individual development which can be directed to promote individual and organisational effectiveness through fostering positive relationships which breed brave innovative leaders. It is however of critical importance that coaching practitioners strive to understand and question the knowledge base which drives coaching (Odendaal, 2016).

### **1.1 Definition of the problem**

With an emphasis on the structural validity of the Secure Base Leadership Scale (SBLS), this study is driven by two motives: 1) the duty to understand and accurately assess secure attachment with the Secure Base Leadership Scale (SBLS) for the purposes of leadership development; and 2) the need for this information to become available within a South African context. Against this background, this study's purpose is to establish the utility of the Secure Base Leadership Scale (SBLS) in the South African context.

The research question is stated as: *What are the psychometric properties of the Secure Base Leadership Scale (SBLS) in a South African business context?* As the main aim of this study is to better understand the concept of the Attachment Theory and to determine the utility of Secure Base Leadership Scale (SBLS), both non-empirical theoretical and empirical objectives will be presented. The objectives of this study are:

- 1) The non-empirical theoretical objective is to describe the concept of Secure Base Leadership as applied in leadership development domain. More specifically to describe:
  - 1.1. The relational Secure Base Leadership theory.
  - 1.2. The role of Secure Base Leadership in organisations.
  - 1.3. The relationship between a Secure Base leader and followers.
  - 1.4. The development of Secure Base Leadership Scale (SBLS).
- 2) The empirical objectives are to evaluate the structural validity of the Secure Base Leadership Scale (SBLS) as administered in the South African context, and

- 3) To determine the functional application of the existing Secure Base Leadership Scale (SBLS) within the South African context.

## **1.2 Chapter Overview**

*Chapter 2* provides a review of the literature surrounding Secure Base Leadership (SBL). It discusses the construct by delving into the foundations of Attachment theory, relational-leadership theories, and leadership effectiveness models. Furthermore, the literature review conceptualises the role the Secure Base Leader and the development of the Secure Base Leadership Scale (SBLS)'s structural utility.

*Chapter 3* serves to provide the methodological approach to the study. The chapter discusses the research strategy implemented to collect and analyse data in conjunction with the statistical techniques utilised to answer the research objectives.

*Chapter 4* presents and discusses the results found in chapter three. All statistical tables and figures are demonstrated in this chapter.

*Chapter 5* discusses an overview of the research findings in relation to literature. Furthermore, this section will identify the limitations to the study and makes research and managerial recommendations for future studies.

## 2. Literature Review

### 2.1 Introduction

The literature review utilises a systematic argument to justify the theoretical objective of the research study. In the initial argument, the importance of relational orientated leadership will be discussed. This will be followed by a discussion on the comprehensive theoretical background of attachment theory related to Secure Base Leadership (SBL). Reference will be made to effective leaders and other relational leadership theories. Furthermore, the role that a secure base leader plays in the organisation; the context in which secure base leaders have been found to exhibit secure base styles; the dyadic relationship between securely based leaders and their followers, and the gender differences in leadership development will be discussed. Attention then shifts to the use of secure base leadership in coaching practices for leadership development. The literature study ends with a detailed discussion of the current Secure Base Leadership Scale (SBLS) and its psychometric properties (Coombe, 2010).

### 2.2 Relationship-orientated leadership

The exploration of the relationship-orientated behaviour in the leadership domain dates to the organisational literature found in the late 50s (Stogdill & Coons, 1957). However, only in the last 21 years has *relational leadership* been extensively studied (Brower et al., 2000; Drath, 2001; Hollander, 1992; Junker & van Dick, 2014; Murrell, 1997; Qu et al., 2015; Uhl-Bien, 2003). Traditional leadership research explores leadership behavioural styles that are relationship-orientated (i.e., behaviours that are supportive and considerate or behaviours directed at developing high-quality work relationships) (Brower et al., 2000; Graen & Uhl-Bien, 1995). The study of leadership proposes that the Relational Leadership Theory (RLT) framework is a social influencing process. Uhl-Bien (2011) considers two perspectives: the *entity perspective* and the *relationship perspective*. The entity perspective approaches relationship-based leadership by means of focusing on the individuals (e.g., the leaders and



followers) and their behaviours, personalities, intentions, perspectives, expectations, and evaluations relative to their relationships with one another (Uhl-Bien et al., 2000, 2014). The relational perspective recognises that organisational phenomena exist between these interdependent relationships. Therefore, it does not focus on identifying individual leader behavioural attributes or exchanges. Instead, it focuses on the social construction processes where certain understandings of leadership are produced (Uhl-Bien, 2011).

On the other hand, and more specific to this study, the Attachment Theory (Ainsworth & Bowlby, 1991) framework – which has been extended to the leadership domain – examines the attachment processes at a dyadic level (i.e., between two people), rather than at the individual level (Ben-Ari & Lavee, 2005; Furman & Simon, 2006). A dyadic approach studies both the leader's and the follower's effect on each other simultaneously in relation to the organisation. The leader's effects are defined as the effects of the leader's own characteristics on the behaviours and outcomes of themselves and the follower. Alternatively, the follower's effects are the effects of the follower's characteristics on the behaviours and outcomes of themselves and the leader (De Sanctis, 2012). This is of importance as multiple perspectives are acquired (i.e., of the organisation, its structure, and the individuals). As a result, it is argued that efficiency can be influenced, whether this be positive or negative, at multiple levels (Day, 2000; Day & Harrison, 2007; Walumbwa & Hartnell, 2011; Wang et al., 2011).

Literature (Graen & Uhl-Bien, 1995; Yukl et al., 2002), supports the notion of a leadership taxonomy which aims to encourage an integrative and multiple domain approach which is directed at the leader, the follower and the dyadic relationship between leader and follower. Popper et al. (2004) suggests and is supported by Uhl-Bien (2011), that an integrative approach to relational-orientated leadership is more likely to produce effective results, “The conceptualization of leadership as relationship permits an integrative view of leaders, followers and circumstances and reduces the bias of giving too much weight to the leader” (Popper et al.,

2004). It has been found (Ainsworth et al., 1978; Bowlby, 1982; Mayseless, 2010; Popper & Mayseless, 2003), that Attachment Theory has been successfully placed in the leadership processes and relationship-based approach alongside theories such as the Leader-Member Exchange (LMX) theory (Coombe, 2010; Graen & Uhl-Bien, 1995). Leader-Member Exchange (LXM) theory considers the quality of the relationship between the leader and their sub-ordinate and the consequence how the sub-ordinates' behaviours effect the leader-follower dynamic. Consequently, a leader's attachment concerns itself with the quality of the professional relationship between leader, follower, the organisation in favour of organisational effectively and employee ingenuity (Crowell et al., 2008; Fraley & Shaver, 2000; Pietromonaco & Barrett, 2000; Popper & Mayseless, 2003; Rholes & Simpson, 2004). Therefore, it is suggested (Popper & Mayseless, 2003) that attachment theory may be a useful framework in which to understand leader-follower relationships.

### **2.3 Effective leaders as attachment figures**

Attachment theory (Bowlby, 1973, 1980, 1982) originates in the concept of the relationship between a child and parent, where the child plays a dependent role and the parents play the role of the experienced-wiser primary attachment figure (Ainsworth et al., 1978). In an expansion experiment known as the "Strange Situation" (Ainsworth & Bell, 1970; see also Ainsworth et al., 2015; Bowlby et al., 1956; Bretherton, 1992; Bretherton & Waters, 1985), provided evidence of three attachment patterns in infants: 1) Avoidant; 2) Ambivalent and, more relevant to this research; 3) Secure (Main et al., 1985). The model was subsequently expanded to include a fourth attachment pattern, called the 'Detached Attachment' style (Main & Solomon, 1986).

The research was furthered when Ainsworth and Bowlby (1991) proposed that attachment as a theory and a concept applied to the social-cognitive and social-relational processes of adult relationships. Consequently, four supplementary patterns of adult attachment

patterns were produced and extended attachment theory to adult relationships. These four adult attachment patterns are namely: 1) Secure; 2) Anxious-preoccupied; 3) Dismissive-Avoidant; and 4) Fearful-avoidant (Hazan & Shaver, 1987; 1990; 1994; Fraley & Waller, 1998; Fraley & Shaver, 2000; Scharfe & Bartholomew, 1994).

Table 1 presents a broad overview of the behavioural patterns of the four attachment styles. While Anxious-preoccupied attachment; Dismissive-avoidant attachment and Fearful-avoidant attachment are classified as *insecure* attachments styles of leadership, the *secure* attachment style is associated with the securely based leader within the attachment domain (Ainsworth et al.,1978). Subsequently, secure base leadership has been anchored in attachment theory and extended to leader-follower relationships.

**Table 1**

*Adult Attachment Behavioural Patterns*

Attachment Pattern	Common Behaviours
Secure	<ul style="list-style-type: none"> <li>• Positive self-image and image of others and relationships</li> <li>• Have trusting, lasting relationships</li> <li>• Are comfortable sharing feelings with others</li> <li>• Seek out social support</li> </ul>
Anxious-preoccupied	<ul style="list-style-type: none"> <li>• Seek high levels of intimacy, approval and responsiveness from others</li> <li>• Overly dependent</li> <li>• View themselves and others as: less trusting and in less of a positive way</li> <li>• Exhibit high levels of emotional expensiveness, worry and impulsivity in relationships</li> </ul>

Attachment Pattern	Common Behaviours
Dismissive avoidant	<ul style="list-style-type: none"> <li>• Desire high levels of independence, problems with intimacy, avoid attachment completely</li> <li>• View themselves as self-sufficient, invulnerable to feelings and do not require close relationships</li> <li>• Suppress feelings and deal with rejection through distraction</li> <li>• Invest little emotion in social and romantic relationships</li> <li>• Unwilling or unable to share thoughts or feelings with others</li> </ul>
Fearful avoidant	<ul style="list-style-type: none"> <li>• Mixed feelings of close relationships</li> <li>• Desire and avoid emotional closeness, reluctant to become close to others</li> <li>• Become very distraught when relationships end</li> <li>• Mistrust in relationships</li> <li>• View themselves as unworthy</li> <li>• Seek less intimacy</li> </ul>

*Note.* Content compiled and adapted from: Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: a test of a four-category model. *Journal of personality and social psychology*, 61(2), 226; Cassidy, J., & Berlin, L. J. (1994). The insecure/ambivalent pattern of attachment: Theory and research. *Child development*, 65(4), 971-991; Bartholomew, K., & Shaver, P. R. (1998). Methods of assessing adult attachment. *Attachment theory and close relationships*, 25-45; Hazan, C., & Shaver, P.R. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology* (3): 511–24. doi:10.1037/0022-3514.52.3.511. PMID 3572722; Hazan, C., Shaver, P.R. (1990). Love and work: An attachment theoretical perspective. *Journal of Personality and Social Psychology* 59: 270 80. doi:10.1037/0022–3514.59.2.270.

To make use of Freud's (Abse & Jessner; 1961) analogy of the father as the leader, Popper and Mayseless (2003) suggested that adult attachment theory relates to leadership processes and leader-follower relations. Similarly, research has found that secure base leaders

are likely to adopt the role of the stronger and wiser caregiver by providing guidance and direction during times of distress (e.g., during organisational change) (Mikulincer & Florian, 1995; Mikulincer & Shaver, 2007; Popper & Mayselless, 2003; Popper, 2002; Yukl, 2012). This provides evidence that securely based leaders share qualities related to effective leaders and authoritative parental figures (Popper & Mayselless, 2003). More so, effective leaders strive to earn the follower's trust by providing constructive judgment-free feedback for the purpose of developing the follower's competence whilst constructively challenging them to achieve high standards (Conger & Kanungo, 1987; House & Howell, 1992). Similar to secure base attachment figures, effective leaders foster a supportive and innovative mindset in their team dynamics by coaching and mentoring followers to develop their level of autonomy. This leadership style empowers followers to develop their own leadership capabilities by promoting followers to pursue new challenges and acquire new skills (Bass, 1985; House & Howell, 1992; Howell, 1988). Mayselless and Popper (2007) suggest that leaders that possess the self-confidence and ability to be empathic can effectively tend to followers' needs in times of distress. These securely equipped leaders can successfully comfort and provide safety to remedy employees' discomfort (Mayselless, 2010). Consequently, it can be argued that there are parallels between the behaviours of effective leaders and the behaviours of securely based leaders that will subsequently be discussed in more detail in the sections that follow.

#### **2.4 Attachment theory and other relational theories**

In comparison to various relational theories, the notion of secure base leadership pertains to theories of Dutton and Heaphy (2003), Graen and Scandura (1987), Popper and Mayselless (2003).

Dutton and Ragins (2003) define Positive Relations at Work through three basic elements; 1) relationships; 2) positive relationships; and 3) positive relationships in the workplace. One of the most developed notions of Positive Relations at Work is that of the

Higher Quality Connections (Baker & Dutton, 2007). Dutton and Heaphy (2003) describe the Higher Quality Connections between a leader and a follower as “life-giving or life-depleting” to the extent that an Higher Quality Connections is flexible, strong, and resilient rather than enduring or related to closeness. Dutton and Heaphy (2003) describe three features of Higher Quality Connections. First, the ‘*higher emotional carrying capacity*’, indicated by more expression (positive or negative) of emotion within the relationship. The researchers suggest that Higher Quality Connections have the capacity to withstand and support negative emotions and, in this way have a broader emotional spectrum. Secondly, ‘*tensility*’, which is the capacity of the relationship to withstand strain, conflict and setbacks is described in terms of resilience which promotes greater flexibility in response to changing conditions. Lastly, the third feature, ‘*degree of connectivity*’, refers to the relationship’s generativity and openness to new ideas and influences. Dutton and Heaphy (2003) suggest that the subjective experience of an HQC is “feelings of vitality and aliveness, a heightened sense of positive regard for the other and mutuality” (p. 267).

Interestingly, when focusing on Higher Quality Connections, Dutton and Heaphy (2003) suggest four theoretical lenses, namely, 1) exchange; 2) identity; 3) growth and development; and 4) learning. With the focus on the exchange between leaders and followers, Exchange Theory (Cropanzano & Mitchell, 2005), finds its roots in sociology and social psychology. Exchange theory suggests that social relations involve the *exchange of value* between parties. This particularly pertains to Leader-Member Exchange (LMX) theory (Graen & Scandura, 1987). Graen and Scandura (1987) argue that stronger and more enduring relationships will occur where the value being exchanged is appreciated and significant. This suggests that the relationship between a leader and follower involves the exchange of value between the two (i.e., exchange of money, time, ideas, and physical work) (Graen & Scandura, 1987), whereas Leader-Member Exchange (LMX) theory proposes that leaders do not use the

same style in dealing with all subordinates. Rather, leaders develop a different type of relationship with the subordinate which can range from a relationship based upon an employment contract to a relationship characterised by mutual respect, trust, and reciprocal influence (Linden & Maslyn, 1998). In an Higher Quality Connections, as described by Leader-Member Exchange (LMX), the leader will receive engagement and effort from the followers and the follower will receive responsibility and autonomy from the leader.

The relational theories above refer to the safety/comfort nature of leadership. However, the above theories are silent on the importance of providing opportunities for risk and exploration (Popper & Mayselless, 2003). Though secure base leadership reflects a positive approach to the leadership domain, it emphasises the importance of providing opportunities for risk and exploration, in addition to safety and support to followers. A secure base leader considers the dynamic interplay between both relationships and tasks to obtain optimal benefit from individuals and the organisation alike (Combes, 2010; Mayselless, 2010; Pieterse et al., 2010). Research provides sufficient evidence on the nature of the secure base attachment style (e.g., Coombe, 2010; Davidovitch et al., 2007; De Sanctis, 2012; Kafetsios et al., 2014; Mayselless, 2010; Mayselless & Popper, 2007; Uhl-Bien, 2011). However, there is a paucity of research on how the secure attached style is measured in a business context and whether it would influence the dynamic interplay between leader and follower.

From the above, it is evident that the basic relational theories can indeed be associated with secure base leadership and that secure base leadership offers unique insights into the leader-member relationship theories. However, there is limited information on the application of secure base leadership in the South African business context. The next sections seek to discuss the role a securely based leader assumes in an organisation.

## 2.5 The role of a secure base leader in organisations

The association between attachment and leadership has gained more attention since 2000 (e.g., Berson et al., 2006; Davidovitz et al., 2007; Johnston, 2000; Mayseless, 2010; Popper, 2002; Popper & Amit, 2009; Towler, 2005). Research suggests that individuals with insecure attachment styles (fearful or dismissive-avoidant or anxious) are not well-equipped to occupy the role of the dependable, security-enhancing, effective leader.

The *anxious* attachment style is characterised by being unreliable and unpredictable in response to a subordinate's attachment needs (i.e., proximity, protection, and support) (Bartholomew & Horowitz, 1991). Anxiously attached leaders internalise an egoistic model of the self. These individuals seek to fulfil a leadership role to satisfy their own relational needs rather than focusing on the development needs of others (Mikulincer & Shaver, 2007). For instance, anxiously attached leaders are capable of building close relationships with subordinates. However, it is done to maintain proximity to others and to thus appease their anxiety. Due to their scepticism, anxiously attached leaders are not willing to build close relationships with subordinates. As a result, anxiously attached leaders can be perceived to be approachable but have tendencies to be preoccupied with their own emotions and are sceptical of others' unpredictable manner so are thus in/sensitive or un/responsive to their needs (Mikulincer & Shaver, 2007). Consequently, anxious leaders show little empathy and are ineffective in achieving key task-orientated goals (Davidovitz et al., 2007; Mikulincer & Shaver, 2007).

Similarly, avoidant leaders are ill-equipped to occupy the role of an effective leader (Mayseless, 2010; Popper & Mayseless, 2003). The *avoidant* attachment style is characterised by internalised models of the leader that discourage reliance on others, are unlikely to care or respond to caring behaviours and that have a deactivated or suppressed affective mode of function toward their own and others' feelings or needs. Mikulincer and Shaver (2007) suggest



that avoidantly attached individuals are more likely to be more task-orientated and maintain distance from others to avoid fostering relationships with them. Therefore, avoidant leaders have the tendency to neglect fostering an environment which is conducive to positive interpersonal relations which prioritises the follower's developmental needs. Consequently, avoidant leaders achieve task-oriented outcomes yet are perceived to be unapproachable and unhelpful by subordinates (Davidovitz et al., 2007; Mayseless, 2010).

Through the lens of attachment theory, it is ideal that securely attached individuals occupy leadership positions as they are more likely to understand the importance of building close relationships with colleagues and can prioritise others' needs without being preoccupied by their own hardships (Kobak & Madsen, 2008; Mikulincer & Shaver, 2007). The *secure* attachment style is characterised by a positive mental model of relationship. This means that securely attached individuals are likely to accurately recognise the needs of others and to be empathic, sensitive, and responsive. Securely attached leaders focus on guiding others in a caring manner and engage in prosocial, altruistic behaviours. Furthermore, these leaders have the capacity to manage the follower's focus on workplace tasks with the need to nurture the follower's developmental competencies (Davidovitz et al., 2007). The secure attachment style is the foundation on which the concept of the secure base individual is founded (Bowlby & Ainsworth, 1991). Therefore, for the purpose of this study, the primary attachment figure will be referred to as the *secure base leader* and the subordinates will be referred to as followers.

The role of a secure base leader is to help subordinates to successfully manage the dynamic interplay of their *attachment* and *exploration* systems. *Exploration* includes variables such as variation, risk-taking, experimentation, play, flexibility, discovery and innovation (March, 1991). *Attachment* behaviours are sensitive and responsive to the follower's needs, provide care, acceptance and listens to concerns (Ainsworth et al., 1978; Coombe, 2010). A *secure base* aims to provide comfort and safety to followers, in the service of a calculated risk

(i.e., encouraging enterprising behaviours related to exploration and ingenuity, such as discovery or learning) (Coombe, 2010). This said, a secure base leader will not do the work for employees rather, the securely based leader will empower and equip the employee to exceed in the task at hand. In an organisational context, the attachment and exploration dynamic are referred to as the safety and risk factors respectively (Coombe, 2010). Therefore, the bond created between leader and follower sets the tone for the leader-follower relationship to be successful (Kobak & Madsen, 2008). It has been established that secure base leadership contributes a unique theoretical basis to relational leadership literature. From the above, further insights provide evidence that secure base leaders play an important role in fostering quality relational bonds with subordinates. However, it is still unclear whether secure base leaders can be found in various contexts. The following sections aim to discuss whether secure base leaders can be found in various contexts across different groups.

## **2.6 Secure base leadership in context**

Secure base leaders are associated with socialised leadership styles (leaders that use power to serve and empower others and align their vision with followers' needs and aspirations) and greater effectiveness (Coombe, 2010; Ravitz et al., 2009). A study done on cadets in the Israel Defence Forces found support for this contention (Popper, 2002). Evidence shows that avoidant attachment is indeed associated with qualities similar to personalised leaders (a leader that puts their own needs and interests ahead of their followers).

A study based on a military leadership training course (Popper et al., 2000, 2004) examined whether a leader's attachment style influences the likelihood of becoming a transactional or transformational leader. A positive correlation between the dimensions of the transformational leadership and secure attachment styles was found. Subsequently, researchers found that those individuals with attachment insecurities (i.e., avoidance and anxiety), were associated with lower levels of transformational leadership qualities. Similarly, Berson et al.

(2006) supported this notion with their study on undergraduate management students. The study revealed that securely attached individuals portrayed warmer and more relational-orientated manners toward others, in addition to perceiving themselves as more effective than insecurely attached individuals.

Grosvenor and Boies (2006) conducted a study which examined the leadership processes of employees from various organisations (i.e., a large hospital, an investment bank firm, and a manufacturing company). It was found that secure attachment positively correlated with the leader's attachment style with reference to: transformational leadership ability; quality of leader-member exchange; leader compassion and employees' trust in their leader (Gerstner & Day, 1997; Howell & Hall-Merenda, 1999). Likewise, Johnston (2000) found that securely attached dairy farm managers perceived their employees as more reliable and reported less inter-employee conflict. In addition to this, securely attached dairy farm managers were more likely to delegate responsibility and power to subordinates and to encourage employee participation when setting business goals.

Towler's (2005) study, based on undergraduate students, reported that the students who had been securely attached to their parents were more likely to display charismatic leadership behaviours. Similarly, an American study (Benson et al., 2006), which randomly allocated management students into work teams, investigated the relationship between an individual's attachment and leadership style. This study confirmed that participants with a secure attachment style were rated more likely to emerge as team leaders when compared to anxiously and avoidantly attached team members. Collectively, these findings support the argument that securely attached individuals have the propensity to be effective leaders, trust others and provide opportunities for growth and development in volatile environments. This provides evidence that the qualities of a secure base leader are present in various uncertain contexts among various leadership roles. Furthermore, it is unclear whether group differences (i.e.,

gender, age, cultural background) impact a leader and their followers' propensity to develop secure base leadership skills. Despite the slow increase of women in higher management roles, women still lag far behind their men counterparts in terms of representation in executive management and CEO positions (Booyesen & Nkomo, 2010). One of the greater challenge's organisations faces, are to assimilate a diverse labour force in senior management positions across various contexts (Chaluvadi, 2015). The following sections aim to discuss the importance of gender differences in leadership development practices.

## **2.7 Gender differences in leadership development**

Throughout research, gender differences can be found across many behavioural constructs such as personality traits, ability, and interests to name a few (Antonakis et al., 2003; Ayman & Korabik, 2010; Eagly et al., 1990; Finger & Weber, 2011; Hoffman et al., 2011). Findings regarding the differences in leadership behaviours based on gender are contradictory. Some research reports small differences between the leadership style of men and women (Eagly & Johnson, 1990; Northouse 2007; Snaebjornsson & Edvardsson, 2013). Whilst other studies find no evidence to support the difference in leadership styles (Eagly & Johnson, 1990; Ferrario & Davidson, 1991; Gardiner & Tiggemann, 1990). Furthermore, there is currently limited information regarding women in managerial and leadership roles in African countries (Booyesen & Nkomo, 2010). Not only should gender in leadership development be taken into consideration given the professional, political, cultural, and personal realities of the twenty-first century (Eklund, Barry, & Grunberg, 2017), it can assist in optimising leadership effectiveness (Fletcher, 2004; Gagné, & De-ci 2005).

Research reveals that companies with a high representation of women on the board have a higher average capital performance in comparison to companies with fewer women on the board (Catalyst, 2007; Costa et al., 2012; Radu et al., 2017; Wilson & Atlantar, 2009). George (2012) argues that this is attributed to the diverse thinking styles of both men and women.

Moreover, companies with a higher percentage of women in managerial positions are found to exhibit better corporate governance and ethical behaviour (Costa et al., 2012). On the contrary, Yukl et al. (2002) found no gender differences in the effectiveness of board members.

The inconclusive findings suggest that there are various limitations of research based on gender differences in leadership. Accordingly, Yukl (2013) suggests that research focused on gender differences in leadership studies require more systematic and comprehensive insights. More so, Yukl suggest that majority of studies on gender differences in leadership do not control for extraneous variables (i.e., age, experience, or cultural background) that negatively affect the interpretation of the results. These methodological errors cause biases toward the skills and performance of men and women in the same roles. Eagly and Chin (2010) argue that the measurement of leader behaviour, skills and performance for men and women in the same role can also be falsely inflated or deflated due to common gender stereotypes (e.g., male leaders are more strategic and less emotionally orientated and women leaders are more people orientated and better at soft skills). To the same end, the role expectations that leaders have can influence the leader's behaviour or skew the discovery of any gender differences in the measurement process. This problem is emphasised by the type of data analysis method used to interpret the results. For instance, it has been found that research studies often report statistically significant results but are silent on the practical significance or the effect sizes. This advocates that the utility of some of the research based on gender differences in leadership is limited due to confounding variables within the studies and the lack of representability it reports. Given the inconsistent evidence these limitations, further research on the gender differences in leadership is warranted.

Research (Burke & Collins, 2001; Chuang, 2013; Eagly & Carli, 2012; Gorska, 2016) pertaining to leadership styles reveal that women are more likely to adopt a democratic/participative leadership style than men who tend to exhibit a more

directive/autocratic leadership style. Likewise, with reference to relational leadership theory, literature (Andersen & Hansson, 2011; Burke & Collins, 2001; Eagly & Johnson, 1990; McKinsey, 2009) provides evidence that women are more likely to exhibit a transformational leadership style, in addition to being less hierarchical, more collaborative, and more orientated toward the development of others. Men are more likely to show transactional- and laissez-faire leadership styles.

When examining gender differences across relational leadership measurements findings are inconsistent. Barbuto and Gifford (2010) found no significant gender differences among servant leaders who participated in the Servant Leadership Questionnaire (Barbuto & Wheeler, 2006; Reuvers et al., 2008). However, in the evaluation of the Multifactor Leadership Questionnaire, Antonakis et al., (2003) found average differences for men and women on four leadership factors. The researchers found that women scored significantly higher than men on factors relating to, individualised consideration, transformational leadership, and contingent reward leadership. However, women scored significantly lower than men for factors related to passive leadership (i.e., laissez-faire). These findings suggest that females have the preference to exhibit leadership behaviour related to transformational leadership style and are “more active constructive transactional leaders” (Antonakis et al., 2003, p.279) and concerned about issues related to clarity and fairness. Conversely, Kent et al. (2010) found no differences for transformational and transactional leadership across genders. As for leader-member exchange theory, various studies (Ayman & Korabik, 2010; Rai, 2009; Wang et al., 2017) reported mixed and inconsistent results in the mean differences for women and men in different contexts. Putney (2017) suggest these inconsistencies are due to studies related to diversity of LMX. More specifically, it has been found that women leaders experience lower LMX when they have men subordinates (Bhal et al., 2007). More so, Ayman and Korabik (2010) suggest that the composition of the gender dyad moderates the relationship between LMX and employee

satisfaction. Several studies have investigated gender effects on LMX in countries such as the United States (Ayman & Korabik, 2010), India (Rai, 2009), China and Malaysia (Wang et al., 2017, Lo et al., 2009), South Africa (Milner et al., 2007) and various contexts such as the Hospitality Industry and Multinational companies, respectively. Similarities throughout the studies show that gender moderates the LMX between men and women, where the gender of the manager and the subordinate are the same.

With reference to leadership capability, evidence suggests that women are relationship orientated and can intuitively notice when employees need support as compared to men, who are task-orientated and autonomous (McKinsey, 2009). Based on a study of 7280 leaders where respondents rated men and women based on criteria of 16 competencies, Zenger, and Folkman's (2012) found the largest differences in favour of women related to constructs such as taking initiative, practising self-development, integrity and honesty and driving results. In support of this, Nielsen and Huse (2010) found that though men and women do not differ in their ability to complete operational tasks, evidence shows that women bring different perspectives to strategic decision-making through their increased sensitivity to others. Moreover, findings (Cunningham & Roberts, 2012; Hoffman et al., 2010; Oshagbemi & Gill, 2003), demonstrate generalisations that women are more; risk-averse, react with feeling, have higher social sensitivity and delegate less. While men, in general, are overconfident, react with action, are more optimistic and more instructive.

It is further argued that leaders differ according to the expectations placed on them from traditional gender roles dictated by society, culture, and organisations cultures (Burke & Collins, 2001; Patel & Buiting, 2013; Paustain-Underdahl et al., 2014, Vinnicombe & Singh, 2002;). For instance, when taking rating source into consideration (i.e., self-rated or other-rated) women are rated as significantly more effective leaders than men in senior and middle management positions. However, with reference to self-ratings, women rated themselves

significantly less effective in senior management than men (Paustain-Underdahl et al., 2014). This is attributed to the gender roles assumed by women and men and whether they assume a 'masculine', 'feminine' or 'androgynous' leadership style. This suggests that the leader's perception of themselves and the nature of their surroundings (male or female dominated) can affect their leadership style and influence the perception of their followers (Eagly & Carli, 2012; Kark et al., 2012; Vinkenburger et al., 2011).

It is reported that leadership development programmes are reproducing masculine leadership styles therefore neglecting the opportunity to utilise the gender differences in leadership to improve organisational performance (Ely et al., 2011; Paris et al., 2009; Patel & Buiting, 2013; Radu et al., 2017; Vinnicombe & Singh, 2002). Though Radu et al., (2017) concur that men and women's leadership styles are complementary, researchers urge for the management of diversity and developing diverse leaders through tailored development programmes for men and women (Eagly & Chin, 2010; Patel & Buiting, 2013). Vinnicombe and Singh (2002) argue that men's development is usually linked to the need to strengthen their identity and empower themselves to only later venture into intimacy and acceptance of others as equal to themselves, whereas women value being experts in their field, personal accomplishment, self-development, and balancing work- and personal life.

With reference to attachment styles, evidence shows that there are indeed gender differences among attachment styles (Karairmak & Duran, 2008). Del Giudice (2009) and Milkulincer and Shaver (2007) suggest that men are more likely to be avoidantly attached whereas the women counterparts are more anxiously attached. Keklik (2011) found that men and women only differ on attachment-related avoidance and gender can only partially predict attachment styles. Whilst in a sample of university students, men perceived themselves as more securely attached than women who perceived themselves as more fearfully attached (Van IJzendoorn & Bakermans-Kranenburg, 2010). With reference to secure attachment, Tonnessen



(2014) reveals preschool girls were categorised to be securely attached twice as often than their boy counterparts. Interestingly, Levy et al. (2011) demonstrated that the age and gender composition of samples moderated the relation between attachment security outcomes. This limited research suggests that throughout attachment literature, and more specifically regarding secure attachment theory, gender has not been considered as an important factor in the development of individual attachment.

In conclusion, the varied findings indicate distinctions between the leadership behaviours of men and women and how these differences influence decisions and outcomes of leadership styles. With the rise of women to leadership positions in the workplace, it is imperative that leadership development programmes and practitioners, take heed of the possible bias of sub-standard measurement instruments and whether leadership development programmes should be tailored to the skills that the leaders possess and need to develop.

Success in today's volatile markets require organisations to optimise the talent available to them. To do so, developmental, and transformational practitioners need to identify, develop, and promote effective leadership behaviour through reliable and accurate measures regardless of gender. Therefore, it is important to consider how gender is related to the leadership domain for tailored leadership development initiatives (Eklund et al., 2017). In addition, it would be useful to determine whether these differences play a role in developing secure base leadership quality in others. The following sections aim to discuss the importance of the relationship between the secure base leader and their follower/s.

## **2.8 The dyadic relationship between secure base leaders and followers**

Since attachment theory is a framework for understanding relationships, much of the related research focuses on examining attachment processes at a dyadic level instead of the individual level (Ben-Ari & Lavee, 2005; Furman & Simon, 2006).

According to attachment theory, the subordinates' attachment needs are active (i.e., always present) and at their strongest in times of crisis (i.e., when the sense of protection and certainty is under threat or the subordinate is distressed and uncomfortable) (Ainsworth, 1978; Davidovitz et al., 2007; Mayseless, 2010). In more certain times, the subordinate's attachment needs, though still present, are less prominent, which allows the subordinate the opportunity to explore and venture out to take opportunities (Ainsworth et al., 1978).

A follower's attachment pattern is activated during the first encounter with the leader (Berne, 1961). Here, the follower will perform an appraisal to consider whether the counterpart has a personal stake in the interaction (i.e., are their goals aligned with their values and interests) or whether the transaction has any significant outcome (i.e., none, desirable or threatening) (Lazarus & Folkman, 1987). As a result, the follower's attachment pattern will be activated and would accordingly dictate various behaviours (Popper & Mayseless, 2003). Based on this, one can infer that the transactional model plays a key role in the dyadic relationship as it assists in the understanding of the interplay between people, how they interact with others and their environment (Cummings & Cicchetti, 1993; Lazarus, & Folkman, 1987; Rogers, 2013; Sameroff, 1975). This suggests that the outcomes of the dyadic relationship can be predicted to the extent that there are similarities between the leader's and the followers' attachment style (Howell, & Hall-Merenda, 1999; Roth et al., 2009; Senchak & Leonard, 1992).

With reference to secure base relationships, it was found that couples who are both securely attached report to be more positive, have effective communication and problem-solving dialogue, higher levels of trust and experience higher degrees of social support in stressful situations (Dickstein et al., 2001). Conversely, insecurely attached couples reportedly cripple the dyadic functioning due to their lack of openness to communicate and the method of destructive conflict management strategies (Bouthillier et al., 2002). Moreover, findings show

the combination of an anxiously attached individual and an avoidantly attached individual, result in the anxious individual displaying violent behaviour when the avoidant partner withdraws from resolving the conflict (Allison et al., 2008). Furthermore, Meredith et al. (2006) advocates that the relationship between two anxiously attached individuals can result in both partners feeling misunderstood and rejected and as a result the individuals would focus on their own insecurities whilst attempting to control the behaviours of the other.

Considering the research on secure base relationships with couples and the application within a business context, the presence of a securely attached individual in the relationship can mediate the negative effects of insecurely attached individuals by enhancing relationship satisfaction (Mikulincer & Shaver, 2007). Evidently, it is ideal that both leader and follower have secure attachments, if not, at least one of the individuals in the relationship should be securely attached. This then begs the question; can a leader influence or alter a subordinate's attachment style in favour of the ideal dynamic (secure base leader: secure base follower)?

Though an individual's internal attachment model seems to remain stable over time, there is evidence that attachment styles are not fixed and can be altered or influenced (Bretherton, & Munholland, 1999; Coombe, 2010). Supported by Hunt et al. (1999), research suggests that due to human maturity, adults have the knowledge that all attachment figures are not without fault. Hence, it follows why followers are likely to purposefully diversify their primary attachment figure/s to ensure that their attachment needs are met by various attachment figures in various situations (Mayseless, 2010). Mayseless (2010) also claims that primary attachment figures can be context-specific, whether it be a romantic partner (Hazan & Shaver, 1994), a therapist (Fosha, 2000) or a leader in an organisation (Popper & Mayseless, 2003). Likewise, Gillath et al. (2008) suggest that an individual's attachment style may change in accordance with exposure to relevant events or experiences.

For example, in an organisational context, leaders such as managers, supervisors and superiors (i.e., mentors or coaches) may occupy the role of the more capable and competent attachment figure to provide a secure base and safe haven (Popper & Mayseless, 2002). As a result, followers establish attachment relationships with leaders which fulfil the function of protection which they cannot obtain from other attachment figures at the time (Collins & Read, 1990; Mayseless, 2010). Apart from this, basic temperament is also thought to play a partial role in adult attachment theory (Alexander et al., 2002). It is argued that personality changes can occur in a responsive manner. That is, the desired behavioural competencies which assist a leader to be successful in a given environment are also the competencies which change in response to that environment (Griffin & Bartholomew, 1994; Harms et al., 2006). Coombe (2010) proposes that individuals with secure attachment styles have a predisposition or tendency to relate to others when entering a new relationship. Consequently, it is expected that followers would exhibit higher levels of secure attachment if their leader were associated with the secure attachment style (Harms, 2011). Keller (2003) investigated the relationship between the attachment styles of followers and leaders and proposed that the combination of a secure base leader coupled with a secure follower is most likely to result in the optimal dyad which characterised by high-quality workplace relations and effectiveness (Keller, 1999, 2003; Keller & Cacioppe, 2001). On the contrary, it seems when a secure base leader is interacting with an anxiously attached follower, the leader may become frustrated with an anxious follower's constant need for attention and reassurance and dislike an avoidant follower's excessive self-reliance.

On the other hand, Shalit et al. (2010) investigated the role the follower's attachment style plays in their appraisals and perceptions of leaders. It was found that securely attached followers favoured relationship orientated leaders who comforted followers in times of need. On the other hand, avoidantly attached followers favoured task-orientated leaders who

distanced themselves emotionally and focused on the need for achievement (Shalit et al., 2010). Evidence reports that the follower's attachment styles set internal expectations on the manner in which supervisors should provide social support which, if deviated from, affects job satisfaction (Schirmer & Lopez, 2001). In support of this, literature (Grosvenor & Boies, 2006; Schirmer & Lopez, 2001) found that anxiously attached followers displayed a need for validation and dependent tendencies which result in feelings of being less satisfied in their jobs where leaders were unsupportive and detached (Boatwright et al., 2010). Due to their need for interpersonal closeness, this suggests that anxiously attached individuals feel distressed when they feel the primary attachment figure is unavailable to provide support. This is because anxiously attached followers experience anger and distress (i.e., emotional threats) when supervisors do not react with expected leadership behaviours in a situation that calls for it (Game, 2008). When leaders were detached from forming close bonds and showed little support the avoidantly attachment followers reported higher job satisfaction (Boatwright et al., 2010). Furthermore, avoidantly attached individuals regard support from their leader as interference as they are highly self-reliant. Finally, securely attached followers reported high job satisfaction when led by leaders who possessed transformational leadership abilities, engaged in establishing quality leader-member bonds based on perceived trust and practised leader benevolence (Grosvenor & Boies, 2006). Furthermore, Boatwright et al. (2010), argues that it seems securely attached followers would be better equipped to approach leaders and ask for assistance or advice and are likely to be more open to receiving constructive feedback from their leader.

Given the above, how would secure base leaders influence their followers to become secure followers? Hazan and Shaver (1990) and Coombe (2010) suggest that this can be learnt. By understanding the dynamic interplay between the secure base leader and follower, the individual can develop the secure attachment style through learned behaviour (i.e., role

modelling a secure base leader) and exposure to tailored learning and development programmes (Grant, 2015). As part of modern-day leadership development programmes, the secure base leadership model can be applied by coaching- and/or learning and development practitioners to assist leaders to build a bond with followers, foster brave innovative behaviour and promote certainty through security. Coombe (2010) suggests that the growth and development of the leader and follower are a defining element of being a secure base. From the above, it has been established that the key characteristics of a secure base leader can be learnt. Accordingly, it is necessary to address what foundational qualities and functions a securely base leader should possess to be able to similarly influence follower/s.

To become a securely based leader, one must first become a 'secure base'. The three functions a securely based leader is expected to fulfil are to: a) serve as a *secure base*, which entails providing a sense of security when the attached individual is not distressed, thus fostering exploration, creativity, and personal growth; b) serve as a *safe haven*, which entails providing comfort, support, encouragement, and protection when the attached individual is distressed; and c) to maintain *proximity* (psychological or physical) to serve the need of closeness in times of stress and need (Davidovitz et al., 2007; Mayseless, 2010). To fulfil these functions, a securely based leader must meet the followers' needs by portraying qualities in line with a secure attachment style, such as: being accessible, staying calm, listening, being self-confident and showing empathy and care (Mayseless & Popper, 2007; Mikulincer & Shaver, 2007). Likewise, secure bases develop: 1) the emotional-regulation strategies which are flexible and resilient; 2) internalise a model of themselves as sensitive, available, and worthy of protection; and 3) internalise a model of subordinates to perceive them as sensitive, reliable and in need of protection (Mikulincer & Shaver, 2007).

Keller (2003) proposes that the traditional working models of attachment are comprised of three elements, which asks three questions: 1) Who is the attachment figure? 2) How is the

attachment figure expected to respond?; and 3) How acceptable is the self (i.e., the follower) in the eyes of the secure attachment figure? Alternatively, modern attachment working models suggest the followers establish an underlying control system that gathers information about: 1) the follower's state of mind; 2) the state of the environment; and 3) the past and current access to the attachment figures (Berne, 1961; Cassidy et al., 2013). In other words, followers' present and past experiences, the current climate of the individual's environment (i.e., at work, in personal life) and the secure base leader, play a role in the extent to which the follower will be willing and able to adapt and develop the secure attachment style. Table 2 presents the behaviours represented by secure bases as positioned by Waters and Cummings (2002) and Mayseless (2010).

**Table 2**

*Secure Base Behaviours*

Waters and Cummings (2002)	Mayseless (2010)
<ul style="list-style-type: none"> <li>• Provides support i.e., mentoring and requests support</li> </ul>	<ul style="list-style-type: none"> <li>• Proximity in times of distress</li> </ul>
<ul style="list-style-type: none"> <li>• Organises goals and delegates</li> </ul>	<ul style="list-style-type: none"> <li>• Maintenance of emotional and physical availability</li> </ul>
<ul style="list-style-type: none"> <li>• Available outside of the immediate relationship</li> </ul>	<ul style="list-style-type: none"> <li>• Self-confident</li> </ul>
<ul style="list-style-type: none"> <li>• Motivates</li> </ul>	<ul style="list-style-type: none"> <li>• Empathetic</li> </ul>
<ul style="list-style-type: none"> <li>• Sensitive during interaction</li> </ul>	<ul style="list-style-type: none"> <li>• Caring</li> </ul>
<ul style="list-style-type: none"> <li>• Monitors activities</li> </ul>	<ul style="list-style-type: none"> <li>• Internalise a model of themselves as worthy of love and protection and a model of others as sensitive, reliable and protective</li> </ul>

Waters and Cummings (2002)	Mayseless (2010)
<ul style="list-style-type: none"> <li>• Encourages and supports explorations and provides learning experiences</li> <li>• Provides explicit instruction</li> <li>• Continuous supervision</li> <li>• Encourage independence</li> <li>• Takes part in the dialogue</li> <li>• Monitors reactions to relationship decisions</li> </ul>	<ul style="list-style-type: none"> <li>• Able to develop flexible and resilient emotional-regulation strategies</li> <li>• Internalise the sensitive and available caregivers' role</li> <li>• Balances reliance on self with reliance on others</li> </ul>

*Note.* Content compiled and adapted from Waters, E. & Cummings, M. (2002). A secure base from which to explore close relationships. *Child Development*, Vol. 71, No. 1 (Jan - Feb. 2000), pp.164-172. Wiley on behalf of the Society for research in child development. <http://www.jstor.org/stable/1132229>. 01-05-2018 08:19 UTC; Mayseless, O. (2010). Attachment and the leader-follower relationship. *Journal of Social and Personal Relationships*, 27(2), 271–280. <http://doi.org/10.1177/0265407509360904>

It is argued that secure base leadership is the ideal positive attachment style that promotes and fosters the pro-social orientation to followers and greater leader effectiveness (Coombe, 2010). However, research (Harms, 2011; Hunt et al., 1999), suggests that we do not yet understand how attachment styles may change in response to changes in the workplace, let alone the influence gender has on the tendency of a men or women to be a secure base leader (Eagly et al., 2003; Hollier, 2014). It is therefore still unclear whether there is a difference in the attachment styles of men and women. For the purpose of this study, it is necessary to understand and investigate if the Secure Base Leadership Scale (SBLs), as defined by Coombe (2010), can be confidently utilised in a South African business context. Therefore, an understanding of the structural replication for the Secure Base Leadership Scale (SBLs) in the South African context is necessary. The next sections seek to establish a comprehensive



understanding of the Secure Base Leadership Scale (SBLs) framework and psychometric properties.

## 2.9 The development of Secure Base Leadership Scale (SBLs)

This section aims to identify the dimensions of secure base leadership (Coombe, 2010), in addition to identifying and discussing the Secure Base Leadership Scale.

In his 2010 study, Coombe performed two separate studies. The first qualitative study found evidence for eight secure base leadership dimensions. Table 3 provides a brief overview of these dimensions.

**Table 3**

*An Overview of the Eight Secure Base Leadership Dimensions*

Dimension	Construct name	Definition
Acceptance of the person as legitimate	Acceptance	The secure base leader accepts that the follower is a human being and acknowledges his/her basic worth.
Seeing the potential of the other	Potential	Secure base leaders see the follower's full potential versus his current mode of functioning or "state" of mind.
Allowing risk and opportunity	Opportunity	A secure base leader provides followers with opportunities to reach their potential at the expense of their own personal risk attached.

Dimension	Construct name	Definition
Available and accessible, 'anywhere anytime'	Accessible	A secure base leader is always accessible and available rather than detached and unavailable.
Calm, dependable, predictable in a crisis	Calm	A secure base leader remains composed and dependable, especially in times of crisis and when under pressure.
Favours inquiry over advocacy	Listen	A secure base leader listens actively and inquires where necessary rather than telling or advising the follower.
Favours Intrinsic Motivation	Intrinsic	A secure base leader understands the importance of "intrinsic motivation" (i.e., passion) to get the best out of followers rather than relying on extrinsic motivation (i.e., financial reward).
Shifts the other's 'mindset' to the positive/opportunity	Minds-eye	A secure base leader directs the follower's 'mind's eye' to focus on the positive rather than the negative.

*Note.* Content compiled and adapted from: Coombe, D. D. (2010). Adapted from "*Secure base leadership: A positive theory of leadership incorporating safety, exploration and positive action*" (Doctoral dissertation, Case Western Reserve University); & "Care to dare: Unleashing astonishing potential through secure base leadership" Kohlrieser, G., Goldsworthy, S., & Coomb, D. (2012). published by John Wiley & Sons

Coombe (2010) found considerable overlap (convergent validity) with both Bowlby's and Ainsworth's descriptions of a secure base for seven of the eight identified secure base leadership dimensions (Bowlby, 1973; Ainsworth et al., 1978), excluding Intrinsic Motivation. It is worth mentioning that in a more recent publication Kohlrieser et al. (2012) identified a ninth factor 'Delivers Powerful Message'. However, there is no evidence that this has been empirically tested.

However, the second quantitative study found that the eight dimensions correlate to three higher-order factors, which Coombe (2010) labelled as Safety; Exploration and Positive Dealing (Coombe, 2010). These higher-order factors are characterised as:

- **Safety.** Characterised by keywords such as valuing, accepting and appreciating. The lower-order factors loading as Acceptance and Access correlated well with the Safety factor.
- **Exploration.** Characterised by keywords such as growth, potential, development and opportunities. The lower-order factors loading as Opportunity, Potential and Internal Motivation correlated well with the Exploration factor.
- **Positive Dealing.** Characterised by words such as positive, calm, inquiry, focus on opportunities, a positive mindset and positive dealing with the situation correlated well with the higher-order Positive Dealing factor.

Coombe (2010) suggests:

When one is measuring SBL for the purposes of quantitative research, it is appropriate to use the three-factor model. It is more parsimonious and elegantly captures the two elements of safety and exploration that are core to the whole idea of Secure Base. However, in an executive education setting, I suggest it might be more appropriate to

use the 8-dimension version of SBL; the 8 dimensions can be usefully understood and applied by executives in a classroom setting, as well as in the workplace. (p.214 -215)

This suggests that there is a probability that an eight-dimensional secure base leadership measurement model can be replicated in a South African context which can be further simplified into a three-factor measurement model. Since this research is focused on the use of the Secure Base Leadership Scale (SBLS) for application in leadership development, this study will utilise Coombe's (2010) eight-dimensional Secure Base Leadership Scale (SBLS). The succeeding section will discuss the existing psychometric properties of the scale.

### **2.10 Psychometric properties of the Secure Base Leadership Scale (SBLS)**

The section aims to briefly discuss the development of the current Secure Base Leadership Scale (SBLS) and how it has been utilised. The attention is then drawn to the psychometric properties (validity and reliability) of the Secure Base Leadership Scale (SBLS).

Coombe's (2010) study targeted participants attending an executive education leadership programme in Europe at a Swiss business school (Coombe, 2010). The psychometric evidence presented in the following section is based on the evidence provided from Coombe's study which developed the eight-dimensional Secure Base Leadership Scale (SBLS) and utilised it in conjunction with four other scales as a 360 instrument to measure the perceptions of the leader's secure base leadership by the ratings of the leader themselves, their subordinates and peers. The study's sample consisted of fewer than 250 participants (men and women included). Due to the nature of the sample (i.e., high performing leaders), analysis of the initial 37-item scale presented skewness and kurtosis indicative of bias toward the participants, as there were far too few scores of either 1 (i.e., Consistently) or 2 (i.e., Often). To rectify this issue, scores were recorded to create a four-point scale instead of the original 5-

point scale. Since the scale has never been utilised in a South African context before, this study will aim to structurally verify the original 37-item scale measured on a five-point Likert scale.

### 2.10.1 Validity

The validity of a psychometric instrument takes into consideration what the assessment claims to measure and refers to how adequately valid the inferences derived from the assessment are, rather than the instrument itself (Murphy & Davidshofer, 2005). Therefore, it is important to assess the validity of a test to prevent any bias in decision-making. In Coombe's (2010) study the validity of the Secure Base Leadership Scale (SBLs) was evaluated utilising factor analysis. Table 4 provides the intercorrelation matrix of the scale scores of the eight-dimensional secure base leadership model. The intercorrelation matrix indicates that most dimensions correlate significantly with each other ( $p < .01$ ) and therefore the presence of higher-order factors is likely. While it can be seen that many of the correlations are high, a few are particularly noteworthy. With reference to the values in bold, it is evident that Opportunity and Potential have a 74% correlation to each other; Acceptance and Accessible have a 62% correlation, and Intrinsic and Opportunity have a 56% correlation. This begs the question of whether these items are measuring a similar construct.

**Table 4**

*Correlations Matrix: Secure Base Leadership Dimensions*

Dimension	ACC	OPP	POT	ACCESS	INT	LISTEN	CALM	MEYE
Acceptance	1.00	.413**	.423**	<b>.624**</b>	.444**	.492**	.467**	.464**
Opportunity	.413**	1.00	.735**	.444**	.446**	.332**	.283**	.332**
Potential	.423**	<b>.735**</b>	1.00	.410**	<b>.555**</b>	.365**	.241**	.359**
Accessibility	.624**	.444**	.410**	1.00	.296**	.381**	.392**	.430**

Dimension	ACC	OPP	POT	ACCESS	INT	LISTEN	CALM	MEYE
Intrinsic	.444**	.446**	.555**	.296**	1.00	.332**	.123	.294**
Inquiry	.492**	.332**	.356**	.381**	.332**	1.00	.492**	.463**
Calm	.467**	.283*	.241**	.391**	.123	.498**	1.00	.516**
Mindset	.464**	.323**	.359**	.430**	.294**	.463**	.516**	1.00

*Note.* ACC = Acceptance, OPP = Opportunity, POT = Potential, ACCESS = Accessibility = INT: Intrinsic = LISTEN: Inquiry = CALM: Calm = MEYE: Positive Mindset. Adapted from Coombe, D. D. (2010). *Secure base leadership: A positive theory of leadership incorporating safety, exploration and positive action*” (p.145). (Doctoral dissertation, Case Western Reserve University).

\*\*\* p < 0.01 level 2-tailed

Subsequently, the initial items of the eight-dimensional Secure Base Leadership Scale (SBLs) were subjected to an unconstrained Exploratory Factor Analysis (EFA). At first, items were removed to substantiate a 37-item scale of the eight-dimensional model (see Annexure B). Further investigation led to a *five-factor* solution. It was determined that two of the five factors could not be theoretically explained. Thus, subsequent EFAs took place to remove items where appropriate (Coombe, 2010). This resulted in a theoretically and statistically justifiable final 13-item three-factor solution. This provided strong support for the factorial validity of the following scales: Safety, Exploration and Positive Dealing (Coombe, 2010).

Taking the above into consideration, there is potential for improvement, particularly for the dimensions with high correlations. It would be necessary to run a Confirmatory Factor Analysis to verify whether these dimensions measure a similar construct subsequent to identifying whether a similar pattern in a non-Western context (i.e., South Africa), would influence the number of higher-order factors. Based on theory, it is proposed that the items will load significantly on each respective dimension. Based on the South African sample, this research will also verify whether the same higher-order factors would be found and whether a broader sample would remedy the issues experienced with skewness and kurtosis. Therefore,

the research will add the body of attachment theory related to the validity of the Secure Base Leadership Scale (SBLs).

### **2.10.2 Reliability**

In order to provide a valid measure of a construct, the reliability of a psychometric instrument is determined by the extent to which the test scores are consistent and free from random measurement error (Kerlinger et al., 2000; Murphy & Davidshofer, 2005). The ideal reliability score (strength of an alpha value) is dependent on what the instrument would be utilised for. As a guideline, Cronbach Alpha of .70 or greater indicates satisfactory reliability for research purposes (Foxcraft & Roodt, 2006). Time and resources can be saved in the early stages of research by working with scales of modest reliability (.70 to .80). However, once the research is applied to practice, especially in a context where a vital decision is based on the test scores, a reliability of .90 to .95 is desirable (Nunnally & Bernstein, 1978). Since this study aims to structurally validate the Secure Base Leadership Scale (SBLs) in a South African context for research purposes, a satisfactory reliability score of .70 will be acceptable. Table 5 presents the reliability scores of the eight secure base leadership dimensions.

**Table 5**

*Reliability Scores (Cronbach Alpha) for 8 Secure Base Leadership Dimensions*

Secure Base Leadership Dimension	Cronbach Alpha
Acceptance	.819
Opportunity	.697
Potential	.869
Accessible	.771
Intrinsic	.614

Secure Base Leadership Dimension	Cronbach Alpha
Inquiry	.736
Calm	.695
Positive Mindset	.676

*Note. Adapted from Coombe, D. D. (2010). "Secure base leadership: A positive theory of leadership incorporating safety, exploration and positive action" (p.146) (Doctoral dissertation, Case Western Reserve University).*

The scores indicate partial support for the eight dimensions of secure base leadership as separate subscales for research purposes. However, the intrinsic motivation (.614) and positive mindset (.676) scale are below the guideline standards which is cause for further development. Overall, an alpha of .715 was reported across all scales for the eight-dimensional model. Therefore, it is foreseen that when the model is replicated in a South African context that a majority of the reliabilities will be larger than .70. In contrast, Table 6 presents the reliability scores for the three-factor model.

## Table 6

### *Reliability Scores (Cronbach Alpha) of the 3 SBL Higher Order Factors*

Secure Base Leadership Higher-order Factor	Cronbach alpha
Exploration	.833
Safety	.752
Positive Dealing	.604

*Note. Adapted from Coombe, D. D. (2010). Secure base leadership: A positive theory of leadership incorporating safety, exploration and positive action" Source (p.150). Doctoral dissertation, Case Western Reserve University).*

Overall, an alpha of .81 was reported across all scales for the three-factor model. These reliability scores support the notion that at its core, secure base leadership is comprised of Exploration and Safety whereas the third factor, Positive Dealing, requires further



development. This was further supported by the Confirmatory Factor Analysis (CFA) which produced a Chi-square value of 81.195; degrees of freedom (DF) .62; Comparative Fit Index (CFI) .978, Tucker-Lewis Index (TLI) .972; Root Mean Square (RMSEA) .037. The fit statistics indicate that the three-factor model has a reasonably good fit. However, a Correlation Matrix showed a 95% correlation of the two versions (eight dimensions and three factors) of a single score measure (as calculated by the average score of the underlying items). In other words, both measures evaluate the same constructs equally well. Therefore, for the purpose of this study the eight-dimensional secure base leadership model will be utilised, and it is proposed that the dimensions will correlate low to moderately with one another.

The Secure Base Leadership Scale (SBLS) seems to have fair internal consistency. However, the eight-dimensional measure has not been through a rigorous analysis and the scores on the Secure Base Leadership Scale (SBLS) have not been tested in longitudinal studies. Thus, the research lacks evidence of stability coefficients for the subscales. Moreover, the sample only included participants from Europe, the US and Switzerland attending a leadership course. No evidence of a non-Western demographic like South Africa has yet been found. Therefore, the purpose of this study is to validate the structural validity and reliability of the Secure Base Leadership Scale (SBLS) in the South African context.

## **2.11 Summary**

This chapter discussed the concept, history and definitions of Secure Base Leadership Theory as defined by Coombe (2010) (see also Ainsworth et al., 1970,1978, 2015). Founded in Attachment theory, Secure Base Leadership has successfully been extended to relational leadership theory. The literature investigated the prominent role a secure base leader plays in developing strong bonds between the leader and follower across various contexts. More importantly, Coombe outlined the eight dimensions to develop the Secure Base Leadership Scale (SBLS) which has shown potential to measure a leader's propensity to display Secure

Base behaviours. However, further evaluation shows that the Secure Base Leadership Scale (SBLS) may require further development and has not been validated in a South African context. Therefore, for the purpose of this study the aim is to determine the utility of the Coombe's eight-dimensional Secure Base Leadership Scale (SBLS) as applied in a South African context.

### **3. Research methodology**

#### **3.1 Introduction**

Chapter two presented a systematic argument which theoretically conceptualised adult attachment styles with specific emphasis on secure base attachment extended to the leadership domain. In addition, the psychometric properties of the Secure Base Leadership Scale (SBLs) were reviewed. The instrument was discussed in detail in an attempt to rationalise the objectives formulated in Chapter one. Consequently, the Secure Base Leadership Scale (SBLs) cannot be utilised with confidence due to the limited evidence of its structural validity in a South African context.

This chapter aims to provide a comprehensive discussion of the research methodology that was followed. Research methodology attempts to minimise error through making rational and objective methodological choices (Theron, 2017), whereas the scientific method refers to critical inspection of the epistemic ideal at junctures of high risk to maximise the likelihood of valid findings.<sup>1</sup>

To this end, Chapter three presents an overview of the research methodology applicable to the study. An account of the research objectives, research design and sampling method is presented. Furthermore, an evaluation of the ethical risks involved in this study will be presented.

#### **3.2 Research aim, questions, and objectives**

The aim of this research study was to structurally validate the Secure Base Leadership Scale (SBLs) within a South African context. Subsequently, the research initiating question was: *What are the psychometric properties of the Secure Base Leadership Scale (SBLs) in a South*

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<sup>1</sup> Please refer to research caveat to consider the important junctures the researcher faced during the study which had an impact on the nature of the study conducted.

*African business context?* The study contains theoretical and empirical objectives. The theoretical objectives were addressed in the literature review throughout chapter two.

The empirical objectives will be addressed in this chapter and the chapters to follow. More specifically these empirical objectives aimed to:

1. Evaluate the structural validity of the Secure Base Leadership Scale (SBLs) as administered in the South African context, and
2. Determine the functional application of the existing Secure Base Leadership Scale (SBLs) within the South African context.

### **3.3 Research design**

The research design is the strategy which explains how the research process (i.e., data collection and data analyses) will be executed (Babbie & Mouton, 2001).

The research design is a product of the research initiation question and objectives. Consequently, two assumptions were taken into consideration when deciding on the research strategy:

- 1) The single-group Secure Base Leadership Scale (SBLs) measurement model assumes that the relationship between specific indicator variables (items) on a specific latent variable (referred to in this study as dimension) is positive and significantly greater than zero.
- 2) The Secure Base Leadership Scale (SBLs) makes the assumption about the covariances between the latent variables (dimensions) and covariance between the measurement error terms.

With the above assumptions taken into consideration, this study utilised an *ex post facto* correlation design. A quantitative non-experimental cross-sectional survey (Johnson, 2001)

was utilised to generate data to test the structural validity of the Secure Base Leadership Scale (SBLs). The non-experimental design was utilised to observe relationships between variables without controlling or manipulating variables in any way (Kerlinger et al., 2000). However, an *ex post facto* correlation design presented some limitations to this study.<sup>2</sup> First, the absence of random sample assignment limited the generalisation of findings. Secondly, the limited control over extraneous variables could have caused variance to occur (Kerlinger et al., 2000). A cross-sectional survey design allowed the researcher to collect data from participants over a short period of time (Levin, 2006). This permitted the evaluation of the measurement model via a series of confirmatory factor analyses (CFAs) to test for empirical objectives. To this end, if the fitted single group model fails to accurately reproduce the observed covariance matrix (Byrne, 2001), the conclusion would inevitably follow that the measurement model underlying the Secure Base Leadership Scale (SBLs) does not provide a plausible explanation for the observed covariance matrices. Therefore, the Secure Base Leadership Scale (SBLs) would not measure the secure base leadership dimensions, as intended by the measure, in the South African context. However, a high degree of fit between the observed and estimated covariance matrices would imply that the measurement model provides one plausible explanation for the observed covariance matrices.

An alternative option would have been to utilise an unrestricted, exploratory factor analytic approach in which no *a priori* stance is taken on the number of factors underlying the observed covariance matrix, nor on their identity and the manner in which the items load on the factors (Ferrando & Lorenzo-Seva, 2000). However, this position ignores the design intentions of the developers and therefore would not have been appropriate for the purpose of this study.

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<sup>2</sup> All limitations the study are comprehensively discussed in Chapter 5, section 5.3.

### 3.4 Sample and sample design

Sampling is the selection of a portion of the population to obtain a satisfactory representative indication of the populations standing on the phenomenon being studied (Kerlinger & Lee, 2000).

To collect relevant data in line with the aim of this research study, it was required that the sample population meet specific inclusion criteria.<sup>3</sup> For the context of this study, the ideal candidate was:

- a South African leader in junior, middle or senior management;
- who had at least one direct report; and
- at least one year's experience in a leadership position;
- in any sized organisation across any industry (public and private).

Since English is the lingua franca of high school and post-school education and the business milieu in South Africa, the scale was administered in English only. The sample was not specifically limited by age as an individual who met the above criteria would possess enough experience to successfully complete the survey.

The administration of the study was dependent on access to the ideal candidate mentioned above. Therefore, a non-probability (Babbie & Mouton, 2001) snowball sample was selected according to convenience, cost-effectiveness, accessibility and availability of suitable respondents, and the willingness of the employer (i.e., corporate institutions) to commit a large number of employees (i.e., department leaders) to participate in the research survey.

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<sup>3</sup> Please refer to research caveat for original sampling intention

According to Babbie and Mouton (2001) the probability of selection in a non-probability sampling procedure, is unknown for each element of the sampling population. This meant that the likelihood of obtaining the required sample size from one organisation would be slim. Therefore, the researcher approached various business, and enlisted various networks (personal networks, the supervisors' networks, and various leadership coaches' networks) to approach individuals who met the aforementioned criteria. Snowball convenience sampling was utilised in the manner that everyone who participated was asked to send the online link to at least five other colleagues/individuals who fit the criteria; in doing so, the criteria of a snowball sampling method was met.

The benefit of utilising the non-probability sampling technique was that it is the least complex method which could be employed remotely<sup>4</sup> (Welman & Kruger, 2001). However, according to Trochim et al. (2006), the limitation to non-probability sampling is that bias is introduced. As a result, the likelihood that the sample would be representative of the larger population is limited.

### ***3.4.1 Sample population***

According to Hair et al. (2010) an eight-factor model with 37 items required at least  $N = 100$  responses. Similarly, research (Bagozzi & Yi, 2012; Hair et al., 2010) suggest that an appropriate sample size for a validation study with CFA should not be below  $N = 100$ . However, it is of critical importance that the sample is sufficiently large enough to produce reliable estimates. Moreover, it is known that some goodness-of-fit measures (e.g., the chi-square test) and normal distribution techniques are affected by the sample size. Consequently,

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<sup>4</sup> The ability to complete the survey remotely over an online platform became crucial for the study during the COVID-19 pandemic

a sample size of at least  $N = 120$  would suffice and meet the requirements to validate the secure base leadership measurement model.

### 3.4.2 Sample Characteristics

The sample population ( $N = 137$ ) was drawn from a sample of various industries. Table 7 presents a summary of the sample characteristics ( $N = 137$ ). In terms of race, the majority were White (92%;  $n = 126$ ), 4% were Black African ( $n = 6$ ), 3% were Coloured ( $n = 4$ ) and 1% were Indian ( $n = 1$ ). In terms of gender, the majority (51%;  $n = 70$ ) were female and 35% ( $n = 49$ ) were males and 13% ( $n = 18$ ) preferred not to disclose their gender. The ages of the participants varied from 23 to 78 with majority (24%;  $n = 33$ ) of respondents being between the ages of 26 and 30 years. In terms of occupational level, 28% of respondents were in top management ( $n = 39$ ), 58% respondents in middle management ( $n = 79$ ) and 14% respondents in junior management ( $n = 19$ ). In terms of tenure, majority of the leaders 21% ( $n = 29$ ) had 2 years' experience. Regarding the number of reports the leaders had, 39% of leaders ( $n = 53$ ) had 10 or more reports. In terms of industry, majority (11%;  $n = 15$ ) of the data was gathered from the "Other" Industries and 10% ( $n = 13$ ) from the Finance and Insurance Industry. Missing data was less than 9.9% ( $n = 152$ ) and random for the entire sample; 15 entries were removed as they did not meet the sample criteria.

**Table 7**

#### *Socio-demographics of Participants*

Demographics	Frequency	Percentage
<b>Gender</b>		
Male	67	49%
Female	70	51%
Total	137	100%



Demographics	Frequency	Percentage
<b>Age</b>		
20 – 25	15	11%
26 – 30	33	24%
31 – 35	32	23%
36 – 40	17	12%
41 – 45	11	8%
46 – 49	5	4%
50 – 55	9	7%
56 – 60	9	7%
61 – 65	3	2%
67 – 70	2	1%
71 – 75	0	0%
76 – 79	1	1%
80 – 85	0	0%
86 - 90	0	0%
Total	137	100%
<b>Race</b>		
African	6	4%
White	126	92%
Coloured	4	3%
Indian	1	1%
Other	0	0%
Total	137	100%

Demographics	Frequency	Percentage
<b>Occupational Level</b>		
Top Management	39	28%
Middle Management	79	58%
Junior Management	19	14%
Total	137	100%
<b>Number of Years in the role</b>		
1	20	15%
2	29	21%
3	17	12%
4	9	7%
5	15	11%
6	9	7%
7	4	3%
8	3	1%
9	4	3%
10 or more	27	20%
Total	137	100%
<b>Number of subordinates that report to you</b>		
1	11	8%
2	10	7%
3	13	9%
4	14	10%
5	14	10%
6	9	7%

Demographics	Frequency	Percentage
7	5	4%
8	7	5%
9	1	1%
10 or more	53	39%
Total	137	100%
<b>Industry</b>		
Agriculture, Food & Beverages	5	4%
Accommodation and food services	2	2%
Administrative and support services	1	1%
Arts, entertainment and recreation	4	3%
Communication & Marketing	3	2%
Defence & Security Services	5	4%
Education & Development	11	8%
Electronics & IT	12	8%
Engineering & Construction	7	5%
Finance and insurance	13	10%
Government	1	1%
Health care/ Medical/ social assistance	9	6%
Hospitality Industry	3	2%

Demographics	Frequency	Percentage
Human Resources & Social Sciences	12	8%
Law	2	2%
Management & Consultancy	10	7%
Mining, quarrying and oil and extraction	3	2%
Optometry	4	3%
Professional, scientific and technical services	6	4%
Trade & Retail Industry	8	6%
Real estate and rental leasing	1	1%
Other	15	11%
Total	137	100%

### 3.5 Measuring instrument

Attachment theory's secure base leadership will be measured using the Secure Base Leadership Scale (SBLs) (Coombe, 2010). This 37-item self-report questionnaire has been developed to include eight dimensions which define secure base leader behaviours, specifically: Acceptance, Accessibility, Opportunity, Potential, Intrinsic, Listen, Calm and Mindset.<sup>5</sup> The scale assesses the degree to which individuals possess secure base leadership behaviours. Items are answered on a 5-point Likert-type scale ranging from 1 (Never) to 5 (Consistently). The sub-scales range from 4 to 6 items (see Annexure B for a sample of the

<sup>5</sup> These dimensions are explained on page 32

questionnaire). A detailed discussion regarding the existing validities and reliabilities of the Secure Base Leadership Scale (SBLS) was discussed in section 2.10. In summary, despite presenting two sub-scales with alphas below the .70 cut-off score, Coombe's (2010) eight-dimensional Secure Base Leadership Scale (SBLS) is reliable (.71).

It should be noted that the Secure Base Leadership Scale (SBLS) does not measure the extent to which participants are insecurely attached whether it be anxiously, fearfully or avoidantly. Therefore, the results of this scale will be interpreted via an ipsative method and only report the extent to which the participant possesses the qualities of a secure base leader. Coombe (2010) proposed that an average score on a construct of less than or equal to 3, is indicative of a development area in the journey to becoming a secure base leader.

### **3.6 Data collection**

After the Industrial Psychology Department Ethics Screening Committee (DESC) provided initial clearance for the low-risk study, the application was sent and audited by the Research Ethics Committee Human Research (Humanities) of Stellenbosch University (REC). REC approved the study and permitted formal clearance (reference nr. 11641, refer to Annexure A)

Once ethical clearance was provided, the researcher gathered data utilising two methods. First, the targeted organisations were approached and enlisted to commence the data collection procedure. Secondly, the networks of the researcher and supervisor were utilised. The data collection procedures for the two methods are explained in further detail below.

#### ***3.6.1 Data collection procedure for organisations***

After institutional permission was granted by the various organisations, the contact persons (i.e., head of HR running a development initiative) identified the ideal candidates (as per inclusion criteria). The contact person then forwarded the email invitation link to selected

participants (who were all blind carbon copied (bcc'd) to preserve the prospective participant's identity and uphold ethical confidentiality). This "point of contact" email served as an invitation to participate which contained a video clip/flyer and the personalised letter which:

- a. invited the participants to take part in the study;
- b. introduced the researcher and the research by explaining the purpose of the questionnaire;
- c. explained the survey process and the why it is important to participate in the research study; and
- d. provided the link to the survey.

A second round of invitation emails (with the same information stipulated above) was distributed by the contact person one month after the first email to remind the identified participants to participate and complete the survey.

### ***3.6.2 Data collection procedure for personal connections***

To meet the requirements of the snowballing sampling technique and assist the researcher in meeting the desired sample size, the researcher and researcher's supervisor invited individuals in their personal network who met the sample criteria. The research procedure was as follows:

1. After identifying the individuals who met the sample criteria, the researchers sent an email or personal direct message inclusive of all the information listed above (Steps a - d).
  - a. The email addresses were attached as blind carbon copies to preserve the prospective participant's identity and uphold ethical confidentiality. Where the survey link was shared via a personal direct message the participant's identity was

preserved as the survey system cleared the individual's contact details before the data was populated into the capturing sheet.

Each participant was required to provide electronic informed context (Annexure C) aligned with the ethical consideration discussed in Section 3.7.

After a month of data collection efforts, a total of 84 responses were obtained. This implied a very weak response rate. The researcher then contacted the identified organisations and individuals in the researcher's personal network for feedback. The following challenges were apparent:

1. The sample criteria were limiting for individuals in the researcher's personal network as most leaders were entrepreneurs or small business owners and did not meet the full criteria (specifically the criteria item referring to working for a medium to large organisation (> 60 employees).
2. Due to the COVID-19 pandemic, the large pre-identified organisations were downsizing and/or restructuring and postponed and/or cancelled the permission to assist with data collection.<sup>6</sup>

The researcher and research supervisor then amended the sample criteria, this did not require permission from the Departmental Ethics Committee.<sup>7</sup> Additionally, the researcher approached and invited individuals to participate in the study by posting the invitation to complete the survey via online platforms (*Facebook* and *LinkedIn*) to reach more individuals in her personal network. After the second month, an additional 46 responses (n = 120) were collected. After three months of aggressive data collection attempts the response rate declined. A further 32 responses were obtained which met and exceeded the minimum number of desired

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<sup>6</sup> Please refer to research caveat for more information

<sup>7</sup> The amended sample criteria referred to in section 3.5

responses. The survey was closed in November 2020 ( $N = 152$  uncleaned data ;  $N = 137$  cleaned data).

### **3.7 Ethical considerations**

As this research included people, it was necessary to consider the ethical risks that the research could pose so as to protect the safety, rights and well-being of the research participants of the study. This was achieved by adhering to ethical principles to ensure quality research which honours the research industry and maintains compliance with legislation.

The ethical considerations of this study were informed by two principal ethical codes. First, Annexure 12 of the *Ethical Rules of Conduct for Practitioners Registered under the Health Professions Act No. 56 of 1974*, which in addition to guiding the researcher on aspects such as informed consent, anonymity, confidentiality, voluntary participation, responsibility, and ethical reporting, also dictate how to contract with participants on the roles and responsibilities of each party during the research process. The survey process was explained to the participant where emphasis was placed on the confidentiality of the process and the participants' data. In addition, it was clarified that the participant could withdraw at any time during the survey process. Finally, due to the self-reporting nature of the survey a call for honest and frank answers was made to maintain the integrity of the study and to ensure the data could be used to generalise to the greater population so as to make a valid contribution to attachment theory extended to the leadership development domain. This information was conveyed to participants in an understandable manner taking into consideration that the sample consisted of educated men and women who are leaders of organisations.

Secondly, since the researcher solicited participants from various organisations across all industries within South Africa, Annexure 12 of the Ethical Rules of Conduct of Practitioners Registered under the Health Professions Act informed how the researcher obtained institutional



permission (see Annexure D). The researcher anticipated that obtaining this permission would be a challenge as many industries were not research-orientated.<sup>8</sup>

Since the study aimed to structurally validate the Secure Base Leadership Scale (SBLs) in a South African context, this study required the biographical information specifically related to gender and race and therefore seen as a low-risk study. Within the South African context, the researcher had an ethical and legislative obligation to determine whether the measure is valid, reliable and not biased against any group (Employment Equity Act [EEA], No. 55 of 1998). It was therefore critical that this research could identify any possible bias or unfairness in the scale, should there be any, prior to its application in a multicultural context.

Finally, after approval of the proposal, ethical clearance was obtained in accordance with the policy for responsible research at Stellenbosch University (2013) (see Annexure A).

### **3.8 Data Analysis**

To validate the psychometric properties of the Secure Base Leadership Scale (SBLs) to determine whether the existing scale can be confidently operationalised in a South African context. The responses collected were captured and populated according to the standards of the SURvey domain (<https://sunsurveys.sun.ac.za>). The collected data was analysed using the Lavaan package (Rosseel, 2012) in R (R Core Team, 2013). Taking the research design and objectives into consideration, item analysis and Confirmatory Factor Analysis (CFA) techniques were utilised to validate the psychometric properties of the Secure Base Leadership Scale (SBLs) according to the sample obtained. Thereafter, due to the small sample size, the secure base leadership model was subjected to a Partial Least Square analysis to confirm the factor analysis findings and to briefly evaluate any possible differences between genders in the

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<sup>8</sup> This challenge was made greater by the effect the COVID-19 pandemic had on the South African business market and economy.

sample. Lastly, Exploratory Factor Analysis (EFA) was performed to investigate a simpler model to better fit the data for future research recommendations.

### ***3.8.1 Preparatory Procedures***

Prior to performing the validation analysis, the following preliminary analysis ensured the data appeared suitable for the proposed analysis.

**3.8.1.1 Reverse Negative Items.** The following negatively stated items were reverse-scored:

- ACC 3: I judge and evaluate my subordinates
- OPP 9: I micro-manage my subordinate
- INT 22: I use the financial reward as a key motivating tool
- INT 24: Conversations with me focus more on business goals and objectives than on my subordinates learning and development
- LISTEN 29: I give solutions before asking for subordinates input
- MEYE 36: I focus on problems and difficulties more than on opportunities and solutions

**3.8.1.2 Missing Values.** To ensure completeness of the data it is of utmost importance to identify and address missing values prior to conducting data analyses. Missing values can occur due to non-responsiveness, monitoring errors or communication failures and network/data issues in the case of online surveys (Moritz, & Bartz-Beielstein, 2017; Schlomer, et al., 2010).

There are numerous techniques used to address missing values, such as: a) listwise deletion; b) pair-wise deletion; c) imputation by matching; d) multiple imputations; e) full information maximum likelihood imputation; f) mean substitution; g) regression substitution; h) Pattern-matching imputation; and i) expectation maximisation (Schlomer et al., 2010). The

manner in which missing values are treated will depend on the quality and nature of the data as well as the analysis technique utilised (Schlomer et al., 2010).

To this end, the online questionnaire was designed so that it was mandatory for participants to answer all the questions in each section. Participants' data was deleted in cases where participants opted out of the survey halfway through completion or did not meet the requirements of the sample criteria. This resulted in no missing values being reported.

### ***3.8.2 Validation of the measurement***

**3.8.2.1 Item analysis.** Item analysis was conducted to evaluate the quality of the items. Each sub-scale was subjected to item analysis (i.e., standard deviations, item-total correlations, and coefficient alphas were calculated) to determine which items had a negative effect on the reliability and validity of the scales used to measure the respective latent variable. Items were considered favourable where they contributed to the overall reliability of the sub-scales and total score with higher item-total correlations.

Cronbach's alpha was calculated for each of the sub-scales to determine reliability. Internal consistency is an estimation of reliability which measures how well the construct is measured by its respective items. Internal consistency assesses the homogeneity of each sub-scale's items. However, a high reliability does not guarantee validity, and results cannot be valid without reliability. A reliability of .70 or higher will be considered highly reliable with minimal error (Nunnally & Bernstein, 1994).

**3.8.2.2 Factor Analysis.** Factor analysis is the systematic simplification of interrelated measures. There are two categories of factor analysis. Exploratory Factor Analysis (EFA) is utilised to explore and identify the underlying factor structure of a structural/measurement model without imposing a preconceived structure on the outcome. This analysis is particularly useful in research studies with limited evidence on the psychometric properties of a

measurement instrument. On the other hand, Confirmatory Factor Analysis (CFA) is a statistical technique (subsumed under Structural Equation Modelling (SEM)), which is employed to validate whether a factor structure of a pre-determined set of items (indicator variables) conforms to what is expected in pre-established theory.

**3.8.2.3 Exploratory Factor Analysis.** EFA is usually utilised in scale development as it defines the meaning of factors by explaining the underlying variables among items. Where there is limited evidence to justify the formulation of hypotheses or if an existing scale is found to be unreliable, the EFA is utilised. Based on the irregular model which results from the CFA, a EFA with Principal Component Analysis (PCA) was employed<sup>9</sup> to determine the number of underlying factors in the Secure Base Leadership Model (Fabrigar et al., 1999; Osborne, 2015).

Subsequently, the model was evaluated to determine which dimensions best describe the relationships between the variables which would determine the number of factors that should be extracted. There are several methods researchers use to determine the number of factors to retain: Bartlett's (1951) test; Kaiser's (1960) eigenvalues greater than one rule; Cattell's (1966) scree test; Velicer's (1976) minimum average partial (MAP) rule; Horn's (1965) parallel analysis; the Hull method (Lorenzo-Seva et al., 2011); and Ruscio and Roche's (2012) comparison data (CD). Choi, Fuqua, and Griffin (2001) suggest the most accurate and reliable method to determine the number of higher-order factors is a joint parallel analysis/scree plot analysis. Parallel analysis was applied to determine the factor solution that best represented the data. The parallel analysis utilised the eigenvalues. Factors with eigenvalues equal to or larger than 1 (Kaiser criterion) should be identified. The scree-plot test clearly identified the breaks between the eigenvalues equal to and smaller than 1. Cattell (1966) recommended that

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<sup>9</sup> In this research study the CFA presented multi-collinearity and questionable structural validity. Therefore, the EFA was employed after the PLS-SEM to explore any underlying higher order factors which could result in a simpler model.

when selecting factors from a scree plot test, the cut-off point be at the inflection of the curve. Cattell's (1966) scree plot would be used to confirm/deny the criterion results.

Once the number of higher-order factors had been determined, the factor loadings were calculated. Factor rotation was utilised to determine how well each item loads on each factor. This, in turn, improved the interpretability of the simplest factor solution. There are two types of rotations namely, orthogonal (independent and uncorrelated factors) or oblique (oblimin) (dependent and correlated factors) (Osborne, 2015). An orthogonal rotation assumes that items are simply correlated to factors, and the unique contribution of each factor is estimated by standardised solutions, whereas an oblimin rotation simply aims to establish a simpler solution when compared to the uncorrelated solution. Due to the nature of the study and the high intercorrelation found in the confirmatory analysis, an oblimin rotation was employed. Factor loadings equal to and larger than .30 would be considered acceptable, but factor loadings equal to and larger than .40 would be preferred (Gaskin & Happell, 2013).

Once the final factor solution was established, the researcher reviewed the results to compute which variables emerged in the respective factor/s. This was followed by a theoretical review to establish what the simplified model should look like.

**3.8.3.3 Confirmatory Factor Analysis.** The CFA explicitly specifies a predefined Secure Base Leadership measurement model that reflects the relationships between a set of items (indicator variables) and the factor/s it is intended to measure (the latent variable). Empirical research and theory informed the researcher's predictions on how a set of items would reflect (load) onto a factor. The fit between the specified model and the observed data was utilised to test and evaluate the validity of the *a priori* specified model and was utilised to substantiate previous research (Hair et al., 2010). In addition, a Diagonally Weight Least Squares (DWLS) approach was administered for the parameter estimation. Li (2016)

recommended DWLS as it is appropriate for non-normal data and ordinal response type variables.

To measure the extent to which the factors of secure base leadership were successfully operationalised and to further mitigate the effect of the small sample size, the CFA was conducted by splitting the eight-factor model into two theoretical clusters; Safety and Exploration (Cluster 1) and Positive Dealing (Cluster 2) each comprised of four dimensions.<sup>10</sup> To be considered successfully operationalised, an analysis of the original secure base leadership measurement model (refer to Annexure B) would, in the least, need to reflect: 1) a close fit to the definition of the latent variables; 2) Coombes (2010) original design intention; and 3) large and statistically significant factor loadings ( $p < .05$ ). Coombes' original design was driven by three empirical questions; 1) What are the dimensions of Secure Base Leadership?; 2) Does Secure Base Leadership lead to beneficial organizational outcomes? and; 3) Is Secure Base Leadership distinct from existing 'leadership as relationship' theory? These questions were answered in two studies. The first study aimed to answer the first question by developing a descriptive model of the behaviours associated with secure base leadership which inductively explored the concept of Secure Base Leadership through a qualitative study. To answer the second and third research questions, and to further deepen the understanding of question one, a second study was conducted aimed to empirically test the descriptive model by deductively testing the concepts in a quantitative study and extending the findings of study one by developing a Secure Base Leadership instrument that measures the dimensions identified in the first study.

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<sup>10</sup> Note that the four dimensions chosen in each cluster were determined through theoretical conceptualisation of which factors would work together best in each cluster.

### **3.8.3 Model Evaluation**

The evaluation of the measurement model will take place by employing various goodness-of-fit indices to statistically test how the observed data fits the design intention of the Secure Base Leadership Scale (SBLs). Multiple goodness-of-fit-statistics employed in this research study are discussed in the section below (Kline, 2015).

**3.8.3.1 Chi-square goodness of fit statistic.** The chi-squared goodness-of-fit statistic is utilised to test the hypotheses of perfect fit between the factor model and observed data. The measure compares the specified covariance matrix with the null model's covariance matrix. However, research suggests a quest for perfect fit is impractical as the chi-squared statistic is easily influenced by sample size. The closer the chi-square is to 0 the less the differences between observed and expected covariances and the more acceptable the model fit, whereas, significant chi-squared ( $> .60$ ) is indicative of poor fit.

**3.8.3.1 Comparative Fit Index, Tucker-Lewis Index (TLI) and the Non-normed fit index (NNFI).** The Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) are considered to be incremental fit indices. These statistics compare the specified model against a null model. The CFI measures the comparative improvement in the fit of the specified model when compared over that of a null model (Hooper et al., 2008). The closer the CFI to 1 the better the model fit, whereas the TLI compares the specified model to the null model and does not assume any no inter-item correlations. The NNFI is utilised in conjunction with the TLI as it is preferred in smaller samples (Parry, 2020). Good fit is indicated by CFI, TLI and NNFI values closer to 1, where the specified model fits the data better than the null model.

**3.8.3.2 Standardised Root Mean Residual (SRMR) & Root Mean Square Error of Approximation (RMSEA).** Standardised Root Mean Residual (SRMR) & Root Mean Square Error of Approximation (RMSEA) are considered to be absolute fit indices. The SRMR

describes the overall difference between the correlations matrix of the specific model and the null model (Hair et al., 2006). In other words, SRMR measures the absolute correlation residual. RMSEA takes model complexity into consideration and describes the differences between the specified model and the null model where the dimensions are interrelated. The closer the SRMR and RMSEA are to zero the better the model fit.

Goodness-of-fit statistics are influenced by various model characteristics, such as the normality of the data, sample size and the number of observed variables in the model (Hair et al., 2006). This suggests that model characteristics and the various data conditions should be taken into consideration to ensure appropriate utilisation of cut-off values for effective model evaluation (Chen et al., 2008). That said, there is limited knowledge on the statistical qualities and appropriate cut-off values of goodness-of-fit estimates generated by DWLS (Nye & Drasgow, 2011; Xia & Yang, 2019). Therefore, Table 8 presents the cut-off values pertaining to each of the fit indices (as mentioned above) utilised to evaluate model fit in this study. These cut-off values will be referred to throughout this chapter for the sample size was  $100 < n < 250$  ( $N = 137$ ).

**Table 8**

*Recommended Cut-Off Values for Goodness-Of-Fit Indices (N = 137)*

Goodness-of-fit indices	Abbreviation	Perfect Fit	Acceptable/Good Fit	Poor Fit
Chi-square	$\chi^2$	0	< .06	1
Comparative Fit Index	CFI	>.97	>.95	<.92
Tucker-Lewis Index	TLI	>.97	>.95	<.92
Non-normed fit index	NNFI	>.97	>.95	<.92



Goodness-of-fit indices	Abbreviation	Perfect Fit	Acceptable/Good Fit	Poor Fit
Standardised Root Mean Squared Residual	SRMS	<.04	< .05 - < .08	>.09
Root Mean Square Error of Approximation	RMRS	< .05	< .06 - < .08	> .10

*Note.* Content adapted and compiled from: Parry, S. (2020). Fit indices commonly reported for CFA and SEM; Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of psychological research online*, 8(2), 23-74

### 3.8.4 Structural equation modelling (SEM)

SEM is a host of robust statistical techniques which integrate path and factor analysis. SEM tests the relationship between multiple latent variables and accounts for non-linearities and measurement error (Pirouz, 2006). Partial Least Squares (PLS) is a multivariant SEM approach that compares multiple response variables and multiple explanatory variables. This analysis predicts the observed variables from the latent variables and describes the common underlying structure of the two paths (Ng, 2013). PLS-SEM was employed to evaluate the model complexity and make predictions of the eight Secure Base Leadership constructs in confirmation of the CFA preformed (Hair et al., 2011; Ravand & Baghael, 2016). PLS-SEM is designed to minimise the adverse impact on analysis of a data base from a small sample size which contains multiple regression and/or collinearity (Mateos-Aparicio, 2011; Pirouz, 2006). Therefore, PLS-SEM was utilised to assess the overall model-fit (Hair, et al., 2011). The PLS method firstly describes the model fit through the evaluation of the measurement model (outer model) and then the structural model (inner model).

The outer model predicts the relationship between each dimension (latent variable e.g., Acceptance) and its representative item/s (indicator variables e.g., ACC1). The outer model is

utilised to evaluate the reliability and validity of the scale. The internal consistency of the outer model was assessed by calculating the composite reliability. The composite reliability score determines the extent to which each item's responses correlate with each other. A composite reliability score of .70 or higher provides support for sufficient internal consistency (Ravand, & Baghaei, 2016). Thereafter, the validity of the model is evaluated. The Average Variance Extract (AVE) is utilised to analyse the convergent validity of the constructs. Convergent validity measures the extent to which the latent variable contains variances due to shared variance caused by the variable's respective items and/or measurement error. An AVE score of .50 or higher coupled with factor loadings of .70 or higher would provide sufficient evidence of convergent validity (Ravand, & Baghaei, 2016). Discriminant validity describes the extent to which the latent variables are different from each other. In other words, it tests the multicollinearity assumption – where there is a high degree of correlation amongst two or more variables. To determine discriminant validity and analyse the cross loadings of some indicator variables, the square root of constructs AVE is utilised.

The inner model is utilised to evaluate the paths between constructs. The Coefficient of Determination ( $R^2$ ) is utilised to indicate the amount of variance in the dependent variable/s as explained by independent variables accounted for in the structure model. Ravand, and Baghaei (2016) suggest a  $R^2$  value of .75 would be considered acceptable. The closer  $R^2$  is to 1, the stronger the predictive accuracy of the model. Where there is a direct effect of one variable on another, path coefficient should be evaluated. Each path coefficient is estimated and evaluated in terms of its magnitude and significance. Estimates ranged from +1 to -1 where coefficients closer to +1 are indicative of strong positive relationships, whereas coefficients close to -1 suggest strong negative relationships (Hair et al., 2011; Ravand, & Baghaei, 2016). For the purpose of this study the inner modelling model was not evaluated as the main focus was to

establish the measurement model's structural validity and not to evaluate the relationships between the paths of the nomological network.

### **3.9 Summary**

This chapter aimed to rationalise the empirical objectives by presenting a comprehensive discussion of the research methodology that was followed to evaluate the validity of the Secure Base Leadership Scale (SBLs) in the South African context. Furthermore, this chapter addressed how various challenges at critical junctures of the research procedure were addressed to justify the statistical techniques utilised.

## 4. Results

### 4.1 Introduction

The 37-item Secure Base Leadership Scale (SBLS) was completed by 137 participants across various industries in South Africa. This chapter describes the relevant findings on the item statistics, Cronbach's alpha and factor analysis as applied to answer the research initiating question.

### 4.2 Data preparation

The survey data (i.e., raw data) was captured by the SURvey (<https://sunsurveys.sun.ac.za>). domain after which a comprehensive Excel spreadsheet was imported into the Lavaan package (Rosseel, 2012) in R (R Core Team, 2013). Thereafter, a brief inspection of the data was conducted and all participant data which did not meet the minimum criteria was removed from the data set. The data was inspected for any possible missing values. Lastly, the negatively coded items were reversed, and sub-scales totals were calculated.

### 4.3 Item Analysis

The Secure Base Leadership Scale (SBLS) consists of eight dimensions. The section below will discuss the results of each dimensions sub-scale's reliability with respect to establishing the sub-scale's internal consistency.

The standard deviation (SD) indicates the item distribution. Items with an SD greater than .15 are considered adequate (Nunnally & Bernstein, 1994). The item total correlation indicates the extent to which items discriminate among respondents. The sub-scale will be considered internally consistent when all items are highly correlated ( $p \geq .30$ ) (Kline, 2015; Nunnally & Bernstein, 1994) and the Cronbach alpha coefficients are equal to or larger than

.70 (Nunnally & Bernstein, 1994). The higher the alpha coefficient the lower the error components of the items.

#### **4.3.1 Acceptance (ACC)**

With reference to Table 9, the Acceptance sub-scale presented a slightly below acceptable alpha of .69 when compared to the cut-off score of .70. However, lower thresholds can be used in circumstances where the number of items in the scale is small ( $> .60$ ) (Gliner et al., 2011; Schwarz, 2014). Table 10 exhibits that the item distribution (2.92) is considered well above the cut-off  $> .15$ , and adequate. The total inter-item correlations ranged from  $-.12$  (item 3) to  $.65$  (item 1). All items except item 3 ( $-.12$ ) are above  $.30$  and satisfactory. The “Alpha if item deleted” column indicates the impact of removing the respective item from the scale. By removing underperforming items, the reliability of the dimension can be improved. Item 3 (reversed) is excessively poor and should be removed from the sub-scale to improve the overall Acceptance scale reliability. To this end, all items excluding item 3 should be retained. The internal consistency of the scale can be deemed acceptable.

**Table 9**

*The Mean, Standard Deviation & Reliability Statistics for the Acceptance Sub-Scale*

	N	Number of items	Mean	Standard Deviation	Cronbach's alpha
Acceptance	137	5	23.9	2.92	.69

**Table 10***Item Statistics for the Acceptance Scales*

Dimension	Item Total Correlation	Alpha if item deleted
ACC1	0.65	.57
ACC2	0.57	.59
ACC3 <sup>a</sup>	-0.12	.83
ACC4	0.54	.61
ACC5	0.56	.60
ACC6	0.58	.58

<sup>a</sup> reversed item

**4.3.2 Opportunity (OPP)**

The Opportunity scale presented adequate Cronbach alpha of .68 (slightly below the cut-off score of .70) (see Table 11). The item distribution (3.35) is considered well above the cut-off > .15, and satisfactory. Table 12 shows the total inter-item correlations ranged from .08 (item 9) to .58 (item 7 & 8). All items except item 9 (reversed) (.08) are above .30 and satisfactory. Item 9 is excessively poor and should be removed from the sub-scale to improve the overall Opportunity sub-scale reliability. An alpha coefficient of .70 may be sufficient for most measures in industrial and organisational psychology. However, lower coefficients may be considered acceptable for research purposes (Aguinis et al., 2001). Therefore, the internal consistency of the scale can be deemed to be acceptable.

**Table 11***The Mean, Standard Deviation & Reliability Statistics for the Opportunity Sub-Scale*

	N	Number of items	Mean	Standard Deviation	Cronbach's alpha
Opportunity	137	6	2.94	3.35	.68

**Table 12***Item Statistics for the Opportunity Sub-Scales*

Dimension	Item Total Correlation	Alpha if item deleted
OPP7	.58	.58
OPP8	.58	.58
OPP9 <sup>a</sup>	.08	.74
OPP10	.41	.64
OPP11	.51	.60
OPP12	.33	.66

<sup>a</sup> reversed item

#### **4.3.3 Potential (POT)**

Table 13 shows that the Potential sub-scale presented exceedingly high Cronbach alpha of .85 (> .70) (see Table 13). The item distribution (3.19) is considered well above the cut-off > .15, and satisfactory. The total inter-item correlations shown in Table 14 ranged from .59 (item 17) to .68 (items 13 & 16). All total items can be retained as all item correlations are above .30 and satisfactory. The Potential scales demonstrates high internal consistency and are considered to be reliable.

**Table 13***The Mean, Standard Deviation & Reliability Statistics for the Potential Sub-Scale*

	N	Number of items	Mean	Standard Deviation	Cronbach's alpha
Potential	137	5	19.86	3.19	.85

**Table 14***Item Statistics for the Potential Sub-Scale*

Dimension	Item Total Correlation	Alpha if item deleted
POT13	.68	.81
POT14	.67	.81
POT15	.67	.81
POT16	.68	.81
POT17	.59	.83

#### **4.3.4 Accessible (ACCES)**

The Accessible sub-scale presented a Cronbach alpha of .87 (exceeds the cut-off score of .70) (see Table 15). The item distribution (2.59) is considered well above the cut-off  $> 0.15$ , and satisfactory. The total inter-item correlations shown in Table 16 ranged from .64 (item 21) to .81 (item 20). All items of the Accessible sub-scale can be retained as all item correlations are above .30 and satisfactory. Therefore, the Accessible sub-scale has good reliability and is internally consistent.



**Table 15***The Mean, Standard Deviation & Reliability Statistics for the Accessible Sub-Scale*

	N	Number of items	Mean	Standard Deviation	Cronbach's alpha
Accessible	137	4	17.277	2.59	.87

**Table 16***Item Statistics for the Accessible Sub-Scale*

Dimension	Item Total Correlation	Alpha if item deleted
ACCESS18	.78	.82
ACCESS19	.72	.84
ACCESS20	.81	.80
ACCESS21	.64	.88

#### **4.3.5 Intrinsic (INT)**

The Intrinsic sub-scale presented a Cronbach Alpha of .32 (see Table 17). This is well below the cut-off score of .70. The item distribution (2.24) is considered well above the cut-off of  $> .15$  and is therefore satisfactory. The total inter-item correlations presented in Table 18 ranged from .04 (item 22) to .32 (item 24). All items except item 24 (reversed) (.32) are below .30 and unsatisfactory. By removing items 22 (reversed), 23 and 25 the overall reliability of the sub-scale will still not meet the requirements for acceptability ( $> .70$ ). These results are indicative that the Intrinsic scale should be removed or further developed.<sup>11</sup> Therefore, the

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<sup>11</sup> The Intrinsic sub-scale has been noted as a limitation to the study.

criteria for reliability have not been met and the Intrinsic sub-scale shows poor internal consistency.

**Table 17**

*The Mean, Standard Deviation & Reliability Statistics for the Intrinsic Sub-Scale*

	N	Number of items	Mean	Standard Deviation	Cronbach's alpha
Intrinsic	137	4	13.97	2.24	.32

**Table 18**

*Item Statistics for the Intrinsic Sub-Scale*

Dimension	Item Total Correlation	Alpha if item deleted
INT22 <sup>a</sup>	.04	.44
INT23	.24	.18
INT24 <sup>b</sup>	.32	.06
INT25	.10	.33

<sup>a - b</sup> reversed items

#### **4.3.6 Inquiry (LISTEN)**

The Inquiry sub-scale presented a poor Cronbach Alpha of .56 (well below the cut-off score of .70) (see Table 19). The item distribution (2.22) is considered well above the cut-off  $> .15$ , and satisfactory. The total inter-item correlations shown in Table 20 ranged from .07 (item) to .53 (item 27). All items except item 29 (reversed) (.07) are above 0.30 and satisfactory. It would be recommended to remove item 29 to improve the reliability and internal consistency of the Inquiry sub-scale ( $> .70$ ).<sup>12</sup> Therefore, poor internal consistency is shown and the criteria for reliability for the Inquiry sub-scale have not been met.

<sup>12</sup> The Inquiry sub-scale has been noted as a limitation to this study.

**Table 19***The Mean, Standard Deviation & Reliability Statistics for the Inquiry Sub-Scale*

	N	Number of items	Mean	Standard Deviation	Cronbach's alpha
Inquiry	137	4	14.82	2.22	.56

**Table 20***Item Statistics for the Inquiry Sub-Scale*

Dimension	Item Total Correlation	Alpha if item deleted
LISTEN26	.46	.40
LISTEN27	.53	.34
LISTEN28	.39	.44
LISTEN29 <sup>a</sup>	.07	.70

<sup>a</sup> reversed item**4.3.7 Calm (CALM)**

The Calm sub-scale presented a Cronbach Alpha of .85 (exceeds the cut-off score of .70) (see Table 21). The item distribution (2.84) is considered well above the cut-off of > .15 and is therefore satisfactory. The total inter-item correlations shown in Table 22 range from .63 (item 30) to .69 (item 32 & 33). All items of the Calm sub-scale can be retained as all item correlations are satisfactory and above .30. Therefore, the Calm sub-scale shows good reliability and high internal consistency.

**Table 21***The Mean, Standard Deviation & Reliability Statistics for the Calm Sub-Scale*

	N	Number of items	Mean	Standard Deviation	Cronbach's alpha
Calm	137	4	1.09	2.84	.85

**Table 22***Item Statistics for the Calm Sub-Scale*

Dimension	Item Total Correlation	Alpha if item deleted
CALM30	.63	.83
Dimension	Item Total Correlation	Alpha if item deleted
CALM31	.74	.78
CALM32	.69	.81
CALM33	.69	.80

#### **4.3.8 Positive Mindset (MEYE)**

The Positive Mindset sub-scale presented a Cronbach alpha of .63 (below the cut-off score of .70) (see Table 23). The item distribution (2.35) is considered well above the cut-off  $> .15$ , and satisfactory. The total inter-item correlations presented in Table 24 ranged from .15 (item 36) to .52 (item 34). All items, except item 36 (reversed) (.15) are above .30 and satisfactory. It would be recommended to remove item 36 to improve the internal consistency and reliability of the Positive Mindset sub-scale ( $> .70$ ).<sup>13</sup> Therefore, the criteria of reliability for the Positive Mindset sub-scale have not been met.

<sup>13</sup> The Positive Mindset sub-scale has been noted as a possible limitation to this study and is a scale for possible development in future studies.

**Table 23***The Mean, Standard Deviation & Reliability Statistics for the Positive Mindset Sub-Scale*

	N	Number of items	Mean	Standard Deviation	Cronbach's alpha
Positive Mindset	137	4	0.63	2.35	.63

**Table 24***Item Statistics for the Positive Mindset Sub-Scale*

Dimension	Item Total Correlation	Alpha if item deleted
MEYE34	.52	.47
MEYE35	.51	.48
MEYE36 <sup>a</sup>	.15	.74
MEYE37	.50	.49

<sup>a</sup> indicates reversed items**4.3.9. Overall Model Reliability**

Table 25 presents the Cronbach alpha utilised to determine the reliability of each subscale in comparison to the reliability scores found in Coombe's (2010) study.

**Table 25***Reliability Scores (Cronbach alpha) for 8 Secure Base Leadership Dimensions*

Secure Base Leadership Dimension	Current study's Cronbach Alpha	Coombe's (2010) Cronbach Alpha
Acceptance	.69	.82
Opportunity	.68	.70

Secure Base Leadership Dimension	Current study's Cronbach Alpha	Coombe's (2010) Cronbach Alpha
Potential	.85	.87
Accessible	.87	.77
Intrinsic	.32	.61
Inquiry	.56	.74
Calm	.85	.70
Positive Mindset	.63	.68

In summary, item analysis was conducted to assess the quality of the items of the Secure Base Leadership Scale (SBLS). The item's discrimination and standard deviations were assessed. The above results indicate partial support for the eight dimensions of Secure Base Leadership as separate sub-scales. However, the Intrinsic, Inquiry and Positive Mindset scales present poor internal consistency and would require further development. On an item level, items 3, 9, 22, 23, 25, 29 and 36 were all reversed items shown to be problematic. These items should be reviewed or removed in order to improve the respective sub-scale's reliability. When compared to the original study, Coombes (2010) only identified Intrinsic sub-scale to be problematic ( $n = \pm 200$ ). All things considered, the quality and nature of the sample size in this study ( $N = 137$ ; South African) could have influenced the reliability of the Secure Base Leadership Scale (SBLS) analysis. A confirmatory factor analysis is therefore necessary to assess the structural validity of the scale within a South African context.

#### 4.4 Confirmatory Factor Analysis

The objective of the CFA was to specifically evaluate the Secure Base Leadership measurement model to determine if the data collected in a South African context will fit the pre-defined specified model assumption (Coombes, 2010). Both Maximum Likelihood (ML)

and Diagonally Weighted Least Squares (DWLS) procedures were applied to the dataset to determine which parameter estimation method would be appropriate for the small sample. In agreement with Li (2016), Mîndrilă (2010, p.60) suggests “DWLS provides more accurate parameter estimates and a model fit that is more robust to variable types and non-normality”. The *a priori* model assumes eight dimensions. The CFA with DWLS was conducted in both the Cluster 1 (Safety and Exploration) and Cluster 2 (Positive Dealing). The findings of the analysis are described in the sections to follow.

#### ***4.4.1 CFA Cluster 1: Safety and Exploration***

Cluster 1: Safety and Exploration consisted of the four dimensions: Accessible, Potential, Opportunity and Acceptance.<sup>14</sup> Table 26 presents a summary of the two parameter estimation methods employed including the respective goodness-of-fit statistics. Consistent with Li (2016) and Mîndrilă (2010), the DWLS estimation approach resulted in the stronger analysis method and therefore, will be utilised to report on for both of the four-factor scales’ validity.

**Table 26**

*A Comparison Of CFA(ML) & CFA(DWLS) Goodness of Fit Statistics for the Four-Factor Model (Accessible, Potential, Opportunity, and Acceptance)*

Estimation	$\chi^2$ (df)	<i>p</i>	CFI	TLI	NNFI	RMSEA	SRMR
ML	360.83 (183)	0.00	0.871	0.85	0.85	0.084	0.08
DWLS	330.67 (183)	0.00	0.99	0.98	0.98	0.077	0.09

<sup>14</sup> These factors were clustered together based on the theoretical assumptions made in the literature review.

*Note.* N = 137;  $\chi^2$  (df) = Chi-square statistic; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; SRMS = Standardised Root Mean Squared Residual; RMRS = Root Mean Square Error of Approximation

The likelihood chi-square statistic was statistically significant, which indicates that the null hypothesis of perfect fit for the four-factor scale had to be rejected,  $\chi^2(183) = 330.67$ ,  $p < .00$ . The CFI (.099), TLI (0.98) and NNFI (.98) are above the recommended cut-off score values and as a result is indicative of good fit ( $> 0.97$ ). The RMSEA (.077) was larger than the cut-off score for good fit ( $< .04$ ) but met the requirements for acceptable fit ( $.05 < p < .08$ ), further providing evidence for acceptable fit. The SRMR, the most direct indicator for absolute fit, was .09, which indicates that the average residuals of the analysis were relatively large and unsatisfactory ( $< .04$  for good fit and  $< .08$  for acceptable fit). This counters the previous findings for acceptable fit and suggests that the model should be further developed. Consequently, the standardised estimates (factor loadings) for each item were investigated to identify any problematic items. The highest and the lowest standardised factor loadings of the four-factor Secure Base Leadership Scale (SBLs) are presented in Table 27. Overall, the factor loadings appear satisfactory and are relatively uniform in size. However, item 3 (ACC3; -0.203) and item 9 (OPP9; 0.186) appear weak. These findings correspond with the item's analysis.

Due to the multidimensional nature of the data and partial fit of the model, Cronbach's Alpha can over- or underestimate the reliability of the tests. Therefore, to further assess the measurement model's reliability, the composite reliability (CR) and average variance extract (AVE) for each scale were calculated to determine the scales' convergent validity. A CR is the ratio of the true score variance to the total variance where values of  $> .60$  are satisfactory (Bacon et al., 1995). The AVE indicates the amount of variance captured in one construct in relation to the amount of variance due to measurement error. AVE values of  $> .50$  would suffice (Hair et al., 2010). Table 27 indicates that the composite reliability scores for the Acceptance



and Opportunity sub-scales are below the cut-off score ( $> .60$ ), which is indicative of poor reliability. However, the Accessible and Potential sub-scale shows good reliability. Furthermore, all sub-scales show AVE scores higher than the cut-off score ( $> .50$ ). This suggests that the sub-scales are convergent. Usually, a CR score greater than  $.60$  and an AVE greater than  $.50$ , indicate that the reliability of this model is good (Gu et al., 2019). Therefore, the Accessible and Potential sub-scales can be determined as reliable, whereas the Acceptance and Opportunity sub-scales do not meet the reliability criteria. The items on the latter sub-scales should be reviewed to better reflect the characteristics of the respective latent variable.

**Table 27**

*The Standardised Factor Loadings, Composite Reliabilities and Average Extract Variance for the Four Dimensions of the Secure Base Leadership Model*

Factor	Highest Std.all	Lowest Std.all	CR	AVE
ACC	.93	-.20	.54	.83
OPP	.89	.19	.37	.76
POT	.99	.78	.65	.90
ACCESS	.99	.90	.81	.94

*Note.* ACC = Acceptance; POT = Potential; OPP = Opportunity and, ACCESS = Accessible

#### **4.4.2 CFA Cluster 2: Positive Dealing**

Cluster 2: Positive Dealing consisted of the four dimensions: Intrinsic, Inquiry, Calm and Positive Mindset. Table 28 presents a summary of the two parameter estimation methods employed including the respective goodness-of-fit statistics.

**Table 28**

*A Comparison of the Goodness of Fit Statistics for CFA(ML) and CFA(DWLS) for the Four-Factor Model (Positive Mindset, Calm, Inquiry and Intrinsic)*

Estimation	$\chi^2$ (df)	<i>p</i>	CFI	TLI	NNFI	RMSEA	SRMS
ML	191,57 (98)	0.00	0.87	0.84	0.84	0.083	0.08
DWLS	201,61 (98)	0.00	0.97	0.96	0.96	0.088	0.09

*Note.* N = 137;  $\chi^2$  (df) = Chi-square statistic; CFI = Comparative Fit Index; TLI= Tucker-Lewis Index; SRMS = Standardised Root Mean Squared Residual; RMRS = Root Mean Square Error of Approximation

The likelihood chi-square statistic was statistically significant, which indicates that the null hypothesis of perfect fit for the four-factor scale had to be rejected,  $\chi^2$  (98) = 201.61,  $p < .00$ . In addition, the CFI (.097) is above the recommended cut-off score ( $> .97$ ) which is indicative of good fit. The TLI (.96) and NNFI (.96) indicate acceptable fit ( $> .95$ ). The RMSEA (.088) was larger than the cut-off score for good fit ( $< .04$ ) and acceptable fit ( $.05 < p < .08$ ). This suggests a moderately poor fit model. The SRMR (.09) indicates that the averages of the residuals of the analysis were relatively large and unsatisfactory. This counters the initial findings for good fit and suggests that the model requires further development. Consequently, the standardised estimates for each item were investigated to identify any problematic items. The highest and the lowest standardised factor loadings for Cluster 2: Positive Dealing's four-factor Secure Base Leadership Scale (SBLs) are presented in Table 29. As a whole, the factor loadings appear satisfactory and are relatively uniform in size. However, the Intrinsic sub-scale (item 22, 23, 24 ,25) and item 36 appears weak. This corresponds with the item analysis. However, the CFA has found partial support for item 29 which is contrary to the item analysis.

Table 29 indicates that all four dimensions of Cluster 2: Positive Dealing's composite reliability scores are below the cut-off score ( $> .60$ ), suggesting poor reliability. However, the Calm sub-scale shows partial reliability. Furthermore, all sub-scales except Intrinsic (.38) show AVE scores higher than the cut-off score ( $> .50$ ). This suggests that the sub-scales are convergent. Consistent with the item analysis, the Intrinsic, Inquiry and Positive Minded sub-scales are unreliable, and their items can better reflect the characteristics of each construct, whereas the Calm sub-scale can be determined reliable.

**Table 29**

*The Standardised Factor Loadings, Composite Reliabilities and Average Extract Variance for the Four Dimensions of the Secure Base Leadership Model*

Factor	Highest Std.all	Lowest Std.all	CR	AVE
INT	.161	-.624	.23	.38
LISTEN	.74	.93	.35	.62
CALM	.77	.94	.59	.85
MEYE	.34	.79	.37	.67

*Note.* INT = Intrinsic, LISTEN = Inquiry, CALM = Calm, MEYE = Positive Mindset

Based on the evidence above it can be determined that the Potential, Accessible and Calm sub-scales show good model fit. The Acceptance and Opportunity sub-scales exhibit partial model fit on the basis that the problematic items are removed, whilst the Inquiry and Positive Mindset sub-scales present poor model fit and poor internal consistency. Therefore, further development is required for the Acceptance, Opportunity, Inquiry, Positive Mindset and Intrinsic sub-scale. It would be recommended to remove the Intrinsic sub-scale and the problematic items identified to significantly improve the overall model fit. As a result, the Secure Base Leadership measurement model could not successfully reproduce the eight dimensions from the item sub-scales as measured by the scale.

To this end, it is necessary to determine whether the dimensions distinctly measure what is theoretically intended. Therefore, a review of the correlation matrix is performed. Table 30 presents the correlation matrix of the eight-dimensional Secure Base Leadership Scale (SBLS).

**Table 30**

*Correlation Matrix of the Eight-Dimensional Secure Base Leadership Scale (SBLS)*

Correlation	Est Std	P value
ACC ~~ OPP	0.67	<0.001
ACC ~~POT	0.76	<0.001
ACC ~~ACCESS	0.77	<0.001
OPP ~~POT	<b>0.90</b>	<0.001
OPP ~~ACCESS	0.62	<0.001
POT ~~ACCES	0.64	<0.001
INT ~~ LISTEN	<b>-0.58</b>	<0.001
INT~~ CALM	<b>-0.43</b>	<0.001
INT~~ MEYE	<b>-0.74</b>	<0.001
LISTEN ~~ CALM	<b>0.80</b>	<0.001
LISTEN ~~ MEYE	0.72	<0.001
CALM ~~ MEYE	0.76	<0.001

*Note.* ACC = Acceptance; POT = Potential, OPP = Opportunity, ACCESS = Accessible, INT = Intrinsic, LISTEN = Inquiry, CALM = Calm, MEYE = Positive Mindset

The correlation matrix shows that the dimensions of the secure base leadership are correlated to each other. While most of the correlations are high, the following correlations are particularly noteworthy; Potential and Opportunity have a 90% correlation to each other and

Calm and Inquiry have a 79% correlation with each other. Correlations between Intrinsic to Inquiry, Calm and Positive Mindset are negative. This suggests that leaders who do not favour intrinsic motivation are less likely to actively listen, remain composed and display a positive mindset. However, theory does not support this notion. As the data analysis suggests, the Intrinsic construct is problematic, and it would be highly recommended to remove the construct based on the evidence presented above. This evidence is indicative of multi-collinearity as the factor loadings for each latent dimension are insignificant. Due to the small sample size and as a result of the above evidence, a SmartPLS model was implemented to evaluate the overall model fit.

The correlation between the eight dimensions was evaluated through confirmatory factor analysis. Multicollinearity was found, with the highest correlation ( $r = .90$ ,  $p < .001$ ) being between the Potential and Opportunity sub-scale. Therefore, the factor analysis failed to provide a clear distinction between eight secure base leadership dimensions. Similar to Coombe's (2010) study, the highest correlation was also found between Potential and Opportunity ( $r = .735$ ,  $p < .001$ ) and the lowest correlation between Intrinsic and Calm ( $r = .12$ ,  $p < .001$ ).

Model fit was determined via the calculation of the goodness of fit statistics. Due to the limited sample size the eight-dimensional model was split into two clusters; Cluster 1: Safety and Exploration and Cluster 2: Positive Dealing. Table 31 presents a summary of both clusters goodness of fit statistics to guide further discussion.

**Table 31**

*Goodness of Fit Statistics for the Eight-Factor SBL Measurement Model*

Estimation	$\chi^2$ (df)	$p$	CFI	TLI	NNFI	RMSEA	SRMS
Cluster 1 <sup>a</sup>	330.67 (183)	0.00	0.99	0.98	0.98	0.08	0.09

Estimation	$\chi^2$ (df)	<i>p</i>	CFI	TLI	NNFI	RMSEA	SRMS
Cluster 2 <sup>b</sup>	201.61 (98)	0.00	0.97	0.96	0.96	0.09	0.09

<sup>a</sup> Cluster 1: Safety and Exploration.

<sup>b</sup> Cluster 2: Positive Dealing

*Note.* Cluster 1: Goodness of fit statistics for the four-factor model (Accessible, Potential, Opportunity and Acceptance); Cluster 2: Goodness of fit statistics the four-factor model (Positive Mindset, Calm, Inquiry and Intrinsic)

The incremental indices CFI, TLI and NNFI values indicate a good model fit to Cluster 1: Safety and Exploration and an acceptable model fit to Cluster 2: Positive Dealing. The absolute indices RMESA, suggest acceptable fit for Cluster 1: Safety and Exploration but poor fit for Cluster 2: Positive Dealing. Ultimately, both Cluster 1: Safety and Exploration and Cluster 2: Positive Dealing's SRMS values provided evidence of poor fit to the models. In corroboration, both Cluster 1: Safety and Exploration and Cluster 2: Positive Dealing's chi-squares were found to be significant, indicating a lack of good model fit. These findings did not correlate with previous research (Coombe, 2010). This could be due to numerous factors such as; the various circumstantial limitations the research faced during the collection of the data, the sample size, cultural backgrounds of participants or participants mindset when completing the survey.

## 4.5 Structural Equation Modelling: Partial Least Mean Squares

### 4.5.1 Evaluation of the outer model

Table 32 presents the Cronbach alpha scores, the composite reliability and AVE scores utilised to determine the internal consistency and convergent validity of the Secure Base Leadership Scale (SBLs). Section 4.4 reported on the Cronbach Alpha's representative of the internal consistency for each sub-scale. In summary, the alpha scores ranged from .32 (Intrinsic) to .87 (Accessibility). The Intrinsic, Inquiry and Positive Mindset sub-scales showed significantly poor internal consistency, whereas the remaining sub-scales indicated moderate to acceptable internal consistency. Contrariwise, the composite reliability score ranges from

.55 (Intrinsic) to .92 (Accessibility) for all constructs except the Intrinsic sub-scale which met the critical cut-off of score (.70) for acceptable reliability. All constructs except Intrinsic (.36) and Opportunity (.41) obtained acceptable convergent validity (> .70). The Inquiry (.48) construct presented a score very close to the critical cut-off (> .50) score, however, displayed a poor reliability and therefore would be considered a concern in this research study. These results strengthen the argument that scale development can take place for the Opportunity, Inquiry and Positive Mindset sub-scale and that the Intrinsic sub-scale should be removed to improve the overall internal validity and reliability of the measurement model.

**Table 32**

*Composite Reliability and the Average Variance Extract Values*

Latent Variable	Cronbach Alpha	Composite Reliability	AVE Value
ACC	.69	.82	.51
OPP	.68	.79	<b>.41</b>
POT	.85	.89	.62
ACCESS	.87	.92	.73
INT	<b>.32</b>	<b>.55</b>	<b>.36</b>
LISTEN	<b>.56</b>	.74	<b>.48</b>
CALM	.85	.90	.69
MEYE	<b>.63</b>	.78	.50

*Note.* ACC = Acceptance; POT = Potential; OPP = Opportunity; ACCESS = Accessible; INT = Intrinsic; LISTEN = Inquiry; CALM = Calm; MEYE = Positive Mindset

#### **4.5.2 Discriminant Validity**

The Heterotrait-Monotrait ratio (HTMT) is utilised to determine discriminant validity. Henseler et al. (2015), suggest that HTMT is able to obtain better, more specific and sensitive

results as compared to the utilisation of cross-loadings and Fornell-Lacker scores. HTMT was calculated to evaluate the ratio of the relationship between the respective constructs and its items and how the constructs cross-correlate to determine whether the constructs show discriminant validity. To assess discriminant validity the HTMT was utilised as the criterion to which the observed value is compared. An upper limit value of greater than 1 would indicate a lack of discriminant validity and therefore evidence of possible multi-collinearity (Ab Hamid et al., 2017; Hensler et al., 2015). Table 33 displays the HTMT results which indicate possible multi-collinearity for the relationship between the latent variables, Opportunity and Intrinsic and Potential and Intrinsic. Conceptually, the questions from the Opportunity and Intrinsic construct seem to measure the same concept. Items from both constructs refer to “growth”, “development” and “learning”. Similarly, the Potential and Intrinsic sub-scale items refer to “grow”, “develop” and “challenge”. Ratios between latent variable Inquiry and Calm, Accessible and Acceptance presented results close to 1, which was noted as a possible problematic relationship. The items between Inquiry, Calm and Accessible seem to relate to the demeanour of the leader and how supportive they are, whereas conceptually, the Acceptance sub-scale items are clearly unrelated to the later-mentioned trend. The construct Calm and Positive Mindset presented results in the range from .95 - 1. When reviewed, the items of these scales similarly measure the composure of the leader and therefore did not differ conceptually. In other words, from the respondent’s perception, the identified latent variables contain overlapping items which are perceived to measure the same latent variable. Consequently, this would also impact the face validity of the scale. It would be worthwhile to reevaluate or remove these variables’ items to distinctly measure the constructs. As a result, the model failed to present moderate to low correlations between the dimensions.



**Table 33***Discriminant Validity (Heterotrait-Monotrait Ratio)*

	Ratio	95% lower	95% upper	Discriminate
ACCESS -> ACC	0.83	0.70	0.94	yes
CALM -> ACC	0.74	0.59	0.85	yes
CALM -> ACCESS	0.78	0.66	0.87	yes
INT -> ACC	0.72	0.50	0.87	yes
INT -> ACCESS	0.61	0.42	0.81	yes
INT -> CALM	0.38	0.18	0.55	yes
LISTEN -> ACC	0.84	0.63	<b>0.97</b>	<b>yes</b>
LISTEN -> ACCESS	0.80	0.63	<b>0.95</b>	<b>yes</b>
LISTEN -> CALM	0.85	0.66	<b>0.99</b>	<b>yes</b>
LISTEN -> INT	0.69	0.45	0.89	yes
MEYE -> ACC	0.78	0.57	0.94	yes
MEYE -> ACCESS	0.71	0.51	0.88	yes
MEYE -> CALM	0.82	0.59	<b>1</b>	<b>yes</b>
MEYE -> INT	0.73	0.52	0.93	yes
MEYE -> LISTEN	0.79	0.53	0.99	yes
OPP -> ACC	0.72	0.54	0.86	yes
OPP -> ACCESS	0.66	0.47	0.82	yes
OPP -> CALM	0.47	0.3	0.67	yes
OPP -> INT	0.89	0.70	<b>1.08</b>	<b>no</b>
OPP -> LISTEN	0.55	0.32	0.72	yes
OPP -> MEYE	0.76	0.57	0.91	yes
POT -> ACC	0.77	0.62	0.88	yes

	Ratio	95% lower	95% upper	Discriminate
POT -> ACCESS	0.65	0.46	0.77	yes
POT -> CALM	0.52	0.30	0.69	yes
POT -> INT	0.86	0.70	<b>1.02</b>	<b>no</b>
POT -> LISTEN	0.63	0.43	0.79	yes
POT -> MEYE	0.83	0.66	<b>0.96</b>	<b>yes</b>

*Note.* ACC = Acceptance; POT = Potential; OPP = Opportunity; ACCESS = Accessible; INT = Intrinsic; LISTEN = Inquiry; CALM = Calm; MEYE = Positive Mindset

#### 4.5.3 Evaluation of the outer loadings

The outer model loadings were utilised to evaluate whether the indicator variables of each secure base leadership sub-scale measure what the pre-defined construct sets out to measure (Ravand, & Baghaei, 2016). The observed variables are denoted in Tables 34 – 40 at item response level. Furthermore, the PLS Bootstrap method was utilised to indicate which item loadings in the outer model were significant. The results presented range from -.19 to .90. Tables 34 – 37 indicate all items in the Potential, Accessible, Calm and Positive sub-scales significantly load on the respective latent construct.

**Table 34**

*PLS-SEM Outer Loadings of Potential at Item Level*

Sub-scale and Item	Outer Loading	95% lower	95% upper	Discriminate
Potential -> Potential13	0.82	0.74	0.88	Yes
Potential -> Potential14	0.83	0.78	0.87	Yes
Potential -> Potential15	0.79	0.70	0.85	Yes
Potential -> Potential16	0.77	0.67	0.84	Yes
Potential -> Potential17	0.74	0.65	0.80	Yes

**Table 35***PLS-SEM Outer Loadings of Accessible at Item Level*

Sub-scale and Item	Outer Loading	95% lower	95% upper	Discriminate
Accessible -> Accessible18	0.88	0.84	0.92	Yes
Accessible -> Accessible19	0.85	0.76	0.91	Yes
Accessible -> Accessible20	0.9	0.85	0.93	Yes
Accessible -> Accessible21	0.79	0.71	0.85	Yes

**Table 36***PLS-SEM Outer Loadings of Calm at Item Level*

Sub-scale and Item	Outer Loading	95% lower	95% upper	Discriminate
Calm -> Calm30	0.75	0.58	0.83	Yes
Calm -> Calm31	0.84	0.76	0.90	Yes
Calm -> Calm32	0.86	0.82	0.90	Yes
Calm -> Calm33	0.85	0.80	0.90	Yes

**Table 37***PLS-SEM Outer Loadings of Positive Mindset at Item Level*

Sub-scale and Item	Outer Loading	95% lower	95% upper	Discriminate
Positive Mindset -> Positive Mindset34	0.76	0.63	0.85	Yes
Positive Mindset -> Positive Mindset35	0.81	0.73	0.87	Yes
Positive Mindset -> Positive Mindset36 <sup>a</sup>	0.27	0.02	0.52	Yes
Positive Mindset -> Positive Mindset37 <sup>b</sup>	0.83	0.75	0.88	Yes

<sup>a-b</sup> reversed item

However, as depicted in Tables 38 – 41, item 3, item 9, item 22 and 24 and item 29 were found to insignificantly load on the respective latent construct. All five items were reversed and are unrelated. It is not clear as to why these items did not work as well as the other reversed items (items 36 and 37) (see Table 37) which were found to load significantly on the Positive Mindset latent construct. Though, it can be argued that the sample size and the quality of the insignificant items would have contributed to this result. After an evaluation of the items and the sample data, it was apparent that these reversed items could have had alternative meanings to the respondents or that the respondents could have been careless in answering the questions. It is necessary to revise or remove these items to improve the meaning of the respective constructs measured.

**Table 38***PLS-SEM Outer Loadings of Acceptance at Item Level*

Sub-scale and Item	Outer Loading	95% lower	95% upper	Discriminate
Acceptance -> Acceptance1	0.83	0.75	0.89	Yes
Acceptance -> Acceptance2	0.71	0.59	0.80	Yes
Acceptance -> Acceptance3 <sup>a</sup>	-0.19	-0.41	0.04	No
Acceptance -> Acceptance4	0.80	0.71	0.86	Yes
Acceptance -> Acceptance5	0.79	0.68	0.85	Yes
Acceptance -> Acceptance6	0.76	0.68	0.83	Yes

<sup>a</sup> reversed item**Table 39***PLS-SEM Outer Loadings of Opportunity at Item Level*

Sub-scale and Item	Outer Loading	95% lower	95% upper	Discriminate
Opportunity -> Opportunity7	0.80	0.73	0.86	Yes
Opportunity -> Opportunity8	0.80	0.71	0.86	Yes

Opportunity ->	0.12	-0.18	0.43	No
Opportunity9 <sup>a</sup>				
Opportunity ->	0.55	0.36	0.70	Yes
Opportunity10				
Opportunity ->	0.73	0.59	0.83	Yes
Opportunity11				
Opportunity ->	0.59	0.32	0.76	Yes
Opportunity12				

<sup>a</sup> reversed item

**Table 40**

*PLS-SEM Outer Loadings of Intrinsic at Item Level*

Sub-scale and Item	Outer Loading	95% lower	95% upper	Discriminate
Intrinsic -> Intrinsic22 <sup>a</sup>	-0.13	-0.47	0.25	No
Intrinsic -> Intrinsic23	0.90	0.83	0.93	Yes
Intrinsic -> Intrinsic24 <sup>b</sup>	0.26	-0.16	0.60	No
Intrinsic -> Intrinsic25	0.75	0.52	0.84	Yes

<sup>a - b</sup> reversed item

**Table 41**

*PLS-SEM Outer Loadings of Inquiry at Item Level*

Sub-scale and Item	Outer Loading	95% lower	95% upper	Discriminate
Inquiry -> Inquiry26	0.78	0.66	0.85	Yes
Inquiry -> Inquiry27	0.86	0.80	0.90	Yes
Inquiry -> Inquiry28	0.74	0.63	0.82	Yes
Inquiry -> Inquiry29 <sup>a</sup>	0.03	-0.27	0.36	No

<sup>a</sup> reversed item

Consequently, the overall model fit results of the PLS-SEM echoes that of the item analysis and the CFA.

Furthermore, as the sample size was not sufficient to investigate measurement invariance across gender, PLS provided an opportunity to explore indicators of gender differences to enable recommendations for further research. Table 46 in Annexure E depicts the results of the PLS outer loadings across gender of each secure base leadership sub-scale, at item level. Items 9, 20 and 29 exhibit potential have different meanings across groups (i.e., gender) and should be reviewed or removed. These items were noted as a limitation to this study. The results indicated that there was in fact items which measure differently across South African women and men. Therefore, the application and interpretations of the scale would result in different leadership development objectives for leaders (i.e., women and men) in the same positions.

The above analysis presents concerns of the secure base leadership measurement model's theoretical context and shows evidence for further development of the Intrinsic Motivation sub-scale items as they are non-discriminant from the Potential and Opportunity sub-scale. Further evidence in corroboration with the item's analysis proved that items 3, 9, 22, 24 and 29 insignificantly load on the respective constructs and are problematic. The correlation matrix in addition to the PLS presents evidence that suggests there is possible multi-collinearity present in the eight-dimension model. It should be noted that these inconsistencies could be due to the small sample size. As a result, it can be deemed that the eight-dimension Secure Base Leadership Scale (SBLs) as specified to a South African sample requires modification. This would require the analysis to be redirected from a confirmatory approach to an exploratory approach. Therefore, an Exploratory Factor Analysis (EFA) was performed to investigate a simpler model structure. Models which are subjected to modification should be considered with utmost caution.

#### **4.6 Exploratory Factor Analysis (EFA)**

The EFA was initiated with the Principal Component Analysis (PCA) extraction method which employed an oblimin rotation. The 37 items of the Secure Base Leadership Scale (SBLS) were intercorrelated and rotated to establish a simplified model by means of oblimin rotation.

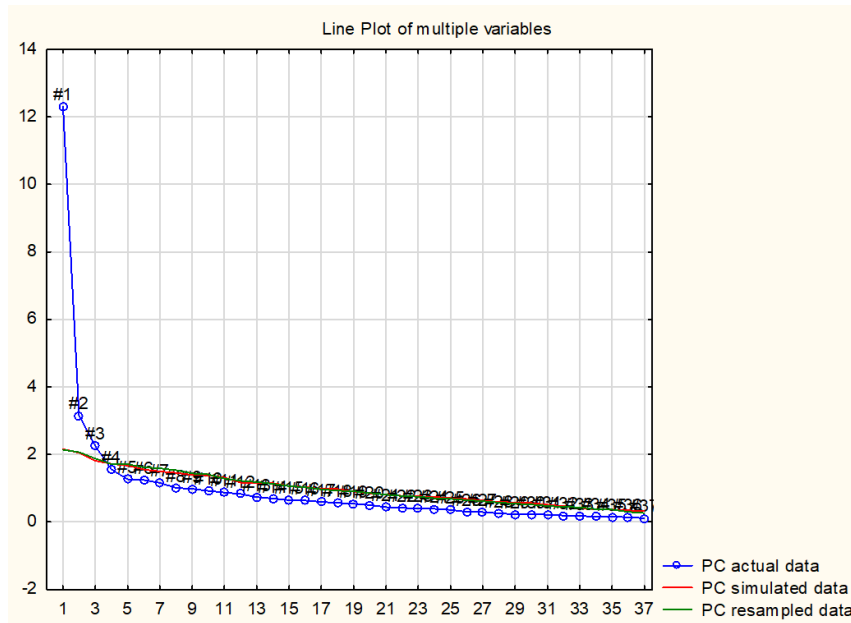
The model was evaluated to determine which dimensions best describe the relationships between the variables which would, in turn, determine the number of factors that should be extracted. An essential decision in the EFA is determining the number of factors chosen to retain. If too few factors are retained, the richness of the data can be lost but, retaining too many factors may lead to trivial and random information which can create noise in the data (Osborne, 2015).

A joint parallel analysis/scree plot test was used to determine the number of factors. Parallel analysis was applied to determine the factor solution that best represented the data. The scree test clearly identifies the breaks between the eigenvalues equal to and smaller than 1. Cattell (1966) recommends that when selecting factors from a scree plot test, the cut-off point is at the inflection (elbow) of the curve. When evaluating the scree plot, Cattell (1966) suggests that all factors following the one factor which starts the elbow in the curve of the eigenvalues, can be extracted. The scree plot presented in Figure 2 suggests a three high-order factor model, similar to the previous study.



**Figure 2**

*Scree plot test displaying a high order solution of 3 factors*



However, the manner in which the secondary factors loaded to the primary factors differ. Table 42 presents a summary of the secondary factors loaded onto the primary factors from each study.

**Table 42**

*A Comparison of the Secondary Factors Loaded on Primary Factors of a 3-Factor Secure Base Leadership Model in the Current Study and in Coombe (2010)*

Primary Factor	Current Study Secondary Factor	Coombe (2010) Secondary Factor
Factor 1	Acceptance	Acceptance
	Accessible	Accessible
	Inquiry	
	Calm	

Primary Factor	Current Study Secondary Factor	Coombe (2010) Secondary Factor
Factor 2	Opportunity	Opportunity
	Potential	Potential
	Intrinsic Motivation	Intrinsic Motivation
	Positive Mindset	
Factor 3	Item 3 <sup>a</sup>	Calm
	Item 9 <sup>b</sup>	Inquiry
	Item 22 <sup>c</sup>	Positive Mindset
	Item 45 <sup>d</sup>	
	Item 36 <sup>e</sup>	

<sup>a</sup>Acceptance. <sup>b</sup>Opportunity. <sup>c</sup>Intrinsic. <sup>d</sup>Inquiry. <sup>e</sup>Positive Mindset

Furthermore, a factor analytic approach called Principal Component Analysis (PCA), was conducted. This evaluation utilises eigenvalues. Eigenvalues represent the total amount of variance that can be explained by a given latent factor. PCA assumes the total variance is equal to common variance. Eigenvalues can be positive or negative but are preferably larger than zero. In practice, variance cannot be negative. Negative eigenvalues imply the model is ill-conditioned and eigenvalues close to zero imply multi-collinearity. Factor eigenvalues equal to or larger than 1 (Kaiser criterion) should be identified. Table 43 presents the eigenvalues obtained from the three-factor solution.

Table 44 presents the Factor Correlation Matrix which is the intercorrelations among factors. The more correlated the factors the more difficult it would be to interpret the factor loadings.

**Table 43***The Three-Factor Solution with Respective Eigenvalues*

Factor	Eigen values	% Total variance	Cumulative Eigenvalue	Cumulative %
1	12.31	33.27	12.31	33.27
2	3.16	8.53	15.47	41.80
3	2.26	6.10	17.72	47.90

**Table 44***Factor Correlation Matrix*

Factor	Var1	Var2	Var3
1	1	0.44	-0.05
2	0.43	1	-0.07
3	-0.05	-0.07	1

Once the factors had been determined, the loading of each factor was calculated. Factor rotation was utilised to determine the extent to which each variable loads on the identified factors. Due to the high inter-correlation found in the confirmatory analysis, an oblimin rotation was employed. Factor loadings equal to and larger than .40 would be preferred but factor loadings equal to and larger than .30 would be considered acceptable (Gaskin & Happell, 2013)

Table 45 presents a factor pattern matrix of the loadings for the three-factor model after the oblimin rotation. A factor pattern matrix presents partial standardised regression coefficients of each item and its representative factors.

In total the three-factor solution explains 47.90% of the shared variance. The first factor (Factor 1) explains 33.27% of the variance. Factor 1 consists of moderate to high negative item

loadings which range from (-.42 to -.84) across the Acceptance (5 of 6 items), Accessible (all 4 items), Listen (2 of 4 items), Calm (all 4 items) and Positive Mindset (1 of 4 items) sub-scale. Item 6 (Acceptance), item 14 (Potential), item 21 (Accessible) and 35 and 37 (Positive Mindset) also load negatively on Factor 1, with small secondary loadings  $> .30$  (italicised in Table 43). However, item 6 and 21 loads with a higher loading on Factor 1 while items 14, 35 and 37 load with higher loadings on Factor 2. This indicates that items related to Acceptance, Accessible, Inquiry and Calm describe Factor 1. Item 28 (Inquiry) measures below the threshold across all three factors. This indicated that this item does not sufficiently measure any of the higher order factors.

The second factor (Factor 2) explains 8.53% of the variance. Factor 2 consists of moderate to high negative items loadings which range from (-.51 to -.83). These loadings loaded from items respective to the Opportunity (4 of 6 items), Potential (all 5 items), Intrinsic (2 of 4 items) and Positive Mindset (2 of 4 items) sub-scales. Item 12 (Opportunity) also negatively loaded on Factor 3, with a secondary loading  $> .30$ . However, item 12 loads with a higher loading on Factor 2. It is evident that Factor 2 is described by items respective to Opportunity, Potential, Intrinsic and Positive Mindset.

The third factor (Factor 3) explains 6.09% of the variance. Factor 3 consists of moderate negative item loadings which range from (-.33 to .73). These item loadings do not load predominantly from a specific sub-scale but rather range across Acceptance (2 of 6 items), Opportunity (1 of 6 items), Intrinsic (2 of 4 items), Inquiry (1 of 4 items) and Positive Mindset (1 of 4 items). Factor 3 results reflect that it is comprised of all the reversed items which were also shown to be the problematic items identified in the confirmatory factor analysis and PLS. These items seem to be unrelated. Factor three does not make conceptual sense and the related items should be reconsidered or removed.

**Table 45***Three-Factor Pattern Matrix*

Variable	Factor 1	Factor 2	Factor 3
ACC1	<b>-0.64</b>	-0.17	0.08
ACC2	<b>-0.52</b>	-0.15	0.2
ACC3 <sup>a</sup>	-0.06	<i>0.4</i>	<b>0.46</b>
ACC4	<b>-0.56</b>	-0.23	-0.01
ACC5	<b>-0.7</b>	-0.03	-0.02
ACC6	<b>-0.42</b>	-0.32	<i>0.33</i>
OPP7	-0.01	<b>-0.77</b>	0.1
OPP8	-0.03	<b>-0.69</b>	-0.04
OPP9 <sup>b</sup>	0.01	-0.05	<b>0.55</b>
OPP10	-0.38	-0.21	0.03
OPP11	0.2	<b>-0.78</b>	-0.09
OPP12	-0.08	<b>-0.51</b>	-0.36
POT13	-0.23	<b>-0.58</b>	0.15
POT14	-0.37	<b>-0.56</b>	0.21
POT15	-0.07	<b>-0.69</b>	0.09
POT16	-0.04	<b>-0.7</b>	-0.05
POT17	-0.05	<b>-0.7</b>	-0.03
ACCESS18	<b>-0.77</b>	-0.04	-0.1
ACCESS19	<b>-0.67</b>	-0.12	-0.22
ACCESS20	<b>-0.67</b>	-0.22	-0.08
ACCESS21	<b>-0.51</b>	-0.32	0.07
INT22 <sup>c</sup>	0.03	0.13	<b>0.59</b>

Variable	Factor 1	Factor 2	Factor 3
INT23	0.07	<b>-0.83</b>	0.06
INT24 <sup>d</sup>	0.13	-0.15	<b>0.73</b>
INT25	-0.23	<b>-0.41</b>	-0.01
LISTEN26	<b>-0.69</b>	0.16	0.18
LISTEN27	<b>-0.72</b>	0.02	-0.05
LISTEN28	<b>-0.37</b>	-0.32	-0.01
LISTEN29 <sup>e</sup>	0.09	-0.02	<b>0.45</b>
CALM30	<b>-0.76</b>	0.24	0.02
CALM31	<b>-0.78</b>	0.10	-0.02
CALM32	<b>-0.84</b>	0.03	0.02
CALM33	<b>-0.79</b>	0.02	-0.06
MEYE34	<b>-0.56</b>	-0.03	0
MEYE35	-0.33	<b>-0.45</b>	-0.06
MEYE36 <sup>f</sup>	-0.09	-0.10	<b>0.43</b>
MEYE37	-0.37	<b>-0.46</b>	-0.04

*Note.* ACC = Acceptance; POT = Potential; OPP = Opportunity; ACCESS = Accessible; INT = Intrinsic; LISTEN = Inquiry; CALM = Calm; MEYE = Positive Mindset

<sup>a-f</sup> reversed items

Therefore, a simple two-factor scale would be the most appropriate solution. Items related to Intrinsic sub-scales should be removed. Items pertaining to Accessible, and Potential should be reviewed and combined. Similarly, items concerning the Inquiry, Calm and Positive Mindset sub-scales should be reworded to reflect one construct.

#### **4.7 Summary**

This chapter interpreted and discussed the results of the statistical analyses conducted in the attempt to answer the empirical research questions. A confirmatory factor analysis was performed to determine whether the South African database fitted the predetermined model proposed by Coombes (2010). This was followed by a PLS which further determined the overall fit of the outer model to the data and investigated whether the measurement model performs the same across genders. Based on the findings, an exploratory factor analysis was employed to establish a simpler three-factor model structure. The succeeding chapter reports on the result findings with regard to a theoretical and practical perspective.

## **5. Discussion**

### **5.1 Introduction**

This chapter provides a discussion of the findings presented in the previous chapter with reference to the research question and objectives. This is followed by a discussion regarding the outcome of the overall structural validity of the Secure Base Leadership Scale (SBLS). Considering Coombe's (2010) conception of the Secure Base Leadership Scale (SBLS), inferences regarding the theoretical non-empirical and empirical implications of the study will also be discussed. In addition, the limitations to this study will be acknowledged and addressed, followed by plausible recommendations for further research. In conclusion, the practical implications of this study will be explored with reference to the utility of the Secure Base Leadership Scale (SBLS) in the South African organisational leadership development domain.

### **5.2 Discussion**

The objectives of this study were to evaluate and determine whether the secure attachment theory can be successfully replicated in a South African context and whether the Secure Base Leadership Scale (SBLS) is a psychometrically sound measuring instrument that could be used for leadership development processes within the South African business context.

Attachment Theory has been successfully extended to leadership processes and relationship-based leadership theories such as transformational leadership and Leader-Member Exchange (LMX) theory (Coombe, 2010; Graen & Uhl-Bien, 1995; Grosvenor & Boies, 2006). First, Coombe's defined secure base leadership comprising eight dimensions (Acceptance, Opportunity, Accessible, Potential, Intrinsic Motivation, Inquiry (Listening), Calm and Positive Mindset) were assessed in a 37-item scale. However, Coombe (2010) later discovered that the eight dimensions correlate to three high-order factors. After the theoretical exploration of the correlations, considerable commonality was found between seven of the eight initial



dimensions and Bowlby's and Ainsworth's (1956) description of a secure base. Subsequently, Coombe (2010) defined secure base leadership according to the simplified three-factor model assessed on a 13-item scale (Coombe, 2010), as a practical approach to the secure attachment perspective. More specifically, Coombes defined the three factors as follows: First, Safety, characterised by the Acceptance and Accessible dimensions, refer specifically to leadership behaviours related to providing support, protection, reassurance, and comfort. Secondly, Exploration, characterised by the Opportunity, Potential and Intrinsic Motivation dimensions, refer specifically to leadership behaviours related to persistence, patience, providing opportunities and encouraging risk-taking. Lastly, Positive Dealing, characterised by the Calm, Inquiry and Positive Mindset dimensions which refer specifically to the leadership style and how the leader positively manages situations under pressure.

Building on the theoretical foundations of Coombe's (2010) model, this study evaluated the structural validity of the eight-dimensional Secure Base Leadership Scale (SBLS) to determine whether it can be operationalised in a South African context. Coombe's previous study reflects research from a Western perspective (i.e., UK and Europe), where only partial evidence was found to support the successful operationalisation of the Secure Base Leadership Scale (SBLS). Coombe (2010) advised that the Secure Base Leadership Scale (SBLS) still requires significant further development.

Considering the sample limitations, the results of this study provide some insight and understanding in support of the theoretical objective of this study as to how some of the relationships are supported by literature and how the leadership framework is applied in a South African (non-Western) context. The following sections more specifically explore and discuss the empirical objectives of the study with reference to the outcome of the results provided.

The results revealed partial reliability of the eight-dimensional Secure Base Leadership Scale (SBLS) (Hair et al., 2010), with poor reliability presented by the Intrinsic, Inquiry and Positive Mindset sub-scales. The reliability results partially agree with the previous research conducted with this measurement scale. However, evidence suggests that the eight-dimensional Secure Base Leadership Scale (SBLS) cannot be reliably operationalised in a South African context and therefore cannot be deemed valid without further development.

Similar to Coombe's study, this research provides support that Factor 1 is concerned with secure base behaviours related to Acceptance and Accessibility. More so, Factor 2 is associated with behaviours related to Opportunity, Potential and Intrinsic Motivation. However, Factor 3 in the current study was predominantly comprised of the reversed items which proved to be problematic throughout the data analysis. These items theoretically correlate or refer to a common theme. This is not concurrent with the previous study conducted by Coombe, where the third factor correlated to behaviours related to Calmness, Inquiry and Positive Mindset. This is a point contention.

When Bowlby's (1973, 1980, 1982) theoretical conceptualisation of secure attachment as described below is taken into account, associations can be made to the two factors found in the current study that align closely with previous research by Coombe (2010).

The provision of a Secure Base from which a child or adolescent can make sorties into the outside world and to which he can return knowing for sure that he will be welcomed when he gets there, nourished physically and emotionally, comforted if distressed, reassured if frightened. In essence the role is one of being available, ready to respond when called upon to encourage and perhaps assist, but to intervene actively only when clearly necessary. In these respects, it is a role similar to that of an officer commanding a military base from

which an expeditionary force sets out and to which it can retreat, should it meet with a setback. Much of the time the role of the base is a waiting one, but it is nonetheless vital for that. For it is only when the officer commanding the expeditionary force is confident his base is secure that he dares press forward and take risks. (Bowlby, 1973)

In conjunction with Davidovitz et al. (2007) and Maysseless (2010) definitions which refer to the functions of a secure base leader, theoretical support is found to justify that Factor 1 encompasses behaviours of acceptance, accessibility, attentiveness, appreciation, nurturing, and patience all indicative of a “safe haven”. This factor aligns closely with Coombe’s (2010) Safety Factor. Factor 2 incorporates behaviours aligned with Bowlby’s reference to “pressing forward and taking risks” as it includes behaviours of encouragement, risk taking, positive outlook and personal growth, all embodying a “secure base”. Factor 2 aligns exclusively with Coombe’s (2010) Risk Factor.

What is more, Coombe (2010) extended the traditional definition of a secure base’s safety-risk dynamic by theoretically justifying a third factor, Positive Dealing.

This Positive Dealing factor, I would argue, appears to correspond to the production dimension. It emphasises that leadership is not only about relationships (people), but also about the creation of desired organisational outcomes (production). It suggests that followers not only appreciate a leader who is relationally strong and offers them safety and opportunities for exploration, but also a person who is able to manage tasks, situations and ‘production’ issues in a positive manner. (Coombe, 2010)

According to Davidovitz et al. (2007) and Maysseless (2010) the third function of a secure base relates to the maintenance of perceived proximity (psychological or physical) during periods of uncertainty. Up until now, the third factor of secure base leadership seems to be concerned with the style of leadership and how the leader manages turbulent circumstances.

Based on the findings (Chein & Bennis, 1965), the role of psychological safety may be a more appropriate association with the behaviours that should be related to the third factor. Edmondson and Lei (2014) describe psychological safety as the principle which allows others to feel safe in their environment, thereby encouraging opportunities to grow, learn and contribute effectively. Equally, Edmondson et al. (2004) suggest when leaders are open, accessible, and available a psychologically safe context is cultivated, which in turn provides opportunity for creativity, innovation and valuable solutions in a rapid-paced environment. Furthermore, Frazier et al. (2017) discovered that positive personality traits, work design and a supportive work environment emphasise perceived psychological safety which indirectly contributes to maintaining organisational competitiveness. Parallel to this is the fundamental principle of secure base leadership which influences the follower to appreciate and model the secure base behaviours to allow them to successfully navigate future obstacles. To this end, Coombe (2010) considered the relationship between secure base leadership and psychological safety and found that secure base leadership uniquely contributes to Psychological Safety. With reference to Coombe's (2010) third factor – Positive Dealing – this research proposes that the third factor of secure base leadership as described in a South African context should relate to behaviours associated with perceived psychological safety. This concept has a positive dual people- and task-orientated approach which endorses further learning and development (i.e., behaviours which encompass seeking-help, seeking-feedback, integrity, innovative behaviour, and boundary spanning) (Edmondson et al., 2004), for the benefit of the other's and the organisation's advancement.

### **5.3 Conclusion of overall model**

It is evident that the eight-dimensional Secure Base Leadership Scale (SBLs) could not be successfully replicated in a South African context. Sub-scales of Intrinsic Motivation and Positive Mindedness are cause for concern due to the low reliability scores. The study also

provides evidence that the Potential and Opportunity sub-scale could measure the same latent construct. Items 3, 9, 22, 24, 28, 29 and 36 loads poorly on the respective factors. Therefore, it would benefit the overall over fit if these items were revised and/or removed.

That said, the results support a simplified three-factor model as presented in Table 41. Based on the results, Factors 1 and 2 are statistically and theoretically justified to relate to the dual control system (Safety and Risk factors) of secure attachment. This is in support of the theoretical objective of this study. However, statistical results are further supported by theoretical inquiry which suggests that Factor 3 cannot be reasonably justifiable as a reliable primary Factor. Based on the three functions of a secure base leader, research implies that Factor 3 should be related to the style and manner in which the leader deals with challenging situations in a positive way in order to encourage development and advancement in the workplace. This study suggests that Factor 3 would be related to a more reliable latent factor, psychological safety. In conclusion, the current eight-dimensional Secure Base Leadership Scale (SBLS) does not possess psychometric properties affiliated to scales which can be reliably utilised in the South African context, and it requires further rigorous development. Therefore, empirical objectives 2 and 3 for this study was successfully executed and specific recommendations for further application are made.

#### **5.4 Limitations to the study**

This study is not without several limitations, which should be noted. The most prudent limitation to this study is the environment in which the study was conducted<sup>15</sup>. This study's data collection procedure commenced in August 2020. At that time, the world was in the midst of a global pandemic; COVID-19. The South African economy had been severely crippled by the consequences of Disaster Management Act (DMA), No. 480 of 2020, Level 5 lockdown

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<sup>15</sup> Please refer to the research caveat

and numerous governmental restrictions. This study, like many others, was compromised by the pandemic in two significant ways.

First, the external circumstances were catalysts to drastic restructuring and downsizing exercises of many South African businesses (United Nations Development Programme [UND], 2020). Two of the prequalified businesses (organisations with more than 60 employees) postponed and later retracted their permission to distribute the survey amongst their organisational leaders due to ongoing restructuring processes. This prolonged the data collection process and significantly decreased the number of potential respondents. The environment lent itself to one rife with uncertainty, grief and turmoil as many South Africans lost not only their job security but loved ones (i.e., family members and friends) and were bound to the confines of their homes for two months (United Nations Development Programme [UND], 2020). The psychological impact of these circumstances could have played a role in the willingness of remaining participants to respond to the survey (Pillay & Barnes, 2020) which further decreased the odds of a plausible response rate (Hair et al., 2010). These circumstances were external to the control of the researcher. Given the contextual factors during the pandemic and the nature of the constructs measure in the scale COVID-19 could have influenced how the participants responded to the questions which in turn could have had an influence on how the

This leads to the second limitation of the sample size. Despite continual efforts to increase the number of responses, after three months 152 responses were acquired. This sample size was not sufficient for the original intention of this study<sup>16</sup> to also focus on measurement invariance across gender (Chou & Bentler, 1995). To mitigate this challenge, the study's

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<sup>16</sup> The structural validity and measurement invariance of the secure base leadership scale within the South African context, please refer to the research caveat for more information.

research question was adjusted, and the research objectives amended to meet the requirements of a validation study ( $N > 100$ ) (Bagozzi & Yi, 2012; Hair et al., 2010). Furthermore, the inclusion criteria<sup>17</sup> could have also restricted the number of responses received as well as the extent to which the results could have been generalised to the South African population. The limited sample size influenced the type of data analysis that could be performed and the manner in which it was performed. Consequently, the fit indices of the model fit should be interpreted with severe caution as Diagonally Mean Least Square estimates (DWLS) conducted with small sample sets may present larger RMSEA and smaller CFI and TLI values (Xia & Yang, 2018). Subsequently, possible misfit/misspecification of the model could have taken place. More so, research (Savalei, & Rhemtulla, 2013; Xia & Yang, 2018) suggests that when a DWLS is applied (across any sample size) traditional fit criteria (Hair et al., 2010) should not serve as the only justification for the acceptance of the model fit. Due to these limitations, the Structural Equation Modelling (SEM) with Partial Least Squares (PLS) technique was employed based on Hair et al. (2011) recommendation. A larger sample size could enable future studies to determine the validity of the Secure Base Leadership Scale (SBLs) in a South African context more accurately.

Thirdly, the utilisation of the non-probability convenience sampling neglects to account for possible sampling error (Blumberg et al., 2008). Unfortunately, this affects the extent to which the results of this study can be generalised to the organisational leaders of South Africa. Therefore, the results of this study should be interpreted as a preliminary exploration of Secure Base Leadership and the Secure Base Leadership Scale (SBLs) in South Africa until larger samples can be applied.

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<sup>17</sup> Both criteria before and after the amendments. (Only leaders with one direct report who have occupied their role for at least a year were included in the sample.)

Lastly, the research and survey design could pose possible constraints to the research. The utilisation of a cross-sectional survey design which measures a leader's perception of their leadership style at one point in time (more relevant to this point, during a global pandemic) could have influenced the data descriptive statistics. Future studies would benefit employing a longitudinal approach to measure the perceived secure base leadership style over time. This could permit future research to predict relationships more appropriately between latent variables. Finally, the self-report online nature of the questionnaire could prove to be a limitation to the study. Despite the appeal for honest responses in the 'consent to participate' section of the survey, De Kock (2018) warns against the possibility of response bias (i.e., extremity bias, acquiescence bias or social desirability bias). Response bias typically refers to the tendency for participants to respond inaccurately or falsely to questions. Therefore, future iterations of the Secure Base Leadership Scale (SBLs) would benefit from including 'screening' questions of measure which could account for possible impression management and consistency of the participants' response style.

### **5.5 Recommendations for future research**

In addition to gaining a better understanding of how the secure attachment style extended to the leadership domain, this study aimed to determine the structural validity of the Secure Base Leadership Scale (SBLs) within the South African context.

The results indicate that the Secure Base Leadership Scale (SBLs) is still in its early development phases and would benefit from further iterations. This provides multiple opportunities for future research to expand and successfully develop a Secure Base Leadership Scale (SBLs) which could ultimately be confidently utilised in the leadership development and coaching domain.



The first implication to address is whether the secure base leadership model is comprised of eight dimensions or three higher-order factors. Based on the findings of this research, in corroboration with previous studies, it has been determined that the model comprised of two higher-order factors which capture the essence of secure base leadership as extended to the leadership domain. That said, Factor 1 and Factor 2 have been statistically and theoretically justified to be associated with Safety and Risk/Exploration respectively (Ainsworth & Bowlby, 1991; Coombe, 2010; Davidovitz et al., 2007; Mayseless, 2010; Mayseless & Popper, 2007). Although the research agrees that Factor 3 deals with the manner in which the leader approaches people and tasks, it is unclear which dependent variable would significantly correlate with the factor. Research implies that psychological safety is possibly the most significant outcome variable of secure base leadership as it explains the core principle of the safety-risk dilemma whilst fostering an environment conducive to development and learning. Therefore, it would be recommended to re-evaluate the latent variables of the study and include items or measurements of psychological safety as a variable in the model.

That said, the results of the study strongly indicate that by removing items 3, 9, 22, 24, 28, 29 and 36, the reliability of the sub-scales in the eight-dimensional Secure Base Leadership Scale (SBLS) will be positively affected ( $\alpha > .70$ ). These items should be revised and removed from future research studies using the eight-dimensional scale. Table 47 presented in Annexure F proposes a possible 2-factor, 23-item scale which can be utilised in conjunction with other latent variables (i.e., psychological safety, inclusive leadership) in future studies. This proposed scale should undergo further rigorous statistical analysis on a larger and more representative sample size.

Although this research only provides a brief insight into how the Secure Base Leadership Scale (SBLS) could differ across groups (i.e., gender), research highlights the importance to control for gender differences in leadership styles to avoid measurement errors

which can cause biases toward the skills and performance of men and women in the same positions. Due to possible group (i.e., gender) differences which could take place in attachment style, it would be highly recommended to conduct a pairwise multigroup confirmatory factor analysis with robust maximum likelihood estimation to analyse each sub-scale separately and then compare the factor structures to establish equivariance (i.e., to control for gender differences with measurement invariance).

Lastly, the results provide evidence that future studies would benefit from conducting an Item Response Theory (IRT) analysis (Embretson, & Reise, 2013). IRT is a powerful technique which would assist future researchers to develop and refine shortened, cross-calibrated iterations of the Secure Base Leadership Scale (SBLS) in a multicultural context (Hambleton et al., 1991). The IRT can be successfully utilised in the development of future Secure Base Leadership Scales (SBLS) as it will enable the questionnaire to explain the relationship between the latent traits and how they would manifest in the workplace, thereby providing better predictive validity of how the individuals' attachment style could display in the workplace.

## **5.6 Managerial implication**

Anchored in the leadership development domain, the focus of this study was to structurally validate the Secure Base Leadership Scale (SBLS) to determine its utility in the South African business context. The purpose of a valid scale is to use the scale in conjunction with a coaching programme aimed at creating self-awareness of and developing leaders' secure attachment styles (Fosha & Schneider, 2008; Hannah et al., 2008). The value of establishing leaders who practice secure base leadership lies in the balance of the safety-risk dilemma. This concept utilises a positive relational leadership approach to cultivate an environment in which an employee feels secure (i.e., accepted, and safe) to take risks and innovate (i.e., perform tasks differently or intelligently and to deliver valuable outcomes) (Edmondson et al., 2004). In a

complex, ambiguous market, organisations are dependent on the role of leadership to facilitate creativity to produce novel ideas that are crucial for organisational advancements.

The literature review has argued that secure base leadership offers unique insights into relation-orientated leadership models in addition to asserting the central nature and role of securely based leaders (men and women) in the functioning and sustaining of South African organisations. It was emphasised that leadership coaches and organisational development specialists should find ways to address the specific twenty-first century dilemmas (i.e., employee job satisfaction and organisational innovation) by implementing secure base leadership into organisations.

Currently, there is no valid and reliable Secure Base Leadership Scale (SBLs) utilised in practice in South Africa. This research has established that the existing eight-dimensional Secure Base Leadership Scale (SBLs) (Coombe, 2010) is not psychometrically sound for application in the South African context and would require rigorous development to be utilised in a multicultural society. That said, a two-dimensional scale (i.e., Security and Risk) which more closely replicates the key elements of secure base leadership, shows promise, yet still requires further development and validation in a South African context.

Despite the increased popularity of leadership coaching as a strategy for leadership development, a surprisingly large number of coaches utilise assessments such as the SBLs that are not validated for the intended purpose. Likewise, the majority of coaches are also unaware of the reliability and validity of the tools they utilise (Dias et al., 2015). This research provides evidence that the eight-dimensional Secure Base Leadership Scale (SBLs) produces inconsistent reliability scores across the sub-scales in a South African context. As a result, this could negatively affect the effectiveness of the development process (i.e., both leader and programme) and the inferences derived from the measurement results. Therefore, this research

has found the secure base leadership to have inadequate utility within a South African context until further development has taken place.

Considering the results, this research expanded the research base on relation-orientated leadership theory, specifically related to attachment theory. A limited number of studies have reported on attachment theory with reference to parenting in South Africa (Chetwin, 2012; Cooper et al., 2009; Loubser, 2007; Miles, 2013), however, based on the literature researched for this study, no study has investigated the attachment theory extended to leadership theory within South Africa. Hence, a void in South African literature regarding secure attachment-based leadership has been primarily addressed and the theoretical objective for this study reached. The Secure Base Leadership Scale (SBLS) explicated to a South African context suggests that secure attachment extended to the leadership domain is comprised of three core dimensions, namely:

1. **Security:** Comprised of behaviours essential to providing a sense of perceived safety, such as complete acceptance of the other, unconditional positive regard, being available and accessible its times of distress, attentiveness, and an optimistic outlook.
2. **Exploration:** Inclusive of behaviours vital to challenging ideas, fostering an environment of intuitive discovery and creativity, such as to see the potential in the other, identify opportunities of exploration and learning, encourage, challenge, and inspire the other.
3. **Psychological Safety:** Consists of behaviours related to the perception of taking risks at work, such as trusting the other, embracing change and open-mindedness, behaving with integrity and dependability and openness to feedback.

A key outcome of secure base leadership is the capability of the leader to be able to influence the follower's attachment style to be secure. In essence, the interpersonal exchanges

result in learning and development for the follower. This element is not necessarily evident in this study. Therefore, based on the findings of this study, the researcher suggests that the third factor of the secure base leadership model, should be added and measured by a more reliable latent factor; psychological safety.

South Africa is a multicultural society where organisations employ individuals from various backgrounds which maintain diverse values. Therefore, the empirical objective of this study was to establish the psychometric properties of the Secure Base Leadership Scale (SBLS).

Since the outcomes of being a secure base leader are beneficial to the organisation, this research should lead leaders to question their own attachment styles. It is expected that leaders would seek training and development opportunities related to the identified areas of improvement through methods of coaching, mentoring or workshops.

## **5.7 Conclusion**

The purpose of this study was to structurally validate the Secure Base Leadership Scale (SBLS) in a South African context whilst adding to the limited application of attachment theory within a leadership and development domain. This study thus shed light on the utility of the Secure Base Leadership Scale (SBLS), made leaders aware of the value of being a secure base leader, what it would take to become a secure base leader and what this could mean to an organisation's innovation capability. The study provides evidence that the Secure Base Leadership Scale (SBLS) requires further refinement as the psychometric properties are not yet suitable to be confidently utilised in the South African context. Furthermore, future iterations would benefit from being measured in multicultural societies to account for possible group differences. In the fast-paced uncertain and ever-changing environment, future organisations would greatly benefit from adopting the secure base leadership approach to increase

employees' perceived security and as a result creativity and innovation in the effort to remain competitive.

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## Annexure A: Ethical clearance



### NOTICE OF APPROVAL

REC: Social, Behavioural and Education Research (SBER) - Initial Application Form

3 August 2020

Project number: 11641

Project Title: Structural validity and measurement invariance across gender of the Secure Based Leadership Scale

Dear Ms Kaylie Kriel

#### Co-investigators:

Your response to stipulations submitted on 22 July 2020 was reviewed and approved by the REC: Social, Behavioural and Education Research (REC: SBE).

Please note below expiration date of this approved submission:

#### **Ethics approval period:**

Protocol approval date (Humanities)	Protocol expiration date (Humanities)
13 May 2020	12 May 2023

#### **SUSPENSION OF PHYSICAL CONTACT RESEARCH DURING THE COVID-19 PANDEMIC**

Due to the Covid-19 pandemic and resulting lockdown measures, all research activities requiring physical contact or being in undue physical proximity to human participants has been suspended by Stellenbosch University. Please refer to a [formal statement](#) issued by the REC: SBE on 20 March for more information on this.

This suspension will remain in force until such time as the social distancing requirements are relaxed by the national authorities to such an extent that in-person data collection from participants will be allowed. This will be confirmed by a new statement from the REC: SBE on the university's dedicated [Covid-19 webpage](#).

Until such time online or virtual data collection activities, individual or group interviews conducted via online meeting or web conferencing tools, such as Skype or Microsoft Teams are strongly encouraged in all SU research environments.

If you are required to amend your research methods due to this suspension, please submit an amendment to the REC: SBE as soon as possible. The instructions on how to submit an amendment to the REC can be found on this webpage: [\[instructions\]](#), or you can contact the REC Helpdesk for instructions on how to submit an amendment: [applyethics@sun.ac.za](mailto:applyethics@sun.ac.za).

#### **INVESTIGATOR RESPONSIBILITIES**

Please take note of the General Investigator Responsibilities attached to this letter. You may commence with your research after complying fully with these guidelines.

**If the researcher deviates in any way from the proposal approved by the REC: SBE, the researcher must notify the REC of these changes.**

Please use your SU project number (11641) on any documents or correspondence with the REC concerning your project.

Please note that the REC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

#### **CONTINUATION OF PROJECTS AFTER REC APPROVAL PERIOD**

You are required to submit a progress report to the REC: SBE before the approval period has expired if a continuation of ethics approval is required. The Committee will then consider the continuation of the project for a further year (if necessary).

Once you have completed your research, you are required to submit a final report to the REC: SBE for review.

**Included Documents:**

Document Type	File Name	Date	Version
Request for permission	SBLS Institutional Permission	23/09/2019	SBLS Org Permission
Request for permission	SBLS Institutional Permission	23/09/2019	SLBS Org Permission
Request for permission	Attachment A_SBLS Institutional Permission Letter	14/11/2019	Electronic
Proof of permission	Proof of permission to use Secure Based Leadership Scale	18/01/2020	
Recruitment material	Revised_Attachment B_Invitation to participate_17 03 2020	16/03/2020	Revised
Data collection tool	Revised_Secure Base Leadership Scale Questionnaire_16 03 2020	16/03/2020	Revised
Default	Revised_K_Kriel_TumItIn SBLS Kriel Proposal SBLS 28 02 2020 (17 per)	16/03/2020	Revised
Research Protocol/Proposal	Revised_K_Kriel Secure Based Leadership Scale Proposal_16 02 2020	16/03/2020	Revised
Request for permission	Revised_Attachment A_Institutional Permission 16 03 2020	18/03/2020	Revised
Proof of permission	Revised_Attachment A_Torga Optical_Institutional Permission_Signed_06 07 2020	06/07/2020	REC Revised Signed
Proof of permission	Motto Business Consulting_Institutional Permission 2020_Signed	13/07/2020	Motto Signed
Default	K KRIEL_SBLS_REC Response Letter July 2020	22/07/2020	AO Edit and Approve
Informed Consent Form	Revised_Attachment C_SBLS Informed Consent Form_22 07 2020	22/07/2020	REC Revised

If you have any questions or need further help, please contact the REC office at [cgraham@sun.ac.za](mailto:cgraham@sun.ac.za).

Sincerely,

Clarissa Graham

REC Coordinator: Research Ethics Committee: Social, Behavioral and Education Research

*National Health Research Ethics Committee (NHREC) registration number: REC-050411-032.  
The Research Ethics Committee: Social, Behavioural and Education Research complies with the SA National Health Act No.61 2003 as it pertains to health research. In addition, this committee abides by the ethical norms and principles for research established by the Declaration of Helsinki (2013) and the Department of Health Guidelines for Ethical Research: Principles Structures and Processes (2<sup>nd</sup> Ed.) 2015. Annually a number of projects may be selected randomly for an external audit.*

**Annexure B: A Table depicting Coombes Original Measurement model with items  
associated to dimensions**

<b>Item</b>	<b>Question</b>	<b>Dimension</b>
1	I value my subordinate/s as a human being, not just as an employee performing a role	<b>Acceptance and Safety (ACC)</b>
2	I accept my subordinates for who they are, rather than always trying to correct them	
3	I judge and evaluate my subordinates	
4	I understand and appreciate my subordinates as a person	
5	I treat all people with high regard	
6	I accept my subordinates' limitations and weaknesses in a supportive way	
7	I provide subordinates with significant opportunities to grow and develop	<b>Risk and Opportunity (OPP)</b>
8	I am prepared to take risks by giving my subordinates opportunities	
9	I micro-manage my subordinates	
10	I give my subordinates freedom to get on with the job	
11	I push my subordinates out of their comfort zone	
12	I give my subordinates tough feedback when it is necessary	
13	I see my subordinate's potential	<b>Potential (POT)</b>
14	I show confidence in my subordinates to grow and develop	
15	I suggest ways in which my subordinates might develop within the organisation	
16	I have a vision of how my subordinates might develop and grow in their career	
17	I challenge and stretch my subordinates to fulfil their potential	
18	I am available and accessible to my subordinates	<b>Sense of Accessibility and Availability (ACCESS)</b>
19	I provide my subordinates with the sense that they could contact me anywhere, anytime	
20	My subordinates know I support them, even when they have less contact	

21	My subordinates think of me as a supportive figure, even when they don't see me	
22	I use financial reward as a key motivating tool	<b>Intrinsic Motivation (INT)</b>
23	I stress the importance of my subordinates learning, growth and development	
24	Conversations with me focus more on business goals and objectives than on my subordinates learning and development	
25	I know what is important to my subordinates as a person, and I use that insight to motivate them	
26	I am a good listener	<b>Listening and Inquiry (LISTEN)</b>
27	I ask questions before coming to conclusions	
28	I ask for subordinates' opinions before giving them instructions	
29	I give solutions before asking for subordinates input	
30	I am a calm person	<b>Calm Dependable (CALM)</b>
31	I am dependable and predictable in terms of my moods and emotions	
32	I make my subordinates feel comfortable to approach me for support, even stressful situations	
33	I remain supportive when under pressure	
34	I find the positive in situations	<b>Positive Mindset (MEYE)</b>
35	I re-frame difficult situations into opportunities	
36	I focus on problems and difficulties more than on opportunities and solutions	
37	I keep subordinates focused on the goal when they are under pressure	

Secure Base Leadership Scale (SBLs) (Coombe, 2010)

## **Annexure C: Consent form and measurement scale**



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CONSENT TO PARTICIPATE IN RESEARCH

TESTING THE STRUCTURAL VALIDITY AND MEASUREMENT INVARIANCE OF  
THE SECURE BASE LEADERSHIP DEVELOPMENT SCALE

You are invited to participate in a research study conducted by Kaylie Kriel, Master of Commerce student, from the Department of Industrial Psychology in the Faculty of Economic and Management Sciences, at Stellenbosch University. The results of this research study will greatly contribute towards the completion of the research component of the thesis and consequently the completion of her studies. You were selected as a possible participant in this study because the study requires an investigation into individuals in leadership positions (supervisor or higher with at least one direct report) in medium to large sized business. Your participation would be greatly appreciated but is totally on a voluntary basis.

### **1. PURPOSE OF THE STUDY**

In response to the research initiating question, What are the psychometric properties of the Secure Base Leadership Scale (SBLs) in a South African business context and how does it perform across gender groups, the objective of this research study is to establish the utility of the Secure Base Leadership Scale (SBLs) by testing the validity of the scale, as well as to verify whether the scale measure is same across genders. It is hoped that this study will provide a foundation on which leadership development practitioners can confidently use the scale for leadership development initiatives to drive innovation ingenuity and certainty with in medium to large sized businesses.

### **2. PROCEDURES**

If you are interested in participating in this research study, we would ask you to do the following:

## **2.1. Provide voluntary, informed consent**

Voluntary informed consent means that you as the participant agree to partake in this research study and that you understand your rights and responsibilities. Most importantly, you understand that you can withdraw at any stage without the risk of any negative consequences. Additionally, the questionnaire will be confidential and no identifying questions (i.e. your name) will be asked. Once you have provided your informed consent (by agreeing on the online questionnaire) you will be directed to the Secure Base Leadership Scale (SBLs) by following a weblink.

## **2.2. Questionnaire completion**

The questionnaire will be presented in an online format (that is mobile device friendly). The questionnaire should not take longer than 20 - 30 minutes to complete the 37 item questionnaire. There are no right or wrong answers and there is also no time limit. Please set aside a quiet time and place to complete this questionnaire and answer the questions as honestly as possible, bearing your current job in mind. Your responses will be captured electronically and automatically stored for processing.

## **3. POTENTIAL RISKS AND DISCOMFORTS**

There are no foreseeable harmful risks for you as a participant. However, the completion of the questionnaire will entail time and energy on your account.

## **4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY**

Your participation could potentially greatly benefit the field of industrial psychology. Your participation could help to generate understanding surrounding the Secure Base Leadership Scale (SBLs) and secure base leaders in a South African workplace context. The purpose of the study will create a deeper understanding of South African leaders and their secure attachment behaviours across genders. This in turn could aid in the understanding of leadership development interventions (i.e., empowering coaches with a valid tool, as well as empowering leaders through their attachment styles). Your participation will also benefit the field of industrial psychological and provide a deeper understanding of the leadership domain.

## **5. PAYMENT FOR PARTICIPATION**

There is no offer of payment for participation in this study. This extends to both the organisation and the employee. All participants in this study will, however, have the choice to



receive an individual feedback report and attended and voluntary general feedback session on their results to assist in creating self-awareness and determine the value-add of a secure base leader.

## **6. CONFIDENTIALITY**

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Confidentiality will be maintained by several means, briefly described below:

### **6.1 Coding and access to questionnaire data**

The questionnaire utilises a system that cleans the sending information. This means that the researcher will not be able to identify the source of the questionnaire data. You will additionally not be asked for any information that directly links to your identity, such as your name or a physical address. The information you supply will therefore be done anonymously. Unless you so give consent to receiving your individual report. In this case, once you have given voluntary consent, you will be asked to reveal your email address to which the report will be sent to.

Furthermore, the data received will only be accessible to Kaylie Kriel and Professor Aletta Odendaal of the Department of Industrial Psychology at Stellenbosch University. Any access to the data will be protected using a password protected computer to which access is restricted.

### **6.2 Questionnaire results**

Upon completion of the thesis information supplied to either the public (the thesis is available online via the Stellenbosch Library E-thesis portal) or to the organisation, which will only be supplied on an aggregate basis – again, ensuring anonymity. This information is supplied in order to uplift the research community, to inform organisational interventions and to strengthen the body of knowledge available within the academic field of Industrial psychology. Should the researcher feel that publishing results of the study, within an academic environment, is pertinent, results will also be provided in an aggregate manner and all participant information will be aggregated. The researcher will endeavour to protect all participants' confidentiality and anonymity rights at all costs.

### **6.3 Future use of the data**

The collected data will be archived for possible future research use. If the data will be used in future research such research will have to be ethically cleared by the Research Ethics Committee (Humanities) of Stellenbosch University.

## 7. PARTICIPATION AND WITHDRAWAL

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind.

## 8. IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about the research, please feel free to contact:

- Kaylie Kriel on [krielkaylie@gmail.com](mailto:krielkaylie@gmail.com) or Professor Aletta Odendaal, at the Department of Industrial Psychology, [odendaala@sun.ac.za](mailto:odendaala@sun.ac.za).

## 9. RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, contact Ms Maléne Fouché [[mfouche@sun.ac.za](mailto:mfouche@sun.ac.za); 021 808 4622] at the Division for Research Development at Stellenbosch University.

- I have read and understand the information that was provided to me surrounding my participation in the Secure Base Leadership Scale research study.  
I would like to participate and therefore voluntarily give consent to participate.
- I have read and understand the information that was provided to me surrounding my participation in the Secure Base Leadership Scale research study.  
I would not like to participate and therefore voluntarily give consent to decline this invitation.
- I have read and understand the information that was provided to me and herewith **give** consent for the data to be used for academic purposes.  
I have read and understand the information that was provided to me and herewith **do not** give consent for the data to be used for academic purposes.

## Section A

### Biographical information

**(please choose the appropriate item from the following dropdown selection**

1. OCCUPATIONAL LEVEL

Top Management (i.e., CEO director reports horizontally), middle management (i.e., senior manager reports vertically and horizontally), supervisory level (reports vertically)

2. NUMBER OF SUBORDINATES

1,2,3,4,5,6,7,8,9,10 and more

Abort Survey: Regrettably you do not meet the requirements of the sample criteria of occupying a management position and having one direct subordinate, for purposes of collecting accurate data unfortunately you cannot proceed to take part in the survey.

3. RACE:

Black White Coloured Indian Other

4. GENDER:

Male Female

5. AGE (years):

20 -25 (increments of 5 up until 90)

6. INDUSTRY (i.e., Construction, finance academia etc)

**Section B**

**Secure Base Leadership Scale**

Dear Participant,

- Please read through the following statements carefully.
- You need not spend too much time on the questions as **your initial answer** would be the most suitable.
- This questionnaire should not take longer than **15 – 20 minutes** to complete.
- Please ensure that you answer all the questions **honestly**.

Use the scale next to the statement to answer to what extent you agree with the statement.

**Please mark your choices as follows:**

**1 = Never** (no recollection of the occurrence)

**2 = Rarely** (seldomly occurs)

**3 = Sometimes** (more often but infrequent)

**4 = Often** (often)

**5 = Consistently** (always)

Item	Item	1	2	3	4	5
1	I value my subordinate/s as a human being, not just as an employee performing a role					
2	I accept my subordinates for who they are, rather than always trying to correct them					
3	I judge and evaluate my subordinates					
4	I understand and appreciate my subordinates as a person					
5	I treat all people with high regard					
6	I accept my subordinates' limitations and weaknesses in a supportive way					
7	I provide subordinates with significant opportunities to grow and develop					
8	I am prepared to take risks by giving my subordinates opportunities					
9	I micro-manage my subordinates					
10	I give my subordinates freedom to get on with the job					
11	I push my subordinates out of their comfort zone					

12	I give my subordinates tough feedback when it is necessary					
13	I see my subordinate's potential					
14	I show confidence in my subordinates to grow and develop					
15	I suggest ways in which my subordinates might develop within the organisation					
16	I have a vision of how my subordinates might develop and grow in their career					
17	I challenge and stretch my subordinates to fulfil their potential					
18	I am available and accessible to my subordinates					
19	I provide my subordinates with the sense that they could contact me anywhere, anytime					
20	My subordinates know I support them, even when they have less contact					
21	My subordinates think of me as a supportive figure, even when they don't see me					
22	I use financial reward as a key motivating tool					
23	I stress the importance of my subordinates learning, growth and development					
24	Conversations with me focus more on business goals and objectives than on my subordinates learning and development					
25	I know what is important to my subordinates as a person, and I use that insight to motivate them					
26	I am a good listener					
27	I ask questions before coming to conclusions					
28	I ask for subordinates' opinions before giving them instructions					
29	I give solutions before asking for subordinates input					
30	I am a calm person					

31	I am dependable and predictable in terms of my moods and emotions					
32	I make my subordinates feel comfortable to approach me for support, even stressful situations					
33	I remain supportive when under pressure					
34	I find the positive in situations					
35	I re-frame difficult situations into opportunities					
36	I focus on problems and difficulties more than on opportunities and solutions					
37	I keep subordinates focused on the goal when they are under pressure					

Secure Base Leadership Scale (SBLs) (Coombe, 2010. p.123 – 132)

## Annexure D: Institutional Permission



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### **INSTITUTIONAL PERMISSION TO PARTICIPATE IN RESEARCH**

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#### **Structural Validity and Measurement Invariance of the Secure Base Leadership Scale (SBLs)**

To whom it may concern,

**Letter requesting permission for a research study to be conducted within your organisation.**

The purpose of this letter is to kindly ask your organisation to partake in a research study conducted by Kaylie Kriel, a master's student in Industrial Psychology at Stellenbosch University.

Research has shown that secure base leadership theory uniquely contributes to the relation orientated leadership literature as it emphasises the importance of leader-member exchange to promote exploration for the benefit of employee ingenuity (Coombe, 2010; Davidovitz, Mikulincer, Shaver, Izsak & Popper, 2007; Popper & Mayselless 2003; Mikulincer & Shaver, 2007). Coombe (2010) developed the Secure Base Leadership Scale (SBLs) (SBLs), the question remains whether the SBLs can be confidently utilised across groups in a South African context. Measurement invariance is introduced as a rigorous manner of testing for measurement bias and meeting the requirements of the Employment Equity Act. With the increased prevalence of women in the workplace, it is necessary to determine whether assessments used for leadership development measure the same across gender to ensure equal development opportunity for both men and women. To date, no measurement invariance study has been conducted on the SBLs across gender groups in the South African context. This study aims to evaluate structural validity and measurement invariance across gender of the Secure Base Leadership Scale (SBLs).

Research findings will not only be valuable for personal academic reasons but also contribute to the improvement of Secure Base Leadership Scale (SBLS) utilisation in leadership development programmes. This research is a step towards gathering more information on complex human behaviour, especially leadership behaviour in addition to acquiring insight into the value of leadership development initiatives. Understanding this type of behaviour could contribute to identifying, motivating, and enhancing leadership development in the workplace. This research can be conducted across the organisation's leaders or as part of current leadership development programmes your company are running.

We hereby request permission to conduct our research within your organisation. If your organisation would agree to participate in the research the following process will apply:

1. The researcher will discuss the inclusion criteria with the contact person and explain how the process will be executed.
2. The contact person will forward the invitation link to staff within the organisation that have people reporting to them (re. minimum sample criteria), applying the following:
  - a. The email addresses will be stipulated as blind carbon copies to preserve the prospective participant's identity and uphold ethical confidentiality.
  - b. The invitation to participate serves as a "point of contact" email which will contain a video clip and personalised letter to;
    - i. invite the participants to take part in the study;
    - ii. introduce the researcher and the research by explaining the purpose of the questionnaire;
    - iii. explain the survey process and the why it is important to participate in the researcher study;
    - iv. Provide the link to the survey.
3. A second round of emails with the same information as stipulated above will be distributed within a reasonable amount of time after the first email to prompt the identified participants to complete the survey.
4. The survey will consist of the following sections: 1) Introduction, 2) Informed Consent, 3) Verification Criteria, 4) Biographical Information, 5) the Secure Base Leadership questionnaire.



5. The questionnaire consists of 37 questions. It is estimated that the questionnaire will not take longer than 15 - 20minutes to complete from receiving the invitation to completion.
6. The survey link will have a soft deadline date of a month and a hard deadline date of 2 months after which the researcher will assess whether or not the sample size has been adequately met.

After completion, the participant will be directed to a thank you page where the researcher will request that the participant shares the survey link with 5 other leaders in similar positions to them. This would meet the requirements of the snowballing sampling technique and assist the researcher in meeting the desired sample size.

Any information that is obtained in connection with this study remains confidential. Confidentiality will be maintained through restricting access to data to the researchers (Kaylie Kriel, Professor Aletta Odendaal and one individual in the statistics department of the University of Stellenbosch). The data will be stored on a password-protected computer. Only aggregate statistics of the sample will be reported. The identity of the participants will never be revealed. The identity of the participating organisation will also not be revealed.

If you have any questions or concerns about the research, please feel free to contact Kaylie Kriel ([krielkaylie@gmail.com](mailto:krielkaylie@gmail.com)) or Professor Aletta Odendaal of the Department of Industrial Psychology of Stellenbosch University ([odendaala@sun.ac.za](mailto:odendaala@sun.ac.za)).

We trust that you will kindly grant us the institutional permission to conduct the structural validity study of the Secure Base Leadership Scale (SBLs) in your organisation.

Thanking you in advance.

Kind regards,

Kaylie Kriel & Prof Aletta Odendaal

**Annexure E: Table 46****Table 46***PLS Outer Loadings of All Secure Base Leadership Sub-Scale Items Across Gender*

Sub-scale and Item	Male (M)		Female (F)		Male and Female
	Outer Loading	p-value	Outer Loading	p-value	p-values M vs F
Acceptance -> Acceptance1	0,804	<0.01	0,87	<0.01	0,5
Acceptance -> Acceptance2	0,687	<0.01	0,722	<0.01	0,77
Acceptance -> Acceptance3 <sup>a</sup>	-0,315	0,09	-0,209	0,2	0,67
Acceptance -> Acceptance4	0,765	<0.01	0,817	<0.01	0,6
Acceptance -> Acceptance5	0,775	<0.01	0,786	<0.01	0,92
Acceptance -> Acceptance6	0,785	<0.01	0,741	<0.01	0,5
Opportunity -> Opportunity7	0,832	<0.01	0,764	<0.01	0,37
Opportunity -> Opportunity8	0,851	<0.01	0,738	<0.01	0,32
Opportunity -> Opportunity9 <sup>b</sup>	-0,077	0,7	0,406	0,02	<b>0,07</b>
Opportunity -> Opportunity10	0,493	<0.01	0,596	<0.01	0,62
Opportunity -> Opportunity11	0,732	<0.01	0,707	<0.01	0,87
Opportunity -> Opportunity12	0,67	<0.01	0,5	<0.01	0,47

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Potential -> Potential13	0,843	<0.01	0,782	<0.01	0,42
Potential -> Potential14	0,833	<0.01	0,827	<0.01	0,91
Potential -> Potential15	0,762	<0.01	0,813	<0.01	0,55
Potential -> Potential16	0,773	<0.01	0,771	<0.01	0,98
Potential -> Potential17	0,729	<0.01	0,751	<0.01	0,79
Accessible -> Accessible18	0,884	<0.01	0,885	<0.01	0,99
Accessible -> Accessible19	0,838	<0.01	0,871	<0.01	0,66
Accessible -> Accessible20	0,871	<0.01	0,931	<0.01	<b>0,2</b>
Accessible -> Accessible21	0,753	<0.01	0,832	<0.01	0,3
Intrinsic -> Intrinsic22 <sup>c</sup>	-0,131	0,71	-0,211	0,3	0,84
Intrinsic -> Intrinsic23	0,868	<0.01	0,908	<0.01	0,6
Intrinsic -> Intrinsic24 <sup>d</sup>	0,039	0,92	0,415	0,04	0,38
Intrinsic -> Intrinsic25	0,762	<0.01	0,726	<0.01	0,88
Inquiry -> Inquiry26	0,755	<0.01	0,81	<0.01	0,63
Inquiry -> Inquiry27	0,843	<0.01	0,883	<0.01	0,57
Inquiry -> Inquiry28	0,759	<0.01	0,711	<0.01	0,68
Inquiry -> Inquiry29 <sup>e</sup>	0,235	0,27	-0,152	0,46	<b>0,19</b>

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Calm -> Calm30	0,688	<0.01	0,833	<0.01	0,3
Calm -> Calm31	0,856	<0.01	0,832	<0.01	0,76
Calm -> Calm32	0,865	<0.01	0,87	<0.01	0,91
Calm -> Calm33	0,898	<0.01	0,789	<0.01	0,07
Positive Mindset -> Positive Mindset34	0,712	<0.01	0,815	<0.01	0,47
Positive Mindset -> Positive Mindset35	0,811	<0.01	0,824	<0.01	0,88
Positive Mindset -> Positive Mindset36 <sup>f</sup>	0,308	0,1	0,231	0,18	0,76
Positive Mindset -> Positive Mindset37 <sup>g</sup>	0,76	<0.01	0,885	<0.01	<b>0,16</b>
<i>TOTAL</i>					
	<i>n = 67</i>		<i>n = 70</i>		<i>N = 137</i>

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<sup>a - g</sup> reversed item

**Annexure F: Table 47****Table 47***Proposed Two-Factor Secure Base Leadership Scale (SBLS) Utilised in South Africa*

Dimension item	Item
	<u>Safety</u>
ACC2	I accept my subordinates for who they are, rather than always trying to correct them
ACC5	I treat all people with high regard
ACC6	I accept my subordinates' limitations and weaknesses in a supportive way
ACCESS18	I am available and accessible to my subordinates
ACCESS19	I provide my subordinates with the sense that they could contact me anywhere, anytime
ACCESS20	My subordinates know I support them, even when they have less contact
LISTEN26	I am a good listener
LISTEN27	I ask questions before coming to conclusions
CALM30	I am a calm person
CALM31	I am dependable and predictable in terms of my moods and emotions

CALM33 I remain supportive when under pressure

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Exploration

OPP7 I provide subordinates with significant opportunities to grow and develop

OPP8 I am prepared to take risks by giving my subordinates opportunities

OPP11 I micromanage my subordinates

OPP12 I give my subordinates tough feedback when it is necessary

POT13 I see my subordinates' potential

POT15 I suggest ways in which my subordinates might develop within the organisation

POT16 I have a vision of how my subordinates might develop and grow in their career

POT17 I challenge and stretch my subordinates to fulfil their potential

INT23 I stress the importance of my subordinates' learning, growth and development

INT25 I know what is important to my subordinates as a person, and I use that insight to motivate them

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MEYE35	I reframe difficult situations into opportunities
MEYE37	I keep subordinates focused on the goal when they are under pressure

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*Note.* ACC = Acceptance; POT = Potential; OPP = Opportunity; ACCESS = Accessible; INT = Intrinsic; LISTEN = Inquiry; CALM = Calm; MEYE = Positive Mindset