The influence of unconscious bias on organisational culture and employee engagement

Eshentha Moodley

Student number: 17390177

A research project submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfilment of the requirements for the degree of Master of Business Administration.

7 November 2018

ABSTRACT

If an individual were to be asked whether they were racist, that individual would likely give an immediate, and explicit response to the negative. However, indirect measures have shown that most individuals also have a contradictory implicit response, whether it be toward race, gender, class or sexual orientation. This is the ubiquitous and sinister nature of unconscious bias. How does this translate into an organisational context? What would this mean for employee engagement and organisational culture, two attributes that most organisations value? These are the questions this research endeavoured to answer.

Using a quantitative research methodology, this study sought to understand the influence of unconscious bias on organisational culture and employee engagement. Sub-hypotheses were defined and tested based on the definitions of the organisational culture and employee engagement constructs. Data was collected from 199 individuals through online questionnaires. A reduced sample of 56 was used for hypotheses testing.

Correlation analyses showed no statistically significant relationships between the constructs. Literature indicated this may be attributed to the methodology employed to measure bias, the implications of historically strong organisational cultures, the importance of inclusive cultures, opportunities for the growth and development of employees in organisations, perceived organisational support and the influence of social exchange.

KEYWORDS

Unconscious bias, implicit bias, organisational culture, employee engagement.

DECLARATION

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

_____

Eshentha Moodley

7 November 2018

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1: INTRODUCTION TO RESEARCH PROBLEM

1.1 Introduction

Research in the theme of unconscious/implicit/automatic thought has shown a marked increase since the mid-1980s (Greenwald & Banaji, 2017). Despite criticisms about the inferences of this research regarding the bias that may result, this bias and its implications for organisations can no longer be ignored (Jost et al., 2009; Kyung, Thomas, & Krishna, 2017). Marvel (2016) indicated implicit attitudes impact explicit decision making but Greenwald and Banaji (2017) asserted the relationship between unconscious thought and conscious action is not clearly understood. Von Hippel, Brener and von Hippel (2008) proved implicit prejudice can influence nurses to leave their organisation because of stress. The perspectives and behaviours of individuals in organisations are driven by their psychological experiences at work (Kahn, 1990). For organisations that are comprised of individuals, each with their own unique behaviours, and inherent in that their own unconscious bias, it will be important to understand whether there is an impact of implicit attitudes on explicit decision making and how this manifests in the employee's engagement in the organisation as well how it could influence the organisation's culture.

The effects of unconscious bias are displayed in situations involving economic and social decision-making (Greenwald & Banaji, 1995). There is a significant quantity of literature that is concerned with unconscious bias and its consequences on hiring practices and gender, race and ethnicity bias (Jost et al., 2009). Unconscious biases manifest themselves in a variety of ways and have been attributed to the low number of women in positions of leadership (Klettner, Clarke, & Boersman, 2016; Kossek, Su, & Wu, 2017), online charitable lending where lenders favoured borrowers that were perceived to be more attractive (Jenq, Pan, & Theseira, 2015) and the American public's perception of public sector organisations' competence and efficacy due to anti-public sector belief (Marvel, 2016). Thus, there is experimental evidence that upholds the claim of Marvel (2016) that unconscious biases do, in fact, influence the explicit decisions of individuals.

Another important aspect that affects organisations through unconscious bias is ethical decision making, a topic that is very relevant in the current institutional climate. Corporates have been prone to scandals, both internationally (Leavitt, Zhu, & Aquino, 2016; Welsh & Ordonez, 2014) and locally, as evidenced by numerous media reports (The Economist, 2017) that have questioned the ethical decision making of organisations

and leaders (Leavitt et al., 2016). Ethical decision making has been perceived to be a conscious, logical and deliberate process. In other words, unethical decision making that can influence organisations and industries adversely, has traditionally been viewed as a conscious and planned process. However, Welsh and Ordonez (2014) and Leavitt et al. (2016) discovered that ethical behaviour may be influenced on a subconscious level through subconscious stimuli, activating moral standards and reducing unethical behaviour. This indicates the unconscious nature of decision making and can have significant implications for organisations who operate in today's competitive and uncertain environment and want to encourage employees to engage in ethical behaviour.

1.2 Description of the Problem

As the competitive landscape changes through advancements in technology, understanding the motivations of employees and their effect on organisational performance (Kumar & Pansari, 2015) is becoming crucial. Managers are constantly striving to improve the effectiveness of their organisations to ensure they are successful in their endeavours. However, they often encounter resistance to change, and ineffective behaviour in their teams and employees. Culture aids in understanding the reasons behind this behaviour (Schein, 2004). However, understanding the influences of culture could be more meaningful for managers (Giorgi, Lockwood, & Glynn, 2015) in attempting to manage and sustain the success of their organisations. Implicit attitudes cultivate the behaviour of individuals (Mann & Ferguson, 2015), and automatic practices and routines can entrench this behaviour (Bohnet, 2016; Giorgi et al., 2015). The identities of individuals and organisations influence the cultures that form in organisations (Giorgi et al., 2015). Therefore, understanding the influence of unconscious bias on individuals, and in turn, organisational culture may be more meaningful than understanding the culture itself, especially since unconscious bias can impair the decision-making judgement of individuals in organisations (Greenwald & Banaji, 1995).

Understanding the bias that result in implicit stereotyping is essential for managers seeking increased diversity and inclusivity in their organisations. The stereotyping that women and minority groups are subject to is a negative consequence of a diverse organisation (Duguid & Thomas-Hunt, 2015). Changing demographics that see a greater representation of minority groups have proven to induce greater implicit and explicit prejudiced attitudes by dominant groups who perceived a threat to their status (Craig & Richeson, 2014) with implicit bias becoming more common than explicit bias (Hoyt & Murphy, 2016). Thus, creating diverse organisations may not be successful unless this is coupled with building an inclusive environment for women and minority groups

(Downey, van der Werff, Thomas, & Plaut, 2015; Shore, Cleveland, & Sanchez, 2018). Therefore, it is valuable to understand the influence these biases have on organisations of today, many of whose strategies comprise increased diversity and inclusivity. Positive influences can be reinforced, or negative influences can be mitigated so that managers can build a positive culture and ultimately, organisational success.

Social identity theory describes the importance of groups, as well as behaviour of individuals within the group (Hogg, 2009). Schein (2004) asserted that the way cultures are formed are indistinguishable to that of groups. He described the concepts of groups and culture as interrelated and interdependent concepts – without shared beliefs and assumptions, there is no group and without a group, there cannot be shared beliefs and assumptions. However, the empirical evidence from unconscious bias literature, and social justification theory support a contrary conclusion in that individuals often went against the greater good of the group when making unconscious decisions (Jost, Banaji, & Nosek, 2004). Thus, for organisations and managers, it is imperative to understand the influence unconscious bias can have on the underlying culture of a group (organisation) considering that groups cannot exist without an underlying culture, and unconscious bias act against what is best for the group.

Employee engagement may also be subjected to unconscious bias. According to Kahn (1990) and supported by May, Gilson and Harter (2004), the psychological conditions that impact employee engagement are meaningfulness, safety and availability. Schaufeli, Salanova, Gonzalez-Roma and Bakker's (2002) definition of employee engagement incorporates the characteristics of vigour, dedication and absorption. In unpacking the definitions of employee engagement provided by Kahn (1990) and Schaufeli et al. (2002), and relating it to the literature on unconscious bias and its impact on hiring practices and diversity (Jost et al., 2009), there is a need to determine how unconscious bias (also a psychological condition) could impact these underlying engagement factors, especially if employees' meaningfulness, safety and availability are threatened, and the implications this could have on managers and organisations. Furthermore, the circumstances that encourage the psychological and emotional aspects of employee engagement are relatively unknown (Alagaraja & Shuck, 2015). Therefore, evaluating whether bias, a psychological concept, can influence the psychological aspects of engagement will contribute to a theoretical need for the research.

1.3 Purpose of the Research

The purpose of this research is to establish how unconscious bias influence organisational culture and employee engagement, enabling organisations and managers to better deal with the outcomes of this relationship. The inconsistency in the relationship between unconscious thought and conscious action could have important consequences for organisations and managers. It will be important to understand the biases that result from these unconscious attitudes and how they may influence the culture of the organisation and the engagement of the employees within it (Greenwald & Banaji, 2017; Marvel, 2016).

Therefore, the objectives of this research are to:

1. Understand the relationship between unconscious bias and organisational culture.
2. Understand the relationship between unconscious bias and employee engagement.

1.3.1 Business Purpose

In investigating the relationship between financial performance in high-technology firms and strength of organisational culture, Chatman, Caldwell, O'Reilly and Doerr (2014) defined three aspects of culture to consider; culture consensus (the level of agreement group members have regarding cultural norms), norm intensity (the strength with which the norm is maintained) and norm content (the essence of what defines the norm and that which results in certain behaviours and attitudes). They concluded firms that had a high degree of culture consensus, covering several norms and a focus on the adaptability norm showed improved financial performance (Chatman et al., 2014).

Organisational culture also has significant strategic implications for organisations, specifically from a competitive advantage perspective. Andrews' (1987) definition of corporate strategy as a pattern of decisions that is valid over an extended period, and that defines the intrinsic nature of a company, and how it is viewed externally, echoes the sentiments of Schein's (1984) definition of organisational culture. Of significance, is the view that this system of decisions is what can give organisations competitive advantage (Andrews, 1987; Giorgi et al., 2015; Wei, Samiee, & Lee, 2014). Thus, the competitive advantage of an organisation is dependent on the culture that is created by this pattern of decisions. Resources within an organisation can be viewed as a portfolio of competencies where both the tangible and intangible assets of an organisation can be

leveraged for superior organisational performance (Barrick, Thurgood, Smith, & Courtright, 2015; Hitt, Carnes, & Xu, 2016; Hoskisson, Gambeta, Green, & Li, 2018; Wernerfelt, 1984). A strong organisational culture can foster alignment of resources to an organisation's strategic imperative (Chatman et al., 2014). Additionally, if organisational culture were to be leveraged as a resource, it could be considered an intangible asset that can lead to improved financial performance and competitive advantage (Wei et al., 2014). Therefore, there is an economic imperative for organisations to comprehend the influence unconscious bias may have on organisational culture.

Employee engagement is important for managers and organisations as disengagement can result in inadequate commitment and motivation by employees. Engaged employees produced quality work, had positive experiences in performing the work, showed greater commitment, motivation and a lower intention to turnover (May et al., 2004; Zhong, Wayne, & Liden, 2016). Additionally, organisations operating in the current fourth industrial revolution faced with complexity, volatility, uncertainty and rapid changes, are having to look for ways in which to differentiate themselves to maintain relevancy and sustainability. The extra-role outcomes of proactivity, knowledge sharing, creativity and adaptivity as a result of employee engagement could provide these differentiating advantages to organisations (Eldor & Harpaz, 2016).

In distinguishing employee engagement as job engagement and organisational engagement, Saks' (2006) main findings were that job and organisational engagement were predictors of job satisfaction, organisational commitment and intention to quit. Furthermore, perceived organisational support was determined as a predictor to job and organisational engagement and, in support of social exchange theory, employees who received greater organisational support showed a proclivity to respond with increased engagement (Cropanzano & Mitchell, 2005; Homans, 1958; Kurtessis et al., 2017; Rich, Lepine, & Crawford, 2010). These conclusions are important for organisations as engaged employees resulted in improved productivity and growth of organisations (Cooper-Thomas, Xu, & Saks, 2018; Kahn, 1990; Kumar & Pansari, 2015). Bolstering employee engagement could also provide organisations with a competitive advantage (Zhong et al., 2016). When considering resources as a group of competencies (Wernerfelt, 1984), managers that create, align and leverage strategic resources to develop the collective organisational engagement competency, can encourage employee motivation (Barrick et al., 2015).

Saks (2006) identified a need to investigate other predictors of employee engagement. The construct of unconscious bias and its influence on employee engagement is useful for organisations in that it could identify avenues organisations could employ in improving employee engagement from a bias perspective. Moreover, according to Saks (2006) and Rich et al. (2010), organisations seeking to improve employee engagement could consider developing perceived organisational support to achieve greater engagement. Kurtessis et al. (2017) identified human resource practices as an antecedent to perceived organisational support. However, as mentioned previously, unconscious bias had consequences on hiring practices, gender, race and ethnicity bias (Jost et al., 2009). These outcomes could potentially impact how employees view the support they receive from their organisations and thus their engagement within the organisation (Downey et al., 2015). Thus, it is valuable to understand the influence unconscious bias has on employee engagement.

From a societal perspective, individuals explicitly displayed the concepts of equality, and egalitarian principles, but these ideals were often implicitly inhibited (Devos & Banaji, 2005). In a society as diverse as South Africa, it becomes relevant to understand how the implicit nature of individuals may be impeding progress in organisations.

1.3.2 Theoretical Purpose

Research has focussed on the results of teams and organisations from a conscious perspective and has neglected to comprehend the implications of implicit attitudes on team and organisational outcomes (Healey, Vuori, & Hodgkinson, 2015). The subject of unconscious action and its outcomes outlined above (bias and unethical decision making) are important to organisations in a general context. Diversity enables competitiveness, adaptability, improved creativity and better organisational growth (Downey et al., 2015; Hajro, Gibson, & Pudelko, 2017; Zander, Jonsen, & Mockaitis, 2016). There is significant literature and empirical evidence that supports this supposition. There is also considerable literature about organisational culture and employee engagement in isolation. However, there is scant literature on how unconscious bias can influence organisational culture, the engagement of the employees within it and whether this influence will be positive or negative. Therefore, there is a necessity to understand the influence unconscious bias has in an organisational context (Joshi, Neely, Emrich, Griffiths, & George, 2015). Existing literature concerning unconscious bias challenge long-held assumptions about the degree of control individuals have on their thought processes (Jost et al., 2009). Furthermore, the disparate relationship between an individual's explicit bias and their implicit bias and the

impact this has on organisations is of importance (Duguid & Thomas-Hunt, 2015). Consequently, this becomes relevant in attaining a better theoretical understanding of the implications of these challenges to organisational culture and employee engagement.

The theoretical purpose of the research is to have an improved understanding of the relationship between unconscious bias and organisational culture and unconscious bias and employee engagement by proposing and statistically testing a model of these relationships. Although the subject of culture is prolific in the sociology discipline, there is scant research that introduces culture to the cognitive sciences where unconscious bias resides (Patterson, 2014). Schneider, González-Romá, Ostroff and West (2017) suggest integrating the disciplines of psychology and organisational culture to better understand organisations. Giorgi et al. (2015) emphasised the interlinked nature between practices (the unconscious things that people do) and culture. They highlighted that management literature has largely considered these two concepts in isolation and stress the need to consider linkages between these constructs.

Kahn (1990) posited meaningfulness, safety and availability arose because of individuals unconsciously evaluating these three aspects in organisational contexts. The researcher found no literature to evaluate how biases may influence the evaluation of these aspects of engagement. Procedural justice is a type of decision heuristic individuals employ in deciding whether to comply with an organisational request (He, Zhu, & Zheng, 2014). Kurtessis et al. (2017) suggested investigating other heuristics that influence employees' evaluations of organisations which can, in turn, impact engagement. Furthermore, there have been requests for additional research to analyse the psychological underpinnings of employee engagement to better prognosticate the factors that influence individuals to associate with their jobs on a psychological basis (May et al., 2004).

1.4 Research Scope

Unconscious biases exist in all individual and groups, across all races and classes (Bohnet, 2016; Jost et al., 2009). Therefore, the scope of this research spanned public and private sector South African organisations, across all job levels and industries. As such, the findings of the research are applicable to all South African organisations.

1.5 Structure of the Research

The research study is set out as follows:

- Chapter 1: Introduction to the Research Problem
  This chapter presents the reasons the research is undertaken. It also clarifies the business and theoretical relevance of the research.

- Chapter 2: Literature Review
  This chapter undertakes an analysis of existing academic literature focussing on the constructs of unconscious bias, organisational culture and employee engagement to emphasise the research need, and further develop the research argument.

- Chapter 3: Research Hypotheses
  This chapter precisely defines the research hypotheses that have been developed based on the outcomes of Chapter 2.

- Chapter 4: Research Methodology and Design
  This chapter details the research methodology and design that was employed to test the research hypotheses defined in Chapter 3.

- Chapter 5: Results
  This chapter presents the results of the statistical tests performed in the context of the research hypotheses.

- Chapter 6: Discussion of Results
  This chapter discusses the results of the statistical tests and relates these results to the literature determined in Chapter 2.

- Chapter 7: Conclusion
  This chapter emphasises the main conclusions of the research study. Suggestions for future research and managerial implications of the study are discussed.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

An extensive literature review was conducted to understand the current literature surrounding the constructs of unconscious bias, organisational culture and employee engagement. Despite the abundance of literature related to unconscious bias, organisational culture and employee engagement separately, there is scant research that relates these constructs together. Therefore, the literature review endeavoured to build the argument for the research by emphasising the importance of understanding each of these concepts separately, but also highlighting the need to understand how these concepts may be related. The underlying theory that supports each of the constructs is also discussed.

The main themes that are covered in the literature review include the implications of unconscious bias on individuals and organisations and how this can influence an organisation's culture as well as the extent to which employees engage themselves. The significance of organisational culture and employee engagement is emphasised to highlight the importance of understanding elements (in this case unconscious bias) that can influence these constructs.

2.2 Unconscious Bias

2.2.1 Introduction

There is varying terminology in psychology literature that exist in the theme of conscious and unconscious thought. The words implicit/unconscious/automatic and explicit/conscious/controlled are often used synonymously (Greenwald & Banaji, 1995; Greenwald & Banaji, 2017). Because of the escalation and heterogeneity in terminology to describe automatic versus controlled processes, Stanovich, West and Toplak (2014) adopted the terminology of type 1 (automatic) and type 2 (controlled) processes (Helfat & Peteraf, 2015). Unconscious processes are inherent in all individuals (Bohnet, 2016; Jost et al., 2009) irrespective of whether individuals attempt to avoid them, whereas controlled processes occur as a result of exact and deliberate actions by individuals (Devine, 1989; Helfat & Peteraf, 2015). However, Hahn, Judd, Hirsh and Blair (2013) argued that there is no definitive proof that individuals are unaware of the attitudes they have. They proved this by illustrating the correlation between individuals' prediction of their implicit measurement scores and the actual scores obtained. This was despite a

distinction between implicit attitudes revealed and explicit attitudes stated (Hahn et al., 2013).

2.2.2 The Originations of Unconscious Bias

The study of implicit attitudes and unconscious bias has its roots in cognitive and social psychology (Greenwald & Banaji, 1995). There is no unanimous agreement on the origins of implicit attitudes among psychologists, but many concur that cultural influences, environmental experiences, early experiences, prior experience and cognitive consistency are contributors to unconscious thought (Devine, 1989; Devos & Banaji, 2005; Gawronski, Morrison, & Phills, 2017; Gregg, Seibt, & Banaji, 2006; Marvel, 2016; Helfat & Peteraf, 2015). Individuals under the pressure of time have shown a greater reliance on bias (Ito et al., 2015). In evaluating the decision-making preferences of individuals, Kahneman and Tversky (1982) asserted decisions are made based on individual reference points that are influenced by unique, and often imagined impressions, judgements and responses. People make impaired decisions because they are unable to remain objective – these impediments could be attributed to biases, because of the way decisions are framed, or the intrinsic nature of being human (Kahneman & Tversky, 1982; Stanovich et al., 2014). Implicit attitudes may occur because of influential social and language experiences, that have been repeatedly learned over several years, and can therefore be difficult to unlearn. These formative exposures often occur prior to formal education practices that may contribute to explicit attitudes (Greenwald & Banaji, 2017; Helfat & Peteraf, 2015; Stanovich et al., 2014).

To better understand the developmental stages in which implicit and explicit attitudes (specifically toward race) exhibit themselves, Baron and Banaji (2006) investigated both implicit and explicit bias in three age groups, namely, children aged six and ten and adults. Baron and Banaji (2006) concluded that implicit bias toward race were apparent in the six-year-old age group and did not differ in observation in the ten-year-old and adult age group (Dunham, Chen, & Banaji, 2013). However, explicit racial bias showed a decline from age six, lessening at age ten and disappearing in adulthood. This evidence supports the notion that implicit attitudes are prolific, develop early in life and are constant (Gregg et al., 2006).

From an organisational perspective, social identity theory seeks to understand individuals in groups, relationships within groups as well as group processes. The crux of this theory is the idea that social groups provide individuals with a sense of identity that are shared with fellow group members. This identity can be associated with

"perceptions, attitudes, values, feelings and behaviours" (Hogg, 2009, p. 4) and it is these elements that distinguish one group from another. Social groups are inclined to evaluate themselves as better than others – this introduces the concept of in-group and out-group where the needs and interests of the in-group are favoured over out-groups, to the extent that the out-group is prejudiced against (Craig & Richeson, 2014; Hogg, 2009). However, the research on unconscious bias and the social justification theoretical underpinnings related to this concept disputes that of social identity theory, despite social justification theory having its roots in social identity theory and social dominance theory.

System justification can be defined as "the psychological process by which existing social arrangements are legitimized, even at the expense of personal and group interest" (Jost & Banaji, 1994, p. 2). Social justification theory challenges social identity theory and asserts that the rationalisation to preserve the status quo and out-group favouritism, sometimes even to the detriment of the in-group, supersedes in-group favouritism, especially in the case of disadvantaged social groups. It can be applied in seeking to understand the rationalisation underpinning unconscious bias – individuals make unconscious decisions that seek to preserve current conditions, even if it is to their disadvantage (Devos & Banaji, 2005; Dunham et al., 2013; Jost et al., 2004). Dunham et al. (2013) observed that in-group bias was not evident in socially disadvantaged groups across a variety of age groups (including children), while children of socially advantaged groups showed in-group bias. Baron and Banaji (2006) posit that out-group favouritism could occur as a result of viewing the in-group through the lens of the broader society – this perception of the in-group becomes the implicit attitude of members in the in-group toward the in-group.

The lack of in-group favouritism could be due to group size, that is, being in a minority group (Shutts, Kinzler, Katz, Tredoux, & Spelke, 2011). In contrast, disadvantaged groups that comprise the majority occasionally experience greater prejudice due to the threat perceived by dominant in-groups (Craig & Richeson, 2014). In a society such as South Africa, whose socially disadvantaged group comprise the majority, the effects of "group size, familiarity, and social status" (Shutts et al., 2011, p. 1283) were investigated to determine race-based group preferences. Shutts et al. (2011) found that group size and familiarity did not significantly influence in-group favouritism since Black children did not have a preference toward their own race. However, the construct of social status did influence in-group favouritism, with Black children having a preference toward their own race when compared to groups of a lower social status (Shutts et al., 2011). These

conclusions further emphasise the assertions of social justification theory and the social biases that result.

2.2.3 Implicit Attitudes

Implicit attitudes can be defined as “automatic, spontaneously activated mental associations of a target concept with feelings (positive or negative) or traits” (Marvel, 2016, p. 144). Implicit decision-making allows individuals to make fast decisions that do not require significant brain capacity (Helfat & Peteraf, 2015; Stanovich et al., 2014). By making use of heuristics, complex, judgemental decision-making under uncertain conditions can be simplified (Bohnet, 2016). Implicit thoughts and feelings occur as distinct and are juxtaposed with explicit attitudes that occur from intentional and conscious thought processes (Marvel, 2016).

Much debate exists in literature regarding the malleability of implicit attitudes. Implicit attitudes are generally less amenable to change, even after intentional manipulation, as compared to explicit attitudes (Devine, 1989; Gregg et al., 2006; Healey et al., 2015; Marvel, 2016). This is based on the assertion that implicit attitudes are anchored by early experiences. In contrast, explicit attitudes are anchored by recent occurrences (Gawronski et al., 2017). However, Dasgupta and Greenwald (2001) stated that automatic attitudes can be altered because of factors like context, attention, motivation and cognitive resources influencing individuals’ attitudes. Rudman, Ashmore and Gary (2001) showed implicit attitudes may be altered through affective processes and Gawronski et al. (2017) concluded implicit attitudes were less constant over time compared to explicit attitudes, potentially because brief memory activation associations may influence implicit measures. Implicit attitudes have also shown flexibility in instances where information counter to the attitude was repeatedly stimulated (Mann & Ferguson, 2015). Mann and Ferguson (2015) concluded changing an implicit attitude is only effective through subtraction and addition i.e. removing the initial idea (subtraction) and providing additional information that alters the meaning of the original idea (addition). Additionally, there needs to be an association between the initial idea, and the new information such that individuals can utilise cognitive resources to understand the situation. Therefore, the malleability of implicit attitudes versus explicit attitudes involves various factors, contexts and conditions that must be taken into consideration.

Implicit action often stems from implicit memory that emanates from prior experience that influence decision-making in an unconscious manner (Greenwald & Banaji, 1995; Kyung et al., 2017), often resulting in biased outcomes (Helfat & Peteraf, 2015; Tversky &

Kahneman, 1974). Implicit decision-making is not acceptable in situations that judge fairness, employment and financial decisions (Stanovich et al., 2014). This unconscious decision-making can result in bias associated with gender, race, ethnicity and hiring practices (Greenwald & Banaji, 2017; Kahneman & Tversky, 1982; Stanovich et al., 2014). It is for this reason that this topic is becoming more relevant in management literature (Jost et al., 2009).

The process of specifying one's own attitudes is susceptible to biases such as "self-presentation, self-deception and self-ignorance" (Bohnet, 2016; Gregg et al., 2006, p. 1; Healey et al., 2015). These biases weakened the validity of these self-accounts (Greenwald & Banaji, 1995; Gregg et al., 2006). Therefore, explicit (and conscious) beliefs are rendered invalid by implicit (and unconscious) thought (Greenwald & Banaji, 2017). However, the relationship between explicit and implicit bias is influenced by the need to control prejudicial behaviour – when individuals actively seek to control their prejudices, implicit bias showed a stronger correlation to explicit bias, and vice versa (Jost et al., 2009).

Because of the bias associated with self-specification, in order to measure implicit bias, indirect measures are often required (Fazio & Olson, 2003; Greenwald & Banaji, 1995; Gregg et al., 2006; Marvel, 2016). Indirect measures usually assess latency by assessing a target with a positive or negative attribute, usually based on a prime. Strongly associated concepts are usually indicated by faster and precise pairing (Baron & Banaji, 2006). The low association between implicit and explicit measures does not imply individuals are unaware of their implicit bias, but rather there is a dissociation between their implicit and explicit attitudes (Hahn et al., 2013). In instances where individuals had a motivation to adjust their responses, there was little difference between implicit and explicit measures. However, when the motivation was low, tests like the Affect Misattribution Procedure discovered differences (Payne, Cheng, Govorun, & Stewart, 2005). Ito et al. (2015) suggested controlled processes influence outcomes in implicit bias measures. Furthermore, the extent to which these outcomes are influenced are based on an individual's executive functioning (Ito et al., 2015).

2.2.4 Implicit Stereotypes

Implicit stereotypes can be defined as "the introspectively unidentified (or inaccurately identified) traces of past-experience that mediate attributions of qualities to members of a social category" (Greenwald & Banaji, 1995, p. 15). The implicit nature of stereotyping implies that individuals may apply certain attributions to others, without consciously being

aware of doing so (Devine, 1989; Duguid & Thomas-Hunt, 2015). The “inevitability of prejudice” (Devine, 1989, p. 5) implies that provided stereotypes exist, prejudice would succeed (Bohnet, 2016; Devine, 1989). However, conscious activation of one’s personal beliefs may affect the knowledge of stereotypes such that the behaviour toward stereotypical groups may not be as expected (Devine, 1989; Gregg et al., 2006; Hernandez et al., 2016). Blair and Banaji (1996) differentiated between stereotype activation and stereotype application in evaluating the automatic nature of stereotypes. They posited stereotype activation is automatic, and it is stereotype application where conscious control can be applied. This is supported by the conclusions of Devine (1989) and Hernandez et al. (2016). Furthermore, Dasgupta and Greenwald (2001) and Patterson (2014) asserted most attempts of prejudice reduction have been targeted on the conscious level. However, women who identified with feminists and were exposed to subliminal gender stereotypes displayed resistance to stereotypical behaviour on an implicit level suggesting attempts of prejudice reduction need not be conscious (van Breen, Spears, Kuppens, & de Lemus, 2018). Blair and Banaji (1996) showed the effects of stereotypical behaviour can be eliminated in circumstances when individuals have counter stereotypical intentions and decreased under conditions of cognitive constraints. This proved that stereotype activation may be conditionally automatic. However, the important consequence for organisations and managers is the automatic nature of stereotypical behaviour may introduce biased outcomes.

2.2.5 The Types of Unconscious Bias

The research by social and cognitive psychologists in attributions, biases and heuristics can explain the reason for poor judgement originating from memory. This research has uncovered biases known as availability heuristic where subjects will rely on examples that stand out and come to mind first and anchoring effect where subjects will estimate numerical quantities after being initially exposed to some arbitrary number (Greenwald & Banaji, 2017; Tversky & Kahneman, 1974). The representative heuristic is employed when people assume an individual is representative of a certain stereotype, and thus individuals were associated with the characteristics of that stereotype. This can result in incorrect assumptions (Tversky & Kahneman, 1974).

Other biases identified that impact decision-making is selective perception (where one is likely to observe characters that are noticeable), halo effect (where one makes conclusions about people based on a certain characteristic like outward appearance (Greenwald & Banaji, 1995), contrast effect (where conclusions are drawn based on comparisons with recently encountered experiences or people), stereotyping/heuristics

(where one is judged based on societal definitions), confirmation bias (Marvel, 2016) (where people seek information that confirms decisions they have made in the past) (Robbins & Judge, 2015), and not invented here bias (where individuals reject external knowledge despite the positive impacts it may have to the organisation) (Antons & Piller, 2015).

2.2.6 The Implications of Unconscious Bias

Both explicit and implicit gender bias have resulted in a dearth of women occupying positions of leadership (Joshi et al., 2015; Klettner et al., 2016; Milkman, Akinola, & Chugh, 2015). Implicit gender-stereotyping have associated men with greater achievement as compared to women (Greenwald & Banaji, 1995). From an individual perspective, gender-stereotype expectations resulted in women adjusting their behaviour to meet these expectations (Hoyt & Murphy, 2016). These stereotypes are entrenched on an unconscious level. The adoption of these stereotypes resulted in women having a bias directed toward themselves, often not considering themselves fit to occupy roles that have been traditionally associated with males (Kossek et al., 2017). From an organisational perspective, implicit biases are still prevalent. Women are stereotyped as being “nice and compassionate” and these characteristics contribute to the challenge women face in attaining leadership positions (Hoyt & Murphy, 2016; Joshi et al., 2015; Koenig, Mitchell, Eagly, & Ristikari, 2011, p. 616). Koenig et al. (2011) determined there is a “strongly masculine cultural stereotype of leadership” (p. 637) and because of this, men will have better success of attaining positions of leadership. The belief that men are superior leaders to women is entrenched with the notion that on an implicit level, women do not have the characteristics required for leadership roles. Even when women do advance to positions of leadership, their role as leaders is often not well received due to gender role stereotypes and implicit gender identities (Eagly & Karau, 2002; Hoyt & Murphy, 2016; Lanaj & Hollenbeck, 2015). Furthermore, the negative reaction to women who displayed success in fields that were traditionally male-dominated resulted in negative consequences such as poor remuneration and lack of further opportunities (Bohnet, 2016; Heilman, Wallen, Fuchs, & Tamkins, 2004; Lanaj & Hollenbeck, 2015). Persistent encounters of gender-based stereotype threat by women can result in women becoming demotivated and disengaged, possibly leaving organisations and professions, thereby further reducing the number of women in leadership roles (Bohnet, 2016; Hoyt & Murphy, 2016). Lanaj and Hollenbeck (2015) investigated the influence of gender on leadership over-emergence in self-managing teams where leadership is not officially assigned, and rather occurs informally. Leadership over-emergence is defined as a situation where a leader’s emergence is

greater than the leader's effectiveness, resulting in unsuitable individuals becoming leaders. Gender bias influenced leadership emergence more than leadership effectiveness since leadership emergence was perceived on an implicit level whereas leadership effectiveness was evaluated on a conscious and thoughtful basis. Leadership over-emergence was prone to gender bias such that men over-emerged as leaders (Lanaj & Hollenbeck, 2015). Therefore, organisations that make use of self-managing teams need to be cognisant of the bias associated with leadership over-emergence and the negative consequences thereof.

Hernandez et al. (2016) investigated the effects stigma by association, specifically in segregated organisational contexts, had on the performance appraisals of Black leaders. They described stigma by association as comprising both unconscious bias influences as well as conscious explicit processes. They asserted that Black leaders who led groups made up of predominantly Black followers were prone to being stigmatised by their association with their followers. This resulted in Black leaders receiving poor performance appraisals. The results of this research have important implications for organisations that are seeking to become more diverse, especially in leadership roles. The racial bias and stereotypes that persist in organisations indicate the low levels of motivation decision-makers have, to challenge the status quo (Hernandez et al., 2016).

The halo effect can have negative consequences in performance evaluations when managers base evaluations on attributes unrelated to job-competence (Greenwald & Banaji, 1995). When managers are involved in tasks that require numerical rating, like performance evaluations or rating potential hires, Kyung et al. (2017) asserted that individuals may be biased based on whether that individual considers bigger or smaller numbers as better through their reliance on implicit memory. Therefore, managers must be aware of these biases so that they do not impact their judgements. Erez, Schilpzand, Leavitt, Woolum and Judge (2015) investigated the effects of personality traits on peer performance evaluation. They concluded that introverts are more prone to form negative judgements based on interpersonal traits of extraversion and agreeableness. They suggest the biases inherent in this judgement may be as a result of the relationship between peers, rather than within individuals (Erez et al., 2015).

Bertrand and Mullainathan (2004) investigated implicit racial bias in hiring decisions by disseminating résumés in response to job wanted advertisements. The main motivation for their study was to address the racial inequity prevalent in the American labour market, despite arguments that "employer enlightenment, affirmative action programs and the profit maximization motive" (Bertrand & Mullainathan, 2004, p. 991) have eliminated

racial prejudice in job selection. Résumés were manipulated with Black-American and White-American sounding names. They found that résumés with names that sounded White-American received 50% more requests for interviews compared to résumés with names that sounded Black-American. The outcome of this study is indicative of the implicit bias present in hiring decisions – this is an important consequence for organisations trying to promote diversity in the workplace. Industries that had strong affirmative action programmes and résumés that indicated highly skilled Black-Americans were not exempt from the results of this study (Bertrand & Mullainathan, 2004). However, Milkman et al. (2015) argued that prior to encountering hiring decision bias (referred to as gateways), the bias individuals experience on the pathways to these entry-points may also influence low diversity levels. This emphasises the need for managers and organisations to be aware of potential bias that may exist in informal processes preceding gateway points like hiring and recruitment processes.

2.2.7 Mechanisms to Overcome Unconscious Bias and Stereotypes

Decision-making in hiring and evaluation processes can be subject to implicit bias and stereotyping that could result in unintended discrimination. The individual making the decision may be unaware of what is influencing the unintended bias. Drawing attention to implicit bias can attenuate the impact it has on making automatic judgements (Greenwald & Banaji, 1995; Hoyt & Murphy, 2016; Pope, Price, & Wolfers, 2018). This is important for organisations attempting to manage unconscious bias in decision-making. However, when conscious monitoring is excluded, stereotypical responses persist. These stereotypes originate from individuals' culture and legacy rather than personal beliefs. They may not necessarily be the cause of prejudice in individuals. Conscious thought can inhibit the activation of automatic decision-making especially when the subject conflicts with an individual's personal beliefs. Therefore, there is a dissociation between one's personal beliefs and automatically activated stereotypical behaviour (Devine, 1989). Stanovich et al. (2014) and Bohnet (2016) asserted consciously interrupting and suppressing automatic responses is not sufficient. An improved response to the automatic one must also be provided. Improved responses result from the ability to apply hypothetical reasoning and "cognitive decoupling" (Stanovich et al., 2014, p. 83) i.e. the ability to consciously separate the real-world from an imagined one. Other factors that have been known to reduce bias are incentive, physical proximity and exposure to counter-stereotypical behaviour (Pope et al., 2018). Managers that keep abreast of the hiring, promotion and resignation practices of women and minority groups in their organisations can potentially overcome discrimination (both implicit and explicit) and build a culture of inclusion (Shore et al., 2018). Additionally,

including women and minority groups on recruitment panels can also reduce unconscious bias related to hiring practices (Klettner et al., 2016).

The intention of diversity training is to confront the issues of bias, stereotypes and prejudice. The results for diversity training initiatives have been varied (Bezrukova, Spell, Perry, & Jehn, 2016). In some instances, diversity training has not proven fruitful. However, Rudman et al. (2001) indicated that diversity training may be successful if individuals voluntarily partake in the training, have an awareness of one's prejudices and biases and build relationships with out-group members. This voluntary aspect of diversity training is contrary to the findings of Bezrukova et al. (2016) who found that diversity training is more effective when it is mandatory since individuals who voluntarily partake in training do so because they already have an interest in the subject. Other significant factors to consider are the length of training (longer training was more effective) and integrated efforts of diversity like management commitment and organisational cues that sustained cognitive learning (Bezrukova et al., 2016). This indicates that training programmes structured in certain ways may not be sufficient in alleviating diversity in organisations and is an important consideration to managers that are implementing or considering such programmes to address the diversity issue.

Organisational accountability, another mechanism for counteracting bias (Bohnet, 2016), has in some instances worsened bias in decision-making. The assertion that accountability aggravates bias is supported by police officers who have been prone to racial bias, despite having accountability to the societies in which they serve (Jost et al., 2009). This is contrary to Bohnet (2016) who stated that accountability can be more effective in diminishing bias when individuals are made aware that they are to be held accountable, and when they are unaware of the opinions of individuals who evaluate their level of accountability. Through holding managers accountable for adhering to their diversity plans, accountability was found to be more effective in increasing diversity than diversity training (Bohnet, 2016).

Building an inclusive organisational culture is important to counteract the negative, subtle discrimination that women and minority groups face. Inclusive leadership, and sponsorship of minority groups are integral to both obtain and retain diverse individuals. Inclusion is fostered through inclusive decision-making, open communication, sharing of information, embracing diverse viewpoints, fair processes and procedures, celebrating an individual's authenticity and leadership support (Shore et al., 2018). Organisational cultures that are built on competitiveness may promulgate negative stereotypes related to women and may thus be a threat to women. Organisational cultures that emphasised

opportunities for growth and development and an adaptable mindset have counteracted these threats (Hoyt & Murphy, 2016). In a South African context, for organisations to foster diversity and inclusivity, representation across all organisational levels is essential. Furthermore, although a focus on employment equity and the recruitment of previously disadvantaged groups may imply a diverse organisation, this does not necessarily result in an inclusive environment (Daya, 2014).

Multinational organisations and managers that operate in multiple jurisdictions, and hence cultures should enhance cultural intelligence (CQ) to derive positive benefits for their organisations. Implicit culture beliefs assisted individuals in making sense of their cultural experiences, but the extent to which individuals perceived these cultural beliefs as malleable impacted their interactions with different cultures (Chao, Takeuchi, & Fargh, 2017). In investigating the effect of international exposure on cultural beliefs and CQ, Chao et al. (2017) found that individuals that viewed cultural beliefs as fixed, experienced an increase in sensitivity related to intercultural rejection, which negatively impacted the ability of individuals to adjust to cultures, thereby impeding CQ. These conclusions are important, considering the global climate that organisations operate in, as well as the proliferation of multicultural teams.

Duguid and Thomas-Hunt (2015) suggested calling attention to implicit stereotypes may have the opposite effect in that communicating the universal nature of stereotypical behaviour becomes an accepted norm, and a stereotype in itself. This has important implications in the communication managers and organisations employ in their efforts to combat stereotypical behaviour, diversity and inclusivity issues as well as unethical decision-making. A useful way to overcome stereotypes would rather be to emphasise an individual's inclination to overcome unconscious stereotypes and bias (Duguid & Thomas-Hunt, 2015).

2.3 Organisational Culture

2.3.1 Introduction

There are varying definitions of organisational culture. It has been described as "informal social structures" and "the social tissue that contributes to collective sense-making in organisations" (Denison, Nieminen, & Kotrba, 2014, p. 146). Giorgi et al. (2015) deduced five notable models of culture, namely, "values, stories, frames, toolkits and categories" (p. 4). One of the most popular definitions of organisational culture is that of Schein (1984). He defined organisational culture as "the pattern of basic assumptions that a given group has invented, discovered or developed in learning to cope with its problems

of external adaptation and internal integration, and that have worked well enough to be considered valid, and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems" (Schein, 1984, p. 3). Patterson (2014) asserted that sharing information that is meaningful to a group of people in a public manner is what constitutes culture. Storytelling is a mechanism through which this information can be shared (Giorgi et al., 2015). In distributing this knowledge to a group, it can evolve into basic assumptions, that become unconscious (Patterson, 2014; Schneider et al., 2017). Some believe organisational culture to be an implicit and unspoken concept, and others believe it to be an observable notion (Chatman et al., 2014). This infers that the concept of organisational culture is regarded from an assortment of viewpoints (Giorgi et al., 2015; Patterson, 2014).

2.3.2 Organisational Culture Theory

The financial and organisational effectiveness implications for organisations emphasise the importance of understanding organisational culture (Denison et al., 2014; Zander et al., 2016). The aspects of "attitudes, values, motivation, team spirit and organisational rituals" have gained recognition as worthy characteristics for organisations (Stokes, Baker, & Lichy, 2016, p. 41). Organisational values are an essential part of an organisation's culture and a differentiating advantage that could lead to improved financial performance (Zander et al., 2016).

For organisational culture to be understood, there is a necessity that requires looking past the "hard dimensions" (visible elements) and "soft dimensions" (promoted values) (Stokes et al., 2016, p. 41) and consider the tacit assumptions as this is a more accurate indication of how employees "perceive, think and feel" (Schein, 1984, p. 3). These underlying assumptions can be referred to as unconscious because as behaviour is repeated, it becomes automatic to the individual to behave in a certain manner (Patterson, 2014; Schein, 1984; Schneider et al., 2017; Shimizu, Lee, & Uleman, 2017). The automatic nature of cultures only become obvious when different cultures are encountered (Shimizu et al., 2017). However, like the distinction made by Blair and Banaji (1996) between stereotype activation and stereotype application, Patterson (2014) has made a distinction between knowledge activation and knowledge application of cultural knowledge. He posited that an individual may not necessarily default to the application of certain behaviours because of intrinsic cultural knowledge and are capable of changing responses irrespective of the automatic nature of cultures.

Culture belongs to a group who has defined and possesses it, like members of an organisation. Two elements drive the strength of the culture of a group (organisation), specifically, “the stability and similarity of the group and the length and intensity of shared experiences within the group” (Schein, 1984, p. 7). However, strength does not necessarily imply effectiveness. Hofstede (1983) argued that the culture of an organisation is significantly influenced by national culture. However, the resource-based view of the firm argued that organisations can develop their own cultures that can provide them with a competitive advantage (Wernerfelt, 1984). “Tighter” national cultures will breed organisations that are more aligned to the national culture and “looser” national cultures will breed organisations that have their own unique culture (Lee & Kramer, 2016, p. 198). Furthermore, organisations that undertake diversity practices showed a greater inclination to develop unique cultures, especially those organisations that exist in “tighter” national cultures (Lee & Kramer, 2016, p. 198).

Organisational culture is cultivated through the systems and customs proposed by leadership and in conjunction with organisational human resource practices (Schneider et al., 2017). Leadership has been identified as one of the main antecedents to organisational culture (Giorgi et al., 2015; Schneider et al., 2017). A leader’s identity and philosophy can influence the organisational culture that permeates organisations (Giorgi et al., 2015). Furthermore, certain leader personality attributes like openness to experience, conscientiousness, agreeableness, neuroticism and extraversion impacted cultures in more predictable ways (O'Reilly III, Caldwell, Chatman, & Doerr, 2014). The bias discussed by Lanaj and Hollenbeck (2015) highlighted the importance of leadership selection. The significance of the influence of leadership on organisational culture (Giorgi et al., 2015) indicates the importance of ensuring the correct leaders are selected, irrespective of whether the selection is made due to emergence, or human resource practices (Lanaj & Hollenbeck, 2015).However, culture is developed and propagated at all levels in an organisation and is not necessarily limited to leadership (Zander et al., 2016).

An individual’s “perceptions, thoughts and feelings” contribute to the culture that evolves in an organisation (Schein, 1984, p. 12). According to Schein (1984), for this behaviour to truly impact the culture, at an underlying assumptions level, it can be construed as unconscious. Furthermore, to truly understand the culture of the individuals in the organisation, the organisation must be considered as a complete organism (Schneider et al., 2017).

2.3.3 The Implications of Organisational Culture in Organisations

Guiso, Sapienza and Zingales (2015) identified culture as important to organisations because it can guide employees to make better choices for the long-term. Culture is often viewed as the values that organisations and individuals cherish. However, there are instances where the culture of an organisation and its individuals can influence negative decision-making (Giorgi et al., 2015). Individuals who participate in a culture that promotes practices and behaviours that are unethical, in the ultimate pursuit of achieving organisational goals, should be held accountable, and should also hold each other accountable for that wrongdoing, as all individuals have taken a joint commitment to participate in that culture (Dempsey, 2015). Dempsey (2015) posited that individuals who are responsible for creating or maintaining an unethical organisational culture should also be held responsible for any wrongdoings that occur as a result. These severe conclusions imply that in the moral climate that organisations operate in today, holding a few individuals accountable for certain wrongdoings may be excluding a myriad of individuals who were also complicit in such wrongdoings.

Culture is viewed as a solution to the problems a group faces (Giorgi et al., 2015; Schein, 1984). These problems can be positive problem-solving situations or anxiety avoidance situations. Organisations confront two types of problems, namely problems that are external to the organisation ("external adaptation") and problems that are internal to the organisation ("internal integration") (Schein, 1984, p. 3). When organisations achieve coherence between its internal culture and the external environment, this may introduce improved "organizational performance and effectiveness" (Giorgi et al., 2015, p. 8).

Design thinking has been proposed as a novel means to solve organisational problems. It enables organisations to be innovative, thereby giving them a competitive advantage, especially in the ambiguous environment organisations operate in today (Elsbach & Stigliani, 2018). The relationship between design thinking and organisational culture is reciprocal. According to Elsbach and Stigliani (2018), making use of design thinking techniques fostered a culture of experimentation through experiential learning. Additionally, collaborative and experimentational organisational cultures encouraged the use of design thinking techniques. Cultures that promoted siloed thinking, a focus on productivity and measurable performance hindered the use of design thinking techniques (Elsbach & Stigliani, 2018). Therefore, design thinking influences and is influenced by organisational culture. This is an important consideration for organisations seeking to solve problems in innovative ways.

Organisational culture may influence the competitive advantage and financial performance of organisations (Chatman et al., 2014; Hitt et al., 2016; Hoskisson et al., 2018; Wernerfelt, 1984). However, O'Reilly III et al. (2014) had not found any evidence that showed a conclusive relation between organisational culture and firm performance. They attributed this to the multi-dimensional nature of culture that can vary across industries as well as the variety of performance outcomes that can measure firm performance. However, they did find reasonable associations with CEO personality and culture as well as cultures that focus on adaptability, are detailed oriented and results focussed and firm performance. Guiso et al. (2015) found no correlation between an organisation's espoused values and financial performance. They found a correlation between employees perceived level of integrity of management and productivity and profitability. Alagaraja and Shuck (2015) posited when there is alignment between an organisation's culture, job characteristics and an individual's skills and knowledge (influenced by the level of employee engagement), this can lead to both enhanced individual and organisational performance. Moreover, organisational alignment is indicative of the strength of the culture in the organisation, i.e. the extent to which norms and values have become entrenched (Alagaraja & Shuck, 2015).

Organisations that engage in both exploitative and explorative opportunities can be considered ambidextrous. Ambidexterity enables organisations to be successful in the long-term, while maintaining innovative capabilities (Antons & Piller, 2015). An ambidextrous organisational culture, that combines organisational diversity (referred to as the values and norms that encourage difference in thinking which promotes creativity) (Hajro et al., 2017) and shared vision (referred to as the values and norms that encourage collaboration to achieve organisational goals that promotes unity) enables organisational ambidexterity and innovation (Wang & Rafiq, 2014). Design thinking is a mechanism through which organisational ambidexterity can be achieved (Elsbach & Stigliani, 2018). These conclusions are key for organisations focussed on remaining relevant whilst operating in a competitive environment.

2.3.4 Unconscious Bias and Organisational Culture

Unconscious bias may influence the culture of an organisation in a variety of ways. An organisation's identity can be viewed as those characteristics that distinguish it from other organisations in some unique way. This can be defined at varying levels – organisational and individual. Groups are perceived as being distinct entities, when compared to the individuals that form that group. Cohesive groups may be prone to intergroup phenomenon such as prejudice and stereotyping (Dasgupta, Banaji, &

Abelson, 1999). When organisations have strong cultures (cohesive), individuals that are not atypical of that organisation could be subject to this prejudice. Additionally, individuals' values correlated with stereotype activation could result in unconscious bias (Milkman et al., 2015). Therefore, understanding the nature of the culture of the organisation, in conjunction with the unconscious bias that exist will have important implications for organisations seeking diversity and inclusivity.

Culture helps individuals make sense of their environment. To do this, human beings default to categorisations of "words, concepts and classes" – a form of unconscious cognitive processing (Giorgi et al., 2015; Patterson, 2014, p. 8). Categories allow individuals to process information easily, but these can lead to bias because of the use of cognitive short-cuts (Patterson, 2014). Therefore, culture can relieve the cognitive load of having to think about the answers to every problem individuals encounter, having to evaluate the myriad of choices faced with daily and of choosing the values and norms that influence social and organisational existence (Patterson, 2014).

Teams that have shared cognitive thinking are known to be more cohesive (Healey et al., 2015). However, Healey et al. (2015) alleged that a sole focus on conscious thinking is not sufficient when considering shared cognitive thinking benefits and introduced a dual-system model by considering both conscious and unconscious processes. They proposed that although team members may share similar conscious processing capabilities, because of the intrinsic nature of unconscious processing in individuals, it is likely that this will differ across individuals. This could result in discordance in teams. The suppositions of Healey et al. (2015) clarify the need to understand the effect of discordant implicit attitudes of individuals in organisations, especially if culture consensus is a prerequisite for improved financial performance in organisations.

In the context of a wide variety of cultural norms, consensus across organisations results in a strong culture. However, a combination of a strong culture and strong norms could encourage in-group dominance, with the in-group ensuring conformity to their ideas thereby stifling innovation (Chatman et al., 2014). Emphasising norms that align with innovation and adaptability could counteract this (Anderson, Potocnik, & Zhou, 2014; Chatman et al., 2014). Environmental influences such as organisational culture influence the creativity of individuals and teams (Anderson et al., 2014). Additionally, organisations that promote a climate for innovation enhanced the level of team engagement which, in turn, positively influenced the performance of the team (García-Buades, Martínez-Tur, Ortiz-Bonnín, & Peiró, 2016). Adaptability allowed organisations to manage changes in its external environment (Schein, 1984), enabling improved organisational performance

(Chatman et al., 2014; Wei et al., 2014). For organisations that operate in uncertain environments, especially in emerging markets such as South Africa, organic organisational cultures may enable adaptability such that organisations can better respond to changes. This provides organisations with a competitive advantage which will lead to greater financial performance (Wei et al., 2014). Furthermore, conformance to existing organisational norms and values may not necessarily create an inclusive work environment that embraces a variety of cultures (Shore et al., 2018).

Welsh and Ordonez (2014) showed the positive effects of subconscious priming on decision-making. They suggested using certain characteristics of an organisation's culture like slogans, stories and images may subconsciously induce ethical decision-making in organisations. This is further supported by Leavitt et al. (2016) who posited making use of subtle cues could contribute to ethical decision-making by managers. Johnson, Martineau, Kouame, Turgut and Poisson-de-Haro (2018) investigated the reasons why managers engaged in the use of privileged information when making strategic decisions. They observed when managers observed their peers behaving ethically, this discouraged the use of privileged information. Although cohesive teams can encourage unethical behaviour, in the context of cultures that have strong ethical values, unethical behaviour is not encouraged. In both instances of ethical and unethical decision-making, group members' behaviour is influenced by the fear of being rejected by the group. When managers perceived strong group cohesion in ethical organisation cultures, this discouraged the use of privileged information (Johnson et al., 2018). These conclusions are significant in that they highlight the influence of an ethical organisational culture on ethical decision-making.

Leadership has been identified as a precursor of organisational culture, and as such, the personalities, identities and principles of leaders contributed to the identity of the organisation (O'Reilly III et al., 2014). However, the identities of employees provide a connection between the characteristics of culture that are what Schein (1984) calls the underlying assumptions to the visible artefacts (Giorgi et al., 2015). Additionally, Wang and Rafiq (2014) argued that if organisations want to be ambidextrous, organisational norms and values should be developed from the below, rather than dictated from above. This is an important insight as it indicates a potential linkage between the unconscious identities of employees to the culture of an organisation and the extent to which it is ambidextrous.

Giorgi et al. (2015) defined practices as "routine activities that are largely unconscious and automatic" (p. 30). They argued that viewing practices as an interrelated but distinct

concept to culture may assist in explaining the unconscious manner practices can influence the culture of an organisation. However, Antons and Piller (2015) described the negative effects routine practices and inflexible attitudes may have on organisations seeking explorative opportunities to innovate. They identified seeking knowledge outside the organisation to overcome these inflexibilities. Individuals in the organisation, rather than organisation itself have shown a propensity to absorb and transfer knowledge more effectively. However, the bias and heuristics inherent within individuals (Kahneman & Tversky, 1982) impacted how this knowledge was used as well as the decisions individuals made based on this knowledge (Antons & Piller, 2015). Antons and Piller (2015) identified a bias called not invented here as an impediment to accepting knowledge that is external to the organisation, business unit or team. The unconscious refusal of individuals in organisations toward knowledge that is external could have detrimental economic impacts to organisations seeking explorative opportunities, despite the external knowledge having positive impacts if utilised effectively (Antons & Piller, 2015).

The use of multi-cultural teams within multinational corporations was viewed as a mechanism to leverage diversity through knowledge exchange processes (Hajro et al., 2017). However, organisations that have strong cultures that encourage conformity may impede this process, making them unable to react swiftly in unstable, dynamic external conditions and potentially losing competitive advantages (Hajro et al., 2017). This may negatively impact the financial performance of these organisations (Chatman et al., 2014). Therefore, individuals unconsciously seek to preserve the status quo, even though it is detrimental to the organisation (Devos & Banaji, 2005; Dunham et al., 2013; Jost et al., 2004). Organisational culture is not an antecedent to the not invented here bias but may influence the behaviour of individuals in organisations (Antons & Piller, 2015).

Despite the above assertions, Giorgi, Bartunek and King (2017) argued organisational culture is essential for stimulating organisational change. It can be utilised as a mechanism to mobilise individuals' support for the change effort. They acknowledged that while structural factors like shared interests among individuals, leveraging relationships, resources and external opportunities in business and society are required for mobilising change, they are not essential. On the other hand, culture, specifically "framing, identities and practices" is vital to mobilise change efforts (Giorgi et al., 2017, p. 130). Furthermore, to use culture effectively to mobilise change and overcome cultural hurdles, a combination of cultural competence (understanding the cultures of different

groups) and cultural brokerage (negotiating across different cultures to reach common ground) must be used (Giorgi et al., 2017).

A main motivation for Hofstede (1983) was to define a relationship between national cultures and organisational culture in the belief that organisations consist of people that have been “mentally programmed” (Hofstede, 1983, p. 76) by national influences like family, school and the work environment and these symbols of conditioning have become so entrenched in these individuals that it is almost implicit (Devos & Banaji, 2005; Shimizu et al., 2017), but can still influence the culture of an organisation (Zander et al., 2016). Shimizu et al. (2017) investigated how variations in national cultures in making spontaneous trait inferences were due to automatic processing. They found that although all the national cultures they investigated made spontaneous trait inferences, some inferences were made more regularly and automatic in certain national cultures. Understanding the influence automatic processing has on national cultures could assist in understanding cultural differences experienced in organisations of different national cultures, specifically those that operate on a multinational basis.

Multicultural teams can provide organisations with advantages that will allow organisations to transfer knowledge between teams and compete in the global climate. Managers require cultural intelligence to effectively operate in organisations operating in multi-cultural environments (Chao et al., 2017). However, since many organisations endeavour to instil a culture that is consistent throughout the organisation, the diversity climate of the organisation may become eroded (Hajro et al., 2017). Unconscious bias and implicit gender-stereotyping have also been viewed as an impediment to diversity (Greenwald & Banaji, 1995; Jost et al., 2009). Hernandez et al. (2016) showed that a reason for the lack of racial diversity in positions of leadership is stigma by association where Black leaders are given poor performance appraisals because they are attributed with the stereotypical traits of their Black followers. Therefore, there may be a relationship between unconscious bias and organisational culture such that diversity is eroded. A combination of social identity theory (Hogg, 2009) as well as organisational culture may be a way to overcome this intergroup bias by building a culture (superordinate identity) that surpasses any individual social identities or subgroups.

2.4 Employee Engagement

2.4.1 Introduction

In his seminal work, Kahn (1990) described two terms, personal engagement and personal disengagement, to describe the way individuals incorporate or exclude

themselves from their work situations. He defined personal engagement as “harnessing of organization members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances” (Kahn, 1990, p. 694). Employees are engaged when they are physically present, cognitively focused and display an emotional association to their work (He et al., 2014; Rich et al., 2010). Shuck, Twyford, Reio Jr. and Shuck (2014) described this as cognitive engagement, emotional engagement and behavioural engagement. Cognitive engagement and emotional engagement occurred on a covert basis, whereas behavioural engagement was more overt in nature. If certain conditions existed, employees employed certain preferred aspects of themselves during their time at work. An expression of preferred self is indicative of authenticity in terms of identity, thoughts and feelings (Kahn, 1990).

A more contemporary definition of engagement is “a positive, fulfilling, work-related state of mind that is characterized by vigour, dedication, and absorption” (Schaufeli et al., 2002, p.74). This definition emerged from literature associated with burnout, where engagement is considered the opposite of burnout, and is aligned with job or work task engagement (Bailey, Madden, Alfes, & Fletcher, 2017). According to Schaufeli et al. (2002), employees who are engaged showed enthusiasm and pride in their work and became deeply occupied with their work. Engaged employees showed improved performance and extended themselves, displaying creativity and innovation (Alagaraja & Shuck, 2015; He et al., 2014). This is important for organisations seeking competitive advantage (Anderson et al., 2014).

Social exchange theory provided a reliable theoretical basis to explain employee engagement. Individuals develop reciprocal, interdependent relationships with each other that can develop into one of dedication and commitment provided there is an adherence to the rules of exchange. In the organisational context, this relationship develops between employees and organisations when, through the acceptance of resources, employees will feel obliged to repay organisations (Saks, 2006). The extent of engagement employees devoted to their job roles was a form of repayment (Cooper-Thomas et al., 2018; Saks, 2006). The greater the desired resources employees received, the higher the perceived organisational support experienced, which in turn results in a higher level of engagement (Kahn, 1990; Rich et al., 2010; Saks, 2006; Zhong et al., 2016).

Kumar and Pansari (2015) defined five aspects of employee engagement that must be considered, especially when organisations and managers want to boost employee

engagement. These aspects are employee satisfaction (the degree of job-role satisfaction employees experienced), employee identification (the way in which employees related with their organisations), employee commitment (the degree of emotional commitment an employee displayed, also influenced by the organisation's culture), employee loyalty (the positive attitude an employee had for its organisation) and employee performance (the quality of an employee's outcomes) (Kumar & Pansari, 2015).

Barrick et al.'s (2015) concept of collective organisational engagement extended engagement from the individual, employee perspective of Kahn (1990) to an organisational collective. They defined collective organisational engagement as "shared perceptions of organizational members that members of the organization are, as a whole, physically, cognitively, and emotionally invested in their work" (Barrick et al., 2015, p. 113). Collective organisational engagement is disseminated and transferred through processes and practices like organisational culture, making it a characteristic of the organisation. Barrick et al. (2015) asserted the organisational resources of job design, the application of certain human resource practices and a CEO with a transformational leadership style were all precursors to collective organisational engagement as they all influenced the individual aspects of meaningfulness, safety and availability. Furthermore, when leaders defined and implemented a clear strategy for the organisation, the relationship between the organisational resources and collective organisational engagement was enhanced. This ultimately leads to greater firm performance (Barrick et al., 2015). Schneider, Yost, Kropp, Kind and Lam (2018) applied a similar approach by evaluating the antecedents and effects of work engagement, which they viewed as an aggregated employee-engagement construct. They proved work attributes, supervisory support and organisational practices were precursors to work engagement. Furthermore, they concluded work engagement was a predictor of financial and customer performance outcomes which, in turn, can lead to differentiated advantage. These conclusions are important for managers considering what mechanisms they can employ to improve employee engagement and firm performance using organisational resources and strategy.

Personal disengagement is defined as "as the uncoupling of selves from work roles; in disengagement, people withdraw and defend themselves physically, cognitively, or emotionally during role performances" (Kahn, 1990, p. 694). The behaviour of disengaged employees can be described as "automatic or robotic" (Kahn, 1990, p. 701).

Employees will become engaged or disengaged based on their psychological conditions in the roles they fulfil (Kahn, 1990).

2.4.2 Meaningfulness, Safety and Availability

Three psychological conditions impacted engagement: meaningfulness, safety and availability (Kahn, 1990; May et al., 2004). Psychological meaningfulness can be defined as “a feeling that one is receiving a return on investments of one's self in a currency of physical, cognitive, or emotional energy” (Kahn, 1990, p. 703). Employees who felt like they made a valuable contribution to the organisation and were valued for that contribution experienced a feeling of meaningfulness (Kahn, 1990). This can also be referred to as value congruence, that is, where the values of the organisation and the employee aligned (Kurtessis et al., 2017; Rich et al., 2010). Individuals experienced meaningfulness when they were involved in a variety of tasks that were creative and autonomous in nature. Roles that carried weight in the organisation and involved meaningful interactions with others also fostered meaningfulness (Kahn, 1990). May et al. (2004) investigated the antecedents of psychological meaningfulness and found job enrichment and work-role fit influenced meaningfulness positively. This implied that employees were engaged when the characteristics of their job aligned with their expectations and additionally, the role the employee occupied was a good fit (Saks, 2006). The conclusions of May et al. (2004) stress the importance of managerial due diligence in hiring decisions. In the context of unconscious bias and its impact on hiring decisions (Jost et al., 2009), these conclusions become more pertinent.

Psychological safety can be defined as “feeling able to show and employ one's self without fear of negative consequences to self-image, status, or career” (Kahn, 1990, p. 708). Employees who experienced safety felt that there would not be any negative consequences because of their personal engagement in an organisational context (Kahn, 1990). This is also referred to as perceived organisational support and is explained by organisational support theory (Kurtessis et al., 2017; Rich et al., 2010). Individuals that were part of relationships that fostered support and trust felt a sense of psychological safety. Group dynamics, and the various unconscious roles individuals assumed in organisations also contributed, this was further emphasised when those roles were performed within the expected norms and values of the organisation. Finally, supportive leadership that allowed individuals to take ownership of tasks also contributed to psychological safety (Kahn, 1990; Rich et al., 2010). Relationships with supportive superiors, meaningful and trusting relationships with co-workers and a non-enforcement of co-worker norms all influenced psychological safety positively (May et al., 2004).

Therefore, employees who felt they could trust their supervisors and co-workers and was not forced to adhere to norms enforced by co-workers displayed safety.

Psychological availability can be defined as “the sense of having the physical, emotional, or psychological resources to personally engage at a particular moment” (Kahn, 1990, p. 714). It describes employees who can focus on their work, given the social pressures of life (Kahn, 1990). This is also referred to as core self-evaluations, that is, an individual’s assessment of their own capabilities (Rich et al., 2010). The availability of both physical and emotional energy influenced the extent to which individuals were psychologically available. Individuals that were insecure in themselves and lacked confidence in their work, depleted the energy required to be available and engaged. Also, the propensity for external work influences to influence individuals (both positively and negatively) impacted their psychological availability (Kahn, 1990). May et al. (2004) supported Kahn (1990) in that employees who had sufficient physical, cognitive and emotional resources displayed a positive relationship to psychological availability.

2.4.3 Vigour, Absorption and Dedication

Vigour is defined as “high levels of energy and mental resilience while working, the willingness to invest effort in one’s work, and persistence even in the face of difficulties” (Schaufeli et al., 2002, p. 74).

Dedication is defined as “a sense of significance, enthusiasm, inspiration, pride, and challenge” (Schaufeli et al., 2002, p. 74). Dedication encompasses both cognitive and attitudinal aspects (Schaufeli et al., 2002). Dedication can be described as being completely immersed in one’s work (Eldor & Harpaz, 2016).

Absorption is defined as “being fully concentrated and deeply engrossed in one’s work, whereby time passes quickly, and one has difficulties with detaching oneself from work” (Schaufeli et al., 2002, p. 75).

2.4.4 The Implications of Employee Engagement in Organisations

Employee engagement is becoming more relevant in business and academia as organisations consider its implications for the motivation and performance of individuals in organisations that can, in turn, influence organisational performance (Barrick et al., 2015; Cooper-Thomas et al., 2018; Kahn, 1990; Kumar & Pansari, 2015; Mackay, Allen, & Landis, 2017; Rich et al., 2010; Zhong et al., 2016). Organisations recognise the benefit of engaged employees and seek ways to improve engagement (He et al., 2014). Employee engagement was viewed as a more predictive measure of an employee’s

effectiveness as compared to other job attitudes like job satisfaction, job involvement and organisational commitment (Eldor & Harpaz, 2016; Mackay et al., 2017). Employees within an organisation can be a source of competitive advantage when they are collectively engaged (Barrick et al., 2015; Zhong et al., 2016). The simultaneous employ of physical, cognitive and emotional energy can result in increased individual performance and the realisation of organisational goals (Rich et al., 2010). Engagement can have positive consequences for an individual's physical and mental state (Hakanen, Peeters, & Schaufeli, 2018).

By considering resources as a group of competencies (Wernerfelt, 1984), organisations can organise themselves into structures that promote collective engagement to achieve improved firm performance through a strategic alignment of goals and objectives (Barrick et al., 2015). Additionally, engaged employees can counteract the negative effects of stressful job environments by utilising resources like social support and self-efficacy (Hakanen et al., 2018). Organisational alignment, an antecedent to engagement, can be considered a resource that may yield a competitive advantage for organisations (Alagaraja & Shuck, 2015). Therefore, an important consequence of this for organisations and managers is what they can do to enable collective organisational engagement and alignment. In applying social exchange theory to resource theory, Cooper-Thomas et al. (2018) sought to determine which resources organisations provided to employees were exchanged for greater engagement. They concluded vision and purpose and learning and development were the most significant organisational resources that promoted greater employee engagement. Vision and purpose fostered meaningfulness and psychological safety in that employees recognised their work as valuable to the organisation. Learning and development fostered psychological availability as employees accumulated resources that enabled engagement in their work (Cooper-Thomas et al., 2018). This was further supported by Eldor and Harpaz (2016) who found that organisations whose employees perceived a climate of learning (which allowed employees to both develop themselves as well as align their jobs to organisational goals) resulted in greater employee engagement. Managers and organisations need to ensure employees are provided with the required resources to encourage greater employee engagement.

Rich et al. (2010) extended Kahn's (1990) theory of employee engagement by determining the impact the antecedents of engagement (value congruence, perceived organisational support and core self-evaluations) had on two aspects of job performance, namely task performance and organisational citizenship behaviour. Perceived

organisational support, supported by organisational support theory, enabled a mutual relationship between an employee and the organisation such that when employees felt they received adequate support from their organisation, they felt an obligation to achieve organisational goals (Kurtessis et al., 2017; Rich et al., 2010; Saks, 2006; Zhong et al., 2016). They concluded positive correlations between value congruence, perceived organisational support and core self-evaluations on job performance, indicating to organisations that to improve individuals' performance on their jobs and achieve organisational goals, they need to create an environment that fosters meaningfulness, safety and availability (Kurtessis et al., 2017; Rich et al., 2010). Zhong et al. (2016) extended the work of Rich et al. (2010) by concluding high-performance human resource practices like training, incentivised rewards and selective staffing influenced employee engagement and this relationship was positively facilitated by perceived organisational support.

Organisations that fostered inclusive environments encouraged individuals to embrace their individuality while still maintaining a feeling of belonging. This has led to individuals displaying increased job commitment and job performance (Downey et al., 2015; Shore et al., 2018). Inclusive leadership has also encouraged psychological safety, engagement and performance in individuals in organisations (Shore et al., 2018). Inclusive organisations indicated to individuals their psychological safety was maintained. Organisations that actively participated in diversity practices were perceived to have a trusting organisational climate, especially when individuals felt included. Consequently, individuals displayed greater employee engagement (Downey et al., 2015).

Different leadership styles predicted employee engagement in different ways (Cooper-Thomas et al., 2018). Breevaart et al. (2014) investigated the influence of transactional and transformational leadership styles on work engagement. Through resources like autonomy and social support, transformational leaders provided meaning to employees' work while transactional leaders used mechanisms like rewards to garner employee motivation thereby leading to greater work engagement (Breevaart et al., 2014). Therefore, different leadership styles resulted in greater work engagement, provided the appropriate motivational factors were in place. An ethical leadership style increased an employee's trust in their manager. Through the application of social exchange theory, when employees perceived their managers to be fair and trustworthy, they felt obligated to reciprocate with greater engagement in their work (Chughtai, Byrne, & Flood, 2015).

Employee engagement may predict job crafting, an organisational behaviour where employees align their jobs to their own capabilities and predilections (Eldor & Harpaz, 2016; Hakanen et al., 2018). Job crafting is a complement to traditional job specifications and can lead to positive individual outcomes in organisations (Hakanen et al., 2018). May et al. (2004) highlighted the importance of job design and the prudence managers must apply in this activity to foster both psychological meaningfulness and psychological safety. Job crafting may be a mechanism to circumvent poor job design thereby ensuring employees remain engaged, irrespective of the way their jobs have been designed.

Alagaraja and Shuck (2015) proposed a conceptual model between organisational alignment and employee engagement. They posited that organisational alignment is a precursor to engagement and can only materialise in a certain organisational culture. Employees will only engage when the processes of the organisation are aligned with its goals. Ensuring alignment in the organisation in terms of "interdependent systems, practices, and routines of the organization" can also enable organisational performance (Alagaraja & Shuck, 2015, p. 21). Organisational climates that encouraged individuals to take initiative, and enabled psychological safety increased firm performance through innovation (Anderson et al., 2014). Thus, there is an incentive for organisations and managers to focus on activities that not only highlight alignment in the organisation but emphasise alignment as a strategic imperative. Zhong et al. (2016) found employee cultural values such as collectivism and power distance influenced the relationship between high-performance human resource practices and perceived organisational support positively and negatively, respectively. For managers seeking to improve employee engagement by fostering environments that encourage perceived organisational support, this implies individual aspects of employees also need to be considered.

Procedural justice is concerned with how just employees perceived organisations' policies and procedures. A lack of procedural justice could lead to employees becoming disengaged as they perceived unfair treatment in response to the contribution they made to the organisation. Procedural justice is a type of decision heuristic individuals employed in deciding whether to comply with an organisational request. Incorporating social identity theory, individuals (employees) that perceived to be treated fairly in a group (organisation) resulted in identification with the group and pro-group behaviour (He et al., 2014). He et al. (2014) and Saks (2006) found that procedural justice was a precursor of employee engagement through the existence of employee organisational identity or the level of fit between an employee and their organisation. Procedural justice was an

antecedent to perceived organisational support which in turn encouraged employee organisational identity (Kurtessis et al., 2017). This is important for organisations and managers since the implementation of fair processes and procedures is within their mandate.

2.4.5 Unconscious Bias and Employee Engagement

The extent to which employees commit themselves, from a physical, cognitive and emotional perspective, varies. An in-depth understanding of employees' encounters during the time they are at work gives an indication of the extent to which employees in organisations are psychologically present. To fully appreciate this understanding, the emotional reactions of employees at both a conscious and unconscious level needs to be investigated (Kahn, 1990). Employee engagement is unique to an individual and is driven through the interaction of that individual's "cognitions and emotions" in an organisational context (Alagaraja & Shuck, 2015, p. 29).

In describing engagement as a psychological state, the considerations of unconscious bias become relevant since unconscious bias can exhibit itself on a psychological level (Alagaraja & Shuck, 2015). Hoyt and Murphy (2016) and Jacoby-Senghor, Sinclair and Shelton (2016) indicated when individuals are preoccupied by being biased against, this can have negative effects on cognitive resources and performance. Therefore, managers need to be cognisant of bias in their organisations as this may impact an individual's cognitive component of engagement.

Unconscious bias had been identified as an impediment to diversity in organisations (Jost et al., 2009). A diverse organisation can lead to "higher work satisfaction, commitment, and reduced turnover" (Milkman et al., 2015, p. 1691), especially for minority groups. Women who are continually stereotyped against become disengaged causing them to exit organisations and professions, hindering diversity in positions of leadership (Hoyt & Murphy, 2016). Therefore, unconscious bias could have a detrimental effect on minority groups' employee engagement.

Organisational identity, supported by social identity theory, is the extent to which an employee perceives acceptance by, identification with and alignment to an organisation. This relationship can be described as "affective and cognitive" (Karanika-Murray, Duncan, Pontes, & Griffiths, 2015, p. 1020). Employees displayed greater job satisfaction when they identified with their organisations. Furthermore, the stronger this bond, the more inclined an employee was to exert effort (be engaged) in the achievement of an organisation's goals (Karanika-Murray et al., 2015). Organisational identity can be

influenced by unconscious bias, which may negatively influence an employee's engagement and job satisfaction.

The importance of leadership style on employee engagement has been mentioned (Barrick et al., 2015; Breevaart et al., 2014; Kahn, 1990; Rich et al., 2010; Shore et al., 2018) with Cooper-Thomas et al. (2018) concluding that different leadership styles affected employee engagement in different ways. The inclusive leadership style that promoted psychological safety, engagement and performance in individuals in organisations (Shore et al., 2018), suggests the presence of unconscious bias in leaders, which hindered diversity and inclusivity (Bertrand & Mullainathan, 2004; Joshi et al., 2015; Klettner et al., 2016; Milkman et al., 2015) may have detrimental effects to the engagement of employees.

2.5 Conclusion

The current literature on implicit attitudes emphasised the biased outcomes that result, especially with regards to decision-making like hiring practices (Jost et al., 2009). This is one of the reasons why unconscious bias is becoming more relevant today.

The importance of organisational culture has also been emphasised in the literature as a potential competitive advantage to organisations (Wernerfelt, 1984). To understand the cultures of organisations it is imperative to understand the individuals that comprise the organisation (Schneider et al., 2017). These individuals may be prone to bias and stereotyping (Dasgupta et al., 1999) that may negatively influence the culture and organisational outcomes like innovation (Antons & Piller, 2015) and diversity (Hajro et al., 2017).

Organisations and managers are also recognising the importance of employee engagement because of how it influences employees (Hakanen et al., 2018) as well as organisational outcomes (Barrick et al., 2015). Individuals that perceived inclusive organisational environments showed greater engagement (Downey et al., 2015) but individuals that were biased and stereotyped against became disengaged (Hoyt & Murphy, 2016), potentially resulting in negative consequences to the organisation.

Therefore, the literature review confirmed the importance of understanding the relationship between each of these constructs in an organisational context. Furthermore, the literature review emphasised the lack of research in dealing with the unconscious bias, organisational culture and employee engagement constructs together. Thus, this research seeks to add to the theory of unconscious bias, organisational culture and

employee engagement by understanding the relationship between these constructs in evaluating the influence on unconscious bias on organisational culture and employee engagement.

CHAPTER 3: RESEARCH HYPOTHESES

The literature review conducted in Chapter 2 highlighted the need to examine the relationship between unconscious bias and organisational culture and unconscious bias and employee engagement. As such, the following theoretical model was proposed:

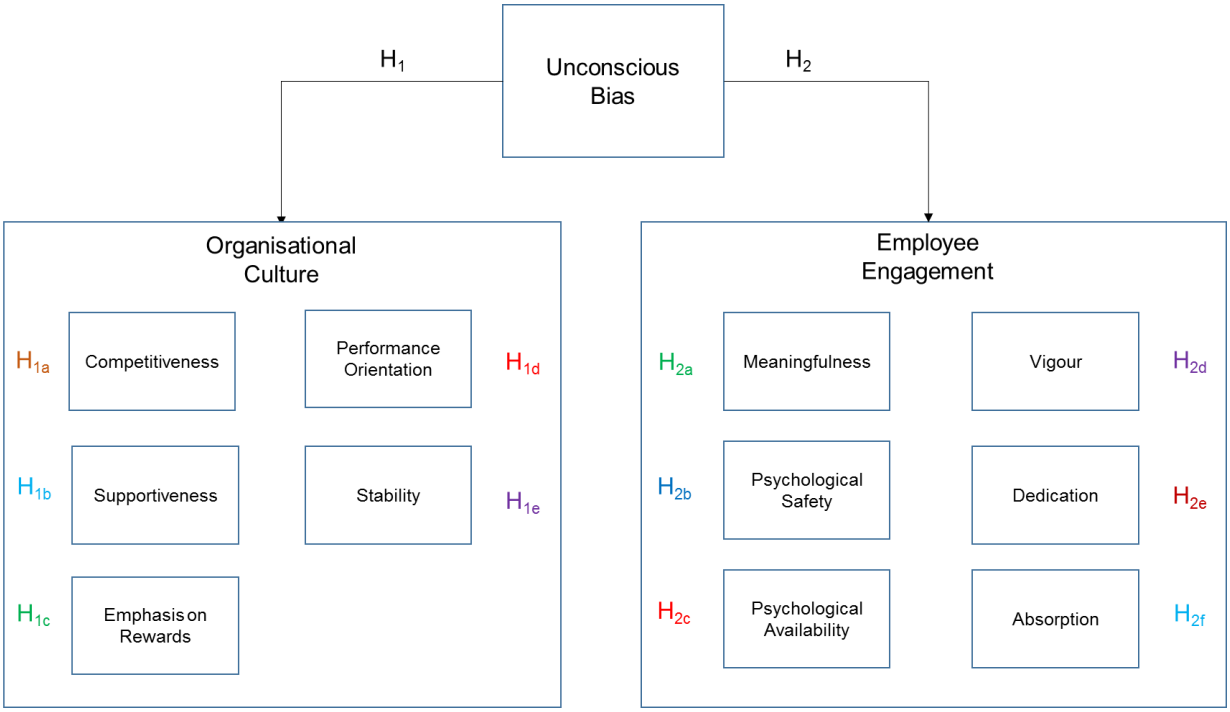


Figure 1. Proposed theoretical hypotheses model to test the relationship between the constructs.

3.1 Primary Hypotheses

The primary hypotheses of this study relate to the influence unconscious bias has on organisational culture and employee engagement. This relationship will be measured empirically using quantitative statistical measures.

Based on the themes covered in the literature review, unconscious bias manifests itself in implicit bias and stereotyping that has negative consequences for organisations like a lack of diversity (Bertrand & Mullainathan, 2004; Greenwald & Banaji, 1995) and poor decision-making in hiring (Jost et al., 2009) and performance evaluations (Greenwald & Banaji, 1995). As such, this research posited that this will result in negative consequences to organisational culture.

The bias and stereotypes that result from unconscious bias can also have negative consequences to employee engagement. Individuals with a preoccupation of being biased against may negatively impact their cognitive resources (Hoyt & Murphy, 2016; Jacoby-Senghor et al., 2016). Employee engagement is driven through the interaction of an individual's cognitive resources (Alagaraja & Shuck, 2015). Additionally, diversity may be negatively affected when individuals are stereotyped, causing them to become disengaged and in turn exiting organisations (Hoyt & Murphy, 2016).

Therefore, the following primary hypotheses have been defined:

Hypothesis$_1$ (H_1): There is a negative relationship between unconscious bias and organisational culture.

Hypothesis$_2$ (H_2): There is a negative relationship between unconscious bias and employee engagement.

3.2 Secondary Hypotheses

Since the variable of organisational culture has been subdivided into lower level observed variables of competitiveness, supportiveness, emphasis on rewards, performance orientation and stability by Sarros, Gray, Densten and Cooper (2005), this research also sought to empirically measure the influence of unconscious bias on these lower level variables.

Similarly, based on the definitions of employee engagement by Kahn (1990) comprising meaningfulness, psychological safety and psychological availability and Schaufeli et al. (2002) comprising vigour, dedication and absorption, this research sought to empirically measure the influence of unconscious bias on these lower level variables.

Furthermore, the measurement scale adapted from Sarros et al. (2005), May et al. (2004) and Schaufeli, Bakker and Salanova (2006) facilitated the ease of testing the relationship between unconscious bias and the lower level variables of organisational culture and employee engagement.

Therefore, the following secondary hypotheses have been defined:

Hypothesis$_{1a}$ (H_{1a}): There is a negative relationship between unconscious bias and competitiveness.

Hypothesis$_{1b}$ (H_{1b}): There is a negative relationship between unconscious bias and supportiveness.

Hypothesis$_{1c}$ (H_{1c}): There is a negative relationship between unconscious bias and emphasis on rewards.

Hypothesis$_{1d}$ (H_{1d}): There is a negative relationship between unconscious bias and performance orientation.

Hypothesis$_{1e}$ (H_{1e}): There is a negative relationship between unconscious bias and stability.

Hypothesis$_{2a}$ (H_{2a}): There is a negative relationship between unconscious bias and meaningfulness.

Hypothesis$_{2b}$ (H_{2b}): There is a negative relationship between unconscious bias and psychological safety.

Hypothesis$_{2c}$ (H_{2c}): There is a negative relationship between unconscious bias and psychological availability.

Hypothesis$_{2d}$ (H_{2d}): There is a negative relationship between unconscious bias and vigour.

Hypothesis$_{2e}$ (H_{2e}): There is a negative relationship between unconscious bias and dedication.

Hypothesis$_{2f}$ (H_{2f}): There is a negative relationship between unconscious bias and absorption.

CHAPTER 4: RESEARCH METHODOLOGY AND DESIGN

4.1 Introduction

The purpose of this research was to determine the nature of the relationship between unconscious bias and organisational culture and unconscious bias and employee engagement. It employed a quantitative research methodology. Zikmund, Babin, Carr and Griffin (2009) defined quantitative research as "business research that addresses research objectives through empirical assessments that involve numerical measurement and analysis approaches" (p. 134). Based on the theoretical hypotheses model represented in Figure 1, a mono-method quantitative research methodology and design met these objectives.

4.2 Choice of Methodology

The choice of research philosophy is important to help understand the purpose of the research, it will also influence the research design (Johnson & Clark, 2006; Saunders & Lewis, 2012). Positivism is used when researchers want to observe the relationship between variables, and seek to generalise this relationship (Remenyi, Williams, Money, & Swartz, 1998). A positivism research philosophy was employed in this research as the researcher sought to measure the influence of the unconscious bias variable on organisational culture and employee engagement.

Deductive reasoning is used when the research attempts to draw conclusions based on the testing of a theoretical supposition (Zikmund et al., 2009). A deductive research approach was used as the research attempted to clarify and validate the theoretical model illustrated in Figure 1. Additionally, because this research attempted to determine the relationship between the variables of unconscious bias, organisational culture and employee engagement, it was explanatory in nature (Saunders & Lewis, 2012).

Saunders and Lewis (2012) emphasised the importance of choosing a research strategy that answered the hypotheses that had been formulated. The survey strategy supported both the deductive research approach and the quantitative methodology, in that conclusions were formulated from data collected through self-completed questionnaires directed at a sample (Creswell, 2003; Saunders & Lewis, 2012). The objective of this research was to determine the nature of the relationship between unconscious bias and organisational culture and unconscious bias and employee engagement. It has been hypothesised that these relationships will be negative and to test these hypotheses, a survey allowed the researcher to collect data in a quantitative manner and perform

statistical tests to prove/disprove the hypotheses defined (Saunders, Lewis, & Thornhill, 2009).

Because of time limitations, a cross-sectional time horizon was applied, where data was collected at a single point in time (Saunders & Lewis, 2012).

4.3 Population

Unconscious bias exists in all individual and groups, across all races and classes (Bohnet, 2016; Jost et al., 2009). Therefore, this study was not restricted by level of seniority (Tversky & Kahneman, 1974) and set out to study employees in South African organisations.

4.4 Unit of analysis

The units of analysis for this research was defined as the individuals to whom the survey questionnaires were administered. These individuals' unconscious bias as well as their perceptions of organisational culture and employee engagement formed part of the data units that were analysed.

4.5 Sampling method and size

Sampling allowed the researcher to collect data from a sub-group of the population since it is not often possible to test the entire population due to time, financial and logistical constraints (Saunders et al., 2009). The population had been defined as employees across all levels of seniority in South African organisations in both the private and public sector. A sample of this population was required to fulfil the objectives of the research (Saunders & Lewis, 2012).

Since a sample of the population defined above could not be determined randomly, as the sampling frame was not defined, a non-probability sampling technique was most appropriate (Saunders et al., 2009). The proposed research used a combination of purposive (judgemental) and snowball sampling methods. Purposive sampling is used in cases where the population will be selected based on certain characteristics (Zikmund et al., 2009). For this study, these characteristics were employees (irrespective of seniority) in South African organisations in the private and public sector. Because of the diverse sample specified, the sample can be described as heterogenous in nature (Saunders & Lewis, 2012). Since purposive sampling is often used in cases where sample sizes are small (Saunders et al., 2009), an additional non-probability sampling method in the form of snowball sampling was used. Snowball sampling allowed the

researcher to leverage off existing relationships that had been identified through purposive sampling (Saunders et al., 2009).

The sample size was driven by what one sought to uncover with the defined hypotheses and research objectives. A larger sample size translated into improved accuracy and a lower propensity for error in inferring the findings to the population (Saunders et al., 2009; Zikmund et al., 2009). Saunders et al. (2009) cautioned against selecting a sample that was too large as this may indicate that all relationships were statistically significant. Conversely, a too small sample size will render statistical tests insensitive (Saunders et al., 2009).

According to Saunders et al. (2009), a minimum sample size of 30 was required for statistical analyses. Since this research was concerned with determining the nature of the relationship between unconscious bias and organisational culture and unconscious bias and employee engagement, a statistical correlation analysis was performed. For correlation, the minimum sample size required for meaningful statistical analyses is 84 (Bujang & Baharum, 2016). Considering the likelihood that not all respondents completed the questionnaire, or some questionnaires were incomplete, the researcher employed a certain level of judgement and scaled this number by 2.5 to ensure a statistically relevant sample of 210 was targeted (Zikmund et al., 2009).

The research attempted to cover all major industries but as is the nature of non-probability sampling, the sample may not statistically represent each industry in the population (Saunders et al., 2009).

4.6 Measurement Instrument

4.6.1 Questionnaire Design

This research made use of a structured questionnaire as the data collection instrument. According to Saunders et al. (2009), questionnaires are aligned with research that is deductive and cross-sectional in nature. The use of a structured questionnaire allowed the researcher to collect quantitative data so that statistical analyses were performed to prove/disprove the research hypotheses specified in Chapter 3 (Zikmund et al., 2009).

A sample questionnaire is provided in Appendix A. The questionnaire was designed to be relevant and accurate such that it met the defined hypotheses and research objectives (Zikmund et al., 2009). The questionnaire had been structured in the following manner:

1. A preamble that introduces and describes the purpose of the study.
2. Part A: Demographic data. Although the research objective was not to make inferences on results based on demographics, demographic data provided the researcher with a useful way to present results, and potentially infer certain conclusions.
3. Part B: Questions 7 to 42 related to the construct of unconscious bias.
4. Part C: Questions 43 to 62 related to the construct of organisational culture.
5. Part D: Questions 63 to 92 related to the construct of employee engagement.

All questions were fixed-alternative questions which aided in data analysis (Zikmund et al., 2009). Because of the inexperience of the researcher, the questions in part B, C and D had been adapted from existing literature (Saunders & Lewis, 2012).

Part A questions were based on the Affect Misattribution Procedure (AMP) created by Payne et al. (2005). The AMP is a popular way to measure unconscious bias without measuring the latency (response time) between answers (Payne & Lundberg, 2014) and rather making use of projective measures where individuals are asked to evaluate vague photographs or symbols. The AMP also displayed an improved measure of reliability than other implicit measures (Payne & Lundberg, 2014). Indirect measures, a good indication of implicit attitudes (Gregg et al., 2006) are often required to measure implicit attitudes (Greenwald & Banaji, 1995; Marvel, 2016).

The test measures bias by subjecting respondents to a series of three images. The first image is called the prime message which induces either a positive or negative affective response. This image is then followed by an image of a Chinese symbol (the target), and then a patterned square. A neutral prime in the form of a grey square is also used. The patterned square serves as a visual mask (Payne & Lundberg, 2014). The test asks the respondent to make a dichotomous evaluation of the Chinese symbol as “less visually pleasing than average” or “more visually pleasing than average” (Payne et al., 2005, p. 280). The premise of the test is people will usually rate the Chinese symbol as positive following a positive prime or negative following a negative prime thus misattributing the evaluation of the prime onto the target (Payne et al., 2005). Therefore, when the effect of the prime influences the evaluation of the target, these influences are considered automatic. Twelve negative, 12 positive images and 12 neutral (grey square) images had been selected and presented to respondents based on images utilised by Payne et al. (2005). Prime images were procured from Pixabay (2018), a copyright free image database. Examples of positive primes included images of a family and bunnies whereas examples of negative primes included images of snakes and garbage. For a full list of

images used refer to Appendix B. Chinese characters were obtained from several online sources. Images used in questions seven and 28 were retrieved from Chan (2013), images used in questions eight to 16 were retrieved from Stripped Pixel (2015), images used in questions 18 to 25 were retrieved from Chinese Symbols (n.d.), images used in questions 26 and 27 were retrieved from Tom (2011) and images used in questions 17 and 29 to 42 were retrieved from Han Trainer Dictionary (n.d.). Prime images were presented to participants in a random order. Additionally, images were paired with 36 unique Chinese symbols arbitrarily. Participants were explicitly warned to avoid allowing the prime images to bias their appraisal of the Chinese symbols as they merely served as a warning. Greenwald and Banaji (1995) stated making individuals aware of attitudinal manipulation may potentially eliminate or even reverse the effect being measured. However, Payne et al. (2005) asserted any misattributions that persist despite a warning provide a solid indication of unconscious bias. Furthermore, in their study, they concluded the effect of bias persisted in both conditions of warning and no warning refuting the conclusions of Greenwald and Banaji (1995). The results of respondents were statistically analysed to determine the level of bias of each respondent. This will be discussed in more detail in Chapter 5 and Chapter 6.

The questions related to organisational culture were adapted from Sarros et al. (2005). Questionnaires used to measure organisational culture are effective for comparison across organisations and provide information about the norms of organisations (Denison et al., 2014). Sarros et al.'s (2005) questionnaire is based on the original Organisational Culture Profile (OCP) created by O'Reilly III, Chatman and Caldwell (1991). The OCP was an empirical approach to define the aspects that represent the diverse, distinctive and intricate nature of organisations' culture (O'Reilly III et al., 2014). The revised OCP is superior in that it is only one of a few organisational culture measures that include measures of reliability and validity (Sarros et al., 2005). Sarros et al. (2005) adapted the OCP to a Likert-type scale, attempting to overcome the limitations and complexities of the original OCP methodology. These questions had been further adapted by the researcher by selecting only those categories deemed applicable to this research. Sarros et al. (2005) used a 5-point Likert scale ranging from not at all to very much. Based on the questions adapted from the measurement instrument of organisational culture, the subscales of competitiveness, supportiveness, emphasis on rewards, performance orientation and stability were measured, each comprising four items (Sarros et al., 2005). The questions related to organisational culture can be described as a profiling instrument in that it encompasses different dimensions that are not comparable with each other. Furthermore, this instrument can be described as a "person-culture fit" (Denison et al.,

2014, p. 147) measure in that it seeks to determine the relationship between an individual and the organisation to which they belong in the context of culture (Denison et al., 2014).

Based on the literature review completed and the definitions of employee engagement by Kahn (1990) and Schaufeli et al. (2002), the researcher sought to measure employee engagement from both perspectives. As such the employee engagement scale developed by May et al. (2004) was used to measure employee engagement as defined by Kahn (1990) that measures meaningfulness, availability and safety. The scale is divided into three subscales that measured meaningfulness (six items), psychological safety (three items) and psychological availability (five items) (May et al., 2004). The Utrecht Work Engagement Scale (UWES), developed by Schaufeli et al. (2006) was used to measure employee engagement as defined by Schaufeli et al. (2002) that measured vigour, dedication and absorption. The UWES is one of the most popular measures of employee engagement (Bailey et al., 2017; Mackay et al., 2017; Schneider et al., 2018). The UWES is divided into three subscales that measured vigour (five items), dedication (five items) and absorption (six items) (Schaufeli et al., 2006). Questions related to employee engagement incorporated a 7-point Likert scale ranging from never to always.

Table 1 summarises the three constructs of unconscious bias, organisational culture and employee engagement as well as the observed variables and the questions that comprise each.

Table 1

Research Questionnaire – Constructs and Observed Variables

Constructs	Observed Variables	Questions
Unconscious Bias	Not Applicable	Questions 7-42
Organisational Culture	Competitiveness	Questions 43-46
	Supportiveness	Questions 47-50
	Emphasis on rewards	Questions 51-54
	Performance Orientation	Questions 55-58
	Stability	Questions 59-62
Employee Engagement	Meaningfulness	Questions 63-68
	Psychological Safety	Questions 69-71
	Psychological Availability	Questions 72-76
	Vigour	Questions 77-81
	Dedication	Questions 82-86
	Absorption	Questions 87-92

4.6.2 Pilot Testing

Saunders et al. (2009) recommended pilot testing the questionnaire to address data validity issues. Pilot testing ensured that respondents understood what was being asked of them. It also ensured meaningful data was collected for the research. A minimum of ten pilot tests is recommended for small to medium surveys (Saunders et al., 2009). The pre-testing process involved disseminating the questionnaire to 16 individuals in the researcher's network. The researcher requested feedback from each individual regarding the time taken to complete the questionnaire, the ease of understanding and any ambiguities regarding the questions. The main feedback was related to the unconscious bias construct when individuals did not expect the neutral prime of the grey square. The questionnaire also took slightly longer than originally estimated. In response to the feedback, the length of time to complete the questionnaire was adjusted in the preamble from 10-15 minutes to 15-20 minutes. Also, the preamble explaining the unconscious bias construct was clarified to notify participants to expect a real-life image or a grey square so as to prepare individuals for the grey square.

4.7 Data gathering process

The questionnaire was administered, and data was gathered through a web-based application called SurveyMonkey. The link to the questionnaire was disseminated to potential respondents via email, instant messaging platforms and social media. An internet-based questionnaire has the advantage in that it can reach a large sample in a cost-effective manner. It also promotes anonymity which may prompt a better response rate (Zikmund et al., 2009). The initial list of respondents was based on the researcher's network of contacts. Thereafter, the snowball sampling technique was used where the researcher leveraged the network of contacts identified and the link was forwarded to additional respondents.

The researcher ensured that proper etiquette was adhered to when disseminating the questionnaire to improve the response rate (Saunders et al., 2009). This included: (1) ensuring the due date of the survey was included in the introduction email and (2) following up with the initial network of respondents as a reminder to complete the survey a week prior to the due date.

Data was gathered for approximately four weeks and a total of 199 responses were received.

4.8 Analysis approach

Once data had been collected, it needed to be analysed to answer the research hypotheses defined in Chapter 3 (Saunders & Lewis, 2012). Raw data was downloaded off the web-based administration platform SurveyMonkey into a Microsoft Excel spreadsheet for analysis. Before coding, raw data was reviewed and revised to ensure "completeness, consistency, and legibility of data" (Zikmund et al., 2009, p.463). Individuals that responded in a consistent manner (all responses were pleasant, or all responses were unpleasant) to questions in part B (unconscious bias) of the questionnaire were eliminated from the statistical analyses (Payne & Lundberg, 2014). Data was imputed for item nonresponse. Imputing involved assigning an average value to missing data values. Since the questions based on unconscious bias were dichotomous in nature, an average could not be imputed. Therefore, questionnaires in which respondents did not complete all questions in part B were discarded. For questions in part C and part D, which were interval in nature, missing values were imputed by selecting the job role category and determining which job roles answered all questions. The average responses for each question in the applicable job roles was calculated. These responses were then assigned to the missing values. Questionnaires whose respondents answered less than 50% of the questions in part C and D were discarded. Discarded questionnaires ensured data reliability was preserved.

Since the questionnaire was structured and disseminated by making use of an online survey tool, data was coded automatically (Zikmund et al., 2009). A key was defined based on the coding to enable ease of understanding of responses. Saunders et al. (2009) recommended performing exploratory data analysis by displaying data into tables and graphs. This allowed the researcher to understand the data from a summarised perspective at an early stage in the process (Wegner, 2016). The data was then imported into statistical analysis tools IBM SPSS Statistics and AMOS for reliability and validity testing and quantitative analyses (Saunders & Lewis, 2012).

4.8.1 Data Reliability

Data reliability refers to whether another researcher will come to the same conclusions should the research be undertaken by someone else (Saunders & Lewis, 2012). A carefully designed and well-laid out questionnaire will aid in the reliability of the data obtained (Saunders et al., 2009). Data reliability is a prerequisite for data validity of a measurement instrument (Schriesheim, Powers, Scandura, Gardiner, & Lankau, 1993). Since the questionnaire developed for this research was based on previously used and

extensively tested questionnaires and procedures, this added to both the reliability and validity of the data that was collected. To deter uninformed responses (Saunders et al., 2009), the researcher had attempted to explain each construct of the questionnaire to the respondent. The reliability of the data can also be tested by making use of statistical measures of internal consistency like Cronbach's alpha (Saunders & Lewis, 2012; Zikmund et al., 2009). Internal consistency describes the correlation of different variables measuring a specific construct (Zikmund et al., 2009). The acceptable value of Cronbach's alpha can range from .70 to .95 (Tavakol & Dennick, 2011). Hair, Black, Babin and Anderson (2010) suggest values of between .60 to .70 are acceptable as the lower limit. Therefore, for the purposes of this study, a valid Cronbach's alpha will be any value greater than .70. The number of questions can affect the value of Cronbach's alpha – this was especially relevant for the construct of psychological safety that had only three variables (questions) measuring the construct and was considered when the Cronbach's alpha was generated. Since questions for this questionnaire had been adapted from previously developed questionnaires, all with acceptable Cronbach's alphas, this questionnaire was deemed reliable (May et al., 2004; Payne & Lundberg, 2014; Sarros et al., 2005; Schaufeli et al., 2006). However, to confirm the internal consistency of the constructs in the questionnaire, a Cronbach's alpha was measured for each item.

4.8.2 Data Validity

Data validity refers to whether the findings of the research answer the research hypotheses and objectives that have been set out (Saunders & Lewis, 2012). Zikmund et al. (2009) defined three types of validity that need to be evaluated to indicate the validity of the measurement instrument: content validity (where the content of the questionnaire covers the extent of the research), criterion validity (determines the correlation of the measure with other similar measures) and construct validity (where the questionnaire measures the constructs it sets out to measure) (Schriesheim et al., 1993).

Factor analysis was used to statistically determine the variables that contributed to the factors being tested. Since each of the constructs detailed in Table 1 are also comprised of lower-level items, factor analysis was performed on the observed variables as well as the higher-order constructs identified in Table 1. The statistical tool AMOS was used to perform factor analyses.

Exploratory factor analysis (EFA) making use of the principal component analysis method was conducted to confirm the number of factors that resulted from the variables being measured (Zikmund et al., 2009) and to determine whether it was appropriate to

proceed with factor analysis (Hair et al., 2010). Firstly, tests for correlation were conducted to ensure there was a correlation of at least .30 between variables. Secondly, the Bartlett test for sphericity was conducted to determine the statistical significance of the correlations observed among variables. Statistical significance indicates the correlation matrix is factorable (Beavers et al., 2013). For statistical significance, a significance value of less than .05 must be observed. Lastly, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was conducted to confirm the correlations between variables as well as the appropriateness of factor analysis. KMO values must be greater than .50 for factor analysis to continue (Hair et al., 2010).

Confirmatory factor analysis (CFA) was conducted to confirm the variables that have been defined measure the factor they set out to measure. CFA is a useful mechanism to confirm the construct validity of the measurement instrument (Sarros et al., 2005; Schriesheim et al., 1993; Zikmund et al., 2009). A one-factor CFA was conducted on each of the observed variables defined in Table 1. Thereafter, higher-order CFAs were conducted to determine the relationship between the constructs and the observed variables specified in Table 1. Factor loadings were analysed to determine the correlation of the variable to that factor. Higher loadings indicate a higher degree of association between a variable and its factor. Loadings with values greater than .50 are considered significant (Hair et al., 2010). The Chi-square probability was analysed to ascertain the statistical significance of the relationship between the factors and its underlying variables. A significance value of greater than .05 indicates statistical significance (Hair et al., 2010). Other indices to determine the goodness of fit of the model include the root mean square of approximation (RMSEA) where a value of less than .06 indicates a good fit, standardised root mean squared residual (SRMR) where a value off less than .08 indicates a good fit and the comparative fit index (CFI) where a value greater than .90 indicates a good fit (Hu & Bentler, 1999).

4.8.3 Descriptive Statistics

The next step in analysing the data was generating descriptive statistics. Descriptive statistics provided the researcher with additional numerical measures like central location measures (mean, median, mode) and measures of dispersion (standard deviation) (Wegner, 2016). Descriptive statistics facilitated a summarised view of the variables and allowed data to be presented in tabular and graphical methods so as to communicate data in a simplified manner (Zikmund et al., 2009). Data in part A of the research questionnaire was nominal (categorical) in nature and was represented as frequency table bar charts. Data in part C and part D of the research questionnaire was

interval in nature and was represented as histograms (Wegner, 2016; Zikmund et al., 2009).

4.8.4 Inferential Statistics (Hypotheses Testing)

To determine whether parametric or non-parametric tests should be applied, the data was evaluated to determine whether it was normally distributed. Since the data in the questionnaire developed for this research is numeric and the scale is interval, it was expected that data was normally distributed (Zikmund et al., 2009). The Kolmogorov-Smirnova and Shapiro-Wilk tests were conducted to test for normal distribution. A significance value greater than .05 indicates normally distributed data (Field, 2013). Contrary to expectations, the Kolmogorov-Smirnova and Shapiro-Wilk tests concluded that the data was not normally distributed therefore non-parametric tests were performed (refer to Appendix C: Kolmogorov-Smirnov and Shapiro-Wilk Test for Normality).

Tests for differences in sample means were conducted to determine if there were any statistically significant differences between the factors of gender, age, industry classification, job level and length of service. The purpose of a test for differences is to determine whether the samples have been extracted from the same population (Wegner, 2016). An independent samples *t*-test was conducted to evaluate the sample means between males and females. An independent samples *t*-test is used when comparing the means of two groups (Zikmund et al., 2009). Analysis of Variance (ANOVA) tests were conducted to evaluate the sample means between age category, industry classification, job level and length of service. ANOVA tests are conducted when comparing the means across more than two groups (Wegner, 2016; Zikmund et al., 2009).

The effect of the prime was evaluated by making use of Cohen's effect size (Payne et al., 2005). Effect size is one of the considerations in evaluating the likelihood of statistically significant relationships during hypotheses testing and whether the relationships observed are important (Hair et al., 2010). Small, medium and large effect sizes correspond to values of 0.10, 0.30 and 0.80 respectively (Cohen, 1992).

The core statistical analyses performed was that which validated the hypotheses set out in Figure 1. This research sought to determine the nature of the relationship between unconscious bias and organisational culture as well as unconscious bias and employee engagement. Since the relationship between two variables were tested, bivariate statistical analyses based on association was conducted (Zikmund et al., 2009). To understand these relationships, they needed to be both quantified and the strength of

the relationships needed to be determined. The most common bivariate analyses techniques to determine the association between two variables are correlation analysis and regression analysis. Regression analysis is a dependence technique that determines the relationship of an independent variable on a dependent variable while correlation analysis is an interdependence technique that determines the nature of the relationship between two variables (Zikmund et al., 2009). Therefore, to measure the strength of the relationship between unconscious bias and organisational culture as well as unconscious bias and employee engagement a Spearman's correlation analysis was performed (Field, 2013; Saunders et al., 2009; Wegner, 2016). Spearman's correlation analysis is an appropriate non-parametric test that measures the strength and direction of the relationship between two variables (Wegner, 2016; Zikmund et al., 2009).

4.9 Limitations

This research employed the non-probability sampling techniques of purposive and snowball sampling. A significant disadvantage of non-probability sampling techniques applicable to this study was there was a chance that the sample would not be indicative of the population – surveys were sent out to individuals in the researcher's network and similarly forwarded onto individuals in an extended network, all of whom could have been similar in nature (Wegner, 2016; Zikmund et al., 2009).

A limitation of the sample selected as well as the size of the sample is that it may not have allowed the researcher to generalise findings to the population – this was an important outcome for deductive research such as this (Zikmund et al., 2009).

A limitation of an internet-based questionnaire is it may have been prone to uninformed answers which may have impacted the reliability of data. The design of the questionnaire may have also been a limitation that rendered the data invalid or lowered the response rate (Saunders et al., 2009). Internet-based surveys on web-based applications may have rendered differently on different operating systems and electronic devices causing individuals to abandon the survey, lowering the response rate (Zikmund et al., 2009).

In generating descriptive statistics, some measures could have been distorted by outliers causing the researcher to reach incorrect conclusions (Wegner, 2016).

There are two key limitations of using questionnaires to measure organisational culture: (1) questionnaires are not able to delve into deeper cultural characteristics such as the underlying assumptions and the influence of symbolic elements, (2) there is an

assumption that an individual's response may remain relevant when data is aggregated to organisational levels (Denison et al., 2014).

The study on which the AMP is based employed the use of images from the International Affective Picture System (IAPS) database. These images are standardised and used in psychological research. While the researcher attempted to gain access to the IAPS, the access was limited in use as images could not be used on an internet-based survey. According to Fazio and Olson (2003), the strength of a priming measure is dependent on the mechanisms that are selected to serve as primes. A limitation of this study is the images were selected based on the discretion of the researcher and have not been normatively rated.

The AMP detailed by Payne et al. (2005) displayed the prime image for 75 ms and the Chinese symbol for 100 ms. Due to resource constraints, the way the survey was administered relied upon the respondent to move to the next image, instead of displaying the images for a specified period. Payne and Lundberg (2014) found when prime images were displayed for longer periods, prime affects persisted. However, when target images were presented for longer periods, the priming affect was decreased. Therefore, a limitation of this study is the time that respondents allowed themselves to view the prime and target images and the potential reduction in the misattribution effect as a result.

Because of resource and time constraints, this study was cross-sectional in nature (Saunders et al.,2009) therefore the relationships between the constructs could not be observed over different periods in time. Furthermore, two issues that arise in cross-sectional surveys are common method variance and the ability to conclude causal inferences. Common method variance refers to the errors introduced by making use of a single method of administering the survey or a single source to answer the survey. Individuals who are not familiar with the survey administration technique may introduce common method variance (Rindfleisch, Malter, Ganeson, & Moorman, 2008). Therefore, the cross-sectional nature of this study has introduced limitations that may influence the outcomes observed.

This study has relied on individuals' self-reports in answering the questionnaire. Self-reports may be prone to bias that arise when individuals want to represent themselves (and potentially their organisations) positively. This is particularly inherent in organisational behaviour studies such as this (Donaldson & Grant-Vallone, 2002). Therefore, the dependence on individuals' non-biased responses is a limitation.

CHAPTER 5: RESULTS

5.1 Introduction

Following the description of the methodology undertaken, this chapter will describe the sample and the results of the statistical analyses. Further detail will be provided around data transformations and commentary around the validity and reliability of each test will be provided. Limitations to each test will also be outlined.

The statistical analyses of the coded data were conducted using IBM SPSS Statistics and AMOS. Descriptive and inferential statistics were used to describe the sample and Spearman's correlation test was used to test the hypotheses.

5.2 Data Transformations

The data gathering process garnered a total of 199 responses with a completion rate of 60% (120 respondents). Respondents took 17 minutes, on average, to complete the questionnaire. Because of the dichotomous nature of the questions in part B (unconscious bias), where an average answer could not be computed, 82 respondents that did not complete this section was discarded. Three respondents that answered less than 50% of the questions for part C (organisational culture) and part D (employee engagement) were also discarded.

Data was imputed for 19 data points that had item nonresponses for respondents that answered more than 50%, but not 100% of the questions for part C and part D. Imputation was based on the average responses to all questions for part C and part D per job role category. The job role category was selected at the discretion of the researcher. Based on the responses to questions in part C and part D, four job roles had responses to all questions: staff, team lead, specialist and senior manager. The average response, per question in part C and part D and per job role was calculated. The average per question value was then assigned to item nonresponses. Thus, the final sample size for analysis was 104 (N = 104).

Because this study examined the relationship between unconscious bias and organisational culture and unconscious bias and employee engagement, only those respondents that displayed bias (based on the AMP score calculated in section 5.7.) were included in the sample for hypotheses testing. Respondents who answered with the same response on the unconscious bias section (only pleasant or only unpleasant)

were eliminated from the sample (Payne et al., 2005). This resulted in a reduced sample (*n* = 56) for hypotheses testing.

5.3 Description of the Sample

This section describes the sample based on the demographic information that was provided.

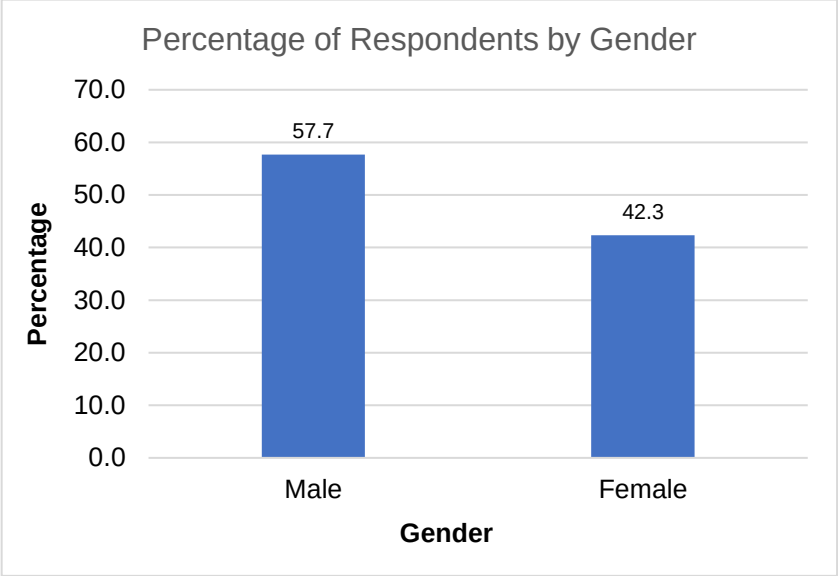


Figure 2. Percentage of respondents classified by gender.

Figure 2 describes the sample in terms of gender representation. The sample had a larger male (57.7%) than female representation (42.3%).

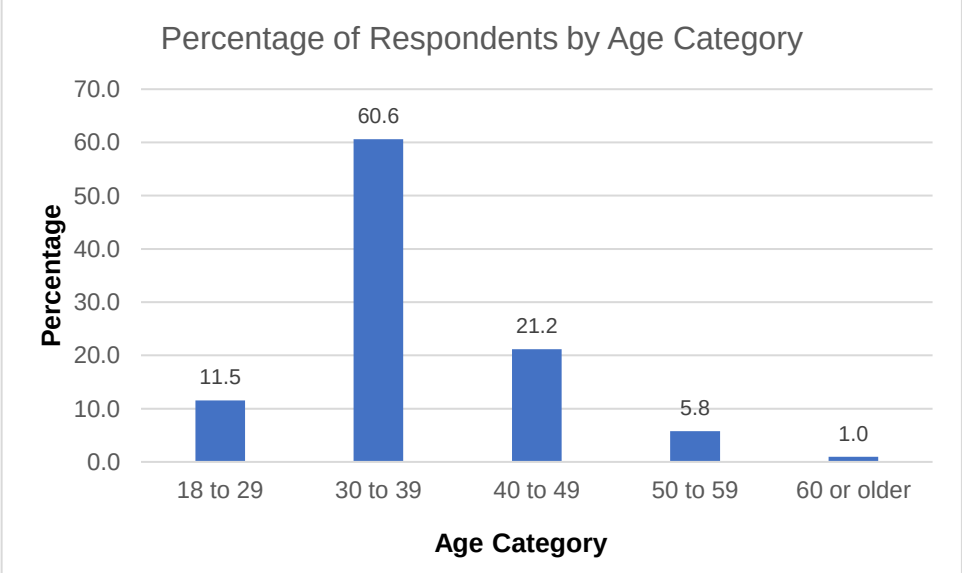


Figure 3. Percentage of respondents classified by age category.

Figure 3 describes the sample per age category. The sample was predominantly comprised of respondents in the 30-39 age category (60.6%), followed by the 40-49 age category at 21.2%. The lowest category comprised respondents in the 60 or older age category (1%).

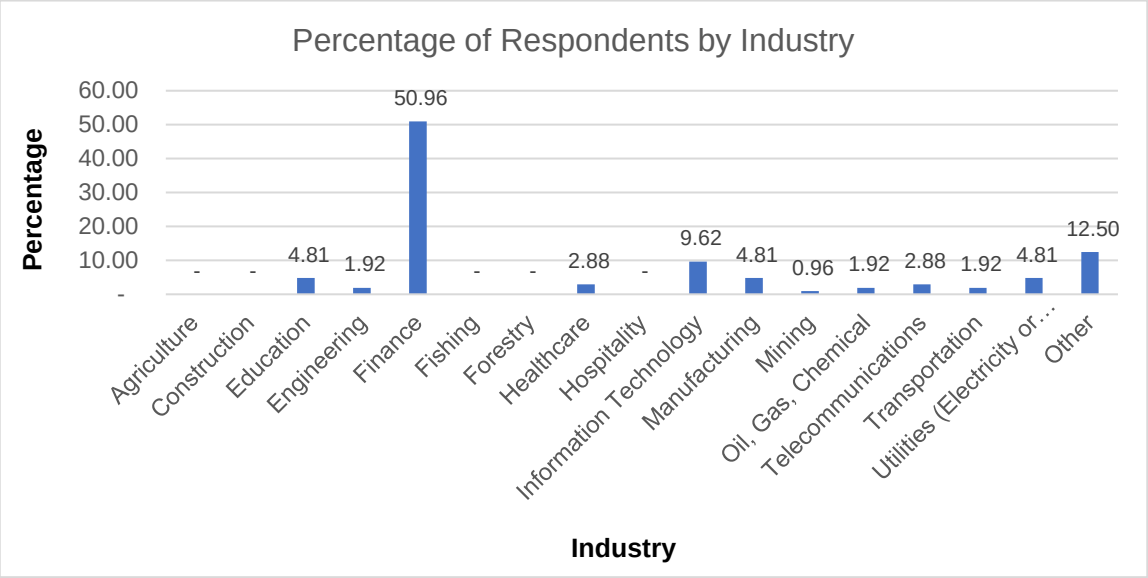


Figure 4. Percentage of respondents classified by industry.

Table 2

Frequency and Percentage of Respondents by Industry

Industry Options	Frequency[a]	Percent[b]
Agriculture	-	-
Construction	-	-
Education	5	4.81
Engineering	2	1.92
Finance	53	50.96
Fishing	-	-
Forestry	-	-
Healthcare	3	2.88
Hospitality	-	-
Information Technology	10	9.62
Manufacturing	5	4.81
Mining	1	0.96
Oil, Gas, Chemical	2	1.92
Telecommunications	3	2.88
Transportation	2	1.92
Utilities (Electricity or Water)	5	4.81
Other	13	12.50
Total	104.00	100.00

[a]Frequency count per industry classification.
[b]Percentage per industry classification.

Figure 4 and Table 2 describe the sample in terms of industry representation. The finance industry comprises the majority of the sample (50.96% or 53 respondents), followed by the other category (12.5% or 13 respondents). The industry with the lowest representation was mining (0.96% or one respondent) while the agriculture, construction, fishing and forestry industries had no representation in the sample (zero respondents). The predominant representation of the financial industry was not unexpected due to the sampling method used (judgemental and snowball sampling) and since the researcher belonged to the finance industry.

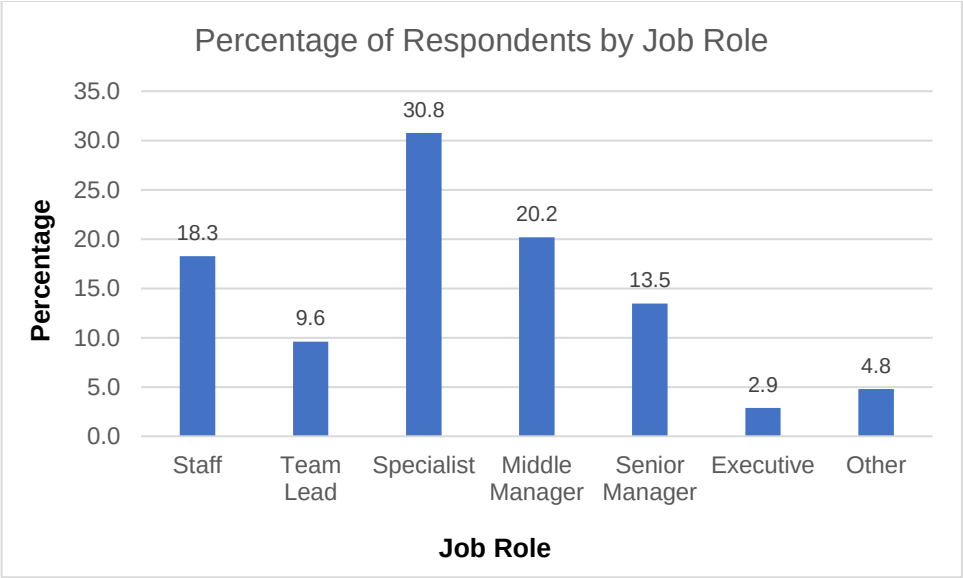


Figure 5. Percentage of respondents classified by job role.

Figure 5 illustrates the sample in terms of the job role category. The sample had a fair representation in five out of the seven job roles, with specialists comprising the largest percentage (30.8%) and executives comprising the smallest percentage (2.9%).

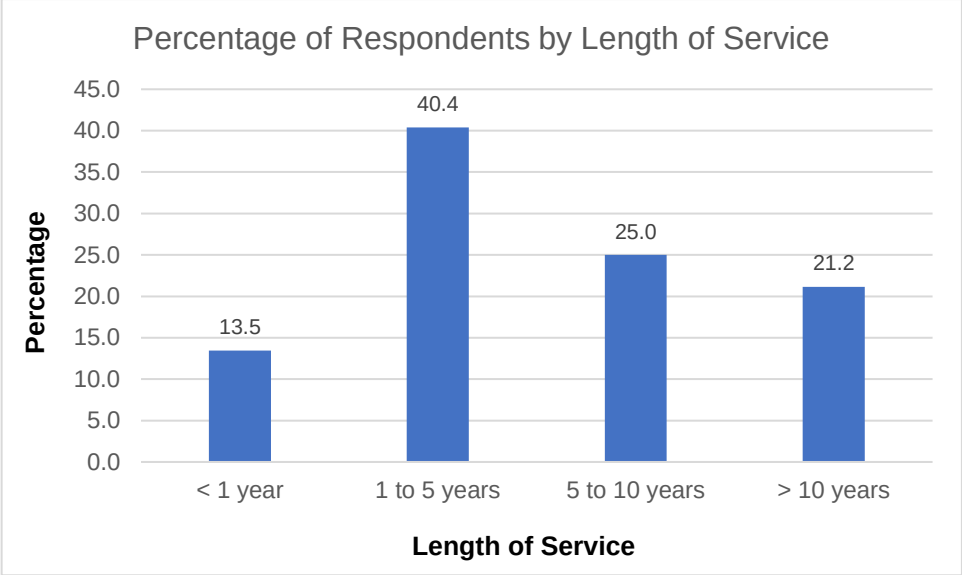


Figure 6. Percentage of respondents classified by length of service.

Figure 6 depicts the sample by the length of service of the respondents. The one to five-year category made up the largest portion of respondents (40.4%) while the less than one-year category made up the smallest portion of respondents (13.5%).

5.4 Reliability

The reliability of the data was tested using the statistical measure of internal consistency, Cronbach's alpha.

5.4.1 Unconscious Bias

Cronbach's alpha was calculated according to the methodology employed by Payne et al. (2005). As per the key defined, pleasant responses were coded with a +1 and unpleasant responses were coded with a +2. The unconscious bias questions were split into two halves, one half comprised of questions making use of pleasant primes (pleasant-prime questions) and the other half comprised of questions making use of unpleasant primes (unpleasant-prime questions). Twelve randomly selected respondents were selected from each half. From the random sample, the score on each unpleasant-prime question was subtracted from the score on each pleasant-prime question. This resulted in a table of 12 difference scores that could assume values of -1, 0 or +1 (Table 3). This table was imported into IBM SPSS and yielded a Cronbach's alpha of .77 as indicated in Table 4. This shows a high level of internal consistency.

Table 3

Bias Difference Scores for Cronbach's Alpha Calculation

T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
-1	0	1	-1	1	1	0	0	1	0	0	1
1	-1	1	0	0	1	1	0	0	0	0	0
1	-1	-1	-1	-1	-1	0	1	0	0	-1	0
0	-1	-1	-1	-1	-1	0	1	-1	-1	0	0
0	-1	1	0	0	0	0	1	0	0	0	0
1	1	0	0	0	1	1	0	0	0	1	0
0	-1	-1	-1	1	0	0	1	1	-1	0	0
0	0	0	0	0	0	0	0	1	0	1	0
1	-1	-1	-1	0	-1	0	-1	-1	-1	-1	0
1	1	0	-1	0	-1	0	0	-1	-1	0	1
1	-1	-1	-1	-1	-1	-1	-1	0	-1	-1	0
-1	0	0	0	-1	0	0	0	-1	-1	0	1

Table 4

Cronbach's Alpha: Unconscious Bias

	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
Unconscious Bias	0.77	0.77	12

5.4.2 Organisational Culture

Each observed variable and the organisational culture construct was evaluated for internal consistency. The results in Table 5 indicate a high level of internal consistency for each observed variable and the overall construct ($\alpha > .80$). The questions for organisational culture were adapted from Sarros et al. (2005) whose Cronbach's alpha ranged from .66 to .87 indicating consistency in reliability with the results presented in Table 5 and Sarros et al. (2005).

Table 5

Cronbach's Alpha: Organisational Culture

	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
Organisational Culture	0.94	0.94	20
Competitiveness	0.84	0.84	4
Supportiveness	0.90	0.90	4
Emphasis on rewards	0.89	0.89	4
Performance Orientation	0.82	0.82	4
Stability	0.84	0.84	4

5.4.3 Employee Engagement

Each observed variable and the employee engagement construct was evaluated for internal consistency. The results in Table 6 indicate a high level of internal consistency for each observed variable and the overall construct (α > .80). The questions for employee engagement were adapted from May et al. (2004) and Schaufeli et al. (2006). Cronbach's alpha for May et al. (2004) ranged from .71 to .90 while Cronbach's alpha for Schaufeli et al. (2006) ranged from .80 to .90. Therefore, there is consistency in reliability with the results presented in Table 6 and both May et al. (2004) and Schaufeli et al. (2006).

Table 6

Cronbach's Alpha: Employee Engagement

	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
Employee Engagement	0.96	0.96	30
Meaningfulness	0.96	0.96	6
Psychological Safety	0.82	0.82	3
Psychological Availability	0.87	0.88	5
Vigour	0.89	0.89	5
Dedication	0.92	0.92	5
Absorption	0.88	0.88	6

5.5 Validity

Confirmatory factor analysis (CFA) was conducted to confirm the construct validity of the measurement instrument by assessing model fit. Exploratory factor analysis (EFA) by

means of the correlation matrix, KMO measure of sampling adequacy and the Bartlett test for sphericity was conducted to validate the relationships between the variables observed.

5.5.1 Confirmatory Factor Analysis

Table 7

Model Fit Indices: Organisational Culture and Employee Engagement

Construct	SRMR	Chi-square Probability	CFI	RMSEA
Organisational Culture	.078	.000	**.875**	.104
Competitiveness	**.023**	**.222**	**.994**	.070
Supportiveness	**.010**	**.669**	**1.000**	**.000**
Emphasis on rewards	**.028**	.020	**.975**	.168
Performance Orientation	**.036**	**.070**	**.977**	.127
Stability	**.048**	.001	**.928**	.244
Employee Engagement	.076	.000	**.886**	.090
Meaningfulness	**.018**	.028	**.987**	.102
Psychological Safety	**.000**	-	**1.000**	.626
Psychological Availability	**.027**	**.228**	**.993**	.061
Vigour	.095	.000	**.905**	.260
Dedication	**.046**	.000	**.936**	.229
Absorption	**.054**	.000	**.921**	.167

Note. Variables that passed the respective tests are indicated in boldface.

Table 7 details the model fit indices for each observed variable as well as the constructs of organisational culture and employee engagement in its entirety. An SRMR value of less than .08 is indicative of a good fit (Hu & Bentler, 1999). The vigour variable (SRMR = .095), organisational culture construct (SRMR = .078) and employee engagement construct (SRMR = .076) failed the SRMR test for fit. A Chi-square probability value of greater than .05 indicates statistical significance (Hair et al., 2010). Only the competitiveness (χ^2 = .222), supportiveness (χ^2 = .669), performance orientation (χ^2 = .070) and psychological availability (χ^2 = .228) variables passed the Chi-square test for statistical significance. A CFI value of greater than .90 indicates a good fit (Hu & Bentler, 1999). All variables passed the CFI test for good fit (CFI > .90). A RMSEA value of less than .06 is indicative of a good fit (Hu & Bentler, 1999). Only the supportiveness variable (RMSEA = .000) passed the RMSEA test for fit.

To determine the correlation of each variables contribution to the factor, the factor loadings between each observed variable (factor) and its underlying questions and the organisational culture and employee engagement constructs were evaluated. Factor

loadings of greater than .50 are considered significant (Hair et al., 2010). Appendix C: Confirmatory Factor Analysis: Factor Loadings details the factor loadings of each observed variable as well as the overall organisational culture and employee engagement constructs. The organisational culture construct, as well as each observed variable showed a significant level of factor loadings. The factor loadings for employee engagement are adequate, however there were three loadings of less than .50 between vigour and one of its questions and between absorption and psychological safety and absorption and psychological availability.

Overall, the CFA confirms this model is not an adequate fit. Schmitt (2011) suggests EFA may also be used to assess factor loadings, especially when the CFA model is ill-fitting.

5.5.2 Exploratory Factor Analysis

An examination of the correlation matrix of the organisational culture and employee engagement observed variables revealed a correlation of at least .30 on all the observed variables (refer to Appendix C: Exploratory Factor Analysis: Correlation Matrices). This is the first confirmation that factor analysis is appropriate.

The results of the KMO measure of sampling adequacy and the Bartlett's test for sphericity are displayed in Table 8 and Table 9 for organisational culture and employee engagement, respectively.

Table 8

KMO and Bartlett's Results: Organisational Culture

	Kaiser-Meyer-Olkin Measure of Sampling Adequacy	Bartlett's Test of Sphericity		
		Approx. Chi-Square	*df*	*Sig.
Organisational Culture	.89	1485.88	190.00	.000
Competitiveness	.79	162.03	6.00	.000
Supportiveness	.82	256.95	6.00	.000
Emphasis on rewards	.80	234.76	6.00	.000
Performance Orientation	.77	149.74	6.00	.000
Stability	.72	177.63	6.00	.000

Note. 0.80 ≤ KMO ≤ 0.89 is Meritorious, 0.70 ≤ KMO ≤ 0.79 is Middling (Beavers et al., 2013).
*Significance at a 95% confidence level.

A KMO value that is greater than .50 indicates the model can proceed to factor analysis. The middling KMO values for competitiveness (KMO = .79), performance orientation (KMO = .77) and stability (KMO = .72) and meritorious KMO values for supportiveness (KMO = .82) and emphasis on rewards (KMO = .80) meet the criteria for factor analysis (Beavers et al., 2013). The overall KMO value of the organisational culture construct is .89. The Bartlett test for sphericity shows a Sig. value (*p*-value) of .000. The correlations observed in the correlation matrix are statistically significant (Sig. < .05). The results for the KMO and Bartlett's test indicated the variables that measure organisational culture could continue to factor analysis.

Table 9

KMO and Bartlett's Results: Employee Engagement

	Kaiser-Meyer-Olkin Measure of Sampling Adequacy	Bartlett's Test of Sphericity		
		Approx. Chi-Square	*df*	*Sig.
Employee Engagement	.91	2952.32	435.00	.000
Meaningfulness	.92	721.75	15.00	.000
Psychological Safety	.68	122.43	3.00	.000
Psychological Availability	.85	270.47	10.00	.000
Vigour	.80	368.24	10.00	.000
Dedication	.82	425.37	10.00	.000
Absorption	.83	332.78	15.00	.000

Note. 0.90 ≤ KMO ≤ 1.00 is Marvellous, 0.80 ≤ KMO ≤ 0.89 is Meritorious, 0.60 ≤ KMO ≤ 0.69 is Mediocre (Beavers et al., 2013).
*Significance at a 95% confidence level.

The mediocre KMO value for psychological safety (KMO = .68), the marvellous KMO value for meaningfulness (KMO = .92) and the meritorious KMO values for psychological availability (KMO = .85), vigour (KMO = .80), dedication (KMO = .82) and absorption (KMO = .83) meet the criteria for factor analysis (Beavers et al., 2013). The overall KMO value of the employee engagement construct is .91. The Bartlett test for sphericity shows a Sig. value (*p*-value) of .000. The correlations observed in the correlation matrix are statistically significant (Sig. < .05). The results for the KMO and Bartlett's test indicated the variables that measure employee engagement could continue to factor analysis.

The total variance explained details the cumulative percentage variance explained by a certain number of components and is based on the principal component extraction method. At least one component should be significant (eigenvalue > 1) (Hair et al., 2010)

for it to be extracted. At least one component was extracted and contributed significantly to the observed variables of organisational culture and employee engagement, see Appendix C: Exploratory Factor Analysis: Total Variance Explained.

Table 10 details the total variance explained for the organisational culture construct. Four components were extracted based on an eigenvalue > 1 that contributed to 70.69% of the variance.

Table 10

Total Variance Explained: Organisational Culture

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.73	48.65	48.66	9.73	48.66	48.66	4.78	23.88	23.88
2	2.18	10.89	59.54	2.18	10.89	59.54	4.05	20.26	44.13
3	1.18	5.92	65.46	1.19	5.92	65.46	3.13	15.66	59.80
4	1.05	5.23	70.69	1.05	5.23	70.69	2.18	10.89	70.69

Note. Extraction Method: Principal Component Analysis.

Table 11

Rotated Component Matrix: Organisational Culture

Rotated Component Matrix[a]				
	Component			
	1	2	3	4
Comp1		.769		
Comp2		.680		
Comp3		.623		
Comp4		.719		
Support1	.681			
Support2	.737			
Support3	.790			
Support4	.688			
EOR1	.667			
EOR2	.517			.551
EOR3				.839
EOR4	.644			.560

PO1		.730	
PO2	.634	.509	
PO3		.744	
PO4	.622		
Stabi1			.742
Stabi2			.735
Stabi3			.770
Stabi4			.707

Note. Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
[a]Rotation converged in 7 iterations.

Loadings of above .50 are considered acceptable, with loadings of .70 or greater generally considered strong (Beavers et al., 2013; Hair et al., 2010). The component loadings for the observed variables of organisational culture are detailed in Table 11. Four components were extracted. Component 3 loaded on the stability observed variable with loadings of greater than .70. Cross-loadings were observed on Component 2 which loaded on both competitiveness and performance orientation. Cross-loadings were also observed on Component 1 which loaded on both supportiveness and emphasis on rewards. Where one question loaded on two components, as in EOR4, the largest loading will be recognised. Therefore, EOR4 will load on component one.

The cross-loadings between competitiveness and performance orientation and supportiveness and emphasis on rewards can be explained by the original study that developed these constructs. Sarros et al. (2005) observed the highest correlations between competitiveness and performance orientation (.76) and supportiveness and emphasis on rewards (.80) when analysing the correlations between the observed variables of the organisational culture profile.

The face validity of the organisational culture observed variables is fair, with each variable generally loading on one component and all loadings with values greater than .50. Additionally, in assessing the total variance explained for each individual variable, only one component was extracted per variable (refer to Appendix C: Exploratory Factor Analysis: Total Variance Explained).

Table 12 details the total variance explained for the employee engagement construct. Five components were extracted based on an eigenvalue > 1 that contributed to 73.82% of the variance.

Table 12

Total Variance Explained: Employee Engagement

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	14.98	49.92	49.92	14.98	49.92	49.92	8.31	27.71	27.71
2	2.38	7.95	57.87	2.384	7.95	57.87	3.72	12.40	40.11
3	2.07	6.88	64.75	2.065	6.88	64.75	3.71	12.35	52.46
4	1.42	4.74	69.49	1.422	4.74	69.49	3.53	11.78	64.24
5	1.30	4.33	73.82	1.299	4.33	73.82	2.88	9.58	73.82

Note. Extraction Method: Principal Component Analysis.

Table 13

Rotated Component Matrix: Employee Engagement

Rotated Component Matrix[a]					
	Component				
	1	2	3	4	5
Mean1	0.827				
Mean2	0.831				
Mean3	0.834				
Mean4	0.866				
Mean5	0.893				
Mean6	0.781				
Psyc_saf1					0.741
Psyc_saf2					0.815
Psyc_saf3					0.760
Psyc_avail1			0.770		
Psyc_avail2			0.833		
Psyc_avail3			0.766		
Psyc_avail4			0.507		
Psyc_avail5			0.779		
Vig1	0.590			0.512	
Vig2	0.512				
Vig3				0.580	
Vig4				0.773	
Vig5				0.714	
Dedic1	0.658				
Dedic2	0.691				

Dedic3	0.789			
Dedic4	0.632			
Dedic5	0.591			
Absorp1		0.659		
Absorp2		0.659		
Absorp3			0.574	
Absorp4		0.640		
Absorp5		0.844		
Absorp6		0.868		

Note. Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
[a]Rotation converged in 7 iterations.

The component loadings for the observed variables of employee engagement are detailed in Table 13. Five components were extracted. Component 3 loaded onto psychological availability, Component 5 loaded onto psychological safety, Component 4 loaded onto vigour and Component 2 loaded onto absorption. Component 1 cross-loaded onto both meaningfulness and dedication suggesting these variables may be grouped together. Since these observed variables did not originate from the same study, their correlations could not be observed. However, their association may be explained through the theoretical foundation of social exchange theory on which employee engagement is explained. Social exchange theory explains the interdependence of relationships through the adherence of rules of exchange. When these rules are adhered to, employees will show increased dedication and commitment (Saks, 2006). In turn, Kahn's (1990) definition of meaningfulness explains a feeling of a return on investment. According to social exchange theory, when an employee perceives a return of investment, they will show increased dedication. Therefore, there is a relationship between meaningfulness and dedication. Despite the relationship between these variables, because they originate from different theoretical bases, and constructs, they will be measured separately.

The face validity of the employee engagement observed variables is fair, with each variable generally loading on one component and all loadings with values greater than .50. Additionally, in assessing the total variance explained for each individual variable, only one component was extracted per variable (refer to Appendix C: Exploratory Factor Analysis: Total Variance Explained).

In summary, the correlations between the variables are all greater than .30, the KMO values are greater than .50 and the Bartlett's test showed statistical significance, therefore, the results from exploratory factor analysis indicate the model is appropriate

for factor analysis. Additionally, none of the variables being measured will need to be removed from the analysis.

Since the EFA analysis passed the correlation, KMO and Bartlett's test and the face validity of the factor loadings were acceptable, this model is considered valid and will proceed to statistical testing.

5.6 Descriptive Statistics

This section describes the descriptive statistics of the organisational culture and employee engagement construct's observed variables. An average score is calculated for each observed variable by calculating the average of the responses to questions in that variable. Because data was imputed for item nonresponses, no responses were excluded from the descriptive statistics analyses. Therefore, the sample size, *N*, is 104 which is consistent with the sample size concluded in section 5.2. The frequency count of each average response is depicted on histograms. The numeric and percentage distribution of each response to the questions for each observed variable is detailed in Appendix C: Descriptive Statistics: Numeric and Percentage Frequency Distribution.

5.6.1 Organisational Culture

The questions that constituted the organisational culture construct were measured on a 5-point Likert scale ranging in value from 0 to 4. Therefore, the maximum possible average score is 4, while the minimum possible average score is 0.

5.6.1.1 Competitiveness

Table 14 details the descriptive statistics of the competitiveness observed variable. The questions that measured competitiveness sought to determine the level of competitiveness perceived by an individual in relation to their organisation. The overall average score (M = 3.18) of competitiveness indicates respondents believed their organisations to be considerably competitive.

Table 14

Descriptive Statistics: Competitiveness

	N	Minimum	Maximum	Mean	Std. Deviation
Q43: To what extent is your organisation oriented towards achievement?	104	0.00	4.00	3.26	0.90
Q44: To what extent does your organisation have an emphasis on quality?	104	1.00	4.00	3.24	0.86
Q45: To what extent is your organisation considered being distinct – i.e. being different from others?	104	1.00	4.00	2.98	0.93
Q46: To what extent is your organisation considered competitive?	104	0.00	4.00	3.23	0.96
Competitiveness Score	104	0.50	4.00	3.18	0.75

Figure 7 depicts the histogram of the competitiveness observed variable. The histogram shows a negatively-skewed, unimodal shape. Therefore, more than half of the sample (61 out of 104) individuals perceived their organisations to be considerably to very much competitive. Since the median is the most appropriate central measure in skewed distributions (Wegner, 2016), the median (*Mdn* = 3.50) confirms this.

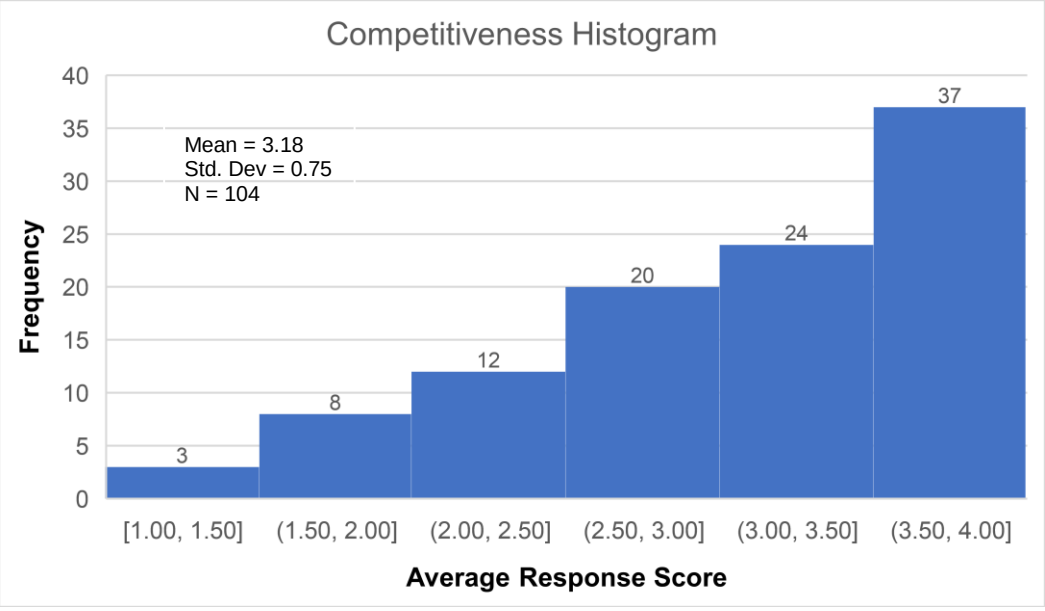


Figure 7. Competitiveness histogram.

5.6.1.2 Supportiveness

Table 15 details the descriptive statistics of the supportiveness observed variable. The questions that measured supportiveness sought to determine the degree to which an individual perceived their organisation to be collaborative and people-oriented. The overall average score (*M* = 2.61) of supportiveness indicates respondents believed their organisations to be between moderately to considerably supportive.

Table 15

Descriptive Statistics: Supportiveness

	N	Minimum	Maximum	Mean	Std. Deviation
Q47: To what extent is your organisation considered team-oriented?	104	0.00	4.00	2.83	1.04
Q48: To what extent does your organisation share information freely?	104	0.00	4.00	2.34	1.00
Q49: To what extent is your organisation considered people-oriented?	104	0.00	4.00	2.71	1.08
Q50: To what extent does your organisation display collaboration?	104	0.00	4.00	2.57	1.05
Supportiveness Score	104	0.00	4.00	2.61	0.91

Figure 8 depicts the histogram of the supportiveness observed variable. The histogram shows a slightly negatively-skewed, unimodal shape. The standard deviation (*SD* = 0.91) confirms the data is dispersed around the mean.

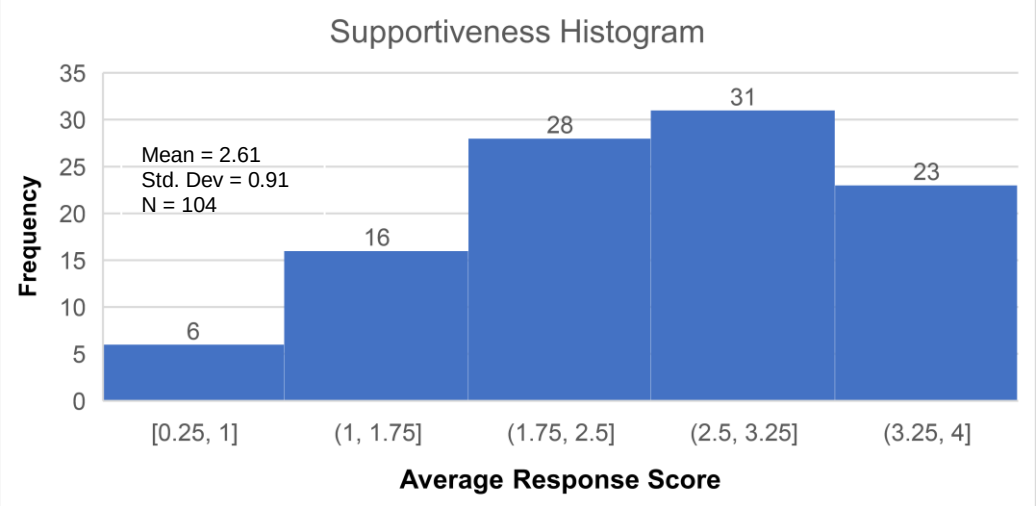


Figure 8. Supportiveness histogram.

5.6.1.3 Emphasis on Rewards

Table 16 details the descriptive statistics of the emphasis on rewards observed variable. The questions that measured emphasis on rewards sought to determine whether an individual perceived their organisation to be focussed on rewards, both from a monetary and developmental perspective. The overall average score (*M* = 2.35) of emphasis on rewards indicates respondents believed their organisations to be between moderately to considerably focussed on rewards. This is confirmed by the mode of 3 and the median of 2.5.

Table 16

Descriptive Statistics: Emphasis on Rewards

	N	Minimum	Maximum	Mean	Std. Deviation
Q51: To what extent is your organisation considered fair?	104	0.00	4.00	2.37	1.05
Q52: To what extent does your organisation display opportunities for professional growth?	104	0.00	4.00	2.37	1.09
Q53: To what extent does your organisation display high pay for good performance?	104	0.00	4.00	2.32	1.16
Q54: To what extent does your organisation display praise for good performance?	104	0.00	4.00	2.37	1.17
Emphasis on Rewards Score	104	0.00	4.00	2.35	0.97

The histogram in Figure 9 indicates a bi-modal distribution. Despite a high mode, the majority of responses (58 out of 104) fall below the median value (*Mdn* = 2.5) deflating the mean. Distributions that are bi-modal indicate the sample is not homogenous. Ideally, samples like this should be separated into sub-samples, based on some factor that influences the data (Wegner, 2016). However, the tests for difference explained in section 5.8 indicate no statistically significant difference in means, therefore the sample will not be sub-divided for further statistical tests.

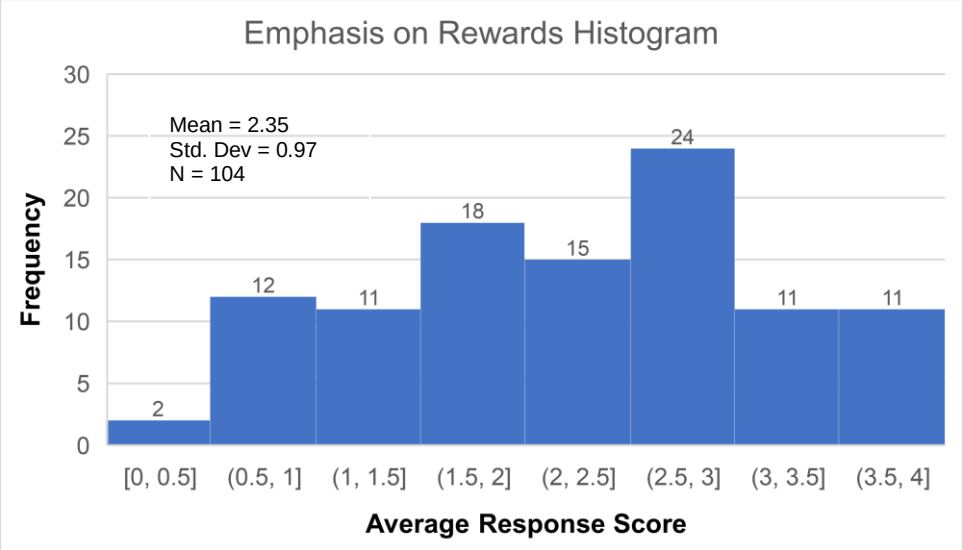


Figure 9. Emphasis on rewards histogram.

5.6.1.4 Performance Orientation

Table 17 details the descriptive statistics of the performance orientation observed variable. The questions that measured performance orientation sought to determine the level with which an individual perceived their organisation to be orientated toward performance, both from a job and organisational perspective. The overall average score (*M* = 2.87) of performance orientation indicates respondents believed their organisations to be considerably focussed on performance. This is confirmed by the mode of 3 and the median of 3.

Table 17

Descriptive Statistics: Performance Orientation

	N	Minimum	Maximum	Mean	Std. Deviation
Q55: To what extent does your organisation have high expectations for performance?	104	0.00	4.00	3.23	0.84
Q56: To what extent does your organisation display enthusiasm for the job?	104	0.00	4.00	2.65	0.93
Q57: To what extent does your organisation emphasise being results oriented?	104	0.00	4.00	3.16	0.96
Q58: To what extent does your organisation display being highly organised?	104	0.00	4.00	2.45	1.09
Performance Orientation Score	104	0.00	4.00	2.87	0.77

The histogram in Figure 10 depicts a negatively skewed distribution, with the majority of average responses falling to the right of the mean.

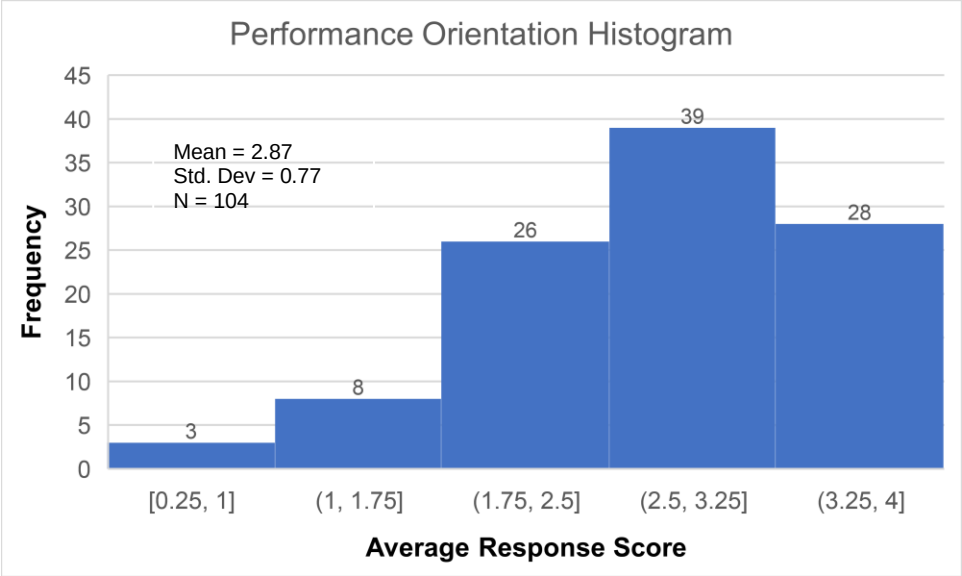


Figure 10. Performance orientation histogram.

5.6.1.5 Stability

Table 18 details the descriptive statistics of the stability observed variable. The questions that measured stability sought to determine the degree of stability perceived by an individual of their organisation, from an employment and conflict perspective. The average overall score (*M* = 2.47) of stability indicates respondents believed their organisations to be moderately to considerably stable.

Table 18

Descriptive Statistics: Stability

	N	Minimum	Maximum	Mean	Std. Deviation
Q59: To what extent does your organisation display stability?	104	0.00	4.00	2.65	1.07
Q60: To what extent does your organisation display being calm?	104	0.00	4.00	2.52	0.99
Q61: To what extent does your organisation indicate security for employment?	104	0.00	4.00	2.54	1.04
Q62: To what extent does your organisation display low conflict?	104	0.00	4.00	2.16	1.02
Stability Score	104	0.00	4.00	2.47	0.85

The histogram in Figure 11 shows a somewhat symmetrical distribution, with a slight negative skew. This is confirmed by the median of 2.5 which is close to the *M* = 2.47. However, the mode of 2.75 confirms the negative skewness displayed in the histogram.

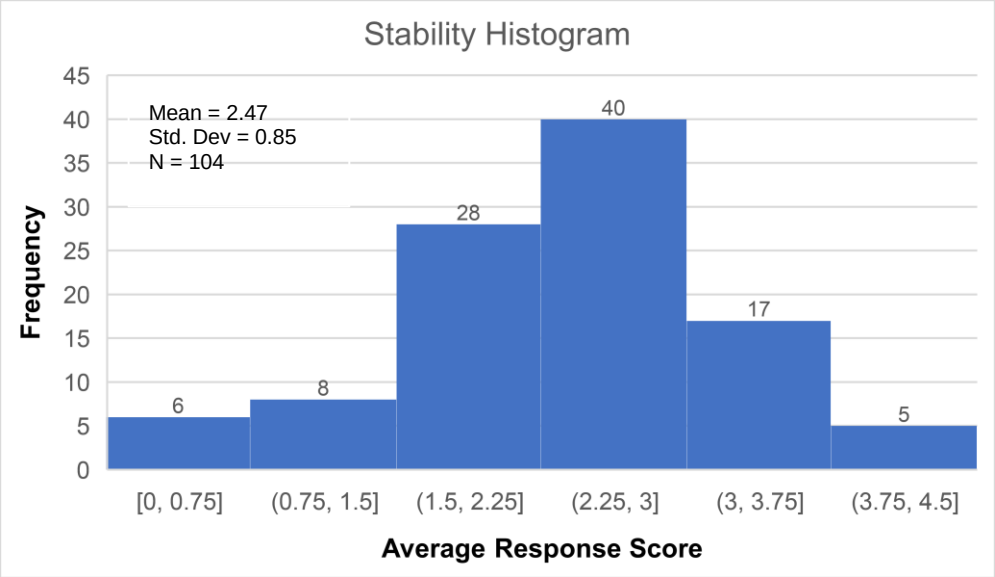


Figure 11. Stability histogram.

5.6.2 Employee Engagement

The questions that constituted the employee engagement construct were measured on a 7-point Likert scale ranging in value from 0 to 6. Therefore, the maximum possible average score is 6, while the minimum possible average score is 0.

5.6.2.1 Meaningfulness

Table 19 details the descriptive statistics of the meaningfulness observed variable. The questions that measured meaningfulness sought to determine the degree of meaning and value an individual perceived toward their work and job. The overall average score (*M* = 4.36) of meaningfulness indicates respondents believed their work and jobs were often to very often meaningful.

In analysing the histogram in Figure 12, the distribution is multi-modal in nature, with three peaks. The standard deviation is high (*SD* = 1.19), with a mode of 6 and *Mdn* = 4.3. All these values confirm the distribution of the histogram, as well as the high dispersion around the mean. The tests for difference explained in section 5.8 indicate no statistically significant difference in means, therefore the sample will not be sub-divided for further statistical tests, despite its multi modal nature.

Table 19:

Descriptive Statistics: Meaningfulness

	N	Minimum	Maximum	Mean	Std. Deviation
Q63: The work I do on this job is very important to me	104	0.00	6.00	4.53	1.29
Q64: My job activities are personally meaningful to me	104	0.00	6.00	4.15	1.40
Q65: The work I do on this job is worthwhile	104	1.00	6.00	4.41	1.23
Q66: My job activities are significant to me	104	0.00	6.00	4.21	1.29
Q67: The work I do on this job is meaningful to me	104	0.00	6.00	4.23	1.37
Q68: I feel that the work I do on my job is valuable	104	1.00	6.00	4.61	1.18
Meaningfulness Score	104	0.33	6.00	4.36	1.19

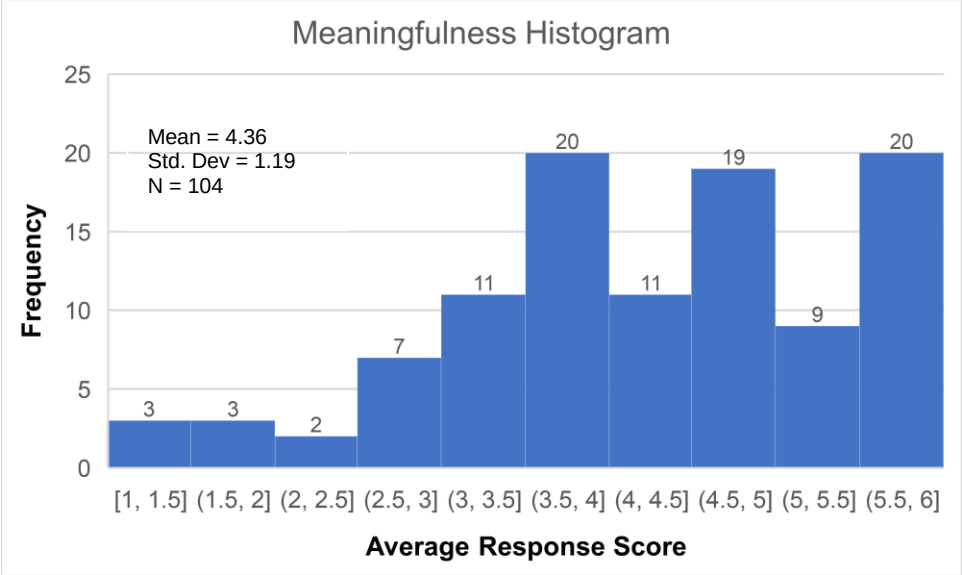


Figure 12. Meaningfulness histogram.

5.6.2.2 Psychological Safety

Table 20 details the descriptive statistics of the psychological safety observed variable. The questions that measured psychological safety sought to determine whether an individual felt safe at work. The overall average score (*M* = 4.36) of psychological safety indicates respondents believed they were often to very often safe to express themselves in their work environment.

Table 20

Descriptive Statistics: Psychological Safety

	N	Minimum	Maximum	Mean	Std. Deviation
Q69: I'm not afraid to be myself at work	104	0.00	6.00	4.43	1.44
Q70: I am not afraid to express my opinions at work	104	1.00	6.00	4.35	1.35
Q71: There is a safe environment at work	104	1.00	6.00	4.29	1.34
Psychological Safety Score	104	0.67	6.00	4.36	1.18

The histogram in Figure 13 illustrates a dispersed distribution. This is confirmed by the high standard deviation (*SD* = 1.13). Other central location measures (*Mdn* = 4.33) and mode = 4.33, are values close to the mean (*M* = 4.36), which could indicate a normal distribution, where the mean, median and the mode are equal (Wegner, 2016). However, the histogram shows a long tail to the left, indicating the value of the mean is deflated by the relatively large number of smaller average responses (40 respondents' average scores were less than the median).

Figure 13. Psychological safety histogram.

5.6.2.3 Psychological Availability

Table 21 details the descriptive statistics of the psychological availability observed variable. The questions that measured psychological availability sought to determine whether an individual felt they could handle the demands of work. The overall average

score (*M* = 4.84) of psychological availability indicates respondents believed they were often to very often psychologically available to meet the demands they were faced with at work.

Table 21

Descriptive Statistics: Psychological Availability

	N	Minimum	Maximum	Mean	Std. Deviation
Q72: I am confident in my ability to handle competing demands at work	104	2.00	6.00	4.86	0.91
Q73: I am confident in my ability to deal with problems that come up at work	104	1.00	6.00	4.88	1.02
Q74: I am confident in my ability to think clearly at work.	104	0.00	6.00	4.92	0.99
Q75: I am confident in my ability to display the appropriate emotions at work	104	1.00	6.00	4.53	1.16
Q76: I am confident that I can handle the physical demands at work	104	0.00	6.00	5.00	1.00
Psychological Availability Score	104	0.80	6.00	4.84	0.83

Figure 14 depicts the histogram of the psychological availability observed variable. The distribution is negatively skewed with very few small average responses. This is confirmed by the mode of 5 and the median of 5, which are greater than (*M* = 4.84).

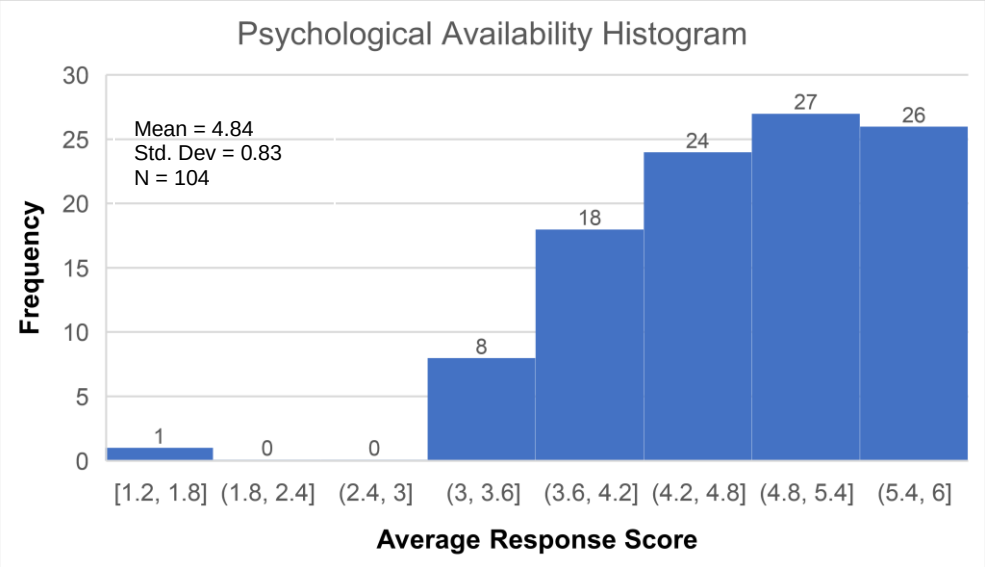


Figure 14. Psychological availability histogram.

5.6.2.4 Vigour

Table 22 details the descriptive statistics of the vigour observed variable. The questions that measured vigour sought to determine whether an individual felt energised about work and could persevere in difficult times. The overall average score (*M* = 4.18) of vigour indicates respondents believed they were often to very often energised about their work.

Table 22

Descriptive Statistics: Vigour

	N	Minimum	Maximum	Mean	Std. Deviation
Q77: At my work, I feel bursting with energy	104	0.00	6.00	3.81	1.17
Q78: At my job, I feel strong and vigorous	104	0.00	6.00	3.97	1.23
Q79: When I get up in the morning, I feel like going to work	104	0.00	6.00	3.63	1.44
Q80: At my job, I am very resilient, mentally	104	2.00	6.00	4.61	1.01
Q81: At my work, I always persevere, even when things do not go well	104	1.00	6.00	4.86	1.12
Vigour Score	104	0.60	6.00	4.18	1.00

The histogram in Figure 15 shows a normal distribution of data. This is confirmed by the mode of 4 and the median of 4.2 although the standard deviation (*SD* = 1) indicates the data is dispersed around the mean.

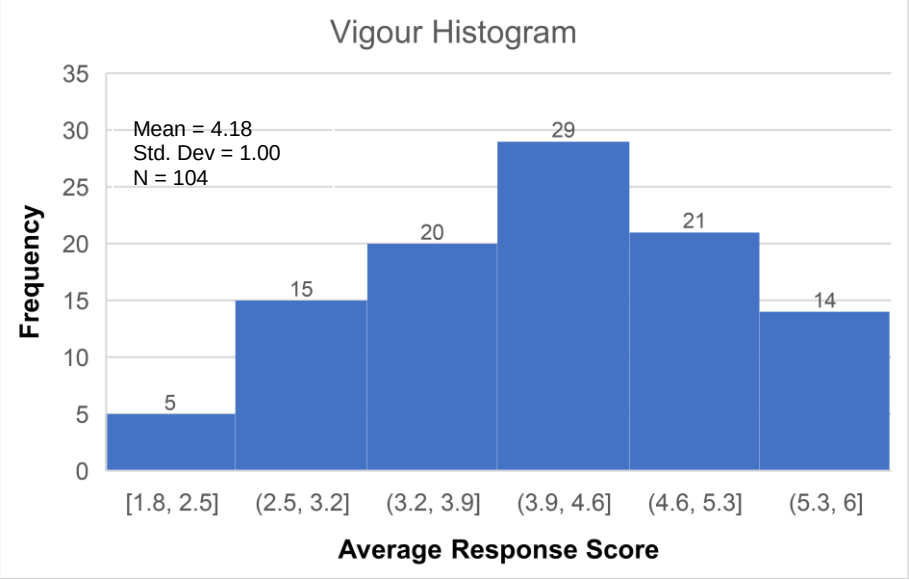


Figure 15. Vigour histogram.

5.6.2.5 Dedication

Table 23 details the descriptive statistics of the dedication observed variable. The questions that measured dedication sought to determine the level of dedication an individual had given to their job. The overall average score (*M* = 4.29) of dedication indicates respondents believed they were often to very often dedicated to their work.

The histogram in Figure 16 shows a negatively skewed bi-modal distribution. The bi-modal shape is supported by the mode of 6, which introduces the second peak to the histogram, despite a median of 4.2.

Table 23

Descriptive Statistics: Dedication

	N	Minimum	Maximum	Mean	Std. Deviation
Q82: I find the work that I do full of meaning and purpose	104	2.00	6.00	4.28	1.18
Q83: I am enthusiastic about my job	104	0.00	6.00	4.25	1.44
Q84: My job inspires me	104	0.00	6.00	4.08	1.43
Q85: I am proud of the work that I do	104	0.00	6.00	4.60	1.26
Q86: To me, my job is challenging	104	0.00	6.00	4.22	1.57
Dedication Score	104	0.40	6.00	4.29	1.20

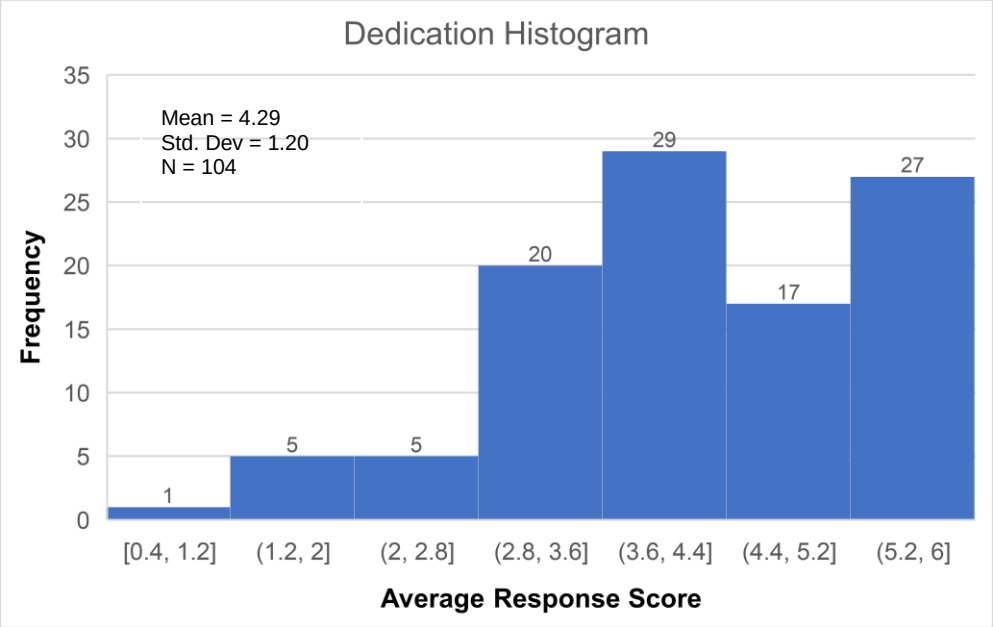


Figure 16. Dedication histogram.

5.6.2.6 Absorption

Table 24 details the descriptive statistics of the absorption observed variable. The questions that measured absorption sought to determine the degree with which an individual becomes immersed in their job. The overall average score (*M* = 3.92) of absorption indicates respondents believed they were sometimes absorbed in their work.

The negatively skewed distribution in Figure 17 is supported by the mode of 3.83 and the median of 3.83, with the majority of responses falling below the median, deflating the mean.

Table 24

Descriptive Statistics: Absorption

	N	Minimum	Maximum	Mean	Std. Deviation
Q87: Time flies when I am working	104	0.00	6.00	4.39	1.35
Q88: When I am working, I forget everything else around me	104	0.00	6.00	3.76	1.38
Q89: I feel happy when I am working intensely	104	1.00	6.00	4.56	1.23
Q90: I am immersed in my work	104	1.00	6.00	4.10	1.30
Q91: I get carried away when I am working	104	0.00	6.00	3.75	1.43
Q92: It is difficult to detach myself from my job	104	0.00	6.00	2.97	1.63
Absorption Score	104	0.33	6.00	3.92	1.10

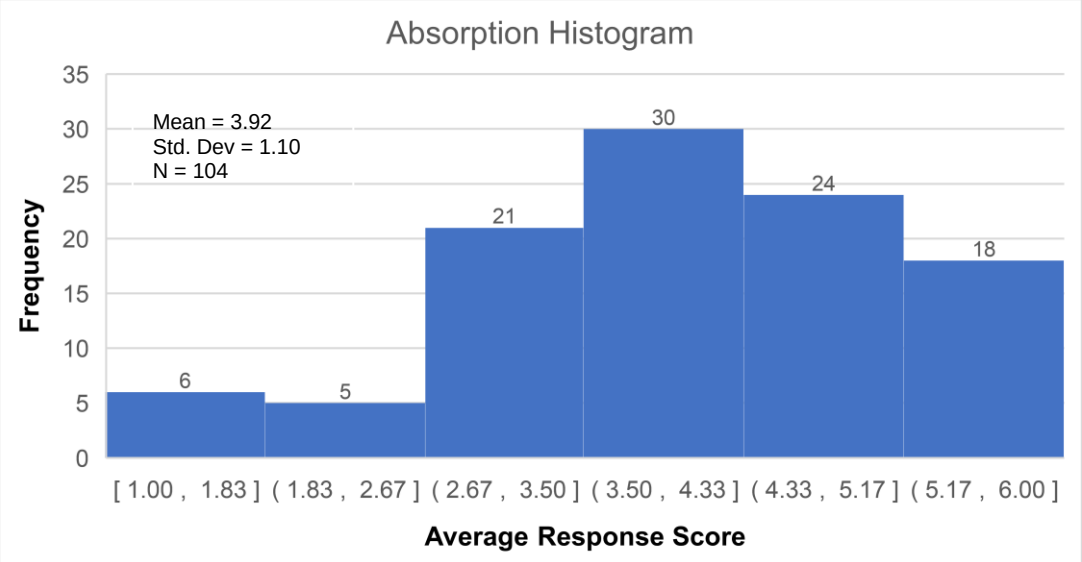


Figure 17. Absorption histogram.

5.7 Affect Misattribution Procedure Score

To determine the bias of respondents, an Affect Misattribution Procedure Score (AMPS) is calculated. The AMP score measured respondents' attitudes toward the prime images by subtracting the fraction of pleasant responses in questions that made use of pleasant primes from the fraction of pleasant responses in questions that made use of unpleasant primes (Cooley, Payne, & Phillips, 2014), as indicated by Equation 1.

$$AMPS = Pleasant\_Resp\_Pleasant\_Ques - Pleasant\_Resp\_Unpleasant\_Ques$$

Equation 1. AMPS Score

The priming affect was not effective in inducing bias to the sample. Figure 18 depicts the proportion of pleasant responses to pleasant images (53%) and the proportion of pleasant responses to unpleasant images (62%), resulting in an AMP score of negative 0.09. This indicates 62% of individuals responded in a prime inconsistent manner by responding to a prime image as pleasant following an unpleasant prime, rather than pleasant following a pleasant prime.

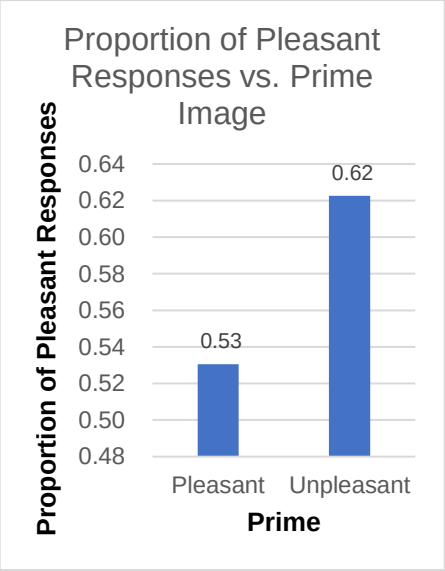


Figure 18. Proportion of pleasant responses with respect to prime images.

The effect of the prime was evaluated by making use of Cohen's effect size. The methodology employed by Payne et al. (2005) was used to calculate the effect size by subtracting the fraction of pleasant responses in questions that made use of pleasant primes from the fraction of pleasant responses in questions that made use of unpleasant primes and dividing this by the pooled standard deviation. This resulted in an effect size of -0.24 which indicates no effect. This is consistent with the AMP score result. In separating the samples into prime consistent and prime inconsistent groups, the Cohen's

effect size was calculated as 0.54 for the prime consistent group and -0.14 for the prime inconsistent group.

5.8 Tests for Differences

Tests for differences in sample means were conducted to confirm whether there were any statistically significant differences in the AMP score, organisational culture score or employee engagement score in the categories of gender, age, industry, job level or length of service. The organisational culture and employee engagement scores were calculated by taking an average of the average observed variable scores.

To determine whether there was a statistically significant difference in means by gender, an independent samples *t*-test was conducted. Levene's test to determine whether homogeneity of variances existed was conducted. The results revealed no statistical significance across all three variables ($p > 0.05$). Therefore, homogeneity of variances existed, and equal variances were assumed. The results of the *t*-test revealed no difference between the means of males and females for AMP score, organisational culture or employee engagement that were statistically significant (refer to Appendix C: Tests for Differences).

To determine whether there was a statistically significant difference in means by age, industry, job level and length of service, ANOVA tests were conducted. The results of each ANOVA test revealed no differences in means in each of the categories for AMP score, organisational culture or employee engagement that were statistically significant (refer to Appendix C: Tests for Differences).

Therefore, the tests for differences confirm the samples have been extracted from the same population (Wegner, 2016).

5.9 Statistical Hypotheses Results

Spearman's correlation tests were conducted to determine the relationship between unconscious bias and the organisational culture construct and unconscious bias and the employee engagement construct as well as the relationship between unconscious bias and each of the observed variables of organisational culture and employee engagement. Because this study focussed on unconscious bias, individuals that exhibited bias (individuals that responded in a prime-consistent manner) were isolated from the sample for the purposes of the statistical hypotheses testing. This translated into a sample (*n*) of

56. The mean scores of the constructs and observed variables for this reduced sample is detailed in Table 25 and Table 26.

Table 25

Organisational Culture Mean Scores: Reduced Sample

Construct/Observed Variable	Mean Score
Competitiveness	3.17
Supportiveness	2.58
Emphasis on rewards	2.30
Performance Orientation	2.89
Stability	2.38
Organisational culture	2.67

Table 26

Employee Engagement Mean Scores: Reduced Sample

Construct/Observed Variable	Mean Score
Meaningfulness	4.36
Psychological safety	4.36
Psychological availability	4.77
Vigour	4.20
Dedication	4.22
Absorption	3.76
Employee engagement	4.28

The following sections describe the results of the statistical hypotheses tests.

5.9.1 Results for the Primary Hypotheses

H_0: There is no relationship between unconscious bias and organisational culture.

H_1: There is a negative relationship between unconscious bias and organisational culture.

Table 27

Correlation Results: Unconscious Bias and Organisational Culture

Correlations				
			AMP_Score	OC
Spearman's rho	AMP_Score	Correlation Coefficient	1.000	-.089
		Sig. (2-tailed)		.516

	n	56	56

Correlation analysis revealed there was a weak, negative relationship between unconscious bias and organisational culture ($r < 0$). However, this relationship was not statistically significant (Sig. > 0.05). This result rejected the alternate hypothesis in support of the null hypothesis i.e. there is no relationship between unconscious bias and organisational culture. This is supported by the scatter plot in Figure 19.

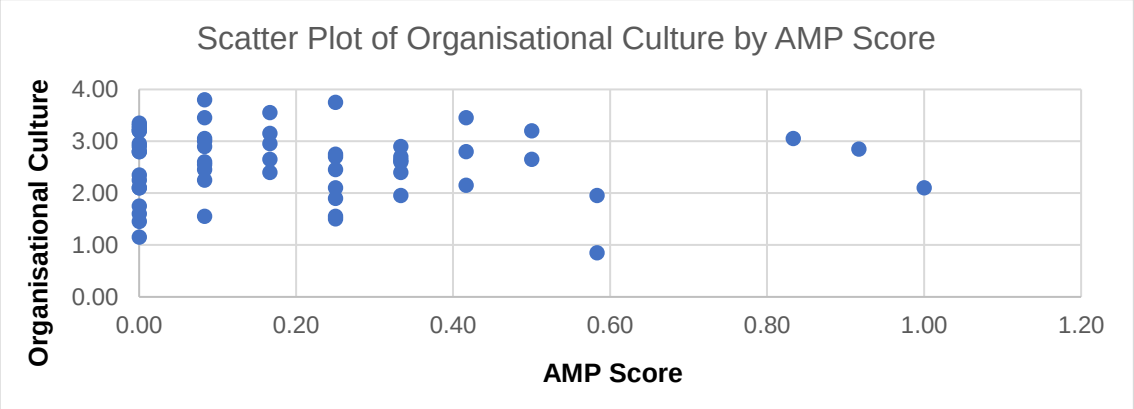


Figure 19. Scatter plot of organisational culture versus AMP score.

H_0: There is no relationship between unconscious bias and employee engagement.

H_2: There is a negative relationship between unconscious bias and employee engagement.

Table 28

Correlation Results: Unconscious Bias and Employee Engagement

Correlations				
			AMP_Score	EE
Spearman's rho	AMP_Score	Correlation Coefficient	1.000	-.076
		Sig. (2-tailed)		.578
		n	56	56

Correlation analysis revealed there was a weak, negative relationship between unconscious bias and employee engagement ($r < 0$). However, this relationship was not statistically significant (Sig. > 0.05). This result rejected the alternate hypothesis in support of the null hypothesis i.e. there is no relationship between unconscious bias and employee engagement. This is supported by the scatter plot in Figure 20.

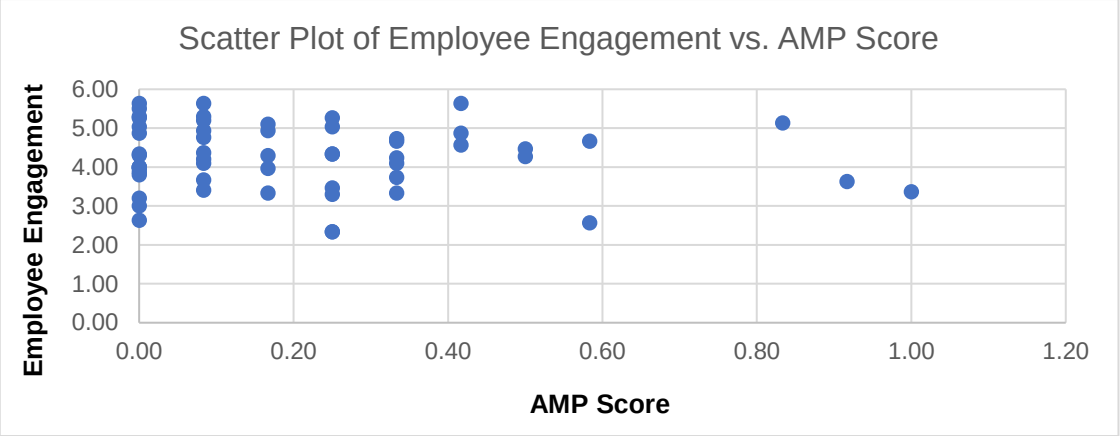


Figure 20. Scatter plot of employee engagement versus AMP score.

5.9.2 Results for Secondary Hypotheses

H_0: There is no relationship between unconscious bias and competitiveness.

H_{1a}: There is a negative relationship between unconscious bias and competitiveness.

Table 29

Correlation Results: Unconscious Bias and Competitiveness

Correlations				
			AMP_Score	Comp
Spearman's rho	AMP_Score	Correlation Coefficient	1.000	-.090
		Sig. (2-tailed)		.510
		n	56	56

Correlation analysis revealed there was a weak, negative relationship between unconscious bias and competitiveness ($r < 0$). However, this relationship was not statistically significant (Sig. > 0.05). This result rejected the alternate hypothesis in support of the null hypothesis i.e. there is no relationship between unconscious bias and competitiveness.

H_0: There is no relationship between unconscious bias and supportiveness.

H_{1b}: There is a negative relationship between unconscious bias and supportiveness.

Table 30

Correlation Results: Unconscious Bias and Supportiveness

Correlations				
			AMP_Score	Support
Spearman's rho	AMP_Score	Correlation Coefficient	1.000	-.086
		Sig. (2-tailed)		.529
		n	56	56

Correlation analysis revealed there was a weak, negative relationship between unconscious bias and supportiveness ($r < 0$). However, this relationship was not statistically significant (Sig. > 0.05). This result rejected the alternate hypothesis in support of the null hypothesis i.e. there is no relationship between unconscious bias and supportiveness.

H_0: There is no relationship between unconscious bias and emphasis on rewards.

H_{1c}: There is a negative relationship between unconscious bias and emphasis on rewards.

Table 31

Correlation Results: Unconscious Bias and Emphasis on Rewards

Correlations				
			AMP_Score	EOR
Spearman's rho	AMP_Score	Correlation Coefficient	1.000	-.028
		Sig. (2-tailed)		.837
		n	56	56

Correlation analysis revealed there was a weak, negative relationship between unconscious bias and emphasis on rewards ($r < 0$). However, this relationship was not statistically significant (Sig. > 0.05). This result rejected the alternate hypothesis in support of the null hypothesis i.e. there is no relationship between unconscious bias and emphasis on rewards.

H_0: There is no relationship between unconscious bias and performance orientation.

H_{1d}: There is a negative relationship between unconscious bias and performance orientation.

Table 32

Correlation Results: Unconscious Bias and Performance Orientation

Correlations				
			AMP_Score	PO
Spearman's rho	AMP_Score	Correlation Coefficient	1.000	.020
		Sig. (2-tailed)		.881
		n	56	56

Correlation analysis revealed there was a weak, positive relationship between unconscious bias and performance orientation ($r > 0$). However, this relationship was not statistically significant (Sig. > 0.05). This result rejected the alternate hypothesis in support of the null hypothesis i.e. there is no relationship between unconscious bias and performance orientation.

H_0: There is no relationship between unconscious bias and stability.

H_{1e}: There is a negative relationship between unconscious bias and stability.

Table 33

Correlation Results: Unconscious Bias and Stability

Correlations				
			AMP_Score	Stability
Spearman's rho	AMP_Score	Correlation Coefficient	1.000	-.122
		Sig. (2-tailed)		.370
		n	56	56

Correlation analysis revealed there was a weak, negative relationship between unconscious bias and stability ($r < 0$). However, this relationship was not statistically

significant (Sig. > 0.05). This result rejected the alternate hypothesis in support of the null hypothesis i.e. there is no relationship between unconscious bias and stability.

H_0: There is no relationship between unconscious bias and meaningfulness.

H_{2a}: There is a negative relationship between unconscious bias and meaningfulness.

Table 34

Correlation Results: Unconscious Bias and Meaningfulness

Correlations				
			AMP_Score	Meaningfulness
Spearman's rho	AMP_Score	Correlation Coefficient	1.000	-.086
		Sig. (2-tailed)		.531
		n	56	56

Correlation analysis revealed there was a weak, negative relationship between unconscious bias and meaningfulness ($r < 0$). However, this relationship was not statistically significant (Sig. > 0.05). This result rejected the alternate hypothesis in support of the null hypothesis i.e. there is no relationship between unconscious bias and meaningfulness.

H_0: There is no relationship between unconscious bias and psychological safety.

H_{2b}: There is a negative relationship between unconscious bias and psychological safety.

Table 35

Correlation Results: Unconscious Bias and Psychological Safety

Correlations				
			AMP_Score	Ps_Saf
Spearman's rho	AMP_Score	Correlation Coefficient	1.000	.014
		Sig. (2-tailed)		.918
		n	56	56

Correlation analysis revealed there was a weak, positive relationship between unconscious bias and psychological safety ($r > 0$). However, this relationship was not statistically significant (Sig. > 0.05). This result rejected the alternate hypothesis in support of the null hypothesis i.e. there is no relationship between unconscious bias and psychological safety.

H_0: There is no relationship between unconscious bias and psychological availability.

H_{2c}: There is a negative relationship between unconscious bias and psychological availability.

Table 36

Correlation Results: Unconscious Bias and Psychological Availability

Correlations				
			AMP_Score	Ps_Avail
Spearman's rho	AMP_Score	Correlation Coefficient	1.000	-.039
		Sig. (2-tailed)		.774
		n	56	56

Correlation analysis revealed there was a weak negative relationship between unconscious bias and psychological availability ($r < 0$). However, this relationship was not statistically significant (Sig. > 0.05). This result rejected the alternate hypothesis in support of the null hypothesis i.e. there is no relationship between unconscious bias and psychological availability.

H_0: There is no relationship between unconscious bias and vigour.

H_{2d}: There is a negative relationship between unconscious bias and vigour.

Table 37

Correlation Results: Unconscious Bias and Vigour

Correlations				
			AMP_Score	Vigour
Spearman's rho	AMP_Score	Correlation Coefficient	1.000	-.005

		Sig. (2-tailed)		.968
		n	56	56

Correlation analysis revealed there was a very weak negative relationship between unconscious bias and vigour ($r < 0$). However, this relationship was not statistically significant (Sig. > 0.05). This result rejected the alternate hypothesis in support of the null hypothesis i.e. there is no relationship between unconscious bias and vigour.

H_0: There is no relationship between unconscious bias and dedication.

H_{2e}: There is a negative relationship between unconscious bias and dedication.

Table 38

Correlation Results: Unconscious Bias and Dedication

Correlations				
			AMP_Score	Dedication
Spearman's rho	AMP_Score	Correlation Coefficient	1.000	-.027
		Sig. (2-tailed)		.842
		n	56	56

Correlation analysis revealed there was a weak negative relationship between unconscious bias and dedication ($r < 0$). However, this relationship was not statistically significant (Sig. > 0.05). This result rejected the alternate hypothesis in support of the null hypothesis i.e. there is no relationship between unconscious bias and dedication.

H_0: There is no relationship between unconscious bias and absorption.

H_{2f}: There is a negative relationship between unconscious bias and absorption.

Table 39

Correlation Results: Unconscious Bias and Absorption

Correlations				
			AMP_Score	Absorption
Spearman's rho	AMP_Score	Correlation Coefficient	1.000	-.179
		Sig. (2-tailed)		.187

	n	56	56

Correlation analysis revealed there was a weak negative relationship between unconscious bias and absorption ($r < 0$). However, this relationship was not statistically significant (Sig. > 0.05). This result rejected the alternate hypothesis in support of the null hypothesis i.e. there is no relationship between unconscious bias and absorption.

5.10 Conclusion

Therefore, based on the correlation analyses, there were no statistically significant relationships determined between unconscious bias and organisational culture, or its underlying observed variables and unconscious bias and employee engagement, or its underlying observed variables. These findings will be discussed further in terms of the existing literature in the next chapter.

CHAPTER 6: DISCUSSION OF RESULTS

6.1 Introduction

This chapter seeks to place the findings outlined in Chapter 5 within the context of the existing literature outlined in Chapter 2 and under the research propositions outlined in Chapter 3. Findings that both support and deviate from the literature will be highlighted and reasons for the support or deviation suggested. This reasoning will include potential bias that has influenced the findings in such a way as to cause the support or deviation.

The research interrogated the constructs of unconscious bias, organisational culture and employee engagement. The focus of the research was to determine the nature of the relationship between these constructs as depicted in the theoretical hypotheses model in Figure 1. Prior to delving into the results of the hypotheses testing, a discussion of the AMP score results, and its implications for the research will be conducted.

6.2 Discussion of the AMP Score: A Measure of Bias

The AMP score is the empirical manner in which to determine the level of bias in the sample. Section 5.7 detailed the results of the AMP score calculation. The resultant score of the overall sample was -0.09 indicating the larger sample was not biased as the fraction of pleasant responses to pleasant primes was less than the fraction of pleasant responses to unpleasant primes. This was supported by the calculation of the Cohen's effect size (-0.24) to determine the extent of the priming effect. Effect size is one of the considerations in evaluating the likelihood of statistically significant relationships during hypotheses testing and whether the relationships observed are important (Hair et al., 2010). Significant effect sizes can be achieved with larger sample sizes (Hair et al., 2010). Therefore, the sample size could have contributed to the lack of effect by the prime.

The sample size may have been affected by the length of the questionnaire which garnered a completion rate of 60%. This could be due to two interrelated but dependent factors – the number of trials and the timing of the prime and target images. A sufficient number of trials is required to perform reliable calculations and tests, but too many trials may result in individuals becoming bored or tired of the process (Fazio & Olson, 2003). Were the timing of the prime and target images adhered, to as in the Payne et al. (2005) study, the length of the questionnaire is shortened from a time perspective as individuals are forced to answer quickly. The number of trials selected (36) was the same number

of trials used by Payne et al. (2005). Therefore, selecting a fewer number of trials, and time-basing the responses may have resulted in a larger sample size.

The AMP score in the larger sample indicate there is a significantly larger proportion of individuals that responded in a prime inconsistent manner i.e. responding pleasant to an unpleasant image and vice versa. This is not unexpected since the valence of the primes can be interpreted in both a consistent and an inconsistent way to different individuals (Fazio & Olson, 2003). This raises the question of whether respondents deliberately responded in a prime inconsistent way because they were aware of what was expected of them. Although indirect measurement mechanisms are used to determine implicit bias, there is no assurance that individuals are unaware of their implicit attitudes (Fazio & Olson, 2003). To monitor and correct for judgements, individuals need sufficient motivation and the ability to correct responses and have an inclination of how they may exhibit bias (Payne et al., 2005). Although the warning message in the Payne et al. (2005) study did not have any impact on the level of bias displayed in their sample, the warning provided in this study's unconscious bias preamble may have made individuals aware of the purpose of the study such that they had sufficient awareness of their bias and was motivated to adjust their responses. Ito et al. (2015) suggest controlled processes influence outcomes in implicit bias measures.

These outcomes are influenced by an individual's executive functioning (Ito et al., 2015). Because the sample was drawn from professionals, a large percentage (69.6%) of whom comprised individuals in specialist, middle management, senior management and executive roles, one may assume these individuals have high cognitive resources to control their responses. These conclusions are consistent with the dissociation model introduced by Devine (1989) who determined conscious thought can inhibit the activation of automatic decision-making, especially when the subject conflicts with an individual's desire of preserving a "nonprejudicial identity" (p. 15), in this case, being perceived as someone who is biased. The extent to which individuals go to control their responses may even reverse the outcomes (Fazio & Olson, 2003), as in this study where the proportion of prime-inconsistent responses was 62%. In this study, in conjunction with the non-significant statistical correlations concluded in section 5.9, ignoring the motivation of respondents to regulate their responses may lead to incorrect conclusions related to the implicit bias measure and its outcomes (Fazio & Olson, 2003).

The motivation for respondents to adjust their responses highlights the importance of the organisational context in which the questionnaire was administered. Context influences the outcomes of implicit measures (Fazio & Olson, 2003). How a prime is evaluated may

depend on the context in which it is presented (Fazio & Olson, 2003). In this case, the context was an organisational one. The bias of self-reports, especially in organisational behaviour studies (Donaldson & Grant-Vallone, 2002) could have therefore influenced the responses of individuals.

The flexibility of implicit attitudes, and how they can be influenced was discussed by Mann and Ferguson (2015). They concluded changing an implicit attitude is only effective by removing the initial idea (subtraction) and providing additional information that alters the meaning of the original idea (addition). There needs to be an association between the initial idea, and the new information such that individuals can utilise cognitive resources to make sense of the situation. The warning provided in the preamble can be construed as additional information supplied to respondents such that the initial idea was subtracted (responding as one ordinarily would) and providing additional information (the warning) such that individuals made sense of the new situation and decided to respond prime-inconsistently.

The question of ability to adjust responses brings forth the subject of timing. As mentioned previously, one of the limitations of this research is the time during which the target images were displayed was dependent upon the respondent progressing to the next image. Payne and Lundberg (2014) found when target images were presented for longer periods, the priming affect was decreased. Ito et al. (2015) emphasised the importance of time constraints in inducing bias as time pressures reduced participants' ability to adjust their responses. Therefore, the methodological limitation described may have contributed to the lack of bias displayed in the larger sample.

6.3 Discussion of Findings Relating to Hypothesis 1

Hypothesis one sought to determine the relationship between unconscious bias and organisational culture. Additionally, hypothesis one was sub-divided into secondary hypotheses to test the relationship between unconscious bias and the organisational culture observed variables of competitiveness, supportiveness, emphasis on rewards, performance orientation and stability as defined by Sarros et al. (2005).

The researcher posited there would be a negative relationship between unconscious bias and organisational culture. The mean score of 2.67 for the organisational culture construct in the reduced sample indicated individuals perceived organisational culture as moderately to considerably met. Although there is no definitive link in literature between the unconscious bias construct and organisational culture, cohesive groups may be prone to intergroup phenomenon such as prejudice and stereotyping (Dasgupta

et al., 1999). In other words, strong cultures may be influenced by implicit phenomena such as bias and stereotyping. Furthermore, culture may enable individuals to make decisions quicker by relieving the cognitive load of having to think about the answers to every problem individuals encounter, having to evaluate the myriad of choices faced with daily and of choosing the values and norms that influence social and organisational existence (Patterson, 2014). Because of the negative consequences of bias and stereotyping such as the low number of women in positions of leadership (Joshi et al., 2015; Klettner et al., 2016; Milkman et al., 2015), performance evaluations (Greenwald & Banaji, 1995), peer performance evaluation, (Erez et al., 2015) and racial bias in hiring decisions (Bertrand & Mullainathan, 2004), the researcher hypothesised this relationship would be negative.

The result of the correlation analysis revealed no statistically significant relationship between unconscious bias and organisational culture. Consequently, the results are contrary to what Dasgupta et al. (1999) and Patterson (2014) asserted. This highlights the question as to what constitutes a cohesive group, and how perceptions and beliefs may be ascribed to certain groups as this may potentially explain the incongruent relationship between unconscious bias and organisational culture. The group to which culture belongs is one that has been developed over time and has been translated into a pattern of assumptions to which the group prescribes (Schein, 1984). This is also reinforced by social exchange theory, where social groups provide individuals with a sense of identity that are shared with fellow group members (Hogg, 2009). Additionally, a group of individuals is a concept that is separate from a cohesive group (Dasgupta et al., 1999).

The sample on which this study was based was not homogenous and arose from a variety of industries and organisations. This could explain the absence of a statistically significant relationship between unconscious bias and organisational culture. For individuals to exhibit unconscious attitudes, these attitudes must be repeated such that it becomes automatic to behave in a certain way (Patterson, 2014; Schein, 1984; Schneider et al., 2017; Shimizu et al., 2017). Culture is a mechanism that entrenches this behaviour, and for the behaviour to be entrenched, the group must be stable, similar and have a history of shared experiences (Schein, 1984). The description of the sample evidences the heterogeneity of the group and could thus justify the disparate results concluded, both in the primary and secondary hypotheses.

6.3.1 Hypothesis 1a: There is a negative relationship between unconscious bias and competitiveness

The result of the correlation analysis revealed no statistically significant relationship between unconscious bias and competitiveness. Therefore, unconscious bias does not influence the competitiveness perceived by individuals of their organisations. The mean score of 3.17 for the competitiveness variable in the reduced sample indicated individuals perceived their organisations to be considerably to very much competitive.

The premise for hypothesising a negative relationship between unconscious bias and competitiveness was the negative effects bias had on diversity in organisations (Bertrand & Mullainathan, 2004; Joshi et al., 2015; Klettner et al., 2016; Milkman et al., 2015) and the direct relationship between diversity and competitiveness (Downey et al., 2015; Hajro et al., 2017; Zander et al., 2016). Therefore, because of a lack of diversity, competitiveness would be negatively impacted in the presence of bias. Stereotypical behaviour is usually experienced by those that are stereotyped against (Duguid & Thomas-Hunt, 2015). The reduced sample was predominantly comprised of male respondents (57.1%). This representation may explain the lack of a relationship between bias and competitiveness. Individuals who are not biased against may not recognise the lack of diversity and may not believe it to impact competitiveness. On the other hand, Duguid and Thomas-Hunt (2015) suggested calling attention to implicit stereotypes may have the opposite effect in that communicating the universal nature of stereotypical behaviour becomes an accepted norm, and a stereotype in itself. This could also explain the lack of a relationship in the sample as a whole – a lack of diversity due to bias may be an accepted norm that has no influence on the competitiveness of organisations.

6.3.2 Hypothesis 1b: There is a negative relationship between unconscious bias and supportiveness

The result of the correlation analysis revealed no statistically significant relationship between unconscious bias and supportiveness. Therefore, unconscious bias does not influence the supportiveness perceived by individuals of their organisations. The mean score of 2.58 for the supportiveness variable in the reduced sample indicated individuals perceived their organisations to be moderately to considerably supportive.

The premise for hypothesising a negative relationship between unconscious bias and supportiveness was the literature concerning inclusive cultures that foster inclusive decision-making, collaboration, embracing diverse viewpoints, fair processes and procedures and leadership support (Shore et al., 2018). Because unconscious bias has

a negative impact on diversity (Bertrand & Mullainathan, 2004; Joshi et al., 2015; Klettner et al., 2016; Milkman et al., 2015), this would in turn result in a non-inclusive culture or a perceived lack of support. Since inclusive cultures are a means to overcome stereotyping and discrimination, the absence of a relationship between unconscious bias and supportiveness could indicate that respondents were exposed to inclusive cultures, and despite the presence of individual bias, do not perceive a lack of supportiveness because of this bias.

6.3.3 Hypothesis 1c: There is a negative relationship between unconscious bias and emphasis on rewards

The result of the correlation analysis revealed no statistically significant relationship between unconscious bias and emphasis on rewards. Therefore, unconscious bias does not influence the emphasis on rewards perceived by individuals of their organisations. The mean score of 2.30 for the emphasis on rewards variable in the reduced sample indicated individuals perceived their organisations to be moderately to considerably focussed on rewards.

The premise for hypothesising a negative relationship between unconscious bias and an emphasis on rewards was the literature concerning the negative consequences of diversity and remuneration experienced by women who display success in fields that are traditionally male-dominated. These women are subject to poor remuneration and lack of further opportunities (Heilman et al., 2004; Lanaj & Hollenbeck, 2015). They also experience bias from the halo effect which can have adverse consequences in performance evaluations when managers base evaluations on attributes unrelated to job-competence (Greenwald & Banaji, 1995). Organisational cultures that emphasise opportunities for growth and development and an adaptable mindset have counteracted the gender-based stereotypical threats experienced by women (Hoyt & Murphy, 2016). This could explain the lack of relationship between unconscious bias and emphasis on rewards in that individuals comprising the sample come from organisations that foster such an environment.

6.3.4 Hypothesis 1d: There is a negative relationship between unconscious bias and performance orientation

The result of the correlation analysis revealed no statistically significant relationship between unconscious bias and performance orientation. Therefore, unconscious bias does not influence the performance orientation perceived by individuals of their organisations. The mean score of 2.89 for the performance orientation variable in the

reduced sample indicated individuals perceived their organisations to be moderately to considerably focussed on performance.

The premise for hypothesising a negative relationship between unconscious bias and performance orientation was the relationship between organisational culture and firm performance (Chatman et al., 2014; Hitt et al., 2016; Hoskisson et al., 2018; Wernerfelt, 1984). However, O'Reilly III et al. (2014) did not find any evidence that showed a conclusive link between organisational culture and firm performance. They attributed this to the multi-dimensional nature of culture that can vary across industries as well as the variety of performance outcomes that can measure firm performance. The results of this study may be consistent with the findings of O'Reilly III et al. (2014) in that there may be no definitive link between culture and performance, especially in a varied sample such as this that comprises a multitude of industries.

6.3.5 Hypothesis 1e: There is a negative relationship between unconscious bias and stability

The result of the correlation analysis revealed no statistically significant relationship between unconscious bias and stability. Therefore, unconscious bias does not influence the stability perceived by individuals of their organisations. The mean score of 2.38 for the stability variable in the reduced sample indicated individuals perceived their organisations to be moderately to considerably focussed on stability.

The premise behind hypothesising a negative relationship between unconscious bias and stability was the assertions made by Healey et al. (2015). They posited that unconscious processing in teams have detrimental effects on the harmony and stability of teams. The researcher further posited it would be prudent to extend this theory and determine the effect of individuals' implicit attitudes on culture stability. The discussion in section 6.3 may potentially explain the lack of relationship between unconscious bias and stability. For there to be discordance due to disparate unconscious attitudes, there needs to be stability in conscious processing capabilities supported by the dual-system model proposed by Healey et al. (2015). Because stability is induced by strong cultures (Schein, 1984) and group similarity, it can be argued the lack of similarity in the group may explain the lack of stability and thus the lack of a relationship between unconscious bias and stability.

6.4 Discussion of Findings Relating to Hypothesis 2

Hypothesis two sought to determine the relationship between unconscious bias and employee engagement. Additionally, hypothesis two was sub-divided into secondary hypotheses to test the relationship between unconscious bias and the employee engagement observed variables of meaningfulness, psychological safety and psychological availability as defined by May et al. (2004) and vigour, dedication and absorption as defined by Schaufeli et al. (2006).

The mean score of 4.28 for the employee engagement construct in the reduced sample indicated individuals felt often to very often engaged in their organisations. Although there is no definitive link in literature between the unconscious bias construct and employee engagement, because of the negative impact of unconscious bias on stereotyping, diversity and inclusivity (Bertrand & Mullainathan, 2004; Joshi et al., 2015; Klettner et al., 2016; Milkman et al., 2015), the researcher posited there would be a negative relationship. Individuals that perceived inclusive organisational environments showed greater engagement (Downey et al., 2015) but individuals that are biased and stereotyped against become disengaged (Hoyt & Murphy, 2016). The bias and stereotypes that result from implicit attitudes can impact engagement negatively for individuals with a preoccupation of being biased against whose cognitive resources may be strained (Hoyt & Murphy, 2016; Jacoby-Senghor et al., 2016). Cognitive resources are important for engaged individuals (Alagaraja & Shuck, 2015).

The result of the correlation analysis revealed no statistically significant relationship between unconscious bias and employee engagement. The theoretical basis of social exchange theory can potentially explain the absence of a relationship between unconscious bias and employee engagement. Despite having an unconscious bias, employees are still engaged because of the adherence to the rules of exchange and their feeling of obligation to repay organisations (Saks, 2006). Therefore, social exchange theory may supersede any negative reactions employees may feel because of bias or stereotyping. This is further supported by the discussion of hypothesis 1c. Additionally, the sample of respondents may not have a preoccupation with being biased and stereotyped against which may not impact their engagement as asserted by Hoyt and Murphy (2016) and Jacoby-Senghor et al. (2016).

6.4.1 Hypothesis 2a: There is a negative relationship between unconscious bias and meaningfulness

The result of the correlation analysis revealed no statistically significant relationship between unconscious bias and meaningfulness. Therefore, unconscious bias does not influence the meaningfulness perceived by individuals of their organisations. The mean score of 4.36 for the meaningfulness variable in the reduced sample indicated respondents believed their work and jobs were often to very often meaningful.

The premise for hypothesising a negative relationship between unconscious bias and meaningfulness was the importance of job-role fit and the influence this has on meaningfulness (Saks, 2006) and bias in hiring decisions (Jost et al., 2009). Meaningfulness may be negatively impacted when managers are biased during hiring decisions and hire individuals who are not fit for the role. The absence of a relationship between unconscious bias and meaningfulness could again be explained by social exchange theory since Kahn's (1990) definition of meaningfulness incorporates aspects of "…a return on investments…" (p. 703). Therefore, it stands to reason that individuals who are receiving a return on their investment in their job will experience meaningfulness, even in the presence of bias. Additionally, roles that carried weight in the organisation and involved meaningful interactions with others also fostered meaningfulness (Kahn, 1990). In considering the roles of specialist, middle manager, senior manager and executive as roles that carry weight in the organisation, 69.6% of the reduced sample occupied these roles. This could also explain the lack of relationship between unconscious bias and meaningfulness.

6.4.2 Hypothesis 2b: There is a negative relationship between unconscious bias and psychological safety

The result of the correlation analysis revealed no statistically significant relationship between unconscious bias and psychological safety. Therefore, unconscious bias does not influence the psychological safety perceived by individuals of their organisations. The mean score of 4.36 for the psychological safety variable in the reduced sample indicated respondents believed they were often to very often safe to express themselves in their work environment.

The premise for hypothesising a negative relationship between unconscious bias and psychological safety was the negative influence of unconscious bias on diversity (Bertrand & Mullainathan, 2004; Joshi et al., 2015; Klettner et al., 2016; Milkman et al., 2015), and the impact this will have on inclusivity. Organisations that foster inclusive

environments encourage individuals to embrace their individuality while still maintaining a feeling of belonging. This triggered increased job commitment and job performance by employees (Downey et al., 2015; Shore et al., 2018). Inclusive organisations indicated to individuals their psychological safety was maintained. Organisations that actively participate in diversity practices were perceived to have a trusting organisational climate, especially when individuals felt included. Consequently, individuals displayed greater employee engagement (Downey et al., 2015). Therefore, the researcher theorised a lack of inclusivity due to bias would result in a lesser feeling of psychological safety. Like the conclusions of hypothesis 1b, the absence of a relationship between unconscious bias and psychological safety could indicate that respondents were exposed to inclusive cultures, and despite the presence of individual bias, do not perceive a lack of safety because of this bias. Additionally, these individuals may be receiving the necessary organisational support (Kurtessis et al., 2017; Rich et al., 2010) and engage in relationships that foster support (Rich et al., 2010) which resulted in the perceptions of psychological safety.

6.4.3 Hypothesis 2c: There is a negative relationship between unconscious bias and psychological availability

The result of the correlation analysis revealed no statistically significant relationship between unconscious bias and psychological availability. Therefore, unconscious bias does not influence the psychological availability perceived by individuals of their organisations. The mean score of 4.77 for the psychological availability variable in the reduced sample indicated respondents believed they were often to very often psychologically available to meet the demands they were faced with at work.

The premise for hypothesising a negative relationship between unconscious bias and psychological availability was the propensity of external work influences to both positively and negatively influence individuals' psychological availability (Kahn, 1990). Unconscious bias, and its varied impact on organisations can be considered an external work influence that may influence individuals negatively. Again, social exchange theory could explain the lack of a relationship between unconscious bias and psychological availability in that employees who had sufficient physical, cognitive and emotional resources (as supplied through social exchange) displayed a positive relationship to psychological availability (Kahn, 1990; May et al., 2004) because of their emotional commitment to the organisation (Kumar & Pansari, 2015).

6.4.4 Hypothesis 2d: There is a negative relationship between unconscious bias and vigour

The result of the correlation analysis revealed no statistically significant relationship between unconscious bias and vigour. Therefore, unconscious bias does not influence the vigour perceived by individuals of their organisations. The mean score of 4.20 for the vigour variable in the reduced sample indicated respondents believed they were often to very often energised about their work.

The premise of hypothesising a negative relationship between unconscious bias and vigour was the cognitive strain individuals experienced when preoccupied with being biased against (Hoyt & Murphy, 2016; Jacoby-Senghor et al., 2016). This would negatively impact the feeling of vigour employees experienced. Like the discussion for hypothesis 2c, the physical, cognitive and emotional resources (as supplied through social exchange) (Kahn, 1990; May et al., 2004) may result in individuals' perseverance and energy, despite experiencing setbacks (Schaufeli et al., 2002), such as a perception of bias.

6.4.5 Hypothesis 2e: There is a negative relationship between unconscious bias and dedication

The result of the correlation analysis revealed no statistically significant relationship between unconscious bias and dedication. Therefore, unconscious bias does not influence the dedication perceived by individuals of their organisations. The mean score of 4.22 for the dedication variable in the reduced sample indicated respondents believed they were often to very often dedicated to their work.

The rationale and discussion detailed in section 6.4.1 (hypothesis 2a: meaningfulness) also holds for the dedication observed variable. Meaningfulness and dedication both relate to an individual's perception of satisfaction from their job (Kahn, 1990; Schaufeli et al., 2002). The relation of these variables is also supported by the outcome of the employee engagement construct's exploratory factor analysis and the component cross-loadings between meaningfulness and dedication.

6.4.6 Hypothesis 2f: There is a negative relationship between unconscious bias and absorption

The result of the correlation analysis revealed no statistically significant relationship between unconscious bias and absorption. Therefore, unconscious bias does not influence the absorption perceived by individuals of their organisations. The mean score

of 3.76 for the absorption variable in the reduced sample indicated respondents believed they were sometimes to often absorbed in their work.

The premise of hypothesising a negative relationship between unconscious bias and absorption was the disengagement experienced by women who are stereotyped against (Hoyt & Murphy, 2016) and the physical, cognitive and emotional withdrawal experienced by individuals who are disengaged (Kahn, 1990). The absence of a relationship between unconscious bias and absorption may be explained by the presence of cognitive engagement in individuals (Shuck et al., 2014). This cognitive engagement may be as a result of a combination of social exchange theory and resource theory in that individuals become committed to their work because they are provided with the necessary resources and thus feel an obligation to do so (Cooper-Thomas et al., 2018; Saks, 2006). Additionally, the sample of respondents may not have a preoccupation with being biased and stereotyped against which may not impact their engagement (Hoyt & Murphy, 2016; Jacoby-Senghor et al., 2016).

6.5 Conclusion

The objectives of this research were to determine the relationship between unconscious bias and organisational culture and unconscious bias and employee engagement. The results from Chapter 5, and the discussion above confirm that the research objectives have been met. The hypotheses defined in Chapter 3 were statistically tested through correlation analyses and established no statistically significant relationships. Because the research sought to determine the influence of unconscious bias on the two constructs mentioned, a reduced sample that exhibited bias based on the AMP score calculated, was used for correlation analyses. This reduced sample of 56 respondents is less than the 84 recommended by Bujang and Baharum (2016) for meaningful statistical analyses. Therefore, the sample size may have contributed to the absence of statistically significant relationships between the constructs and the observed variables defined in Chapter 3. Despite this, the theory base in Chapter 2 was applied to posit potential explanations for the results attained. There are limitations to the findings, which will be discussed in the next chapter, along with recommendations for future research.

CHAPTER 7: CONCLUSION

7.1 Introduction

This study sought to understand the influence of unconscious bias on organisational culture and employee engagement, two aspects that are important for organisational performance (Alagaraja & Shuck, 2015; Barrick et al., 2015; Chatman et al., 2014; Cooper-Thomas et al., 2018; Giorgi et al., 2015; He et al., 2014; Hitt et al., 2016; Hoskisson et al., 2018; Kumar & Pansari, 2015; Mackay et al., 2017; Rich et al., 2010; Wernerfelt, 1984; Zander et al., 2016; Zhong et al., 2016).

The purpose of this chapter is to summarise the primary findings of the study presented in Chapter 5 and Chapter 6. The implications of these findings and recommendations to management are discussed. Additionally, limitations of the research study and suggestions for future research are put forward.

7.2 Principal Findings

The goal of this research study was to determine the influence of unconscious bias on individuals' behaviour (Fazio & Olson, 2003). In the context of this study, that behaviour was translated into organisational culture and employee engagement. Despite research into implicit thought having its start in the mid-1980s, the literature on this subject is new, and concrete conclusions are not forthcoming (Fazio & Olson, 2003). Notwithstanding the extensive literature recognised on each construct in isolation, there was no literature that related these constructs together. Therefore, the researcher sought to advance the body of psychology literature by attempting to understand the relationships between unconscious bias and organisational culture and unconscious bias and employee engagement. The principal themes discussed will be the measurement methodology of bias, the implications of historically strong cultures, the importance of inclusive cultures, opportunities for the growth and development of employees in organisations, perceived organisational support and the influence of social exchange.

The AMP score indicated the majority of the sample did not exhibit unconscious bias as they responded in a prime-inconsistent manner. The main reason attributed to this outcome was the propensity of individuals to control their responses (Devine, 1989; Fazio & Olson, 2003; Ito et al., 2015; Payne et al., 2005). The methodology on which this research was based implemented the use of a warning message to deter individuals' biased responses (Payne et al., 2005). The researcher has concluded this warning may have motivated individuals in this study to adjust their responses. Based on the sample

of respondents, this was posited to be due to executive functioning (Devine, 1989; Ito et al., 2015). However, there was a subset of individuals that exhibited bias by responding prime-consistently. This indicates that despite the warning message, some individuals were induced to misattribute their evaluation of the prime image on the target (Payne et al., 2005). This subset was used in the statistical tests to determine the correlation between constructs.

Based on the mean scores of the sample, the respondents indicated they were part of organisations that exhibited strong cultures. The correlation test between unconscious bias and organisational culture revealed no statistically significant relationship. The suppositions of Dasgupta et al. (1999) and Patterson (2014) were refuted in that there were no conclusive findings to indicate strong cultures are prone to stereotyping and bias. This raised the question as to what constitutes a cohesive group or a strong culture. Based on the conclusions of Schein (1984) a cohesive group is one that has been developed over time. Moreover, social identity theory and social justification theory require individuals to have a sense of identity with the group (Hogg, 2009; Jost & Banaji, 1994). Therefore, the heterogeneity of the sample was proposed as a reason for the absence of a relationship between the constructs. This conclusion emphasises the importance of group cohesion as a prerequisite for unconscious bias. For individuals to exhibit unconscious attitudes, these attitudes must be repeated such that it becomes automatic to behave in a certain way (Patterson, 2014; Schein, 1984; Schneider et al., 2017; Shimizu et al., 2017) and culture is a mechanism that entrenches this automatic behaviour. However, this also highlights the negative influence of a strong culture on individuals and organisations and supports the conclusions of Antons and Piller (2015), Chatman et al. (2014), Dempsey (2015) and Hajro et al. (2017).

The correlation tests between unconscious bias and the observed variables of organisational culture did not reveal any statistically significant relationships. Therefore, it was discovered that despite a presence of bias, the competitiveness, supportiveness, emphasis on rewards, performance orientation and stability perceived by individuals were not negatively affected. Based on the theory discussed in Chapter 2, this may be attributed to several reasons. The sample comprised a greater number of male participants who may not perceive bias or stereotyping in their organisations (Duguid & Thomas-Hunt, 2015). It may also be that individuals belonged to organisations that fostered inclusive cultures that were supportive and collaborative (Shore et al., 2018). Cultures that emphasised opportunities for the development of all individuals and adopted an adaptive mindset have also overcome stereotyping and bias (Hoyt & Murphy,

2016). In the context of bias, strong organisational cultures and norms may induce bias (Chatman et al., 2014). These findings highlight the importance of not just organisational culture, but the type of organisational culture that is fostered in organisations.

The results of the employee engagement construct indicated respondents exhibited a high level of engagement. However, the correlation test between unconscious bias and employee engagement showed no statistically significant relationship. The researcher concluded this may be explained through social exchange theory in that irrespective of the presence of bias, employees will feel an obligation to repay their organisations because of the resources they receive in return (Saks, 2006). Therefore, a mechanism of social exchange may be useful in engendering employee engagement. This is reinforced by the conclusions of Breevaart et al. (2014) who posited motivational resources like autonomy and social support (transformational leaders) and rewards (transactional leaders) led to greater engagement.

The correlation tests between unconscious bias and the observed variables of employee engagement did not show any statistically significant relationships. This study employed two definitions of engagement, that of Kahn (1990) and Schaufeli et al. (2002), to measure engagement. In analysing the findings, the researcher found that other mechanisms may have overcame the presence of bias to encourage engagement in respondents. Inclusive work environments ensured employees felt psychologically safe as they were encouraged to embrace their individuality while still maintaining a feeling of belonging (Downey et al., 2015; Shore et al., 2018). The support individuals received from their managers and peers may have also influenced the level of safety they perceived (Kurtessis et al., 2017; Rich et al., 2010). Social exchange may have also influenced employees' level of meaningfulness, psychological availability, vigour, dedication and absorption through the physical, cognitive and emotional resources employees received (Kahn, 1990; May et al., 2004; Saks, 2006).

Despite the presence of unconscious bias and the negative effects it may have on organisations, these findings highlight important conclusions for managers and organisations. Unconscious bias exists in all individual and groups, across all races and classes (Bohnet, 2016; Jost et al., 2009) and these biases cannot be ignored (Jost et al., 2009; Kyung et al., 2017). However, the conclusions of this study provide valuable mechanisms that managers and organisations can employ to ensure bias can be managed.

7.3 Implications for Management

The implications of bias have far-reaching consequences for organisations and managers presently seeking differentiating advantages in dynamic and complex environments. The findings described in section 7.2 yielded conclusions that organisations and managers should take heed of, if they are to compete in these environments.

An inclusive organisational environment that promotes positive cultures and psychologically safe environments which foster engagement is paramount. Inclusive cultures are important to counteract the negative, subtle discrimination that women and minority groups face (Bertrand & Mullainathan, 2004; Eagly & Karau, 2002; Hoyt & Murphy, 2016; Joshi et al., 2015; Klettner et al., 2016; Koenig et al., 2011; Lanaj & Hollenbeck, 2015; Milkman et al., 2015). For managers, an inclusive leadership style nurtures a culture of inclusivity. Practically, this necessitates ensuring diverse views are embraced in decision-making, fairness is adhered to, a culture of collaboration is maintained, and individuality is celebrated. Managers that take an active interest in hiring and promotion processes may also build an inclusive culture in their organisations (Shore et al., 2018). Many organisations have attempted to manage the issue by implementing diversity training initiatives but the outcomes of this have been varied (Bezrukov et al., 2016; Rudman et al., 2001). Furthermore, diversity does not imply inclusivity (Daya, 2014; Downey et al., 2015; Shore et al., 2018).

Environments that focus on opportunities for the growth and development (Hoyt & Murphy, 2016) of all employees may have counteracted the gender-based stereotypical threats of poor remuneration and lack of further opportunities (Greenwald & Banaji, 1995; Heilman et al., 2004; Lanaj & Hollenbeck, 2015). For managers, focussing on the learning and development of employees is essential to encourage psychological availability. It also ensures employees have the necessary resources available to them to be engaged at work (Cooper-Thomas et al., 2018). Therefore, managers and organisations must invest in the growth and development of their employees if they want to realise these benefits.

This study challenges the notion that strong cultures may be consistently good for organisations. This indicates to managers that it is not necessarily the strength of culture but rather the type of culture that is important. This is specifically pertinent to managers as leadership is an important consideration for organisational culture (Giorgi et al., 2015; O'Reilly III et al., 2014; Schneider et al., 2017). Managers need to be wary of cultures

that promote unethical decision-making in the ultimate pursuit of organisational success (Dempsey, 2015). They should focus on building cultures that deter siloed thinking (Elsbach & Stigliani, 2018), and promote innovation and adaptability (Anderson et al., 2014; Chatman et al., 2014). This will ensure that their organisations will be geared to undertake explorative opportunities to innovate (Antons & Piller, 2015) and be able to react to unstable and dynamic external conditions (Hajro et al., 2017). Strong cultures encourage conformity which may induce in-group dominance (Chatman et al., 2014). Cultures that promote conformity do not promote inclusive work environments (Shore et al., 2018). This further strengthens the argument for a culture that embraces distinction.

Managers seeking to develop engagement in their employees need to provide the necessary support, both from a leadership and organisational perspective (Cropanzano & Mitchell, 2005; Homans, 1958; Kurtessis et al., 2017; May et al., 2004; Rich et al., 2010; Schneider et al., 2018). Inclusive cultures are also fostered through leadership support (Shore et al., 2018). Managers can develop perceived organisational support by becoming involved in human resource practices (Kurtessis et al., 2017) like training, incentivised rewards and selective staffing (Zhong et al., 2016). Developing meaningful relationships with employees and encouraging purposeful relationships with co-workers are also mechanisms through which perceived organisational support can be fostered. Because cultural values influenced the relationship between perceived organisational support and engagement (Zhong et al., 2016), managers should be wary of applying a uniform approach to the support they provide employees, and rather undertake to develop distinctive relationships with individuals.

Social exchange provides a mechanism through which managers can garner engagement in organisations, provided the rules of exchange are adhered to. In the organisational context, this exchange develops between employees and organisations when, through the acceptance of resources, employees will feel obliged to repay organisations (Saks, 2006). Therefore, managers need to provide employees with the required resources for employees to be engaged. These resources can take many forms and include perceived organisational support (Cropanzano & Mitchell, 2005; Homans, 1958; Kurtessis et al., 2017; Rich et al., 2010), opportunities for learning and development and a sense of vision (Cooper-Thomas et al., 2018), social support and self-efficacy (Breevaart et al., 2014; Hakanen et al., 2018), autonomy in tasks and rewards (Breevaart et al., 2014) and fairness and honesty (Chughtai et al., 2015).

The themes discussed above were proposed as interpretations to the findings in Chapter 5. Therefore, the inferences of this study provide valuable mechanisms that managers

and organisations can employ to ensure bias can be managed such that positive organisational cultures are fostered and engaged employees will flourish.

Bias is not only restricted to cognition but is also entrenched in procedures. Therefore, behavioural design decisions have proven effective in overcoming these biases. Although it is important to redress the imbalance in gender, race, sexuality and class, the mechanisms employed in redressing these imbalances may be more significant (Bohnet, 2016). The disparate results in diversity training suggests the process of diversity training needs to be redefined. Similar to Stanovich et al. (2014), Bohnet (2016) asserted pure awareness is not sufficient and suggests an approach that employs an "unfreeze-change-refreeze framework" (p. 61). A data-driven approach to recruitment may also aid in overcoming the bias and stereotypes in recruitment processes (Bohnet, 2016; Jost et al., 2009). Data allows managers to track, and measure progress of initiatives. Design changes to recruitment processes like making use of structured interviews and removing demographic information will allow managers to objectively evaluate candidates. Making use of gender neutral language in job listings can attract a varied pool of applicants (Bohnet, 2016). These design decisions will aid in removing unconscious bias and promote a gender diverse environment.

7.4 Limitations of the Research

Much of the research into unconscious bias over the last three decades has been focussed on improving indirect measurement methodologies. The results of this have contributed to the literature concerning implicit and explicit cognition (Greenwald & Banaji, 2017). Therefore, the research methodology concerning implicit bias is a significant facet to implicit measurement studies. Thus, many of the limitations identified in this study are methodological in nature and have been mentioned in section 4.9.

A shortcoming of the purposive and snowball sampling techniques employed was the sample would not be indicative of the population (Wegner, 2016; Zikmund et al., 2009). The descriptive statistics indicated a pre-dominance of individuals in the finance industry, the industry in which the researcher belongs. Therefore, the sampling techniques employed did not garner a sample that was fairly representative of all industries in South Africa.

The priming effect of the images used was reduced when images were presented for longer periods (Payne & Lundberg, 2014). Because this study relied upon the respondent to move to the next image, instead of displaying the images for a specified period, this may have motivated individuals to adjust their responses. This is a limitation of this study

and may have influenced the results of the unconscious bias construct, indicated by the large percentage of individuals who responded prime-inconsistently.

The timing of the images may have also influenced the low completion rate of the questionnaire. Only 60% of individuals completed the questionnaire – this contributed to the small sample size which may have also affected the results of the correlation tests. Because the timing relied on individuals moving to the next image, and the number of trials used, the questionnaire may have been perceived as lengthy. This may have induced boredom in individuals (Fazio & Olson, 2003) resulting in 40% of individuals' incomplete questionnaires.

Lastly, the warning provided in the questionnaire preamble used in this study may have drawn attention to the purpose of the study. This may have motivated individuals to adjust their responses for fear of being perceived as biased which may have influenced the results of the unconscious bias construct.

7.5 Suggestions for Future Research

Measuring the culture of one organisation may be more meaningful than measuring culture across a heterogenous sample. Groups are perceived as being distinct entities, when compared to the individuals that form that group. Moreover, an organisation's identity (those characteristics that distinguish it from other organisations) can be defined at varying levels, both organisational and individual (Dasgupta et al., 1999). Therefore, by measuring the culture of a single organisation, the intergroup phenomenon of bias and stereotyping (Dasgupta et al., 1999) may become relevant.

Many of the hypotheses defined in this study were formulated based on unconscious bias that resulted in a lack of diversity and inclusivity. As such, several of the explanations in the discussion of the results asserted there was no perceived lack of diversity and inclusivity. Therefore, the constructs of diversity and inclusivity featured significantly in this study. Consequently, it may be sensible to extend the model described in Figure 1 by including diversity and inclusivity as mediating variables to the relationship between unconscious bias and organisational culture, and unconscious bias and employee engagement. This will ensure that one can definitively conclude a negative relationship may exist between these constructs because of the mediating role of diversity and inclusivity.

Context influences the outcomes of implicit measures (Fazio & Olson, 2003). While the context of this study was organisational, external affects may have influenced the way

respondents answered. Conducting this study longitudinally may be a way to overcome the consequences of a cross-sectional study. Furthermore, it may be more meaningful to assess unconscious bias in an organisational context over different points in time.

The strength of a priming measure is dependent on the mechanisms that are selected to serve as primes (Fazio & Olson, 2003). This emphasises the importance of selecting prime images that have been normatively rated. Therefore, future research employing the use of prime images as an indirect measure of bias should make use of normatively rates images such as those available on the International Affective Picture System (IAPS) database.

To ascertain the effect of the warning message, Payne et al. (2005) measured bias in two conditions, one with a warning message and one without. They concluded the warning message did not influence the bias measured. Since this study did not measure bias in both conditions, that argument is not conclusive here. Therefore, it is recommended that in future, both conditions are tested to eliminate the potential effect of the warning message and the ambiguities it may introduce to the study.

Lastly, it is recommended the timing of the prime and target images be controlled. Ito et al. (2015) emphasised the importance of time constraints in inducing bias as time pressures reduced participants' ability to adjust their responses. Therefore, timing is an important consideration that should be adhered to in future research.

7.6 Concluding Remarks

The subject of unconscious bias is becoming relevant to managers and organisations as evidenced by the abundance of industry reports and media accounts accessible. This study sought to add to cognitive and social psychology academia by investigating the influence of unconscious bias on organisational culture and unconscious bias on employee engagement. While the research hypotheses were not proved, the study highlighted important implications of bias in organisations and individuals. In the context of organisational culture and employee engagement, the findings underscore mechanisms organisations can utilise to overcome these biases.

REFERENCES

Alagaraja, M., & Shuck, B. (2015). Exploring Organizational Alignment-Employee Engagement Linkages and Impact on Individual Performance: A Conceptual Model. *Human Resource Development Review, 14*(1), 17-37. doi:10.1177/1534484314549455

Anderson, N., Potocnik, K., & Zhou, J. (2014). Innovation and Creativity in Organizations: State-of-the-Science Review, Prospective Commentary, and Guiding Framework. *Journal of Management, 40*(5), 1297-1333. doi:10.1177/0149206314527128

Andrews, K. R. (1987). *The concept of corporate strategy.* New York: Richard D. Irwin.

Antons, D., & Piller, F. T. (2015). Opening the Black Box of "Not Invented Here": Attitudes, Decision Biases and Behavioral Consequences. *Academy of Management Perspectives, 29*(2), 193-217. Retrieved from https://journals.aom.org/doi/abs/10.5465/amp.2013.0091

Bailey, C., Madden, A., Alfes, K., & Fletcher, L. (2017). The Meaning, Antecedents and Outcomes Employee Engagement: A Narrative Synthesis. *International Journal of Management Reviews, 19*(1). doi:10.1111/ijmr.12077

Baron, A. S., & Banaji, M. R. (2006). The Development of Implicit Attitudes: Evidence of Race Evaluations From Ages 6 and 10 and Adulthood. *Psychological Science, 17*(1), 53-58. Retrieved from https://doi.org/10.1111/j.1467-9280.2005.01664.x

Barrick, M. R., Thurgood, G. R., Smith, T. A., & Courtright, S. H. (2015). Collective Organisational Engagement: Linking Motivational Antecedents, Strategic Implementation and Firm Performance. *Academy of Management Journal, 58*(1), 111-135. Retrieved from http://dx.doi.org/10.5465/amj.2013.0227

Beavers, A. S., Lounsbury, J. W., Richards, J. K., Huck, S. W., Skolits, G. J., & Esquivel, S. L. (2013). Practical Considerations for Using Exploratory Factor Analysis in Educational Research. *Practical Assessment, Research and Evaluation, 18*(6), 1-13. Retrieved from https://www.pareonline.net/getvn.asp?v=18&n=6

Bertrand, M., & Mullainathan, S. (2004). Are Emily and Greg More Employable Than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination. *American Economic Review, 94*(4), 991-1013. doi:10.1257/0002828042002561

Bezrukova, K., Spell, C. S., Perry, J. L., & Jehn, K. H. (2016). A Meta-Analytical Integration of Over 40 Years of Research on Diversity Training Evaluation. *Psychological Bulletin, 142*(11), 1227-1274. doi:10.1037/bul0000067

Blair, I. V., & Banaji, M. R. (1996). Automatic and Controlled Processes in Stereotype Priming. *Journal of Personality and Social Psychology, 70*(6), 1142-1163. Retrieved from http://dx.doi.org/10.1037/0022-3514.70.6.1142

Bohnet, I. (2016). *What Works: Gender Equality by Design.* Cambridge, MA: The Belknap Press of Harvard University Press.

Breevaart, K., Bakker, A., Hetland, J., Demerouti, E., Olsen, O. K., & Espevik, R. (2014). Daily transactional and transformational leadership and daily employee engagement. *Journal of Occupational and Organizational Psychology, 87*(1), 138-157. doi:10.1111/joop.12041

Bujang, M. A., & Baharum, N. (2016). Sample Size Guideline for Correlation Analysis. *World Journal of Social Science Research, 3*(1), 37-46. Retrieved from http://dx.doi.org/10.22158/wjssr.v3n1p37

Chan, C. (2013, October 10). Chinese Characters: Yin, Yang. *The Epoch Times*. Retrieved from The Epoch Times: https://www.theepochtimes.com/

Chao, M. M., Takeuchi, R., & Fargh, J.-L. (2017). Enhancing Cultural Intelligence: The Roles of Implicit Culture Beliefs and Adjustment. *Personnel Psychology, 70*(1), 257-292. doi:10.1111/peps.12142

Chatman, J. A., Caldwell, D. F., O'Reilly, C. A., & Doerr, B. (2014). Parsing organizational culture: How the norm for adaptability influences the relationship between culture consensus and financial performance in high-technology firms. *Journal of Organizational Behavior, 35*(6), 785-808. doi:10.1002/job.1928

Chinese Symbols picture [Image] (n.d.). Retrieved from https://www.drawingninja.com/t/chinese-symbols.html

Chughtai, A., Byrne, M., & Flood, B. (2015). Linking Ethical Leadership to Employee Well-Being: The Role of Trust in Supervisor. *Journal of Business Ethics, 128*(3). doi:10.1007/s10551-014-2126-7

Cohen, J. (1992). A Power Primer. *Psychological Bulletin, 112*(1), 155-159. Retrieved from http://dx.doi.org/10.1037/0033-2909.112.1.155

Cooley, E., Payne, B. K., & Phillips, K. J. (2014). Implicit Bias and the Illusion of Conscious Ill Will. *Social Psychological and, 5*(4), 500-507. doi:10.1177/1948550613506123

Cooper-Thomas, H. D., Xu, J., & Saks, A. M. (2018). The Differential Value of Resources in Predicting Employee Engagement. *Journal of Managerial Psychology*, 1-20. doi:10.1108/JMP-12-2017-0449

Craig, M. A., & Richeson, J. A. (2014). More Diverse Yet Less Tolerant? How the Increasingly Diverse Racial Landscape Affects White Americans' Racial Attitudes. *Personality and Social Psychology Bulletin, 40*(6), 750-761. doi:10.1177/0146167214524993

Creswell, J. W. (2003). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (2nd ed.). Sage Publications.

Cropanzano, R., & Mitchell, M. S. (2005). Social Exchange Theory: An Interdisciplinary Review. *Journal of Management, 31*(6), 874-900. doi:10.1177/0149206305279602

Dasgupta, N., & Greenwald, A. G. (2001). On the Malleability of Automatic Attitudes: Combating Automatic Prejudice With Images of Admired and Disliked Individuals. *Journal of Personality and Social Psychology, 81*(5), 800-814. doi:10.1037/0022-3514.81.5.800

Dasgupta, N., Banaji, M. R., & Abelson, R. P. (1999). Group Entitativity and Group Perception: Associations Between Physical Features and Psychological Judgment. *Journal of Personality and Social Psychology, 77*(5), 991-1003. doi:10.1037/0022-3514.77.5.991

Daya, P. (2014). Diversity and Inclusion in an Emerging Market Context. *Equality, Diversity and Inclusion: An International Journal, 33*(3), 293-308. doi:10.1108/EDI-10-2012-0087

Dempsey, J. (2015). Moral Responsibility, Shared Values, and Corporate Culture. *Business Ethics Quarterly, 25*(3), 319-340. doi:10.1017/beq.2015.31

Denison, D., Nieminen, L., & Kotrba, L. (2014). Diagnosing organizational cultures: A conceptual and empirical review of culture effectiveness surveys. *European Journal of Work and Organizational Psychology, 23*(1), 145-161. doi:10.1080/1359432X.2012.713173

Devine, P. G. (1989). Stereotypes and Prejudice: Their Automatic and Controlled Components. *Journal of Personality and Social Psychology, 56*(1), 5-18. doi:10.1037//0022-3514.56.1.5

Devos, T., & Banaji, M. R. (2005). American = White? *Journal of Personality and Social Psychology, 88*(3), 447-466. doi:10.1037/0022-3514.88.3.447

Donaldson, S. I., & Grant-Vallone, E. J. (2002). Understanding Self-Report Bias in Organizational Behavior Research. *Journal of Business and Psychology, 17*(2), 245-260. doi:10.1023/A:1019637632584

Downey, S. N., van der Werff, L., Thomas, K. M., & Plaut, V. C. (2015). The role of diversity practices and inclusion in promoting trust and employee engagement. *Journal of Applied Social Psychology, 45*(1), 35-44. doi:10.1111/jasp.12273

Duguid, M. M., & Thomas-Hunt, M. C. (2015). Condoning Stereotyping? How Awareness of Stereotyping Prevalence Impacts Expression of Stereotypes. *Journal of Applied Psychology, 100*(2), 343-359. Retrieved from http://dx.doi.org/10.1037/a0037908

Dunham, Y., Chen, E. E., & Banaji, M. R. (2013). Two Signatures of Implicit Intergroup Attitudes: Developmental Invariance and Early Enculturation. *Psychological Science, 24*(6), 860-868. doi:10.1177/0956797612463081

Eagly, A. H., & Karau, S. J. (2002). Role Congruity Theory of Prejudice Toward Female Leaders. *Psychological Review, 109*(3), 573–598. doi:10.1037//0033-295X.109.3.573

Eldor, L., & Harpaz, I. (2016). A process model of employee engagement: The learning climate and its relationship with extra-role performance behaviors. *Journal of Organizational Behavior, 37*(2), 213-235. doi:10.1002/job.2037

Elsbach, K. D., & Stigliani, I. (2018). Design Thinking and Organizational Culture: A Review and Framework for Future Research. *Journal of Management, 44*(6), 2274-2306. doi:10.1177/0149206317744252

Erez, A., Schilpzand, P., Leavitt, K., Woolum, A. H., & Judge, T. A. (2015). Inherently Relational: Interactions between Peers' and Individuals' Personalities Impact

Reward Giving and Appraisal of Individual Performance. *Academy of Management Journal, 58*(6), 1761-1784. doi:10.5465/amj.2011.0214

Fazio, R. H., & Olson, M. A. (2003). Implicit Measures in Social Cognition Research: Their Meaning and Use. *Annual Review of Psychology, 54*(1), 297-327. doi:10.1146/annurev.psych.54.101601.145225

Field, A. (2013). *Discovering Statistics Using IBM SPSS Statistics* (4th ed.). Thousand Oaks: Sage Publications Inc.

García-Buades, E., Martínez-Tur, V., Ortiz-Bonnín, S., & Peiró, J. M. (2016). Engaged teams deliver better service performance in innovation climates. *European Journal of Work and Organizational Psychology, 25*(4), 597-612. doi:10.1080/1359432X.2016.1171752

Gawronski, B., Morrison, M., & Phills, C. E. (2017). Temporal Stability of Implicit and Explicit Measures: A Longitudinal Analysis. *Personality and Social Psychology Bulletin, 43*(3), 300-312. doi:10.1177/0146167216684131

Giorgi, S., Bartunek, J. M., & King, B. G. (2017). A Saul Alinsky primer for the 21st century: The roles of cultural competence and cultural brokerage in fostering mobilization in support of change. *Research in Organizational Behavior, 37*, 125-142. Retrieved from https://doi.org/10.1016/j.riob.2017.09.002

Giorgi, S., Lockwood, C., & Glynn, M. A. (2015). The Many Faces of Culture: Making Sense of 30 Years of Research on Culture in Organization Studies. *The Academy of Management Annals, 9*(1), 1-54. doi:10.1080/19416520.2015.1007645

Greenwald, A. G., & Banaji, M. R. (1995). Implicit Social Cognition: Attitudes, Self-Esteem, and Stereotypes. *Psychological Review, 102*(1), 4-27. doi:10.1037//0033-295X.102.1.4

Greenwald, A. G., & Banaji, M. R. (2017). The Implicit Revolution: Reconceiving the Relation Between Conscious and Unconscious. *American Psychologist, 72*(9), 861-871. Retrieved from http://dx.doi.org/10.1037/amp0000238

Gregg, A. P., Seibt, B., & Banaji, M. R. (2006). Easier Done Than Undone: Asymmetry in the Malleability of Implicit Preferences. *Journal of Personality and Social Psychology, 90*(1), 1-20. doi:10.1037/0022-3514.90.1.1

Guiso, L., Sapienza, P., & Zingales, L. (2015). The value of corporate culture. *Journal of Financial Economics, 117*(1), 60-76. Retrieved from http://dx.doi.org/10.1016/j.jfineco.2014.05.010

Hahn, A., Judd, C. M., Hirsh, H. K., & Blair, I. V. (2013). Awareness of Implicit Attitudes. *Journal of Experimental Psychology: General, 143*(3), 1369-1392. doi:10.1037/a0035028

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis* (7th ed.). Essex: Pearson Education Limited.

Hajro, A., Gibson, C. B., & Pudelko, M. (2017). Knowledge Exchange Processes in Multicultural Teams: Linking Organizational Diversity Climates to Teams' Effectiveness. *Academy of Management Journal, 60*(1), 345-372. Retrieved from https://doi.org/10.5465/amj.2014.0442

Hakanen, J. J., Peeters, M. C., & Schaufeli, W. B. (2018). Different Types of Employee Well-being Across time and Their Relationships with Job Crafting. *Journal of Occupational Health Psychology, 23*(2), 289-301. doi:10.1037/ocp0000081

Han Trainer Dictionary. (n.d.). Retrieved from https://dictionary.hantrainerpro.com/chinese-english/translation-wo_nest.htm

He, H., Zhu, W., & Zheng, X. (2014). Procedural Justice and Employee Engagement: Roles of Organizational Identification and Moral Identity Centrality. *Journal of Business Ethics, 122*(4), 681-695. doi:10.1007/s10551-013-1774-3

Healey, M. P., Vuori, T., & Hodgkinson, G. P. (2015). When Teams Agree while Disagreeing: Reflexion and Reflection in Shared Cognition. *Academy of Management Review, 40*(3), 399-422. doi:10.5465/amr.2013.0154

Heilman, M. E., Wallen, A. S., Fuchs, D., & Tamkins, M. M. (2004). Penalties for Success: Reactions to Women Who Succeed at Male Gender-Typed Tasks. *Journal of Applied Psychology, 89*(3), 416–427. doi:10.1037/0021-9010.89.3.416

Helfat, C. H., & Peteraf, M. A. (2015). Managerial cognitive capabilities and the microfoundations of dynamic capabilities. *Strategic Management Journal, 36*(6), 831-850. doi:10.1002/smj.2247

Hernandez, M., Avery, D. A., Tonidandel, S., Hebl, M. R., Smith, A. N., & McKay, P. F. (2016). The Role of Proximal Social Contexts: Assessing Stigma-by-Association Effects on Leader Appraisals. *Journal of Applied Psychology, 101*(1), 68-85. Retrieved from http://dx.doi.org/10.1037/apl0000030

Hitt, M. A., Carnes, C. M., & Xu, K. (2016). A current view of resource based theory in operations management: A response to Bromiley and Rau. *Journal of Operations Management, 41*(10), 107-109. Retrieved from http://dx.doi.org/10.1016/j.jom.2015.11.004

Hofstede, G. (1983). The cultural relativity of organizational practices and theories. *Journal of International Business Studies, 14*(2), 75-89. Retrieved from https://doi.org/10.1057/palgrave.jibs.8490867

Hogg, M. A. (2009). *From Group Conflict to Social Harmony.* Boston: Harvard Business School Publishing Corporation.

Homans, G. C. (1958). Social Behavior as Exchange. *American Journal of Sociology, 63*(6), 597-606. doi:10.1086/222355

Hoskisson, R. E., Gambeta, E., Green, C. D., & Li, T. X. (2018). Is my firm-specific investment protected? Overcoming the stakeholder investment dilemma in the resource based view. *Academy of Management Review, 43*(2), 284-306. Retrieved from https://doi.org/10.5465/amr.2015.0411

Hoyt, C. L., & Murphy, S. E. (2016). Managing to clear the air: Stereotype threat, women, and leadership. *The Leadership Quarterly, 27*(3), 387-399. Retrieved from http://dx.doi.org/10.1016/j.leaqua.2015.11.002

Hu, L.-t., & Bentler, P. M. (1999). Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria Versus New Alternatives. *Structural Equation*

Modeling: A Multidisciplinary Journal, 6(1), 1-55. Retrieved from http://dx.doi.org/10.1080/10705519909540118

Ito, T. A., Friedman, N. P., Bartholow, B. D., Correll, J., Loersch, C., Altamirano, L. J., & Miyake, A. (2015). Toward a Comprehensive Understanding of Executive Cognitive Function in Implicit Racial Bias. *Journal of Personality and Social Psychology, 108*(2), 187-218. Retrieved from http://dx.doi.org/10.1037/a0038557

Jacoby-Senghor, D. S., Sinclair, S., & Shelton, J. N. (2016). A lesson in bias: The relationship between implicit racial bias and performance in pedagogical contexts. *Journal of Experimental Social Psychology, 63*, 50-55. Retrieved from http://dx.doi.org/10.1016/j.jesp.2015.10.010

Jenq, C., Pan, J., & Theseira, W. (2015). Beauty, weight, and skin color in charitable giving. *Journal of Economic Behavior and Organisation, 119*, 234-253. Retrieved from http://dx.doi.org/10.1016/j.jebo.2015.06.004

Johnson, K. J., Martineau, J. T., Kouame, S., Turgut, G., & Poisson-de-Haro, S. (2018). On the Unethical Use of Privileged Information in Strategic Decision-Making: The Effects of Peers' Ethicality, Perceived Cohesion, and Team Performance. *Journal of Business Ethics*, 1-13. Retrieved from https://doi.org/10.1007/s10551-018-3822-5

Johnson, P., & Clark, M. (Eds.). (2006). *Business and management research methodologies.* Sage.

Joshi, A., Neely, B., Emrich, C., Griffiths, D., & George, G. (2015). Gender Research in AMJ: An Overview of Five Decades of Empirical Research and Calls to Action. *Academy of Management Journal, 58*(5), 1459-1474. Retrieved from http://dx.doi.org/10.5465/amj.2015.4011

Jost, J. T., & Banaji, M. R. (1994). The role of stereotyping in system-justification and the production of false consciousness. *British Journal of Social Psychology, 33*(1), 1-27.

Jost, J. T., Banaji, M. R., & Nosek, B. R. (2004). A Decade of System Justification Theory: Accumulated Evidence of Conscious and Unconscious Bolstering of the Status Quo. *Political Psychology, 25*(6), 881-919. Retrieved from http://dx.doi.org/10.1111/j.1467-9221.2004.00402.x

Jost, J. T., Rudman, L. A., Blair, I. V., Carney, D. R., Dasgupta, N., Glaser, J., & Hardin, C. D. (2009). The existence of implicit bias is beyond reasonable doubt: A refutation of ideological and methodological objections and executive summary of ten studies that no manager should ignore. *Research in Organizational Behavior*(29), 39-69. doi:10.1016/j.riob.2009.10.001

Kahn, W. A. (1990). Psychological Conditions of Personal Engagement and Disengagement at Work. *Academy of Management Journal, 33*(4), 692-724. Retrieved from https://doi.org/10.5465/256287

Kahneman, D., & Tversky, A. (1982). The Psychology of Preferences. *Scientific American, 246*(1), 160-173. Retrieved from http://dx.doi.org/10.1038/scientificamerican0182-160

Karanika-Murray, M., Duncan, N., Pontes, H. M., & Griffiths, M. D. (2015). Organizational identification, work engagement, and job satisfaction. *Journal of Managerial Psychology, 30*(8), 1019-1033. doi:10.1108/JMP-11-2013-0359

Klettner, A., Clarke, T., & Boersman, M. (2016). Strategic and Regulatory Approaches to Increasing Women in Leadership: Multilevel Targets and Mandatory Quotas as Levers for Cultural Change. *Journal of Business Ethics, 133*(3), 395-419. doi:10.1007/s10551-014-2069-z

Koenig, A. M., Mitchell, A. A., Eagly, A. H., & Ristikari, T. (2011). Are Leader Stereotypes Masculine? A Meta-analysis of Three Research Paradigms. *Psychological Bulletin, 137*(4), 616-642. doi:10.1037/a0023557

Kossek, E. E., Su, R., & Wu, L. (2017). "Opting Out" or "Pushed Out"? Integrating Perspectives on Women's Career Equality for Gender Inclusion and Interventions. *Journal of Management, 43*(1), 228-254. doi:10.1177/0149206316671582

Kumar, V., & Pansari, A. (2015). Measuring the Benefits of Employee Engagement. *MIT Sloan Management Review, 56*(4), 67-72. Retrieved from https://sloanreview.mit.edu/article/measuring-the-benefits-of-employee-engagement/

Kurtessis, J. N., Eisenberger, R., Ford, M. T., Buffardi, L. C., Stewart, K. A., & Adis, C. S. (2017). Perceived Organizational Support: A Meta-Analytic Evaluation of Organizational Support Theory. *Journal of Management, 43*(6), 1854–1884. doi:10.1177/0149206315575554

Kyung, E. J., Thomas, M., & Krishna, A. (2017). When Bigger Is Better (and When It Is Not): Implicit Bias in Numeric Judgments. *Journal of Consumer Research, 44*(1), 62-79. doi:10.1093/jcr/ucw079

Lanaj, K., & Hollenbeck, J. R. (2015). Leadership Over-Emergence in Self-Managing Teams: The Role of Gender and Countervailing Biases. *Academy of Management Journal, 58*(5), 1476-1494. Retrieved from http://dx.doi.org/10.5465/amj.2013.0303

Leavitt, K., Zhu, L., & Aquino, K. (2016). Good Without Knowing it: Subtle Contextual Cues can Activate Moral Identity and Reshape Moral Intuition. *Journal of Business Ethics, 137*(4), 785-800. doi:10.1007/s10551-015-2746-6

Lee, Y., & Kramer, A. (2016). The role of purposeful diversity and inclusion strategy (PDIS) and cultural tightness/looseness in the relationship between national culture and organizational culture. *Human Resource Management Review, 26*(3), 198-208. Retrieved from http://dx.doi.org/10.1016/j.hrmr.2016.01.001

Mackay, M. M., Allen, J. A., & Landis, R. S. (2017). Investigating the incremental validity of employee engagement in the prediction of employee effectiveness: A meta-analytic path analysis. *Human Resource Management Review, 27*(1), 108-120. Retrieved from http://dx.doi.org/10.1016/j.hrmr.2016.03.002

Mann, T. C., & Ferguson, M. J. (2015). Can We Undo Our First Impressions? The Role of Reinterpretation in Reversing Implicit Evaluations. *Journal of Personality and Social Psychology, 108*(6), 823-849. doi:10.1037/pspa0000021

Marvel, J. D. (2016). Unconscious Bias in Citizens' Evaluations of Public Sector Performance. *Journal of Public Administration and Theory, 26*(1), 143-158. doi:10.1093/jopart/muu053

May, D. R., Gilson, R. L., & Harter, L. M. (2004). The psychological conditions of meaningfulness, safety and availability and the engagement of the human spirit at work. *Journal of Occupational and Organizational Psychology, 77*(1), 11-37. Retrieved from http://dx.doi.org/10.1348/096317904322915892

Milkman, K. L., Akinola, M., & Chugh, D. (2015). What Happens Before? A Field Experiment Exploring How Pay and Representation Differentially Shape Bias on the Pathway Into Organizations. *Journal of Applied Psychology, 100*(6), 1678-1712. Retrieved from http://dx.doi.org/10.1037/apl0000022

O'Reilly III, C. A., Caldwell, D. F., Chatman, J. A., & Doerr, B. (2014). The Promise and Problems of Organizational Culture: CEO Personality, Culture, and Firm Performance. *Group and Organization Management, 39*(6), 595-625. doi:10.1177/1059601114550713

O'Reilly III, C. A., Chatman, J., & Caldwell, D. F. (1991). People and organizational culture: A Profile Comparison Approach to Assessing Person-Organization Fit. *Academy of Management Journal, 34*(3), 487-516. doi:10.2307/256404

Patterson, O. (2014). Making Sense of Culture. *Annual Review of Sociology, 40*, 1-30. doi:10.1146/annurev-soc-071913-043123

Payne, B. K., Cheng, C. M., Govorun, O., & Stewart, B. D. (2005). An Inkblot for Attitudes: Affect Misattribution as Implicit Measurement. *Journal of Personality and Social Psychology, 89*(3), 277–293. doi:10.1037/0022-3514.89.3.277

Payne, K., & Lundberg, K. (2014). The Affect Misattribution Procedure: Ten Years of Evidence on Reliability, Validity, and Mechanisms. *Social and Personality Psychology Compass, 8*(12), 672–686. doi:10.1111/spc3.12148

Pixabay. (2018). *Photos*. Retrieved from Pixabay: https://pixabay.com/

Pope, D. G., Price, J., & Wolfers, J. (2018). Awareness Reduces Racial Bias. *Management Science*. Retrieved from https://doi.org/10.1287/mnsc.2017.2901

Remenyi, D., Williams, B., Money, A., & Swartz, E. (1998). *Doing Research in Business and Management: An Introduction to Process and Method.* London: SAGE Publications Ltd.

Rich, B. L., Lepine, J. A., & Crawford, E. R. (2010). Job Engagement: Antecedents and Effects on Performance. *Academy of Management Journal, 53*(3), 617-635. Retrieved from http://dx.doi.org/10.5465/AMJ.2010.51468988

Rindfleisch, A., Malter, A. J., Ganeson, S., & Moorman, C. (2008). Cross-Sectional Versus Longitudinal Survey Research: Concepts, Findings, and Guidelines. *Marketing Research, 45*(3), 261-279. Retrieved from http://dx.doi.org/10.1509/jmkr.45.3.261

Robbins, S. P., & Judge, T. A. (2015). *Organizational Behaviour* (16th ed.). Boston: Pearson.

Rudman, L. A., Ashmore, R. D., & Gary, M. L. (2001). "Unlearning" Automatic Biases: The Malleability of Implicit Prejudice and Stereotypes. *Journal of Personality and Social Psychology, 81*(5), 856-868. doi:10.1037//0022-3514.81.5.856

Saks, A. M. (2006). Antecedents and consequences of employee engagement. *Journal of Managerial Psychology, 21*(7), 600-619. doi:10.1108/02683940610690169

Sarros, J. C., Gray, J., Densten, I. L., & Cooper, B. (2005). The Organizational Culture Profile Revisited and Revised: An Australian perspective. *Australian Journal of Management, 30*(1), 159-182. doi:10.1177/031289620503000109

Saunders, M., & Lewis, P. (2012). *Doing Research in Business and Management.* Essex: Pearson Education.

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students.* Essex: Pearson Education.

Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The Measurement of Work Engagment with a Short Questionnaire. *Educational and Psychological Measurement, 66*(4), 701-716. doi:10.1177/0013164405282471

Schaufeli, W. B., Salanova, M., Gonzalez-Roma, V., & Bakker, A. B. (2002). The Measurement of Engagement and Burnout: A Two Sample Confirmatory Factor Analytic Approach. *Journal of Happiness studies, 3*(1), 71-92. Retrieved from https://doi.org/10.1023/A:1015630930326

Schein, E. (1984). Coming to a New Awareness of Organizational Culture. *Sloan Management Review, 25*(2), 3-16. Retrieved from https://sloanreview.mit.edu/article/coming-to-a-new-awareness-of-organizational-culture/

Schein, E. (2004). *Organizational Culture and Leadership* (3rd ed.). San Francisco: John Wiley & Sons.

Schmitt, T. A. (2011). Current Methodological Considerations in Exploratory and Confirmatory Factor Analysis. *Journal of Psychoeducational Assessment, 29*(4), 304-321. doi:10.1177/0734282911406653

Schneider, B., González-Romá, V., Ostroff, C., & West, M. A. (2017). Organizational Climate and Culture: Reflections on the History of the Constructs in the Journal of Applied Psychology. *Journal of Applied Psychology, 102*(3), 468-482. Retrieved from http://dx.doi.org/10.1037/apl0000090

Schneider, B., Yost, A. B., Kropp, A., Kind, C., & Lam, H. (2018). Workforce engagement: What it is, what drives it, and why it matters for organizational performance. *Journal of Organizational Behavior, 39*(4), 462-480. doi:10.1002/job.2244

Schriesheim, C. A., Powers, K. J., Scandura, T. A., Gardiner, C. C., & Lankau, M. J. (1993). Improving Construct Measurement In Management Research: Comments and a Quantative Approach for Assessing the Theoretical Content Adequacy of Paper-and-Pencil Survey-Type Instruments. *Journal of Management, 19*(2), 385-417. doi:10.1177/014920639301900208

Shimizu, Y., Lee, H., & Uleman, J. S. (2017). Culture as automatic processes for making meaning: Spontaneous trait inferences. *Journal of Experimental Social*

Psychology, 69, 79-85. Retrieved from http://dx.doi.org/10.1016/j.jesp.2016.08.003

Shore, L. M., Cleveland, J. N., & Sanchez, D. (2018). Inclusive workplaces: A review and model. *Human Resource Management Review, 28*(2), 176-189. Retrieved from http://dx.doi.org/10.1016/j.hrmr.2017.07.003

Shuck, B., Twyford, D., Reio Jr., T. G., & Shuck, A. (2014). Human Resource Development Practices and Employee Engagement: Examining the Connection With Employee Turnover Intentions. *Human Resource Development Quarterly, 25*(2), 239-270. doi:10.1002/hrdq.21190

Shutts, K., Kinzler, K. D., Katz, R. C., Tredoux, C., & Spelke, E. S. (2011). Race preferences in children: insights from South Africa. *Developmental Science, 14*(6), 1283-1291. doi:10.1111/j.1467-7687.2011.01072.x

Stanovich, K. E., West, R. F., & Toplak, M. E. (2014). Rationality, Intelligence, and the Defining Features of Type 1 and Type 2 Processing. In *Dual processes in Social Psychology* (pp. 80-91). New York: Guildford Publications.

Stokes, P., Baker, C., & Lichy, J. (2016). The Role of Embedded Individual Values, Belief and Attitudes and Spiritual Capital in Shaping Everyday Postsecular Organizational Culture. *European Management Review, 13*(1), 37-51. doi:10.1111/emre.12065

Stripped Pixel. (2015, November 11). Ten Chinese Characters That Look Like Their Meanings [Blog post]. Retrieved from http://www.strippedpixel.com/ten-chinese-characters-that-look-like-their-meanings/

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education, 2*, 53-55. doi:10.5116/ijme.4dfb.8dfd

The Economist. (2017, December 9). The big companies caught up in South Africa's "state capture" scandal. *The Economist*. Retrieved from https://www.economist.com/

Tom. (2011, December 2). If you're only going to learn two Chinese Characters, make it these two! [Blog post]. Retrieved from https://www.opportunity-china.com/blog/if-you%E2%80%99re-only-going-to-learn-two-chinese-characters-make-it-these-two/

Tversky, A., & Kahneman, D. (1974). Judgment under Uncertainty: Heuristics and Biases. *Science, 185*(4157), 1124-1131. doi:10.1126/science.185.4157.1124

van Breen, J. A., Spears, R., Kuppens, T., & de Lemus, S. (2018). Subliminal Gender Stereotypes: Who Can Resist? *Personality and Social Psychology Bulletin*, 1-16. doi:10.1177/0146167218771895

von Hippel, W., Brener, L., & von Hippel, C. (2008). Implicit Prejudice Toward Injecting Drug Users Predicts Intentions to Change Jobs Among Drug and Alcohol Nurses. *Psychological Science, 19*(1), 7-11. doi:10.1111/j.1467-9280.2008.02037.x.

Wang, C. L., & Rafiq, M. (2014). Ambidextrous Organizational Culture, Contextual Ambidexterity and New Product Innovation: A Comparative Study of UK and

Chinese High-tech Firms. *British Journal of Management, 25*(1), 58-76. doi:10.1111/j.1467-8551.2012.00832.x

Wegner, T. (2016). *Applied Business Statistics: Methods and Excel-based Applications* (4th ed.). Claremont, Cape Town, South Africa: Juta and Company Limited.

Wei, Y. S., Samiee, S., & Lee, R. P. (2014). The influence of organic organizational cultures, market responsiveness, and product strategy on firm performance in an emerging market. *Journal of the Academy of Marketing Science, 42*(1), 49-70. doi:10.1007/s11747-013-0337-6

Welsh, D. T., & Ordonez, L. D. (2014). Conscience without Cognition: The Effects of Subconscious Priming on Ethical Behavior. *Academy of Management Journal, 57*(3), 723-742. Retrieved from http://dx.doi.org/10.5465/amj.2011.1009

Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic management journal, 5*(2), 171-180. Retrieved from https://doi.org/10.1002/smj.4250050207

Zander, L., Jonsen, K., & Mockaitis, A. I. (2016). Leveraging Values in Global Organizations: Premises, Paradoxes and Progress. *Management International Review*, 149-169. doi:10.1007/s11575-015-0277-0

Zhong, L., Wayne, S. J., & Liden, R. C. (2016). Job engagement, perceived organizational support, high-performance human resource practices, and cultural value orientations: A cross-level investigation. *Journal of Organizational Behavior, 37*(6), 823-844. doi:10.1002/job.2076

Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2009). *Business Research Methods* (8th ed.). South-Western Cengage Learning.

APPENDICES

8.1 Appendix A: Research Questionnaire

Introduction

As part of my GIBS MBA research module, I am conducting research to determine the influence unconscious biases can have on organisational culture and employee engagement. As such, please can you complete the following questionnaire to fulfil my research requirements. The questionnaire will take approximately 15-20 minutes to complete. All responses to the questionnaire are anonymous and only aggregated data will be reported. All data collected from the questionnaire will be kept confidential. By completing the questionnaire, you are indicating your participation is voluntary, however you may exit the questionnaire at any time, without penalty.

Should you have any questions or concerns please contact myself or my research supervisor on the details below.

Researcher: Eshentha Moodley
Contact Details: 17390177@mygibs.co.za

Supervisor: Shireen Chengadu
Contact Details: chengadus@gibs.co.za

Part A: Demographic Information

Question 1: What sector does your organisation belong to?

Private	
Public	

Question 2: What is your gender?

Male	
Female	

Question 3: What is your age?

18-29	
30-39	
40-49	
50-59	

60 or older	

Question 4: Which of the following best describes the principle industry of your organisation?

Agriculture	
Construction	
Education	
Engineering	
Finance	
Fishing	
Forestry	
Healthcare	
Hospitality	
Information Technology	
Manufacturing	
Mining	
Oil, Gas, Chemical	
Telecommunications	
Transportation	
Utilities (electricity or water)	
Other	

Question 5: What is your job role?

Staff	
Team Lead	
Specialist	
Middle Manager	
Senior Manager	
Executive	
Other	

Question 6: How long have you been at your organisation?

Less than 1 year	
Between 1 and 5 years	
Between 5 and 10 years	

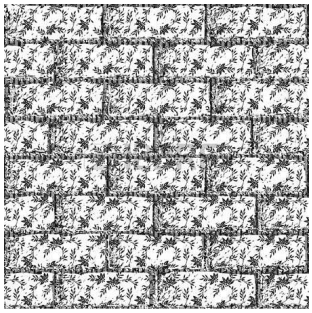
More than 10 years	

Part B: Unconscious Biases

Unconscious biases are involuntary judgements people make to objects, other people and situations.

You will be presented with a series of images – (1) a real-life image OR a grey square, (2) a Chinese character and (3) a patterned square. The real-life image serves as a warning for the Chinese character – it should be ignored. You will need to rate the Chinese character as either pleasant or unpleasant. Respond quickly. Because we are interested in determining your bias, do not let the real-life images bias your judgement of the Chinese characters.

Question 7

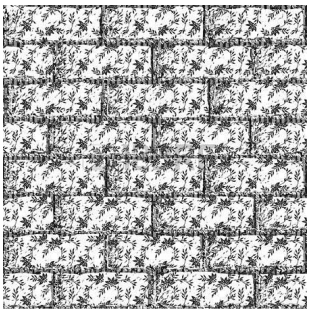


Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 8

象

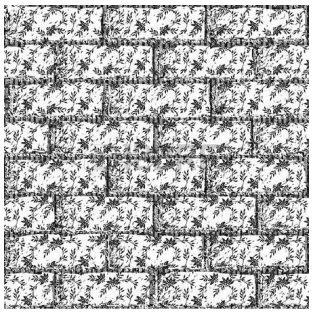


Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 9

山

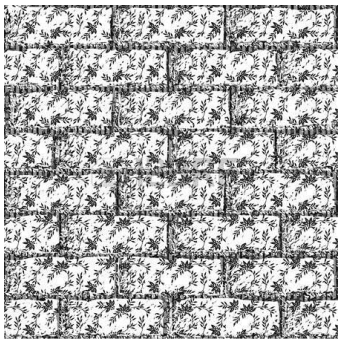


Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 10

森

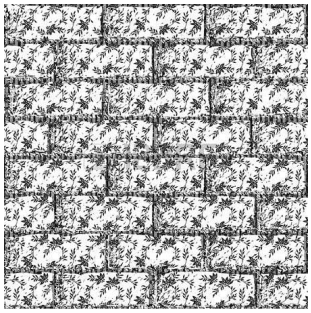


Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 11

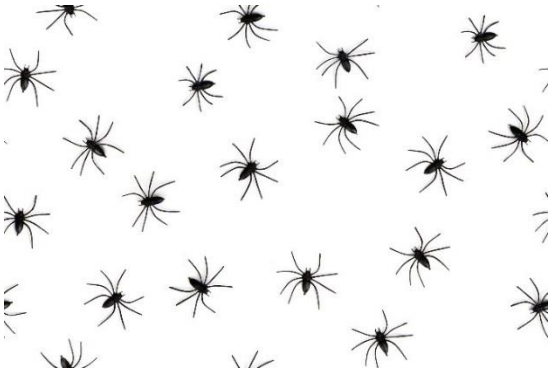
雨



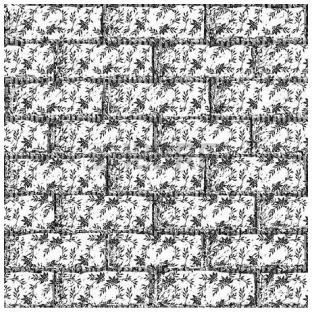
Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 12



伞

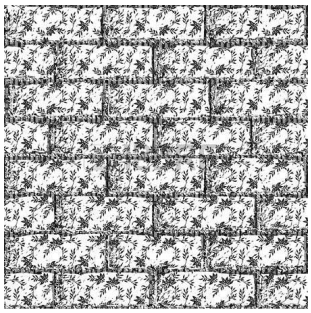


Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 13

哭

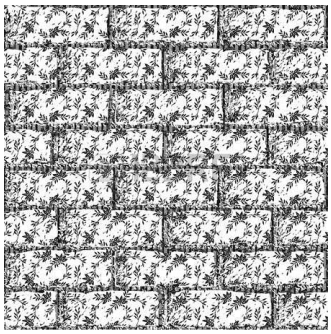


Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 14

串

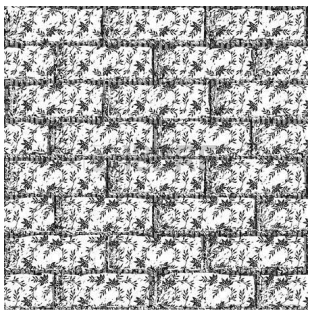


Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 15

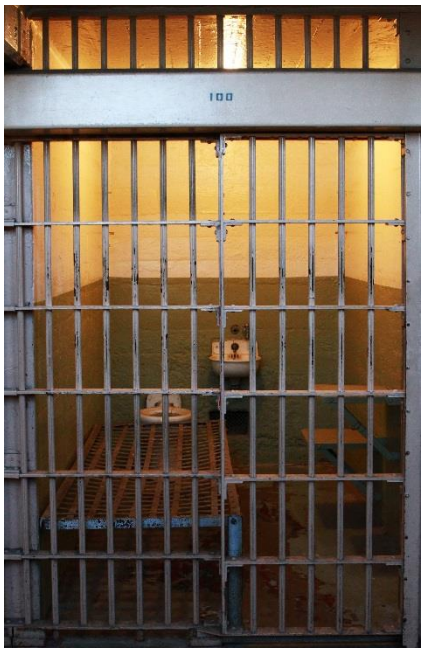
凹



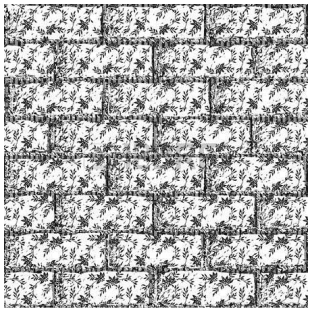
Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 16



川

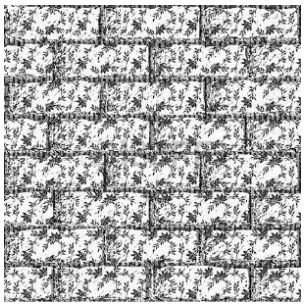


Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 17

呢

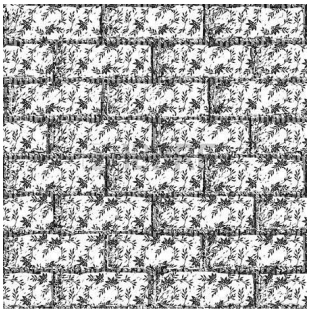


Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 18

蛇

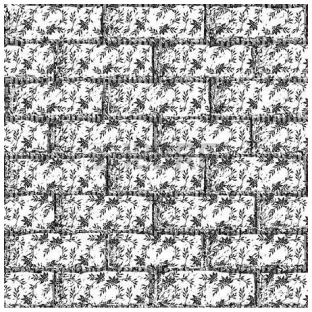


Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 19

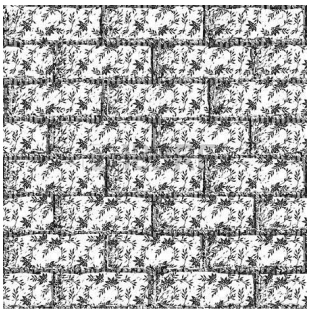
马



Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

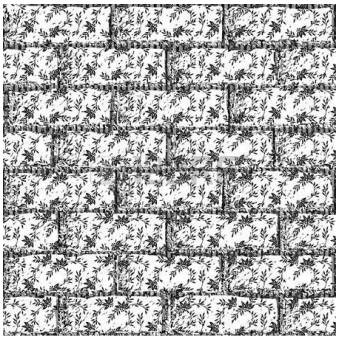
Question 20



Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

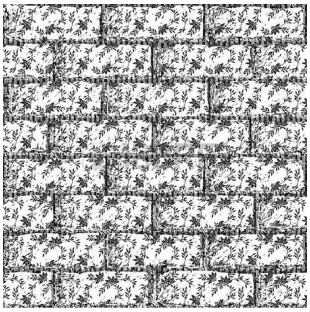
Question 21



Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

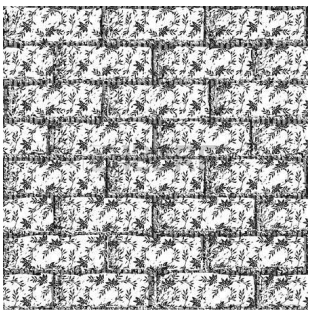
Question 22



Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 23

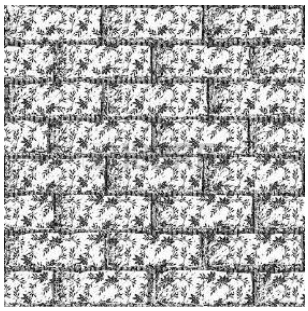


Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 24

鼠

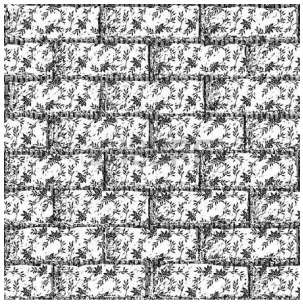


Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 25

兔

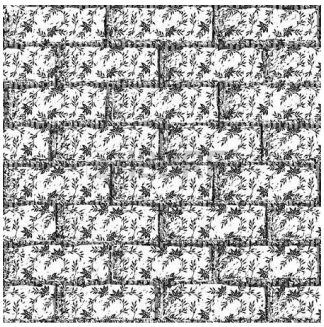


Select pleasant if you judge the Chinese character as more visually pleasing than average or
unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 26

男

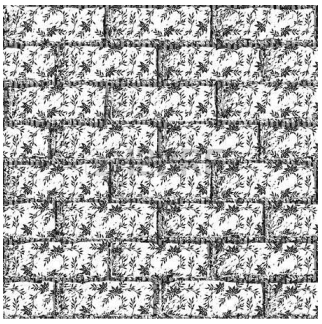


Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 27

女

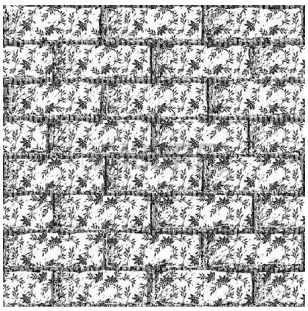


Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 28

陽

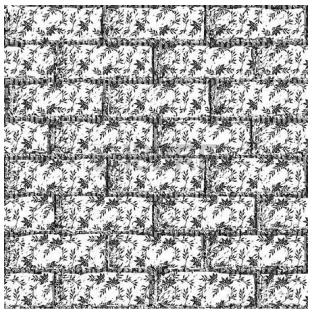


Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 29

是

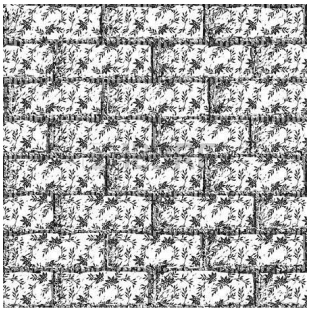


Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 30

不

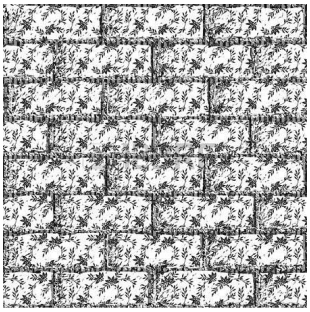


Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 31

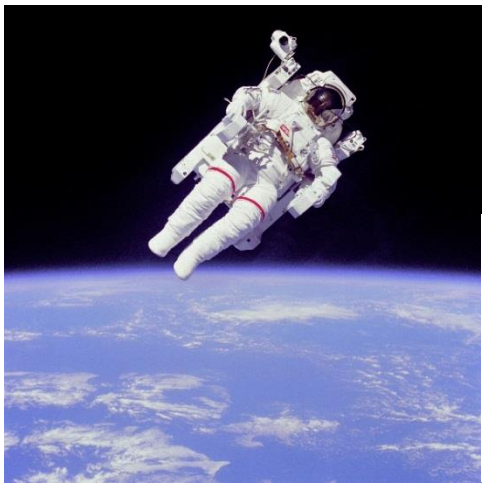
中



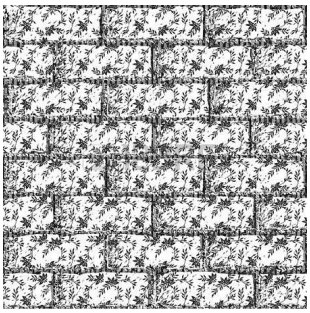
Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 32



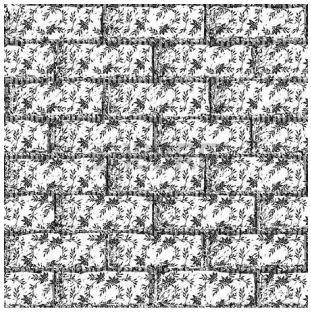
没



Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 33

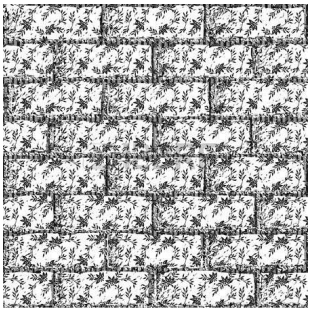


Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 34

气

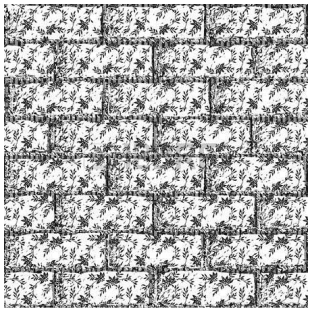


Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 35

喂

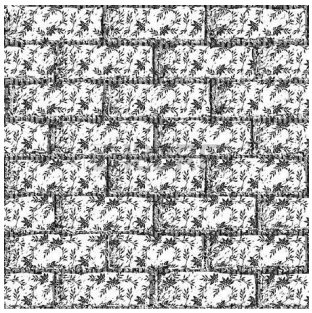


Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 36

位

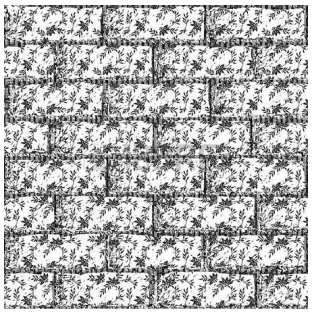


Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 37

唯

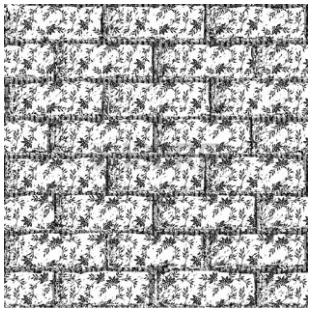


Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 38

地

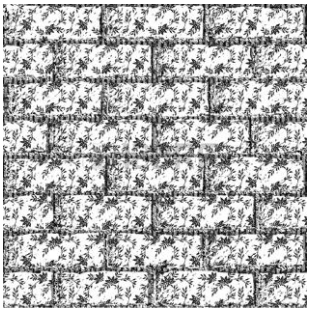


Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 39

我

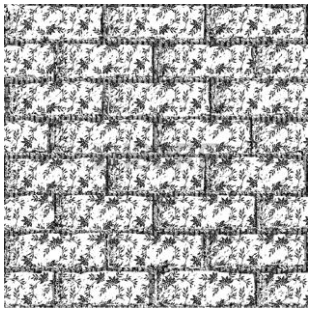


Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 40

握

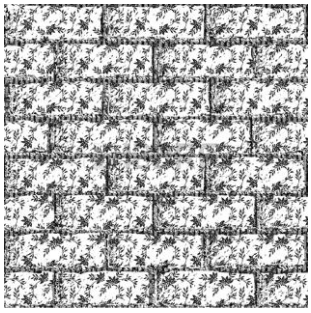


Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 41

窝

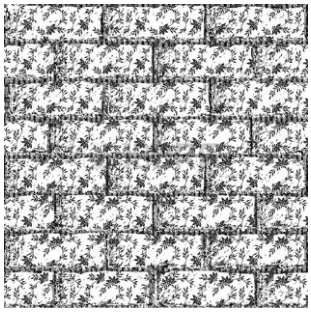


Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Question 42

哪



Select pleasant if you judge the Chinese character as more visually pleasing than average or unpleasant if you judge the Chinese character as less visually pleasing than average.

- Pleasant
- Unpleasant

Part C: Organisational Culture

The following statements describe the culture of your organisation. Read each statement carefully and determine how you feel about each statement based on the scale defined below.

Scale

0	Not at all
1	Minimally
2	Moderately
3	Considerably
4	Very much

Competitiveness:

Question 43: To what extent is your organisation oriented towards achievement?	0 1 2 3 4
Question 44: To what extent does your organisation have an emphasis on quality?	0 1 2 3 4
Question 45: To what extent is your organisation considered being distinct – i.e. being different from others?	0 1 2 3 4
Question 46: To what extent is your organisation considered competitive?	0 1 2 3 4

Supportiveness:

Question 47: To what extent is your organisation considered team-oriented?	0 1 2 3 4
Question 48: To what extent does your organisation share information freely?	0 1 2 3 4
Question 49: To what extent is your organisation considered people-oriented?	0 1 2 3 4
Question 50: To what extent does your organisation display collaboration?	0 1 2 3 4

Emphasis on rewards:

Question 51: To what extent is your organisation considered fair?	0 1 2 3 4
Question 52: To what extent does your organisation display opportunities for professional growth?	0 1 2 3 4
Question 53: To what extent does your organisation display high pay for good performance?	0 1 2 3 4
Question 54: To what extent does your organisation display praise for good performance?	0 1 2 3 4

Performance Orientation:

Question 55: To what extent does your organisation have high expectations for performance?	0 1 2 3 4
Question 56: To what extent does your organisation display enthusiasm for the job?	0 1 2 3 4
Question 57: To what extent does your organisation emphasise being results oriented?	0 1 2 3 4
Question 58: To what extent does your organisation display being highly organised?	0 1 2 3 4

Stability:

Question 59: To what extent does your organisation display stability?	0 1 2 3 4
Question 60: To what extent does your organisation display being calm?	0 1 2 3 4
Question 61: To what extent does your organisation indicate security for employment?	0 1 2 3 4
Question 62: To what extent does your organisation display low conflict?	0 1 2 3 4

Part D: Employee Engagement

The following statements describe how you feel at work. Read each statement carefully and determine how you feel about each statement based on the scale defined below.

Scale

0	Never (never)
1	Almost Never (a few times a year or less)
2	Rarely (once a month or less)
3	Sometimes (a few times a month)
4	Often (once a week)
5	Very Often (a few times a week)
6	Always (everyday)

Meaningfulness:

Question 63: The work I do on this job is very important to me.	0 1 2 3 4 5 6
Question 64: My job activities are personally meaningful to me.	0 1 2 3 4 5 6
Question 65: The work I do on this job is worthwhile.	0 1 2 3 4 5 6
Question 66: My job activities are significant to me.	0 1 2 3 4 5 6
Question 67: The work I do on this job is meaningful to me.	0 1 2 3 4 5 6
Question 68: I feel that the work I do on my job is valuable.	0 1 2 3 4 5 6

Psychological Safety:

Question 69: I'm not afraid to be myself at work.	0 1 2 3 4 5 6
Question 70: I am not afraid to express my opinions at work.	0 1 2 3 4 5 6
Question 71: There is a safe environment at work.	0 1 2 3 4 5 6

Psychological Availability:

Question 72: I am confident in my ability to handle competing demands at work.	0 1 2 3 4 5 6
Question 73: I am confident in my ability to deal with problems that come up at work.	0 1 2 3 4 5 6
Question 74: I am confident in my ability to think clearly	0 1 2 3 4 5 6

at work.	
Question 75: I am confident in my ability to display the appropriate emotions at work.	0 1 2 3 4 5 6
Question 76: I am confident that I can handle the physical demands at work.	0 1 2 3 4 5 6

Vigour:

Question 77: At my work, I feel bursting with energy.	0 1 2 3 4 5 6
Question 78: At my job, I feel strong and vigorous.	0 1 2 3 4 5 6
Question 79: When I get up in the morning, I feel like going to work.	0 1 2 3 4 5 6
Question 80: At my job, I am very resilient, mentally.	0 1 2 3 4 5 6
Question 81: At my work, I always persevere, even when things do not go well.	0 1 2 3 4 5 6

Dedication:

Question 82: I find the work that I do full of meaning and purpose.	0 1 2 3 4 5 6
Question 83: I am enthusiastic about my job.	0 1 2 3 4 5 6
Question 84: My job inspires me.	0 1 2 3 4 5 6
Question 85: I am proud of the work that I do.	0 1 2 3 4 5 6
Question 86: To me, my job is challenging.	0 1 2 3 4 5 6

Absorption:

Question 87: Time flies when I am working.	0 1 2 3 4 5 6
Question 88: When I am working, I forget everything else around me.	0 1 2 3 4 5 6
Question 89: I feel happy when I am working intensely.	0 1 2 3 4 5 6
Question 90: I am immersed in my work.	0 1 2 3 4 5 6
Question 91: I get carried away when I am working.	0 1 2 3 4 5 6
Question 92: It is difficult to detach myself from my job.	0 1 2 3 4 5 6

8.2 Appendix B: Prime Pictures used in Part B of Research Questionnaire

Table 40

Pleasant and Unpleasant Primes

Pleasant Images	Unpleasant Images
Seal	Snakes
Bunnies	Spiders
Puppies	Roaches
Monkeys	Dog
Porpoise	Angry face
Mickey	Jail
Baby	Crying boy
Family	Gun
Astronaut	Oil fire
Seagulls	Garbage 1
Castle	Garbage 2
Money	Ruins

Note. List of prime images obtained from Payne et al. (2005).

8.3 Appendix C: Statistical Results

8.3.1 Kolmogorov-Smirnov and Shapiro-Wilk Test for Normality

Table 41

Test for Normality

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	*df*	Sig.	Statistic	*df*	Sig.
Q7	0.46	104	.000	0.546	104	.000
Q8	0.49	104	.000	0.502	104	.000
Q9	0.36	104	.000	0.635	104	.000
Q10	0.49	104	.000	0.481	104	.000
Q11	0.40	104	.000	0.617	104	.000
Q12	0.50	104	.000	0.458	104	.000
Q13	0.42	104	.000	0.596	104	.000
Q14	0.45	104	.000	0.561	104	.000
Q15	0.36	104	.000	0.633	104	.000
Q16	0.36	104	.000	0.635	104	.000
Q17	0.35	104	.000	0.636	104	.000
Q18	0.39	104	.000	0.623	104	.000
Q19	0.36	104	.000	0.635	104	.000
Q20	0.53	104	.000	0.335	104	.000
Q21	0.37	104	.000	0.630	104	.000
Q22	0.44	104	.000	0.580	104	.000
Q23	0.39	104	.000	0.623	104	.000
Q24	0.37	104	.000	0.632	104	.000
Q25	0.38	104	.000	0.625	104	.000
Q26	0.38	104	.000	0.625	104	.000
Q27	0.39	104	.000	0.620	104	.000
Q28	0.39	104	.000	0.620	104	.000
Q29	0.42	104	.000	0.601	104	.000
Q30	0.44	104	.000	0.580	104	.000
Q31	0.43	104	.000	0.586	104	.000
Q32	0.35	104	.000	0.636	104	.000
Q33	0.38	104	.000	0.628	104	.000
Q34	0.37	104	.000	0.630	104	.000
Q35	0.43	104	.000	0.586	104	.000
Q36	0.35	104	.000	0.636	104	.000
Q37	0.36	104	.000	0.633	104	.000
Q38	0.44	104	.000	0.580	104	.000
Q39	0.35	104	.000	0.636	104	.000
Q40	0.36	104	.000	0.635	104	.000
Q41	0.44	104	.000	0.580	104	.000
Q42	0.43	104	.000	0.591	104	.000

Q43	0.30	104	.000	0.774	104	.000
Q44	0.28	104	.000	0.786	104	.000
Q45	0.22	104	.000	0.844	104	.000
Q46	0.30	104	.000	0.771	104	.000
Q47	0.19	104	.000	0.863	104	.000
Q48	0.22	104	.000	0.901	104	.000
Q49	0.24	104	.000	0.877	104	.000
Q50	0.21	104	.000	0.895	104	.000
Q51	0.18	104	.000	0.908	104	.000
Q52	0.22	104	.000	0.905	104	.000
Q53	0.19	104	.000	0.909	104	.000
Q54	0.21	104	.000	0.904	104	.000
Q55	0.25	104	.000	0.787	104	.000
Q56	0.21	104	.000	0.884	104	.000
Q57	0.25	104	.000	0.785	104	.000
Q58	0.21	104	.000	0.903	104	.000
Q59	0.19	104	.000	0.886	104	.000
Q60	0.21	104	.000	0.897	104	.000
Q61	0.21	104	.000	0.899	104	.000
Q62	0.21	104	.000	0.904	104	.000
Q63	0.20	104	.000	0.875	104	.000
Q64	0.19	104	.000	0.918	104	.000
Q65	0.16	104	.000	0.906	104	.000
Q66	0.18	104	.000	0.916	104	.000
Q67	0.18	104	.000	0.914	104	.000
Q68	0.18	104	.000	0.889	104	.000
Q69	0.17	104	.000	0.887	104	.000
Q70	0.19	104	.000	0.903	104	.000
Q71	0.16	104	.000	0.911	104	.000
Q72	0.20	104	.000	0.867	104	.000
Q73	0.25	104	.000	0.850	104	.000
Q74	0.21	104	.000	0.816	104	.000
Q75	0.20	104	.000	0.900	104	.000
Q76	0.21	104	.000	0.805	104	.000
Q77	0.18	104	.000	0.919	104	.000
Q78	0.19	104	.000	0.920	104	.000
Q79	0.17	104	.000	0.936	104	.000
Q80	0.21	104	.000	0.893	104	.000
Q81	0.20	104	.000	0.837	104	.000
Q82	0.18	104	.000	0.908	104	.000
Q83	0.15	104	.000	0.907	104	.000
Q84	0.14	104	.000	0.922	104	.000
Q85	0.20	104	.000	0.874	104	.000
Q86	0.17	104	.000	0.879	104	.000
Q87	0.19	104	.000	0.885	104	.000
Q88	0.18	104	.000	0.922	104	.000
Q89	0.23	104	.000	0.875	104	.000
Q90	0.18	104	.000	0.923	104	.000

Q91	0.16	104	.000	0.937	104	.000
Q92	0.13	104	.000	0.939	104	.000

[a]Lilliefors Significance Correction

8.3.2 Confirmatory Factor Analysis: Factor Loadings

8.3.2.1 Organisational Culture

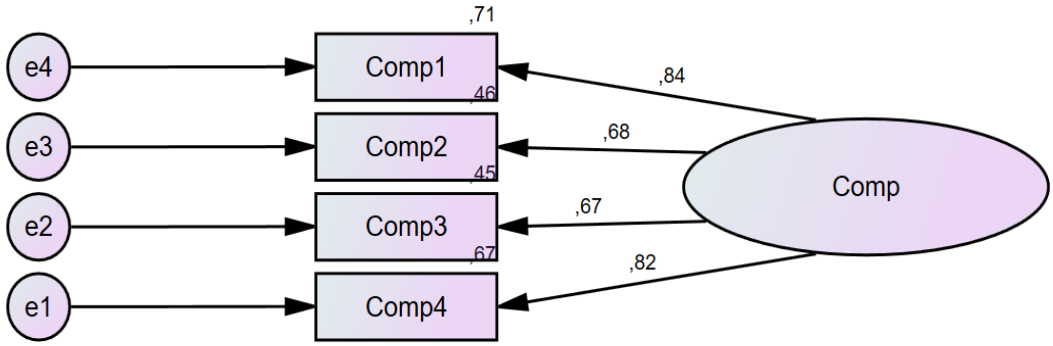


Figure 21. Factor loadings of competitiveness.

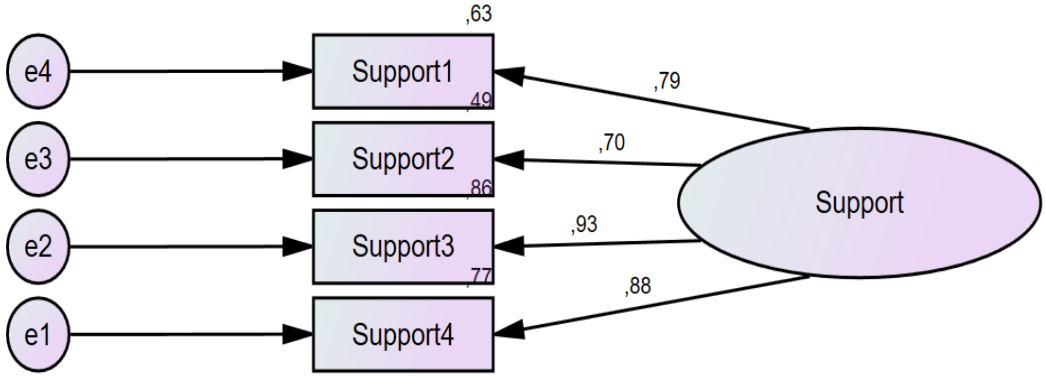


Figure 22. Factor loadings of supportiveness.

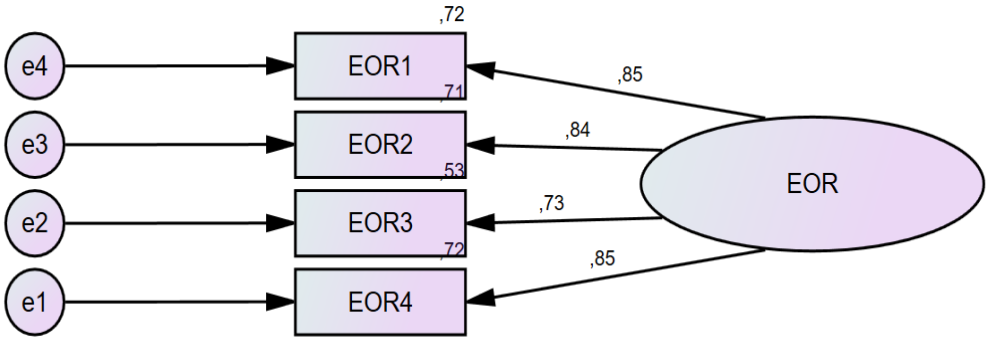


Figure 23. Factor loadings of emphasis on rewards.

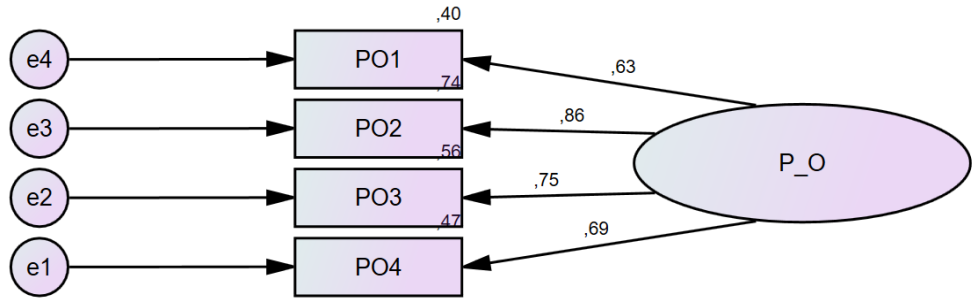


Figure 24. Factor loadings of performance orientation.

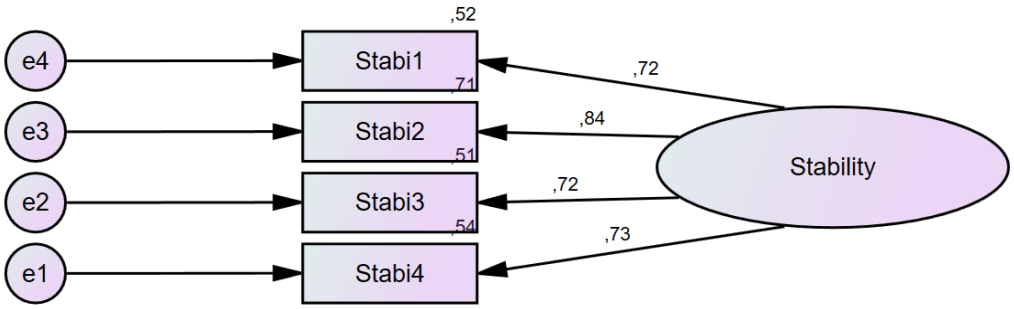


Figure 25. Factor loadings of stability.

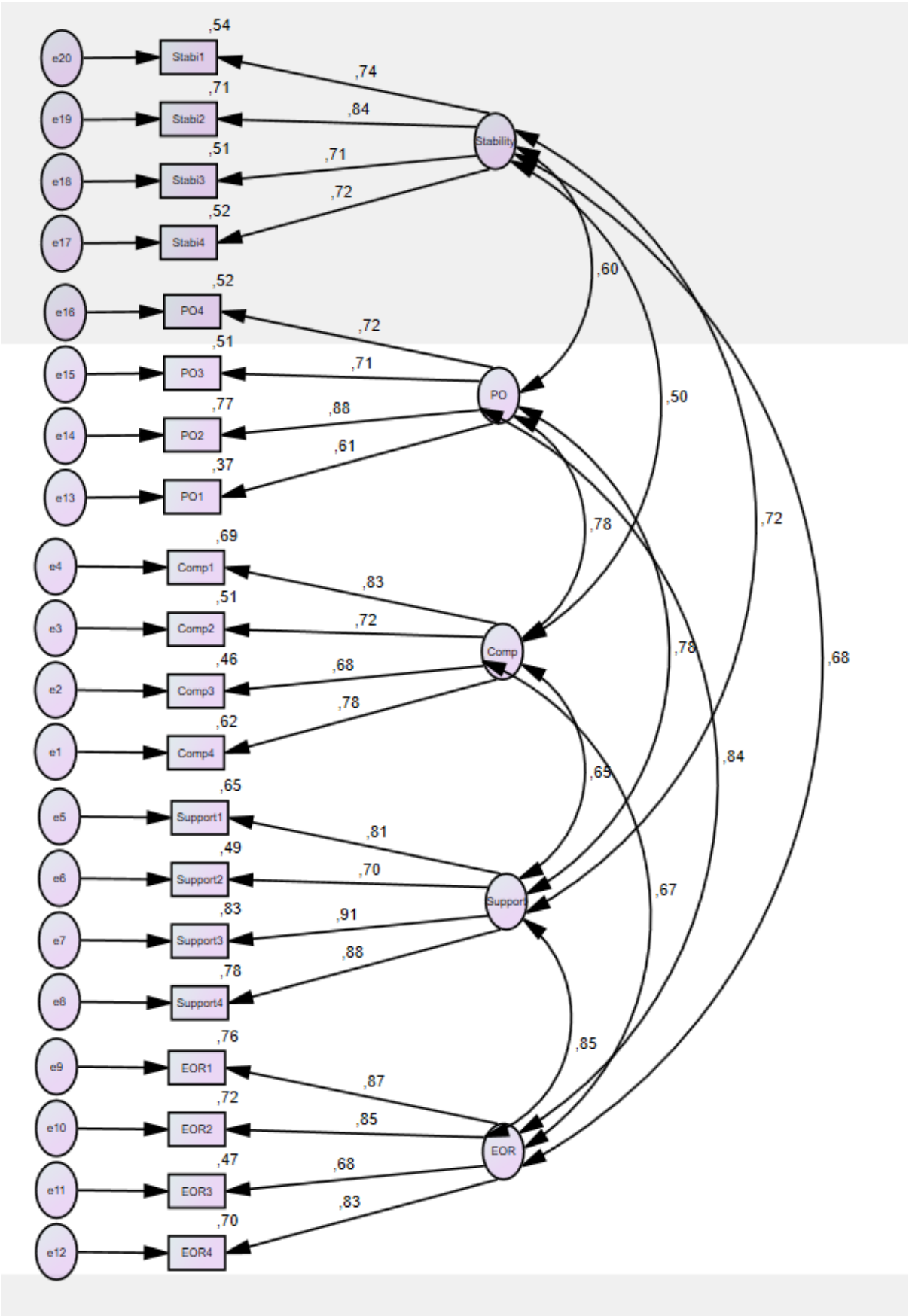


Figure 26. Factor loadings of organisational culture.

8.3.2.2 Employee Engagement

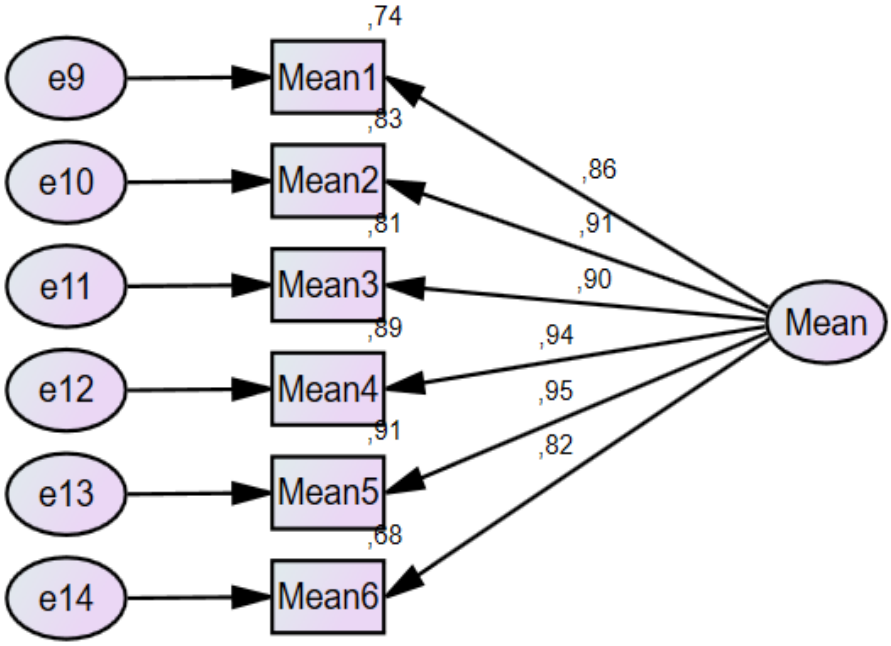


Figure 27. Factor loadings of meaningfulness.

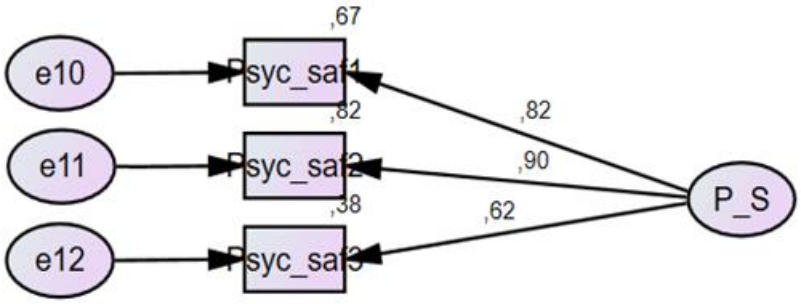


Figure 28. Factor loadings of psychological safety.

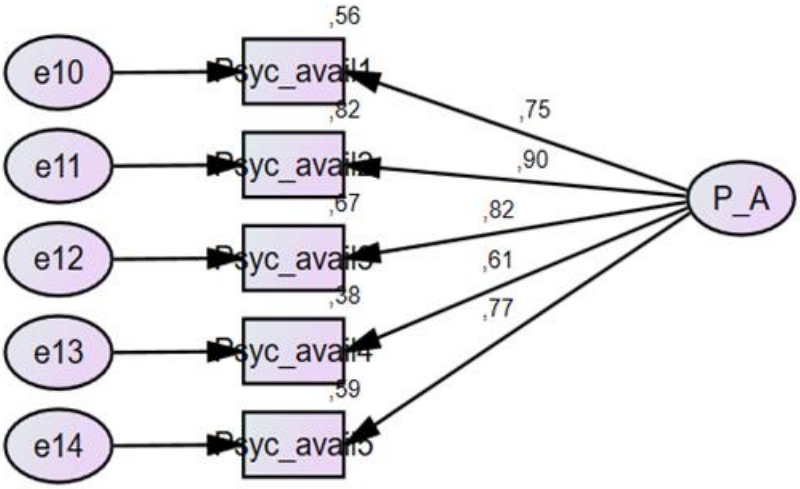


Figure 29. Factor loadings of psychological availability.

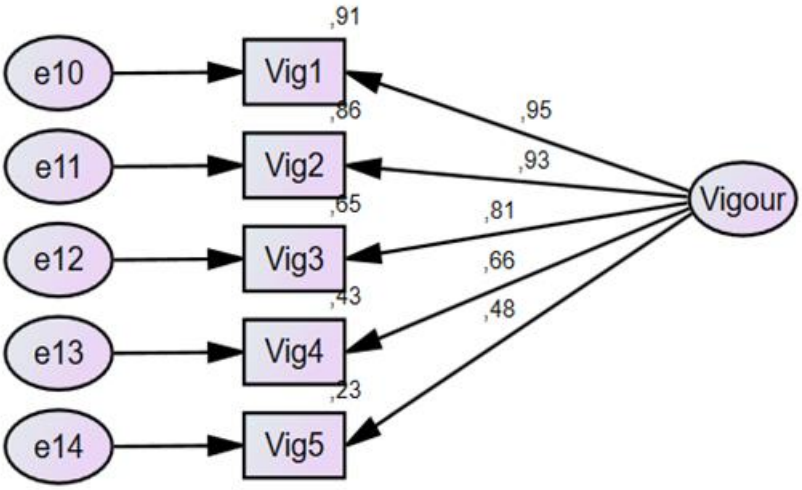


Figure 30. Factor loadings of vigour.

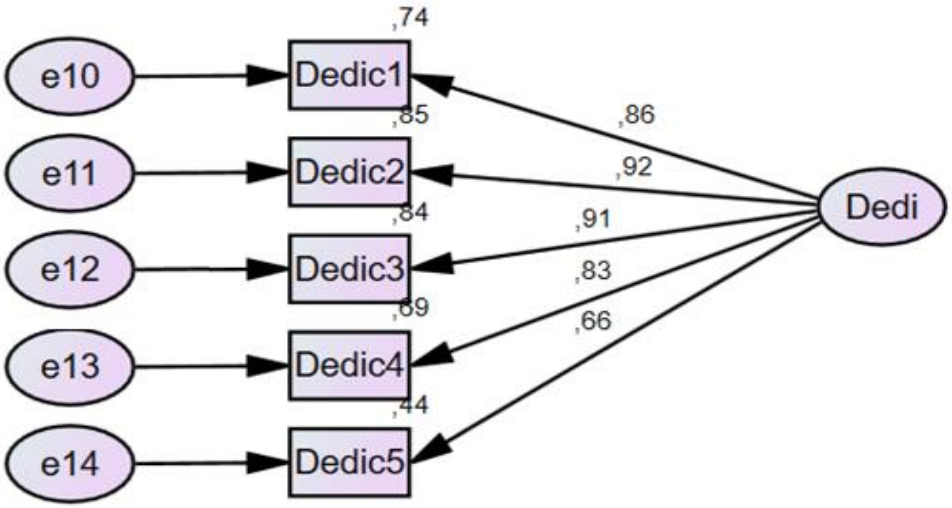


Figure 31. Factor loadings of dedication.

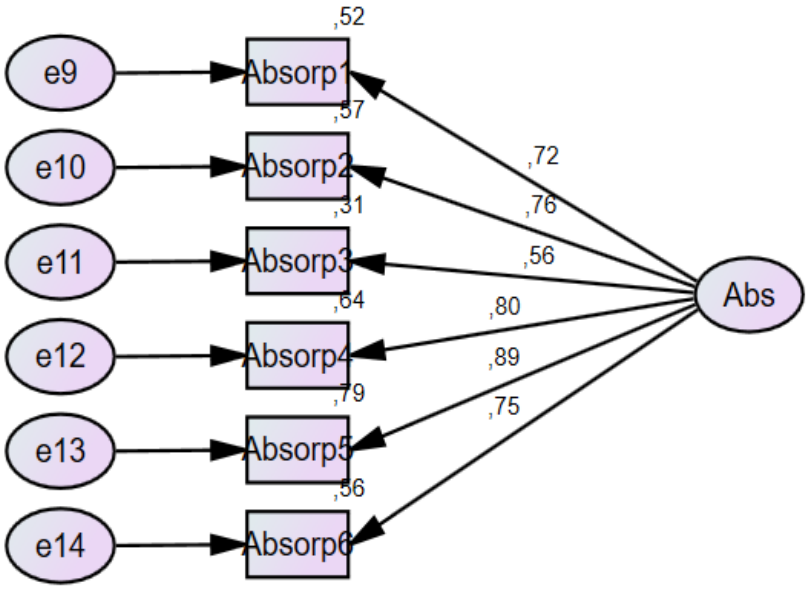


Figure 32. Factor loadings of absorption.

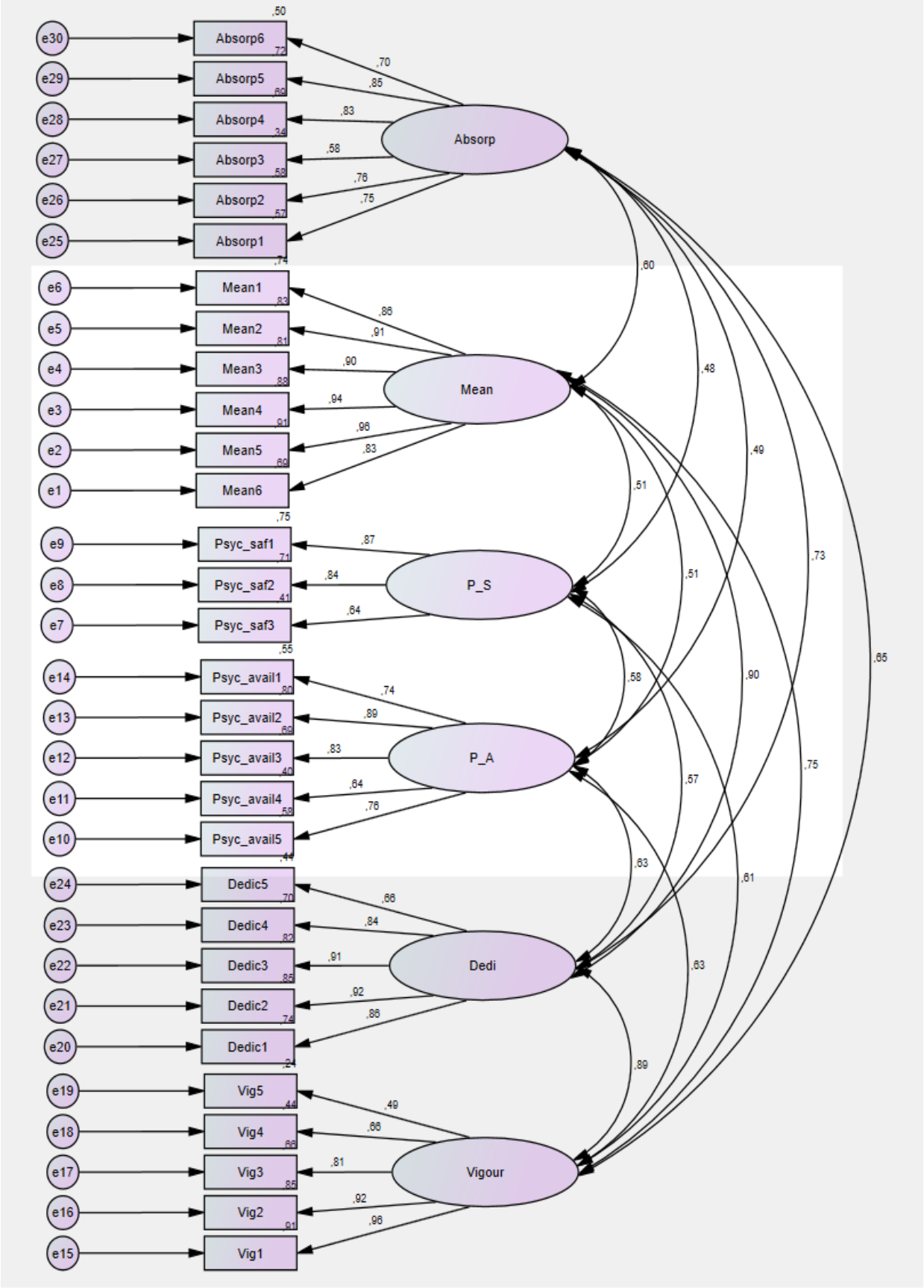


Figure 33. Factor loadings of employee engagement.

8.3.3 Exploratory Factor Analysis: Correlation Matrices

Table 42

Exploratory Factor Analysis: Correlation Matrix: Organisational Culture

Correlation Matrix					
		Q43	Q44	Q45	Q46
Competitiveness	Q43	1.00			
	Q44	.60	1.00		
	Q45	.54	.44	1.00	
	Q46	.68	.52	.59	1.00
		Q47	Q48	Q49	Q50
Supportiveness	Q47	1.00			
	Q48	.59	1.00		
	Q49	.73	.66	1.00	
	Q50	.70	.60	.82	1.00
		Q51	Q52	Q53	Q54
Emphasis on rewards	Q51	1.00			
	Q52	.73	1.00		
	Q53	.56	.65	1.00	
	Q54	.74	.68	.65	1.00
		Q55	Q56	Q57	Q58
Performance Orientation	Q55	1.00			
	Q56	.53	1.00		
	Q57	.56	.63	1.00	
	Q58	.37	.63	.49	1.00
		Q59	Q60	Q61	Q62
Stability	Q59	1.00			
	Q60	.63	1.00		
	Q61	.58	.55	1.00	
	Q62	.43	.67	0.59	1.00

Table 43

Exploratory Factor Analysis: Correlation Matrix: Employee Engagement

Correlation Matrix							
		Q63	Q64	Q65	Q66	Q67	Q68
Meaningfulness	Q63	1.00					
	Q64	.80	1.00				
	Q65	.77	.83	1.00			
	Q66	.83	.86	.85	1.00		
	Q67	.81	.88	.85	.89	1.00	
	Q68	.68	.69	.75	.77	.82	1.00
		Q69	Q70	Q71			
Psychological Safety	Q69	1.00					
	Q70	.74	1.00				
	Q71	.51	.56	1.00			
		Q72	Q73	Q74	Q75	Q76	
Psychological Availability	Q72	1.00					
	Q73	.69	1.00				
	Q74	.61	.72	1.00			
	Q75	.45	.54	.58	1.00		
	Q76	.53	.71	.65	.42	1.00	
		Q77	Q78	Q79	Q80	Q81	
Vigour	Q77	1.00					
	Q78	.89	1.00				
	Q79	.77	.74	1.00			
	Q80	.61	.59	.56	1.00		
	Q81	.43	.42	.45	.67	1.00	
		Q82	Q83	Q84	Q85	Q86	
Dedication	Q82	1.00					
	Q83	.81	1.00				
	Q84	.78	.85	1.00			
	Q85	.75	.75	.73	1.00		
	Q86	.45	.58	.67	.64	1.00	
		Q87	Q88	Q89	Q90	Q91	Q92
Absorption	Q87	1.00					
	Q88	.69	1.00				
	Q89	.34	.45	1.00			
	Q90	.61	.57	.50	1.00		
	Q91	.59	.66	.53	.70	1.00	

Q92	.50	.49	.29	.60	.73	1.00

8.3.4 Exploratory Factor Analysis: Total Variance Explained

Table 44

Total Variance Explained: Organisational Culture Observed Variables

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
Competitiveness						
1	2.691	67.272	67.272	2.691	67.272	67.272
2	0.580	14.512	81.784			
3	0.430	10.761	92.544			
4	0.298	7.456	100.000			
Supportiveness						
1	3.052	76.308	76.308	3.052	76.308	76.308
2	0.447	11.184	87.492			
3	0.323	8.073	95.565			
4	0.177	4.435	100.000			
Emphasis on Rewards						
1	3.000	74.989	74.989	3.000	74.989	74.989
2	0.457	11.431	86.420			
3	0.324	8.089	94.509			
4	0.220	5.491	100.000			
Performance Orientation						
1	2.612	65.307	65.307	2.612	65.307	65.307
2	0.651	16.278	81.586			
3	0.418	10.450	92.035			
4	0.319	7.965	100.000			
Stability						
1	2.727	68.181	68.181	2.727	68.181	68.181
2	0.575	14.384	82.565			
3	0.459	11.470	94.035			
4	0.239	5.965	100.000			

Note. Extraction Method: Principal Component Analysis.

Table 45

Total Variance Explained: Employee Engagement Observed Variables

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
Meaningfulness						
1	5.037	83.958	83.958	5.037	83.958	83.958
2	0.356	5.935	89.893			
3	0.225	3.744	93.637			
4	0.171	2.855	96.492			
5	0.123	2.052	98.544			
6	0.087	1.456	100.000			
Psychological Safety						
1	2.215	73.829	73.829	2.215	73.829	73.829
2	0.532	17.740	91.569			
3	0.253	8.431	100.000			
Psychological Availability						
1	3.385	67.694	67.694	3.385	67.694	67.694
2	0.612	12.236	79.930			
3	0.469	9.378	89.309			
4	0.308	6.150	95.459			
5	0.227	4.541	100.000			
Vigour						
1	3.481	69.630	69.630	3.481	69.630	69.630
2	0.828	16.559	86.188			
3	0.320	6.405	92.594			
4	0.266	5.319	97.912			
5	0.104	2.088	100.000			
Dedication						
1	3.820	76.393	76.393	3.820	76.393	76.393
2	0.589	11.774	88.167			
3	0.294	5.871	94.038			
4	0.164	3.282	97.320			
5	0.134	2.680	100.000			
Absorption						
1	3.789	63.144	63.144	3.789	63.144	63.144
2	0.740	12.341	75.485			
3	0.618	10.294	85.779			
4	0.380	6.328	92.107			
5	0.272	4.532	96.640			
6	0.202	3.360	100.000			

Note. Extraction Method: Principal Component Analysis.

8.3.5 Descriptive Statistics: Numeric and Percentage Frequency Distribution

8.3.5.1 Competitiveness

Table 46

Numeric and Percentage Frequency Distribution: Competitiveness

Q43: To what extent is your organisation oriented towards achievement?		
Scale	Response Count	Response Percent
Not at all	1	0.96
Minimally	3	2.88
Moderately	17	16.3
Considerably	30	28.85
Very much	53	50.9
Total	104	100.00

Q44: To what extent does your organisation have an emphasis on quality?		
Scale	Response Count	Response Percent
Not at all	0	0.00
Minimally	5	4.81
Moderately	14	13.46
Considerably	36	34.62
Very much	49	47.12
Total	104	100.00

Q45: To what extent is your organisation considered being distinct – i.e. being different from others?		
Scale	Response Count	Response Percent
Not at all	0	0.00
Minimally	7	6.73
Moderately	25	24.04
Considerably	35	33.65
Very much	37	35.58
Total	104	100.00

Q46: To what extent is your organisation considered competitive?		
Scale	Response Count	Response Percent
Not at all	1	0.96
Minimally	6	5.77
Moderately	14	13.46
Considerably	30	28.85
Very much	53	50.96
Total	104	100.00

Note. Response Percent reflected in percentage.

8.3.5.2 Supportiveness

Table 47

Numeric and Percentage Frequency Distribution: Supportiveness

Q47: To what extent is your organisation considered team-oriented?		
Scale	Response Count	Response Percent
Not at all	3	2.88
Minimally	6	5.77
Moderately	30	28.85
Considerably	32	30.77
Very much	33	31.73
Total	104	100.00
Q48: To what extent does your organisation share information freely?		
Scale	Response Count	Response Percent
Not at all	4	3.85
Minimally	14	13.46
Moderately	43	41.35
Considerably	29	27.88
Very much	14	13.46
Total	104	100.00
Q49: To what extent is your organisation considered people-oriented?		
Scale	Response Count	Response Percent
Not at all	3	2.88
Minimally	13	12.50
Moderately	22	21.15
Considerably	39	37.50
Very much	27	25.96
Total	104	100.00
Q50: To what extent does your organisation display collaboration?		
Scale	Response Count	Response Percent
Not at all	2	1.92
Minimally	16	15.38
Moderately	29	27.88
Considerably	35	33.65
Very much	22	21.15
Total	104	100.00

Note. Response Percent reflected in percentage.

8.3.5.3 Emphasis on Rewards

Table 48

Numeric and Percentage Frequency Distribution: Emphasis on Rewards

Q51: To what extent is your organisation considered fair?		
Scale	Response Count	Response Percent
Not at all	4	3.85
Minimally	17	16.35
Moderately	36	34.62
Considerably	31	29.81
Very much	16	15.38
Total	104	100.00
Q52: To what extent does your organisation display opportunities for professional growth?		
Scale	Response Count	Response Percent
Not at all	5	4.81
Minimally	19	18.27
Moderately	27	25.96
Considerably	38	36.54
Very much	15	14.42
Total	104	100.00
Q53: To what extent does your organisation display high pay for good performance?		
Scale	Response Count	Response Percent
Not at all	8	7.69
Minimally	17	16.35
Moderately	30	28.85
Considerably	32	30.77
Very much	17	16.35
Total	104	100.00
Q54: To what extent does your organisation display praise for good performance?		
Scale	Response Count	Response Percent
Not at all	6	5.77
Minimally	21	20.19
Moderately	25	24.04
Considerably	33	31.73
Very much	19	18.2
Total	104	100.00

Note. Response Percent reflected in percentage.

8.3.5.4 Performance Orientation

Table 49

Numeric and Percentage Frequency Distribution: Performance Orientation

Q55: To what extent does your organisation have high expectations for performance?		
Scale	Response Count	Response Percent
Not at all	1	0.96
Minimally	3	2.88
Moderately	12	11.54
Considerably	43	41.3
Very much	45	43.27
Total	104	100.00
Q56: To what extent does your organisation display enthusiasm for the job?		
Scale	Response Count	Response Percent
Not at all	2	1.92
Minimally	7	6.73
Moderately	37	35.58
Considerably	38	36.54
Very much	20	19.23
Total	104	100.00
Q57: To what extent does your organisation emphasise being results oriented?		
Scale	Response Count	Response Percent
Not at all	2	1.92
Minimally	6	5.77
Moderately	10	9.62
Considerably	41	39.4
Very much	45	43.27
Total	104	100.00
Q58: To what extent does your organisation display being highly organised?		
Scale	Response Count	Response Percent
Not at all	5	4.81
Minimally	15	14.42
Moderately	30	28.85
Considerably	36	34.62
Very much	18	17.31
Total	104	100.00

Note. Response Percent reflected in percentage.

8.3.5.5 Stability

Table 50

Numeric and Percentage Frequency Distribution: Stability

Q59: To what extent does your organisation display stability?		
Scale	Response Count	Response Percent
Not at all	4	3.85
Minimally	9	8.65
Moderately	32	30.77
Considerably	33	31.73
Very much	26	25.00
Total	104	100.00
Q60: To what extent does your organisation display being calm?		
Scale	Response Count	Response Percent
Not at all	3	2.88
Minimally	12	11.54
Moderately	34	32.69
Considerably	38	36.54
Very much	17	16.35
Total	104	100.00
Q61: To what extent does your organisation indicate security for employment?		
Scale	Response Count	Response Percent
Not at all	4	3.85
Minimally	12	11.54
Moderately	30	28.85
Considerably	39	37.50
Very much	19	18.27
Total	104	100.00
Q62: To what extent does your organisation display low conflict?		
Scale	Response Count	Response Percent
Not at all	7	6.73
Minimally	17	16.35
Moderately	40	38.46
Considerably	32	30.77
Very much	8	7.69
Total	104	100.00

Note. Response Percent reflected in percentage.

8.3.5.6 Meaningfulness

Table 51

Numeric and Percentage Frequency Distribution: Meaningfulness

Q63: The work I do on this job is very important to me		
Scale	Response Count	Response Percent
Never (never)	2	1.92
Almost Never (a few times a year or less)	0	0.00
Rarely (once a month or less)	4	3.85
Sometimes (a few times a month)	14	13.46
Often (once a week)	26	25.00
Very Often (a few times a week)	31	29.81
Always (everyday)	27	25.96
Total	104	100.00

Q64: My job activities are personally meaningful to me		
Scale	Response Count	Response Percent
Never (never)	1	0.96
Almost Never (a few times a year or less)	3	2.88
Rarely (once a month or less)	9	8.65
Sometimes (a few times a month)	20	19.23
Often (once a week)	23	22.12
Very Often (a few times a week)	29	27.88
Always (everyday)	19	18.27
Total	104	100.00

Q65: The work I do on this job is worthwhile		
Scale	Response Count	Response Percent
Never (never)	0	0.00
Almost Never (a few times a year or less)	1	0.96
Rarely (once a month or less)	7	6.73
Sometimes (a few times a month)	14	13.46
Often (once a week)	32	30.77
Very Often (a few times a week)	26	25.00
Always (everyday)	24	23.08
Total	104	100.00

Q66: My job activities are significant to me		
Scale	Response Count	Response Percent
Never (never)	1	0.96
Almost Never (a few times a year or less)	2	1.92
Rarely (once a month or less)	6	5.77
Sometimes (a few times a month)	18	17.31
Often (once a week)	34	32.69
Very Often (a few times a week)	24	23.08
Always (everyday)	19	18.2
Total	104	100.00

Q67: The work I do on this job is meaningful to me		
Scale	Response Count	Response Percent
Never (never)	1	0.96
Almost Never (a few times a year or less)	2	1.92
Rarely (once a month or less)	7	6.73
Sometimes (a few times a month)	23	22.12
Often (once a week)	22	21.15
Very Often (a few times a week)	27	25.96
Always (everyday)	22	21.15
Total	104	100.00

Q68: I feel that the work I do on my job is valuable		
Scale	Response Count	Response Percent
Never (never)	0	0.00
Almost Never (a few times a year or less)	1	0.96
Rarely (once a month or less)	4	3.85
Sometimes (a few times a month)	12	11.54
Often (once a week)	30	28.85
Very Often (a few times a week)	28	26.9
Always (everyday)	29	27.88
Total	104	100.00

Note. Response Percent reflected in percentage.

8.3.5.7 Psychological Safety

Table 52

Numeric and Percentage Frequency Distribution: Psychological Safety

Q69: I'm not afraid to be myself at work		
Scale	Response Count	Response Percent
Never (never)	1	0.96
Almost Never (a few times a year or less)	2	1.92
Rarely (once a month or less)	9	8.65
Sometimes (a few times a month)	13	12.50
Often (once a week)	25	24.04
Very Often (a few times a week)	22	21.15
Always (everyday)	32	30.77
Total	104	100.00

Q70: I am not afraid to express my opinions at work		
Scale	Response Count	Response Percent
Never (never)	0	0.00
Almost Never (a few times a year or less)	2	1.92
Rarely (once a month or less)	9	8.65
Sometimes (a few times a month)	18	17.31
Often (once a week)	22	21.15
Very Often (a few times a week)	28	26.92
Always (everyday)	25	24.04
Total	104	100.00

Q71: There is a safe environment at work		
Scale	Response Count	Response Percent
Never (never)	0	0.00
Almost Never (a few times a year or less)	3	2.88
Rarely (once a month or less)	7	6.73
Sometimes (a few times a month)	19	18.27
Often (once a week)	27	25.96
Very Often (a few times a week)	24	23.08
Always (everyday)	24	23.08
Total	104	100.00

Note. Response Percent reflected in percentage.

8.3.5.8 Psychological Availability

Table 53

Numeric and Percentage Frequency Distribution: Psychological Availability

Q72: I am confident in my ability to handle competing demands at work		
Scale	Response Count	Response Percent
Never (never)	0	0.00
Almost Never (a few times a year or less)	0	0.00
Rarely (once a month or less)	1	0.96
Sometimes (a few times a month)	5	4.81
Often (once a week)	30	28.85
Very Often (a few times a week)	39	37.50
Always (everyday)	29	27.88
Total	104	100.00

Q73: I am confident in my ability to deal with problems that come up at work		
Scale	Response Count	Response Percent
Never (never)	0	0.00
Almost Never (a few times a year or less)	1	0.96
Rarely (once a month or less)	0	0.00
Sometimes (a few times a month)	10	9.62
Often (once a week)	20	19.23
Very Often (a few times a week)	41	39.42
Always (everyday)	32	30.77
Total	104	100.00

Q74: I am confident in my ability to think clearly at work		
Scale	Response Count	Response Percent
Never (never)	1	0.96
Almost Never (a few times a year or less)	0	0.00
Rarely (once a month or less)	0	0.00
Sometimes (a few times a month)	4	3.85
Often (once a week)	28	26.92
Very Often (a few times a week)	38	36.54
Always (everyday)	33	31.73
Total	104	100.00

Q75: I am confident in my ability to display the appropriate emotions at work		
Scale	Response Count	Response Percent
Never (never)	0	0.00
Almost Never (a few times a year or less)	1	0.96
Rarely (once a month or less)	4	3.85
Sometimes (a few times a month)	14	13.46
Often (once a week)	29	27.88
Very Often (a few times a week)	32	30.77
Always (everyday)	24	23.08
Total	104	100.00

Q76: I am confident that I can handle the physical demands at work		
Scale	Response Count	Response Percent
Never (never)	1	0.96
Almost Never (a few times a year or less)	0	0.00
Rarely (once a month or less)	0	0.00
Sometimes (a few times a month)	4	3.85
Often (once a week)	24	23.08
Very Often (a few times a week)	38	36.54
Always (everyday)	37	35.58
Total	104	100.00

Note. Response Percent reflected in percentage.

8.3.5.9 Vigour

Table 54

Numeric and Percentage Frequency Distribution: Vigour

Q77: At my work, I feel bursting with energy		
Scale	Response Count	Response Percent
Never (never)	1	0.96
Almost Never (a few times a year or less)	2	1.92
Rarely (once a month or less)	10	9.62
Sometimes (a few times a month)	27	25.96
Often (once a week)	31	29.81
Very Often (a few times a week)	29	27.88
Always (everyday)	4	3.85
Total	104	100.00

Q78: At my job, I feel strong and vigorous		
Scale	Response Count	Response Percent
Never (never)	1	0.96
Almost Never (a few times a year or less)	2	1.92
Rarely (once a month or less)	10	9.62
Sometimes (a few times a month)	20	19.23
Often (once a week)	32	30.77
Very Often (a few times a week)	31	29.81
Always (everyday)	8	7.69
Total	104	100.00

Q79: When I get up in the morning, I feel like going to work		
Scale	Response Count	Response Percent
Never (never)	3	2.88
Almost Never (a few times a year or less)	6	5.77
Rarely (once a month or less)	11	10.58
Sometimes (a few times a month)	25	24.04
Often (once a week)	28	26.92
Very Often (a few times a week)	23	22.12
Always (everyday)	8	7.69
Total	104	100.00

Q80: At my job, I am very resilient, mentally		
Scale	Response Count	Response Percent
Never (never)	0	0.00
Almost Never (a few times a year or less)	0	0.00
Rarely (once a month or less)	3	2.88
Sometimes (a few times a month)	10	9.62
Often (once a week)	32	30.77
Very Often (a few times a week)	38	36.54
Always (everyday)	21	20.19
Total	104	100.00

Q81: At my work, I always persevere, even when things do not go well		
Scale	Response Count	Response Percent
Never (never)	0	0.00
Almost Never (a few times a year or less)	2	1.92
Rarely (once a month or less)	2	1.92
Sometimes (a few times a month)	5	4.81
Often (once a week)	26	25.00
Very Often (a few times a week)	33	31.73
Always (everyday)	36	34.62
Total	104	100.00

Note. Response Percent reflected in percentage.

8.3.5.10 Dedication

Table 55

Numeric and Percentage Frequency Distribution: Dedication

Q82: I find the work that I do full of meaning and purpose		
Scale	Response Count	Response Percent
Never (never)	0	0.00
Almost Never (a few times a year or less)	0	0.00
Rarely (once a month or less)	7	6.73
Sometimes (a few times a month)	20	19.23
Often (once a week)	34	32.69
Very Often (a few times a week)	23	22.12
Always (everyday)	20	19.23
Total	104	100.00

Q83: I am enthusiastic about my job		
Scale	Response Count	Response Percent
Never (never)	1	0.96
Almost Never (a few times a year or less)	3	2.88
Rarely (once a month or less)	7	6.73
Sometimes (a few times a month)	21	20.19
Often (once a week)	25	24.04
Very Often (a few times a week)	20	19.23
Always (everyday)	27	25.96
Total	104	100.00

Q84: My job inspires me		
Scale	Response Count	Response Percent
Never (never)	2	1.92
Almost Never (a few times a year or less)	3	2.88
Rarely (once a month or less)	7	6.73
Sometimes (a few times a month)	22	21.15
Often (once a week)	29	27.88
Very Often (a few times a week)	21	20.19
Always (everyday)	20	19.23
Total	104	100.00

Q85: I am proud of the work that I do		
Scale	Response Count	Response Percent
Never (never)	1	0.96
Almost Never (a few times a year or less)	1	0.96
Rarely (once a month or less)	5	4.81
Sometimes (a few times a month)	10	9.62
Often (once a week)	26	25.00
Very Often (a few times a week)	32	30.77
Always (everyday)	29	27.88
Total	104	100.00

Q86: To me, my job is challenging		
Scale	Response Count	Response Percent
Never (never)	5	4.81
Almost Never (a few times a year or less)	2	1.92
Rarely (once a month or less)	5	4.81
Sometimes (a few times a month)	16	15.38
Often (once a week)	26	25.00
Very Often (a few times a week)	25	24.04
Always (everyday)	25	24.04
Total	104	100.00

Note. Response Percent reflected in percentage.

8.3.5.11 Absorption

Table 56

Numeric and Percentage Frequency Distribution: Absorption

Q87: Time flies when I am working		
Scale	Response Count	Response Percent
Never (never)	1	0.96
Almost Never (a few times a year or less)	4	3.85
Rarely (once a month or less)	4	3.85
Sometimes (a few times a month)	11	10.58
Often (once a week)	33	31.73
Very Often (a few times a week)	26	25.00
Always (everyday)	25	24.04
Total	104	100.00

Q88: When I am working, I forget everything else around me		
Scale	Response Count	Response Percent
Never (never)	1	0.96
Almost Never (a few times a year or less)	8	7.69
Rarely (once a month or less)	9	8.65
Sometimes (a few times a month)	22	21.15
Often (once a week)	28	26.92
Very Often (a few times a week)	29	27.88
Always (everyday)	7	6.73
Total	104	100.00

Q89: I feel happy when I am working intensely		
Scale	Response Count	Response Percent
Never (never)	0	0.00
Almost Never (a few times a year or less)	1	0.96
Rarely (once a month or less)	9	8.65
Sometimes (a few times a month)	7	6.73
Often (once a week)	26	25.00
Very Often (a few times a week)	36	34.62
Always (everyday)	25	24.04
Total	104	100.00

Q90: I am immersed in my work		
Scale	Response Count	Response Percent
Never (never)	0	0.00
Almost Never (a few times a year or less)	2	1.92
Rarely (once a month or less)	10	9.62
Sometimes (a few times a month)	24	23.08
Often (once a week)	24	23.08
Very Often (a few times a week)	28	26.92
Always (everyday)	16	15.38
Total	104	100.00

Q91: I get carried away when I am working		
Scale	Response Count	Response Percent
Never (never)	1	0.96
Almost Never (a few times a year or less)	6	5.77
Rarely (once a month or less)	13	12.50
Sometimes (a few times a month)	26	25.00
Often (once a week)	21	20.19
Very Often (a few times a week)	26	25.00
Always (everyday)	11	10.58
Total	104	100.00

Q92: It is difficult to detach myself from my job		
Scale	Response Count	Response Percent
Never (never)	10	9.62
Almost Never (a few times a year or less)	8	7.69
Rarely (once a month or less)	23	22.12
Sometimes (a few times a month)	25	24.04
Often (once a week)	14	13.46
Very Often (a few times a week)	20	19.23
Always (everyday)	4	3.85
Total	104	100.00

Note. Response Percent reflected in percentage.

8.3.6 Tests for Differences

Table 57

Comparing Means by Gender

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
AMPS	Equal variances assumed	0.67	.42	0.03	102	.98	0	0.08	-0.15	0.16
	Equal variances not assumed			0.03	98.24	.98	0	0.08	-0.15	0.15
OC	Equal variances assumed	0.85	.36	0.39	102	.7	0.05	0.14	-0.22	0.33

	Equal variances not assumed			0.38	89.85	.7	0.05	0.14	-0.23	0.33
EE	Equal variances assumed	0.46	**.50**	**0.87**	**102**	**.39**	**0.16**	**0.18**	**-0.2**	**0.51**
	Equal variances not assumed			0.85	87.3	.40	0.16	0.18	-0.21	0.52

Note. The Sig. value in green boldface indicates a value greater than .05 therefore equal variances are assumed. The output line in red boldface was thus interpreted.

Table 58

Comparing Means by Age

ANOVA					
	Sum of Squares	*df*	Mean Square	*F*	Sig.
AMPS					
Between Groups	0.6	4	0.15	1	**.41**
Within Groups	14.95	99	0.15		
Total	15.55	103			
OC					
Between Groups	3.53	4	0.88	1.86	**.12**
Within Groups	46.98	99	0.47		
Total	50.51	103			
EE					
Between Groups	6.9	4	1.73	2.19	**.08**
Within Groups	78.13	99	0.79		
Total	85.03	103			

Note. The Sig. value in red boldface indicates a value greater than .05 therefore there is no statistically significant difference in means for the age category.

Table 59

Comparing Means by Industry

ANOVA					
	Sum of Squares	*df*	Mean Square	*F*	Sig.
AMPS					
Between Groups	0.03	1	0.03	0.18	**.67**
Within Groups	15.53	102	0.15		
Total	15.55	103			
OC					
Between Groups	8.09	11	0.74	1.59	**.11**
Within Groups	42.42	92	0.46		
Total	50.51	103			
EE					
Between Groups	13.39	11	1.22	1.56	**.12**
Within Groups	71.64	92	0.78		
Total	85.03	103			

Note. The Sig. value in red boldface indicates a value greater than .05 therefore there is no statistically significant difference in means for the industry category.

Table 60

Comparing Means by Job Level

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
AMPS					
Between Groups	1.13	6	0.19	1.26	**.28**
Within Groups	14.43	97	0.15		
Total	15.55	103			
OC					
Between Groups	2.74	6	0.46	0.93	**.48**
Within Groups	47.76	97	0.49		
Total	50.51	103			
EE					
Between Groups	4.21	6	0.7	0.84	**.54**
Within Groups	80.82	97	0.83		
Total	85.03	103			

Note. The Sig. value in red boldface indicates a value greater than .05 therefore there is no statistically significant difference in means for the job level category.

Table 61

Comparing Means by Length of Service

ANOVA					
	Sum of Squares	*df*	Mean Square	*F*	Sig.
AMPS					
Between Groups	0.75	3	0.25	1.68	**.18**
Within Groups	14.81	100	0.15		
Total	15.55	103			
OC					
Between Groups	2.64	3	0.88	1.84	**.15**
Within Groups	47.87	100	0.48		
Total	50.51	103			
EE					
Between Groups	4.78	3	1.59	1.99	**.12**
Within Groups	80.25	100	0.8		
Total	85.03	103			

Note. The Sig. value in red boldface indicates a value greater than .05 therefore there is no statistically significant difference in means for the length of service category.

8.4 Appendix D: Ethical Clearance Letter

Gordon Institute of Business Science
University of Pretoria

04 July 2018

Moodley Eshentha

Dear Eshentha

Please be advised that your application for Ethical Clearance has been approved.

You are therefore allowed to continue collecting your data.

Please note that approval is granted based on the methodology and research instruments provided in the application. If there is any deviation change or addition to the research method or tools, a supplementary application for approval must be obtained

We wish you everything of the best for the rest of the project.

Kind Regards

GIBS MBA Research Ethical Clearance Committee

Gordon Institute of Business Science
Reg. No. 99/19816/08

26 Melville Road, Illovo, Johannesburg
PO Box 787602, Sandton, 2146, South Africa

telephone **(+27) 11 771 4000**
fax **(+27) 11 771 4177**

website **gibs.co.za**
University of Pretoria