

The role of neuroleadership in work engagement



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Orientation: Research communicated in this article contributes to the fields of neuroleadership and work engagement, and explores the use of Integral Theory's All Quadrants All Lines (AQAL) four-quadrant model. It also applies the General Method of Theory-Building research in applied disciplines.

Research purpose: The aim of this article is to determine the role that neuroleadership plays in improving work engagement.

Motivation for the study: Human resource development lacks focus in theoretical research because of a lack of clarity of the connections between research and practice and a lack of interest in abstract theoretical issues (Storberg-Walker, 2006). Recent technological advances providing an insight into the biological and physiological bases of social interaction have presented new information on being engaged at work.

Research approach/design and method: The researcher applied the General Method of Theory-Building in applied disciplines to structure the qualitative research approach (Lynham, 2002).

Main findings: Findings deduced from the case study show how organisations apply work engagement. Findings from meta-triangulation and bracketing present an EngageInMind framework for neuroleadership and work engagement. Overall findings confirmed that the EngageInMind framework is relevant and can be applied. Findings further include the review of the application in business and recommendations for improvement.

Practical/managerial implications: The insights derived from this research propose that neuroleadership improves work engagement through its psychological, neurobiological, sociological and organisational dimensions, as presented in the EngageInMind framework.

Contribution/value-add: The EngageInMind framework is the key contribution of this article.

Keywords: work engagement; neuroleadership; human resources; Integral Theory; the general method of theory-building; meta-triangulation; multi-paradigm; AQAL four quadrants.

Introduction

Orientation

Understanding human consciousness and linking it to the physical functioning of our social brain contributes to the understanding of human motivation and assists organisations in creating and sustaining higher levels of motivation and engagement (Badenhorst, 2015; Brown & Brüne, 2012; Mobbs & McFarland, 2010; Viljoen-Terblanche, 2009). Although there is an increasing need for literature on work engagement, particularly linked to organisational performance, it has been noted that academic research lacks when compared to practitioner developments (Robinson, Perryman, & Hayday, 2004). Human resource development (HRD) specifically lacks focus in theoretical research because of an absence of clarity of the connections between research and practice, and a lack of interest in abstract theoretical issues (Lynham, 2000; Storberg-Walker, 2006). Recent technological advances providing insight into the biological and physiological bases of social interaction (Badenhorst, 2015) have presented new information on being engaged at work. An integrated approach is therefore needed to explore work engagement while contributing to the HRD theoretical body of knowledge. This research sought to integrate various developments within neuroscience in the areas of leadership development (neuroleadership) and engagement as proposed by the General Method of Theory-Building. The findings communicated in this article contribute to the field of HRD. This research explored the use of Integral Theory's AQAL four-quadrant model (Wilber, 1997, 2000) and the application of the General Method of Theory-Building research in applied disciplines (Lynham, 2000, 2002).

Research purpose and objectives

The research approach adopted was the General Method of Theory-Building, a comprehensive theory-building method for applied discipline (Lynham, 2002; Nielsen, 2010), a case study approach and a qualitative research approach. When using the General Method of Theory-Building, the researcher applies meta-triangulation, building theory from multiple paradigms (Lewis & Grimes, 1999). The researcher also applies an inductive, practitioner-based research to theory approach using a case study (Rule & John, 2011). Case study research investigates a real-life phenomenon in detail in its environmental context.

The aim of this research was to determine the role of neuroleadership in improving work engagement. Neuroleadership focusses on organisational and employee-related aspects on how the brain and its underlying neuronal processes influence employees and their leaders (Ghadiri, Habermacher, & Peters, 2012; Rock & Cox, 2012). Many definitions of work engagement exist. For the purpose of this article, the researcher refers to Kahn's (1990) definition of employees expressing themselves physically, cognitively, emotionally and mentally.

To this end, the researcher considered: How work engagement had been applied and managed in organisations; what suitable integrative framework emerged from theory to integrate neuroleadership and work engagement; what are neuroleadership and work engagement integration points; how can the theories be placed into an integrated framework that allows for ease of reference and understanding; and to what extent will this integrated framework be accepted in business by senior human resource professionals?

Literature review

Most research into consciousness and behaviour, according to Wilber (1997), has anchors in the physical brain, which, according to Rock and Schwartz (2006), is reshaping views of the field of organisational behaviour. Work engagement constitutes an earlier term for describing employee engagement (Dulagil, 2012) and these terms are often used interchangeably (Nienaber & Martins, 2016; Schaufeli, 2013). Kahn (1990) defined engagement as a state noted by the employment of the preferred self cognitively, affectively and physically when experiencing meaningfulness, safety and availability in work roles. Given the cognitive, affective and physical link to engagement, there is, however, little integration of research on the brain and engagement. Research on engagement focusses, according to Rock and Tang (2009), mostly on the degree to which engagement impacts organisational performance. The application of social cognitive neuroscience in the corporate environment marks a fundamental shift in the application of organisational knowledge about human beings (Brown & Brüne, 2012), so much so that the application of neuroscience in the organisation became a defined field in 2008, called neuroleadership (Mobbs & Mcfarland, 2010; Ringleb, Rock, & Ancona, 2012).

Neuroleadership is essentially focussed on bringing the hard science to the social field of leadership (Ringleb, Rock, & Acona, 2014). Neuroleadership is about the application of neuroscience to leadership development, management training, change management, education, consulting and coaching (Ghadiri et al., 2012; Ringleb & Rock, 2008). Neuroleadership focusses on organisational and employee-related aspects and on how the brain and its underlying neuronal processes influence employees and their leaders (Ghadiri et al., 2012). The field of neuroleadership aims at understanding how neuroscience can be applied to improve leadership practices, change management efforts, innovation, creativity and employee engagement (Schaufenbuel, 2014).

Advances in the field of neuroscience added significantly to the understanding of leadership development (Ghadiri et al., 2012; Waldman, Balthazard, & Peterson, 2011). The manner in which the human brain can support leaders through synchronising the science of cognition and behaviour is now evident (Kiefer & Pulvermüller, 2012; Ringleb et al., 2014). A neural basis is formed for social inferences about feelings, thoughts and intentions of others, allowing for understanding the impact of emotions on others and ourselves, and how that relates to our success and failure (Kiefer & Pulvermüller, 2012).

Neuroleadership's organising framework is based on four dimensions, namely, decision-making and problem-solving, emotional regulation, collaboration and facilitating change (Ringleb & Rock, 2008). Decision-making and problem-solving are focussed primarily on social decision-making in the realm of leadership development (Lieberman & Eisenberger, 2009; Ringleb et al., 2014). Emotional regulation within the context of leadership development is important as it affects decision-making (Lieberman & Eisenberger, 2009; Ringleb et al., 2014). Collaboration is critical within leadership as humans have a need to belong and tend to avoid social exclusion (Lieberman & Eisenberger, 2009; Rock & Cox, 2012). Facilitating change is about changing habits, and changing habits is about changing neural pathways (Duhigg, 2012; Rock & Tang, 2009).

Effective navigation in an organisation requires the cognitive, emotional and physical expression of employees (Badenhorst, 2015; Kahn, 1990; Rock & Tang, 2009). Macey and Schneider (2008) support a more inclusive view as they state that the field of work engagement is characterised by the absence of a dominant paradigm, which has resulted in a growing diversity of research theories and perspectives. Instead of following a reductionist approach to work engagement, the focus is on the integration of theories towards a multi-paradigm framework. This will be performed by using an integral approach. According to Wilber (1997), integral approaches are ways to integrate existing paradigms into an interrelated network known as meta-paradigms (Wilber, 1997).

In order to respond to the current world of work, organisations are using new technologies, changing structures, redesigning

work and improving work processes (Badenhorst, 2015; Lawler, 2012). These changes have a significant impact on human resources and ways in which human resource functions should operate. Abbott (2013) agrees that a key role of a human resource practitioner is that of Employee Champion or Employee Advocate. Ulrich, Younger, Brockbank and Ulrich (2013) stated that human resource practitioners should be equal partners that bring knowledge of organisational behaviour when implementing a business strategy, and should be partners to the business working to create value for employees, customers, shareholders, communities and management. In this role of strategic human resource management (Abbott, 2013; Kane, Crawford, & Grant, 1999), human resource practitioners must provide the expertise to create a true marketplace differentiation through leveraging human resources (Abbott, 2013; Paine, 2008).

In a chaotic complex world with increasingly competitive markets, a volatile economic climate, globalisation and demands for constant change, where competition is vicious and organisations are fighting for survival, the dependence on employees has become critical (Bussin, Christos, & Bergh, 2017; Robertson-Smith & Markwick, 2009). Bussin et al. (2017) added that the uncertainty in the workplace results in an unstable employee–employer relationship, which affects the employee’s job performance and commitment towards the organisation. The current trend to drive sustainable organisational success is that of employee engagement (Bussin et al., 2017; Robertson-Smith & Markwick, 2009). Therefore, in summary, the role of human resources is crucial in driving employee engagement and even more critical in providing inputs into various initiatives that impact engagement. This study recognises this role and engages with human resources to add insight and criticism in terms of confirming or disconfirming the framework and the application of the framework within the business.

Research design

Research approach

The researcher applied the General Method of Theory-Building for applied disciplines to structure the qualitative research approach (Lynham, 2002; Nielsen, 2010). This method consists of five phases: conceptualisation, operationalisation, confirmation or disconfirmation, application and ongoing refinement. The discussion on the research approach below will follow the structure of the five phases. This format will also be applied when discussing the findings.

The conceptualisation phase of the General Method of Theory-Building requires that the researcher formulate the initial idea in a way that best depicts the phenomenon, issue or problem relevant in the world context (Lynham, 2000, 2002; Swanson & Chermack, 2013). The purpose is to create an informed conceptual framework that explains the dynamics, problem or phenomenon that is the focus of the theory (Lynham, 2002; Storberg-Walker, 2006; Swanson & Chermack, 2013). Qualitative methods used for theory-building research

include case studies, grounded theory and social constructivist approaches (Lynham, 2002; Strauss & Corbin, 1998). The researcher used a case study to inform the conceptual development of the theory and to investigate how work engagement was applied in organisations.

Sources of data used to document this case study were observation (as the researcher was employed by the case study organisation during that time period) and documentation, including minutes of forums held, and archival records, including survey data and solicited data such as the culture, values and employee engagement results. Data were gathered over a 5-year period at a fast-moving consumer goods (FMCG) organisation in South Africa. A case study database was compiled in chronological order to allow for a time-series review.

The operationalisation phase of the General Method of Theory-Building provides the connection between the conceptual phase and the practical phase (Lynham, 2000; Storberg-Walker, 2006). The outcome is an operationalised theoretical framework. The process of meta-triangulation (Lewis & Grimes, 1999) was applied to construct the integral framework. Meta-triangulation comprises three phases: groundwork, data analysis and theory building. Within the process of groundwork, bracketing was applied to assist with identifying all facets of the phenomenon being studied, to differentiate among the sets of assumptions, to prevent bias and to allow for the formulation of new constructs (Lewis & Grimes, 1999).

The tool used for bracketing was the AQAL four-quadrant framework by Ken Wilber (1997). All Quadrants All Lines is the fundamental tool in Integral Theory and is defined as ‘a map of maps, or a meta-theory that incorporates the core truths from hundreds of other theories’ (Wilber, Patten, Leonard, & Morelli, 2008, p. 12). Leadership dimensions were mapped using existing literature including Wrights’ (2008) leadership view in the four quadrants, Volckmann’s (2014) elements of leadership quadrants, Landrum and Gardner’s (2012) Integral Theory of the firm and Crowther’s (2010) Integral Theory of leadership. Fourteen secondary case sources (journals, thesis, unpublished papers and articles) were used exploring neuroleadership and work engagement and were mapped by using the AQAL four-quadrant model. Conjecture inversion was used to determine the role of neuroleadership in work engagement. Conjecture inversion involves reframing research questions in paradigms to identify overlaps and gaps in understanding (Lewis & Grimes, 1999). The question, ‘What role does neuroleadership play in improving work engagement?’, was asked along psychological, behavioural, social and organisational dimensions. Paradigm lenses revealed a prominent neuroleadership role in work engagement predominantly in psychological (mindfulness and emotional intelligence), behavioural (hormone profiles), social (culture, collaboration and social pain) and organisational dimensions. The combination of these dimensions was labelled the EngageInMind framework.

The confirmation or disconfirmation phase in the General Method of Theory-Building research involves the planning, design, implementation and evaluation of a research agenda for confirming or disconfirming the theoretical framework (Lynham, 2000; Nielsen, 2010; Swanson & Chermack, 2013). If adequately addressed, according to Storberg-Walker (2006), the outcome of this phase is a confirmed theory that can be used with some confidence. A purposeful sampling technique was used to ensure the identification and selection of individuals who were representative of, experienced in and knowledgeable about the topic being studied.

Semi-structured interviews were conducted with eight senior human resource professionals across FMCG, retail and wholesale, health care and financial services. To ensure a meaningful engagement on the integration of neuroleadership and work engagement, the researcher used a positioning survey to familiarise the participants with the topics. The positioning survey was distributed to each of the eight senior human resource professionals. The positioning survey was adapted from the Mindfulness Attention and Awareness Scale, the Assessing Emotions Scale and the Healthy Lifestyle and Personal Control Survey. The survey was used to position the study dimensions with the participants; hence, apart from the descriptive statistics based on the biographical information of the participants, no deductions for this study were made from the survey. A semi-structured interview guide was compiled by using the EngageInMind framework. In this interview guide, mindfulness and emotional intelligence were combined into one section under mindfulness to reflect the 'I' quadrant. Telephonic and face-to-face interviews were conducted with the participants. Data were captured on interview guides via note-taking, and reflection notes were documented afterwards.

The application phase of the General Method of Theory-Building involves application of the theory to the issue in the world of practice (Lynham, 2002; Storberg-Walker, 2006). Application of the theory could guide or enable further study, inquiry and understanding of the theory in action (Lynham, 2002; Storberg-Walker, 2006). The application of the theory allows the theory to be judged for usefulness and relevance for improved action and problem-solving (Lynham, 2000). Two focus groups were conducted, based on convenience sampling, with a total of 10 human resource professionals, including specialists and generalists in a retail organisation located in Cape Town.

Ongoing refinement and development of the General Method of Theory-Building is a recursive and ongoing process that is required to keep the theory current (Lynham, 2000; Storberg-Walker, 2006). This phase requires the continual refinement and application of the theory (Storberg-Walker, 2006). This section of the process incorporates the recommendations for future research.

Research strategy

The qualitative research approaches used in this study include a case study, meta-triangulation, semi-structured interviews and focus groups.

Research method

Research setting

Research documented in this article was conducted in the field of human resources. The case study was documented on the evolution of work engagement in an FMCG company in the Western Cape over a 5-year period. Consequent interviews and focus groups involved human resource professionals across industries and geographic location within South Africa.

Entrée and establishing researcher roles

The researcher was appointed in an organisation and leadership development position in the organisation where the case study was documented. This allowed the researcher direct access to documents and observations as culture and climate discussions slowly progressed to work engagement in an organisation going through a process of large-scale change. The researcher documented the case study as part of research conducted in her doctoral degree. The case study was approved and signed off by the group human resource executive of the organisation.

Research participants and sampling methods

Sampling for the semi-structured interviews was performed using a purposeful sample of eight senior human resource development professionals across the FMCG, retail and wholesale, health care and financial services. The sample comprised predominantly male participants. The average age of the participants ranged from 41 to 52 years. Average tenure showed more than 15 years in a human resource role. Participants represented retail and consumer, FMCG, agriculture, financial services and health care. Dissemination in company size ranged from small (less than 4999) to large (more than 20 000).

Sampling for the focus groups was conducted using a convenience sample of human resource specialists and generalists. Participants in the first focus group session consisted of specialists and those in the second focus group session consisted of generalists. There was one male and eight female participants. Age range was predominantly between 22 and 40 years, with years of service mostly evenly spread within the ranges of 1–10, 11–19 and 20–29 years.

Data collection methods

Data were collected throughout the 5-year case study period through observation (as the researcher was employed by the case study organisation during that time period). Documentation included minutes of forums held and archival records (survey data and solicited data such as the culture, values and employee engagement results). Meta-triangulation data collection included reviewing all full-text neuroleadership journal articles and selecting the relevant articles using bracketing within the AQAL four-quadrant model. Once bracketing was complete, 14 case studies were reviewed based on secondary data to further map the dimensions of neuroleadership. Types of engagement (trait, behavioural, collective and contextual) were mapped

on the AQAL four-quadrant model. Data collected during the semi-structured interviews were compiled using the positioning survey (for biographical information). Data in focus groups were collected using a recorder for one focus group and by note-taking for the other focus group.

Data recording

The researcher had initially positioned the use of a recording device; however, the participants were uneasy with the suggestion. The researcher recorded the data from the semi-structured interviews verbatim. In the first focus group session, the researcher positioned and used the recording device. On completion of the session, the researcher had a debriefing session on what worked and what did not. Unanimous feedback was provided regarding the recording device and the potential limitations it placed on the conversation. The researcher therefore opted not to use the recording device in the second focus group session.

Strategies employed to ensure data quality and integrity

Five aspects of quality criteria were applied in this research, namely, credibility, transferability, dependability, confirmability and authenticity (Lincoln, Lynham, & Guba, 2011). To ensure credibility, the research applied activities such as prolonged engagement (a 5-year case study), triangulation of sources (minutes, survey results, interviews and focus groups), member checking and debriefing with other researchers. Transferability was applied through researcher's field notes and observations captured during data collection. To ensure confirmability, the researcher tried to ensure transparent reporting by reflecting the participant's actual feedback and not the researcher's interpretation. Authenticity was applied through member checking and the researcher included human resource practitioners because their strategy and implementation practices could change as a result of the research.

Data analysis

During the theory-building approach, various methods of data analysis were applied. Case study data analysis included constructing a chronological case study database based over the 5 years comprising documents such as forum minutes, surveys, previous focus group data and presentations. This is a popular analytical technique in case study research according to Yin (2009), as it allows the researcher to trace an event over time. Content analysis, a coding operation that allows for the transformation of raw data into standardised data (Babbie & Mouton, 2001), was also applied. This allowed a view on how work engagement is applied in organisations.

Data analysis of the 14 case studies gathered as part of building a theoretical framework included an itinerary in the form of a planned order of paradigm analysis using a systematic series of analysis for information processing. The itinerary applied was the AQAL four-quadrant model. Coding, involving the break down, interpretation

and conceptualising of data, was used. Paradigm brackets were applied beginning with coding cases and articles written from the same perspective. This was then categorised into the AQAL four-quadrant framework. Themes were analysed that span paradigms and aided in the meta-theorising and forming of the integrated framework.

The data analysis resulting from the semi-structured interviews and the focus groups included the structuring and coding of the note-taking, text and field notes obtained. This was reduced and categorised using labels in the form of codes. Meaningful themes were identified and relationships and patterns of relevance were documented.

Reporting style

The reporting style addresses the research objectives. It also follows the structure of the five-phased approach by using the General Method of Theory-Building research in applied disciplines. The main findings are described in the section that follows.

Ethical consideration

This article was deduced from the author's doctoral thesis, entitled 'The role of neuroleadership in work engagement'.

The researcher was aware of the ethical requirements during this research journey. The researcher was employed and hence immersed in the case organisation. This heightened sensitivity regarding documents shared, references made and information published within this article. The researcher maintains that there was no violation of privacy or confidentiality. To ensure that sensitive information was not recorded for publication in this article, the researcher asked the human resource executive of the case organisation to review and approve the case study documented. Participation in the qualitative research (interviews and focus groups) was voluntary, and no participant was forced to partake in the research. The researcher was confident in undertaking the proposed research and complied with the University of Johannesburg's ethical code.

Results

The aim of this research was to determine the role of neuroleadership in work engagement. To this end, the researcher considered (1) how work engagement had been applied and managed in organisations, (2) a suitable integrative framework to integrate neuroleadership and work engagement, (3) neuroleadership and work engagement integration points, (4) incorporating the integration points into framework and (5) reviewing the framework's acceptance in business by human resource professionals.

Data results revealed three themes that addressed the research objective on how work engagement is applied in organisations. Firstly, organisations are measuring engagement using various surveys mostly relating to job satisfaction. Secondly, organisations are implementing

organisation-wide interventions to address the concerns, but these interventions are not necessarily holistic. Thirdly, organisations were implementing changes dictated by a complex environment without proactively considering or managing the impact on engagement.

The research objective regarding a holistic framework that theoretically combines neuroleadership and work engagement conceptually revealed a working alignment with Ken Wilber's (2000) Integral Theory's AQAL four-quadrant framework. Findings resulted from meta-triangulation and bracketing to map the integration points of neuroleadership and work engagement. In the Interior: Individual quadrant, mindfulness and emotional intelligence surfaced as positive dimensions regarding work engagement. In the Exterior: Individual quadrant, the biology of a leader, surfaced as a positive contributor to work engagement. The Collective: Interior quadrant revealed status, certainty, autonomy, relatedness and fairness (SCARF) as impactful in relation to work engagement. In the Collective: Exterior, an organisation growth mindset, seemed to be the greatest contributor to work engagement.

Based on the discussion above and applied bracketing from meta-triangulation, an integrated framework for neuroleadership and work engagement is presented in Figure 1.

Figure 1 shows the outer layer of the circle being the classifications used in the AQAL four-quadrant model. These are Interior: Individual; Exterior: Individual; Interior: Collective; and Exterior: Collective. The next layer includes Leadership mapped out by Wright (2008) and supported by Volckmann (2014), Landrum and Gardner (2012) and Crowther (2010). These include dimensions of Leadership: Who I am; Leadership: Behaviour; Leadership: Relatedness; Leadership: My environment. Types of engagement (trait, behavioural, collective and contextual) are shown in the next layer, followed by neuroleadership (psychological, neurological, sociological and organisational). Interventions including mindfulness, emotional intelligence, biology of a leader, SCARF and organisation growth mindset were overlaid per quadrant based on neuroleadership and positive impact on engagement as revealed in the literature review.

Findings resulting from the semi-structured interviews showed that seven out of eight senior human resource professionals confirmed that the EngageInMind framework can improve work engagement and can be applied in organisations. Key themes were highlighted, namely, that there is a limited understanding and exposure to neuroleadership, there is relevance in applying the neuroleadership dimensions in relation to work engagement and there is a need for an integrated approach when implementing a framework or model.

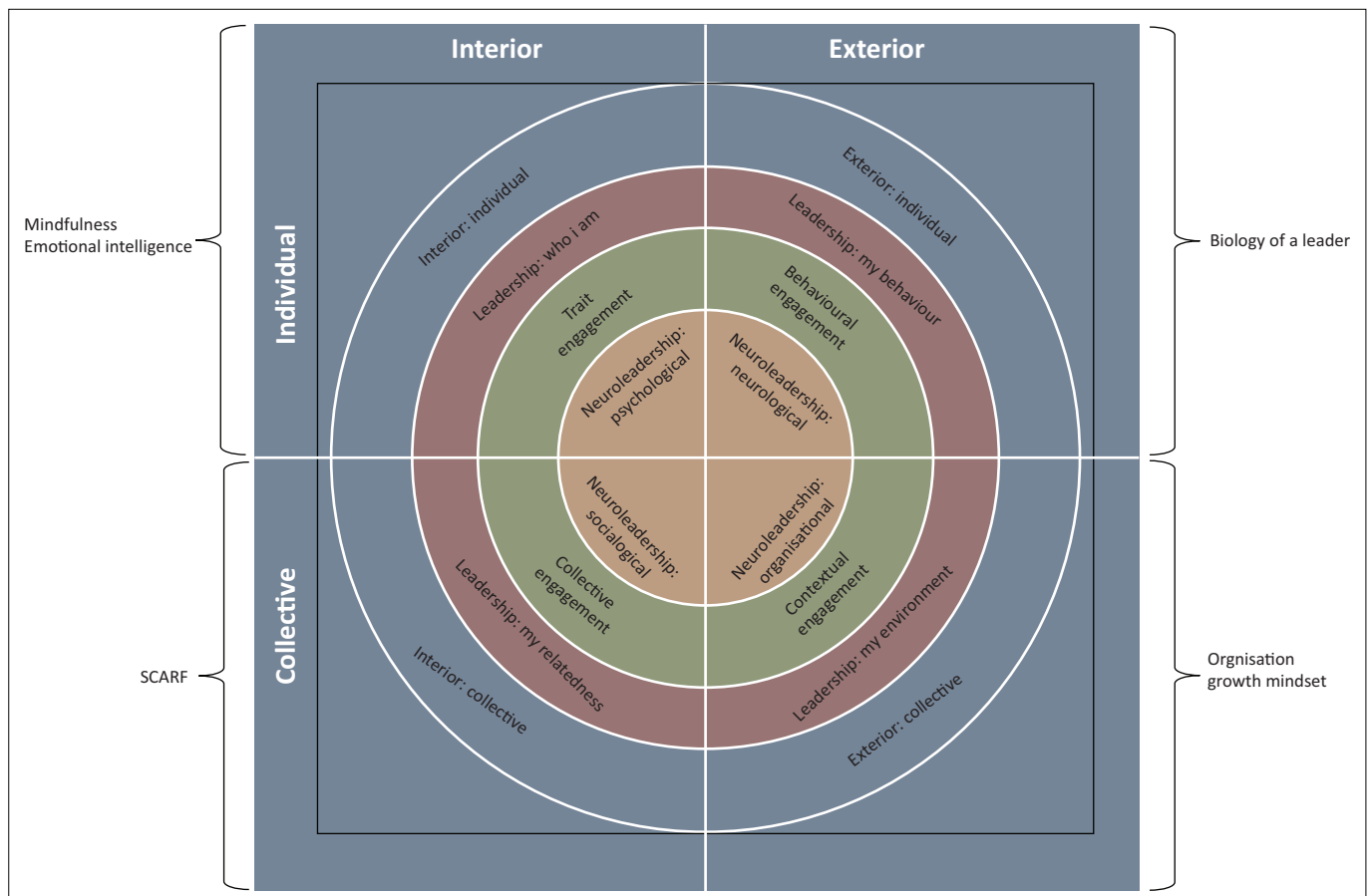


FIGURE 1: EngageInMind framework.

Four themes were identified during the focus group sessions. The first theme was *busyness in the organisation context*. Included in this theme was the expression of not having enough time for bathroom or lunch breaks because of the pace of the organisation. The second key theme was *implementation on a smaller scale*. The participants highlighted that the framework is better applied with individuals or in small teams and suggested 'rolling out in small chunks'. The third theme related to *organisation culture*. The participants stressed that the framework needs to be linked to the organisation culture quoting that the success of the implementation will 'depend on the culture' and a 'culture shift'. The fourth and the most referenced theme was around *selling and packaging*. The participants mentioned that the way the EngageInMind framework is packaged will impact how it is implemented. The participants recommend linking the framework to benefits and focussing on how it enhances becoming an effective leader and how it will enable business results. Understanding the themes is important as they relate to how the human resource practitioner will champion or advocate initiatives (Ulrich et al., 2013). Human resource practitioners must provide the expertise on manners of how to create true marketplace differentiation (Abbott, 2013; Paine, 2008). Overall, the results show an acceptance of the EngageInMind framework by human resource professionals, with some recommendations for improvement in the application phase.

Discussion

Outline of the results

The insights from the study propose that the role of neuroleadership in improving work engagement is through its psychological, neurobiological, sociological and organisational dimensions. These are manifested in interventions such as mindfulness (including emotional intelligence), the biology of a leader (including diet, sleep and exercise), SCARF and organisation growth mindset, presented in the EngageInMind framework.

In an applied discipline, such as human resources, practitioners are relied on to be equal partners that bring knowledge of organisational behaviour when implementing business strategy. The General Method of Theory-Building provided the ideal method to facilitate, structure, inform and test assumptions of knowledge before implementing it as a business strategy. In this case, the General Method of Theory-Building allowed the researcher or practitioner with a methodology to review neuroleadership and its role in work engagement from conceptualisation to operationalisation, to confirming or disconfirming, to application, to ongoing refinement. With the methodology in place, all aspects relating to the two concepts (neuroleadership and work engagement) needed to be considered. This was performed using the AQAL four-quadrant model.

The research findings at this stage focussed merely on the understanding of the role neuroleadership plays in

work engagement. There are prospects for further studies utilising the EngageInMind framework together with the General Method of Theory-Building to map out and test human resource or organisation development initiatives to ensure an integrative and applicable approach to driving human resource or people strategies in organisations.

Practical implications

The integrated EngageInMind framework deduced from this study could provide a base to map any or all human resource focus areas. Whether it is neuroleadership and work engagement, or performance management and productivity, or employee experience and the people value proposition, or organisational communication strategy and digital platforms, the framework allows for a consolidated view of organisation-wide initiative instead of the current piecemeal approach that is often adopted.

Senior human resource professionals in this study have voiced their frustrations with the current complexity and stresses at work and the need to drive relevant interventions in an integrative way. Whether an organisation drives a culture of high performance, engagement, employee experience, service orientation or consumer focus, the EngageInMind framework allows for customisation in relation to what the organisation wants to achieve. It considers individual insight and awareness, behavioural outcomes, social and community interaction and the context in which the organisation operates. The General Method of Theory-Building gives a methodology for testing the application.

Limitations

The researcher was employed in the organisation referred to in the documented case. Although this allowed for intimate access to culture, the findings may reflect the researcher's subjective interpretation. The researcher included and referenced documentation, including minutes, survey results and research reports where possible. In addition, because of the association with the organisation, the researcher is more aware of potentially sensitive information affecting the organisation's reputation. To this end, the researcher might have been more reserved with regard to the extent of disclosure of some information. This therefore needs to be noted as a potential limitation.

The AQAL four-quadrant model used in this research was applied in its most basic form. Only the quadrants were used in the form of Individual Interior, Individual Exterior, Collective Interior and Collective Exterior. Wilber (2000) indicated that to accurately refer to 'integral' all five categories, namely four quadrants, levels and lines of envelopment, states of consciousness and types must be used. The researcher acknowledges that the EngageInMind framework mapped to the AQAL four-quadrant model is therefore not 'integral' in its comprehensive definition but just a map that considers the four quadrant dimensions.

Another limitation of the study is the number of participants that took part in the focus groups during the application phase. Although sufficient representation was noted for focus groups with human resource specialists (seven), only three human resource generalists are represented. The researcher requested additional representation but found response in this regard to be low. The consolidation of the two focus group results shows similar themes that surfaced and can be generalised when viewing application or rollouts from the perspective of human resource professionals regarding initiatives in organisations. This should however be noted as a limitation. Also, the researcher focussed on human resource practitioners as the change shapers and agents within organisations. The research was limited to this target population and was not extended to include other employees within the organisation.

Conclusion

Neuroleadership is one of the fastest growing areas of interest in contemporary science. The insights gained from this study enable the author to propose an integrated and more refined way of approaching work engagement interventions using recent discoveries from the field of neuroleadership. The study provides three key contributions to the field of human resource management. Firstly, there is a difference in the intentional academic definitions of engagement versus how organisations apply engagement through the use of culture surveys, value surveys, climate measurements and pulse surveys. The definition and process of engagement is generically applied in organisations. Secondly, the study contributes to the field of HRD by connecting research and practice on two abstract theoretical issues – neuroleadership and work engagement. Thirdly, the study shows that the need for an integrated approach to large-scale initiatives is of key importance, but it is to be applied in the context of busy landscapes and busy professionals that seek simplicity in application. The study highlights the need to translate well-researched constructs into the business context and ensure that the human resource advocate understands, supports and relays it to the broader business.

The research findings focussed on the understanding of the role of neuroleadership in work engagement. There are prospects for further studies utilising the EngageInMind framework together with the General Method of Theory-building to map out and test human resource or organisational development initiatives to ensure an integrative and applicable approach to driving human resource or people strategies in organisations. The integrated framework deduced from this study could provide a base to map any or all human resource focus areas. The framework allows for the consolidated view of organisation-wide initiatives instead of the current piecemeal approach that is often adopted.

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Competing interests

The authors declare that they have no personal or financial relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

L.A.Z. submitted this article in line with a PhD thesis written on neuroleadership and work engagement. Prof. R. Viljoen served as the supervisor for the thesis and also supervised this article. Dr D. Aiken was the co-supervisor and the field supervisor for the work presented in the thesis and this article.

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Data availability statement

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Disclaimer

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References

- Abbott, P. (2013). The human resource function contribution to human development in South Africa. *SA Journal of Human Resource Management*, 11(1), 1–14. <https://doi.org/10.4102/sajhrm.v11i1.408>
- Babbie, E., & Mouton, J. (2001). *The practice of social research*. Cape Town: Oxford University.
- Badenhorst, C. (2015). *Identifying and managing the impact of neuroleadership during organisational change*. An unpublished thesis submitted in fulfilment of the requirements of the Master of Business, in the Department of Management & Marketing, Faculty of Creative Industries & Business at Unitec Institute of Technology.
- Brown, E.C., & Brüne, M. (2012). The role of prediction in social neuroscience. *Frontiers in Human Neuroscience*, 6, 147. <https://doi.org/10.3389/fnhum.2012.00147>
- Bussin, M., Christos, D., & Bergh, V. (2017). What would organisational design look like in uber times? *HR Future*, August 2017, pp. 36–38.
- Crowther, S. (2010). Implications of Integral Theory for contemporary leadership. *Leadership Advance Online*, 20, 1–7.
- Duhigg, C. (2012). *The power of habit: Why we do what we do in life and business* (Vol. 34, p. 10). New York: Random House.
- Dulagil, A. (2012). *The relationship of employee engagement and wellbeing to organisational and student outcomes*. SBS HDR Student Conference. Paper 1. Retrieved from <http://ro.uow.edu.au/sbshdr/2012/papers/1>.
- Ghadiri, A., Habermacher, A., & Peters, T. (2012). *Neuroscience for business. In neuroleadership* (pp. 17–53). Berlin, Heidelberg: Springer.
- Kahn, W.A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 33, 692–724. <https://doi.org/10.5465/256287>
- Kane, B., Crawford, J., & Grant, D. (1999). Barriers to effective HRM. *International Journal of Manpower*, 20(8), 494–516. <https://doi.org/10.1108/01437729910302705>
- Kiefer, M., & Pulvermüller, F. (2012). Conceptual representations in mind and brain: Theoretical developments, current evidence and future directions. *Cortex*, 48(7), 805–825. <https://doi.org/10.1016/j.cortex.2011.04.006>
- Landrum, N., & Gardner, C. (2012). An Integral Theory perspective on the firm. *International Journal of Business Insights and Transformation*, 4(3), 74–79.
- Lawler, E. (2012). *Effective human resource management: A global analysis*. Stanford, CA: Stanford University Press.
- Lewis, M.W., & Grimes, A.I. (1999). Metatriangulation: Building theory from multiple paradigms. *Academy of Management Review*, 24(4), 672–690. <https://doi.org/10.5465/amr.1999.2553247>
- Lieberman, M.D., & Eisenberger, N.I. (2009). Pains and pleasures of social life. *Science*, 323(5916), 890–891. <https://doi.org/10.1126/science.1170008>
- Lincoln, Y.S., Lynham, S.A., & Guba, E.G. (2011). Paradigmatic controversies, contradictions, and emerging confluences, revisited. In N.K. Denzin & Y.S. Lincoln (Eds.), *The Sage handbook of qualitative research* (Vol. 4, pp. 97–128). Los Angeles, CA: Sage.

- Lynham, S.A. (2000). Theory building in the human resource development profession. *Human Resource Development Quarterly*, 11(2), 159. [https://doi.org/10.1002/1532-1096\(200022\)11:2%3C159::AID-HRDQ5%3E3.0.CO;2-E](https://doi.org/10.1002/1532-1096(200022)11:2%3C159::AID-HRDQ5%3E3.0.CO;2-E)
- Lynham, S.A. (2002). The general method of theory-building research in applied disciplines. *Advances in Developing Human Resources*, 4(3), 221–241. <https://doi.org/10.1177/1523422302043002>
- Macey, W.H., & Schneider, B. (2008). The meaning of employee engagement. *Industrial and Organizational Psychology*, 1(1), 3–30. <https://doi.org/10.1111/j.1754-9434.2007.0002.x>
- Mobbs, D., & McFarland, N. (2010). The neuroscience of motivation. *NeuroLeadership Journal*, 3, 43–52.
- Nielsen, R.P. (2010). Practitioner-based theory building in organizational ethics. *Journal of Business Ethics*, 93(3), 401–406. <https://doi.org/10.1007/s10551-009-0229-3>
- Nienaber, H., & Martins, N. (2016). *Employee engagement in a South African context*. Randburg: KR Publishing.
- Paine, S. (2008, February). *The emerging role of HR practitioners' expectations, challenges and trends*. Unpublished Master of Business thesis. Unitec.
- Ringleb, A., & Rock, D. (2008). The emerging field of neuroleadership. *NeuroLeadership Journal*, 1, 3–19.
- Ringleb, A., Rock, D., & Conser, J. (2010). NeuroLeadership in 2010. *NeuroLeadership Journal*, 3, 1–21.
- Ringleb, A.H., Rock, D., & Ancona, C. (2012). NeuroLeadership in 2011 and 2012. *NeuroLeadership Journal*, 4, 5–39.
- Robertson-Smith, G., & Markwick, C. (2009). *Employee engagement: A review of current thinking*. Brighton: Institute for Employment Studies.
- Robinson, D., Perryman, S., & Hayday, S. (2004). *The drivers of employee engagement*. Report. Brighton: Institute for Employment Studies.
- Rock, D., & Cox, C. (2012). SCARF in 2012: Updating the social neuroscience of collaborating with others. *NeuroLeadership Journal*, 4(4), 1–16.
- Rock, D., & Schwartz, J. (2006). *The neuroscience of leadership. Strategy & Business*, 43, 71–79.
- Rock, D., & Tang, Y. (2009). Neuroscience of engagement. *NeuroLeadership Journal*, 2, 15–21.
- Rule, P., & John, V. (2011). *Your guide to case study research*. Pretoria: Van Schaik.
- Schaufeli, W.B. (2013). What is engagement? In C. Truss, K. Alfes, R. Delbridge, A. Shantz, & E. Soane (Eds.), *Employee engagement in theory and practice*. London: Routledge.
- Schaufenbuel, K. (2014). *The neuroscience of leadership: Practical applications*. Chapel Hill, NC: UNC Executive Development.
- Storberg-Walker, J. (2006). From imagination to application: Making the case for the general method of theory-building research in applied disciplines. *Human Resource Development International*, 9(2), 227–259. <https://doi.org/10.1080/13678860600616420>
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research*. Thousand Oaks, CA: Sage.
- Swanson, R.A., & Chermack, T.J. (2013). *Theory building in applied disciplines*. San Francisco, CA: Berrett-Koehler Publishers.
- Ulrich, D., Younger, J., Brockbank, W., & Ulrich, M.D. (2013). The state of the HR profession. *Human Resource Management*, 52(3), 457–471. <https://doi.org/10.1002/hrm.21536>
- Viljoen-Terblanche, R.C. (2009). *Sustainable organisational transformation through inclusivity*. Doctoral dissertation. University of Johannesburg.
- Volckmann, R. (2014). Generativity, transdisciplinarity, and integral leadership. *World Futures*, 70(3–4), 248–265. <https://doi.org/10.1080/02604027.2014.934644>
- Waldman, D.A., Balthazard, P.A., & Peterson, S.J. (2011). Leadership and neuroscience: Can we revolutionize the way that inspirational leaders are identified and developed? *Academy of Management Perspectives*, 25(1), 60–74.
- Wilber, K. (1997). *The eye of spirit: An integral vision for a world gone slightly mad*. Boston, MA: Shambhala Publications.
- Wilber, K. (2000). *A theory of everything: An integral vision for business, politics, science, and spirituality*. Boston, MA: Shambhala Publications.
- Wilber, K., Patten, T., Leonard, A., & Morelli, M. (2008). *Integral life practice: A 21st-century blueprint for physical health, emotional balance, mental clarity, and spiritual awakening*. Boston, MA: Shambhala Publications.
- Wright, S. (2008). An exploration of integral leadership. The Coaching Project Inc. Retrieved from http://www.thecoachingproject.com/wpcontent/uploads/Introduction_to_Integral_Leadership.pdf
- Yin, R.K. (2009). *Case study research: Design and methods (applied social research methods)*. London, Singapore: Sage.