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Exploring the Interrelationships between Service Climate, Work Engagement, Work Ethic and Employee Service Behaviour: A Study of the Hotel Industry in Nigeria

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by

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Thesis for the degree of Doctor of Business Administration

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Abstract

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Exploring the Interrelationships between Service Climate, Work Engagement, Work Ethic and Employee Service Behaviour: A Study of the Hotel Industry in Nigeria

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The aim of this study is to investigate how service climate, work engagement and work ethic relate to employee service behaviour in the hotel industry in Nigeria. The strategic role of people in organisations requires a deeper understanding of the antecedents of employee behaviour. In the new post-COVID-19 workplace, where social norms are being redefined, identifying the predictors of service behaviour is becoming increasingly important. Four research questions address the effects of service climate on employee service behaviour; the mediating and moderating effects of work engagement and work ethic respectively; as well as the mediating effects of service climate between work ethic and employee service behaviour. Data were collected from 579 employees and 152 supervisors across 53 hotels in Nigeria. The hypothesised relationships were tested using regression techniques. The main findings show positive effects of service climate on employee service behaviour, mediating effects of work engagement and moderating effects of work ethic; and mediating effects of service climate between work ethic and employee service behaviour. The main contribution to knowledge in the field is the extension of existing theory by investigating the effects of three predictors of multiple-rated service behaviours in a sub-Saharan African context. Results suggest that the service organisation can proactively influence positive employee behaviours by creating a conducive work environment. Furthermore, this research highlights the importance of work

engagement and work ethic in influencing these behaviours. This study incorporated a novel technique in OB methodology by using mixed-effects modelling (MEM) and fixed-effects modelling (FEM) to test the same hypotheses.

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Research Thesis: Declaration of Authorship

Print name:	Belinda Uzoejinwa Nwosu
Title of thesis:	Exploring the Interrelationships between Service Climate, Work Engagement, Work Ethic and Employee Service Behaviour: A Study of the Hotel Industry in Nigeria

I declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. None of this work has been published before submission

Signature: Date: 23 March 2021

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Chapter 1 Introduction

1.1 Background of the Study

It is a truth universally acknowledged that organisations in possession of the right people, must be in search of excellence (Jane Austen, 2008).

This paraphrasing of one of English literature's most famous lines helps to underscore the pivotal role that people play in any organisation. It brings individual behaviour to the fore, as an important component of the people-organisation link. That said, in the field of Organisational Behaviour (OB), behaviours refer to human responses that occur within an organisational context; be they employee, supervisory or managerial in origin. This study will focus specifically on employee behaviours.

Several studies address employee behaviours (Babin and Boles, 1998; Morrison, 2011; Garg and Dhar, 2017; Chaudhary, 2020). But there is one dominant theme among them, which is, the effect of positive behaviours on organisational success (e.g., Li and Huang, 2017). Research suggests that positive behaviours lead to positive outcomes. We find, for example, that behaviours described as innovative (Gorgievski, Bakker, and Schaufeli, 2010), change-supportive (Kim et al., 2011) or ethical (Goebel and Weißenberger, 2017) have been identified to add value to organisations. There is an obvious logic to this stream of research. The goal of any organisation is to ensure that resources invested yield benefits for all stakeholders, be these customers, employees or shareholders. And this is where the rationale for this study begins to take form.

Therefore, it is justifiably a matter of concern when employee behaviours are found to be deficient. The impact of poor employee behaviours on organisations has been investigated widely (Leiter et al., 2010; Othman and Suleiman, 2013; Palaiou et al., 2016). To illustrate this further, according to a study conducted in Cisco, the American technology multinational, the estimated cost of poor behaviour (incivility) to the company was US$12 million annually (Pearson, 2010). We also find this to be true from our experience of service delivery in

Nigeria, where we find evidence of widespread deficiencies in service quality (Karatepe, 2011; Alabar, Egena, and Gbande, 2014, Nwosu, 2016). Further, in an unpublished report by the researcher, customer reviews of Lagos hotels on TripAdvisor© were analysed to reveal poor service issues as the recurring complaint. By inference, this service failure points towards the quality of employee service behaviours. Consequently, the practice-based problem for this study relates to addressing the prevalence of poor service behaviours among hospitality employees in Nigeria.

Following on from the natural law of cause and effect, it is right to assume that there are underlying causes of employee behaviours, be these positive or negative. And with this, we establish the direction for this research. It is our belief that attempts to address these deficiencies in employee service behaviour, should at least begin by identifying the antecedents. By so doing, organisations are placed in a better position to facilitate positive behaviours, or mitigate the negative ones.

To start with, cognitions, emotions, attitudes, personality characteristics and intelligence, sum up the interiority of the human psyche (Fried, 2017). And with this composite of psychological attributes, it is easy to see how a combination of one or other, could manifest in a plurality of behaviours. An employee in an agitated state, or with an introverted personality, will tend to act differently, even when placed under the same conditions. There are several studies that support this premise as well, and for a variety of psychological factors, namely, personality and attitude (Podsakoff et al., 2000), neuroticism (Raja and Johns, 2010), individual values (Arthaud-Day et al., 2012), work engagement (Cheng et al., 2018), and work ethic (Meriac and Gorman, 2017). Hence, we affirm the individual/psychological domain as a strong precursor of employee behaviour.

Ovadje (2015) affirms that the organisational context is a major source from which employee behaviours emerge. Thus, moving from the individual state of employees to the external environment, we also find supporting evidence for the antecedents of behaviour. Authors have identified different organisational contexts such as, culture and climate (Schneider et al. 2013), service climate (Barnes and Collier, 2013), leadership (Tims, Bakker and Xanthopoulou, 2011), and human resource practices (Tang and Tang, 2012), to name a few. This makes sense, since by its very essence, organisations are the sum total of the individuals who shape and define it. A specific environment emerges that is the result of the collaboration of several

individuals, and which in turn, shapes performance. Rightly put, employees do not operate in a vacuum, but within a system where human, technical and the intangible interact.

Having established that the antecedents of employee service behaviour exist within the individual and the organisation, and as earlier mentioned, having experience of service organisations in Nigeria, we propose to anchor the study on three specific constructs - service climate, work engagement and work ethic. The former representing the organisational domain, and the latter, the individual or psychological domain.

The choice of service climate, work engagement and work ethic as the antecedents of employee service behaviour is based on the context in which this study is embedded, that is, Nigeria and the hospitality industry. We will discuss this research context in more detail in a subsequent section. Suffice it to say, an initial review of the literature supports the choice of these three antecedents. In the wider context, we find that employee service behaviours have been studied in several contexts outside of sub-Saharan Africa (SSA), and which point to individual predictors of employee service behaviours such as, work values (Arthaud-Day et al., 2012) and work engagement (Pienaar and Willemse, 2008); and, service climate as an organisational predictor of discretionary behaviour (Chang and Chang, 2017). Empirical evidence in the Nigerian context also shows disengagement as an individual predictor of employee behaviour (Karatepe and Olugbade, 2016), while two non-empirical studies suggest work attitudes as a predictor (Abudu, 1986, Nwosu, 2016). Furthermore, poor industrial relations (Abudu, 1986), unfair treatment of employees and the lack of needed resources (Ehigie and Otukoya, 2005, Ogunyemi and Nwosu, 2015) have also been identified as organisational predictors of employee behaviour

1.2 Overview of the Study Constructs

As discussed above, the four main research constructs of interest in this study are employee service behaviour, service climate, work engagement, and work ethic. The following section provides a brief overview of the constructs in the relevant literature.

By way of definition, behaviour is an observable action by an individual (Ajzen and Fishbein, 1977); a human response to stimuli caused by changes internal or external to the individual. Inherent in this definition is the idea of human responses to stimuli, which can be caused by a range of agents. For example, psychological and physiological changes within the individual, or external events. When considering the whole gamut of human behaviour, the specification of the behaviour is important. In the previous section, we referred to service behaviours, which are the focus of this study. These service behaviours are described as such because of their altruistic character (Kim and Lee, 2009).

The study of employee behaviour in OB further distinguishes between task-related or discretionary behaviours (e.g., Tsaur and Lin, 2004). With task behaviour, the employee acts according to the script provided by the organisation. With discretionary or organisational citizenship behaviour (OCB), the employee is not confined to defined ways of acting, but is left to decide the best course of action for the situation at hand. Service quality is therefore influenced by both forms of behaviour; and the nature of the service encounter suggests that, there are several opportunities for employees to exhibit either of the two. The literature however, shows a dominance of OCB outcomes compared to task behaviours (Podsakoff et al., 2000; Colquitt et al., 2001; Kamdar et al., 2006; Leung, 2008; Zeinabadi, 2010; Chang and Chang, 2017). This provides a justification for comparing OCB and task behaviours using different rating sources, a methodology that is not generally evident in the literature.

In an earlier section, we discussed the relationship between employee behaviour and organisational outcomes, and of how positive behaviours were more likely to lead to positive organisational outcomes, and vice versa. Further, we ascertained that one way to address the practice-based problem, poor service behaviours among hospitality employees in Nigeria, was to consider the antecedents of such behaviour. These arguments have, for this study, invariably positioned the behaviour construct as a dependent of these antecedents.

The first of these antecedents of interest is service climate. It is defined as employees' shared perception of the service-focused behaviours, policies, practices, procedures, that are expected, supported and rewarded by the organisation (Bowen and Schneider, 2014). What this means is that the quality of service in an organisation is simply not an independent outcome. It is linked to the relevant inputs that allow service to happen within the organisation. The shared perception by employees of the availability of these resources for attaining superior customer service in the organisation, is what service climate refers to. It is

an appraisal of the extent to which the organisation has systems in place to encourage and facilitate the practice of customer service, and which employees are able to effectively recognise.

This description of service climate clearly justifies its inclusion as an antecedent in this study. That is, employee behaviours will tend to be influenced by the ambience in the workplace. If, as has been stated earlier, the work environment is considered to foster unjust practices, and does not provide the necessary resources for employees to thrive in, then these signals, perceived by employees, will then influence their behaviours. Now, the level at which this service climate is defined introduces a new dynamic to the relationship. When these perceptions are shared, the service climate becomes a group-level construct, distinct from the individual-level construct, which is each employees' owned perceptions of the work environment. That said, we would expect to find, not only one pathway of relationships between service climate and employee service behaviour, but also distinct pathways between the two levels of service climate and behaviour.

That said, several studies have identified the link between service climate and employee behaviours (Borucki and Burke, 1999; Liao and Chuang, 2004; Dimitriades, 2007; Schulte et al., 2009; Way et al., 2010; Hong et al. 2013; Jiang et al. 2016). However, there are identifiable gaps in these studies related to: the levels at which service climate is measured (individual-level versus group-level); the contextual service climate; the rating sources for employee behaviour; and importantly, the contextualisation of service climate in the Nigerian hospitality industry.

The second antecedent of interest is work engagement. Schaufeli et al. (2002: 74) define work engagement as "a positive, fulfilling, work-related state of mind that is characterised by vigour, dedication, and absorption". The human person is capable of cognitive, affective and behavioural actions, which to some extent reveals the level of involvement that person has with stimuli. Work engagement is said to exist when a person demonstrates a high level of connectivity with their work in all three domains. Essentially, absorption with one's work is

considered the cognitive component of work engagement, dedication as the affective, and vigour as the behavioural.

Work engagement encompasses the total individual in mind, feelings and actions; and which, given its motivational origins, effectively allows it to operate as an antecedent or intervening variable. Employees who possess this positive mindset are more inclined to express this in positive behaviours. On the other hand, disengaged employees 'switch off' and with a mindset such as this, it is easier to engender poor service behaviours. There is ample evidence in the literature about the influence of work engagement on employee behaviour (Gorgievski, Bakker, and Schaufeli, 2010; Van Bogaert et al., 2013) and for work engagement as a mediating variable in general (Xanthopoulou et al., 2009; Alfes et al., 2013a). However, few studies have contextualised work engagement in a sub-Saharan Africa context, which is one of the aims of this present study. Furthermore, in these abovementioned studies, the constructs differ from those that are of interest to this study. For instance, Karatepe and Olugbade (2016) considered work engagement as a mediator of the effects of high-performance work practices on employee creativity, service recovery and absenteeism, while this study will consider work engagement as a mediator in a service climate-service behaviour context.

The third antecedent under consideration is work ethic. It has been defined as a 'commitment to the value and importance of hard work' (Miller, Woehr and Hudspeth, 2002: 451). The primary function of employees is to work towards achieving the goals of the organisation. Furthermore, the quality and effectiveness of this work tends to vary across the organisation, not only because peoples' capacity to work differs, but also because attitudes towards work influence how it is executed. According to the model of work ethic that is used here, an employee is considered to have a strong work ethic when there is an intrinsic appreciation of hard work in itself (not just the tasks at hand), and which therefore influences the manner in which work is approached. The assumption here is that employees who work hard possess an underlying appreciation of work as a means to add value to themselves and to the organisation.

Furthermore, the model of work ethic referred to earlier is multidimensional, as defined by Miller et al. (2002). The authors identify seven dimensions to the work ethic construct, namely, the centrality of work, delayed gratification, hard work, leisure, morality/ethics, self-reliance and wasted time. Therefore, as with service climate, not only is there a proposed relationship between work ethic and employee service behaviour, but that this relationship is

sevenfold in nature, with each dimension operating at different levels (high or low), which need to be accounted for.

Consequently, work ethic could be considered as both an antecedent and an intervening variable. Employees with a positive inclination towards hard work are more likely to exhibit positive work behaviours. Empirical studies about the effects of work ethic on employee behaviour have been identified (Miller et al., 2002; Mann, 2010; Meriac, 2012; Meriac et al., 2015; Meriac and Gorman, 2017; Mussner et al. 2017; Grabowski et al., 2019). However, there is no evidence in these studies of the effects of work ethic on service climate and employee behaviour. More so, the majority of studies have been American, which supports our intended focus on a new context.

In summary, it seems that the practice-based problem of poor service behaviours contextualised in Nigeria and the hospitality industry, needs to be addressed by examining the pathways of relationships between employee service behaviours and three antecedents, namely service climate, work engagement and work ethics. This will be done in n addition, to examining the differences due to the multilevel pathways for service climate and work ethic.

In the following section, we provide a detailed discussion about contextualisation of this research.

1.3 The Nigerian Hospitality Context

Having articulated the purpose of this study and defined the constructs of interest, we now explain the rationale for the research context adopted. The contextualisation in Nigeria and the hospitality industry, derives from the researcher's 19-year experience as an academic and consultant in the hospitality industry in Nigeria. There are several insights that this experience brings to bear on the nature and dynamics of the practice-based problem. In addition to the opportunities that allow for a richer interpretation of the research findings.

First, we consider the context from the perspective of Nigeria and Lagos. With a gross domestic product (GDP) of approximately US$450 billion (Bloomberg, 2020), Nigeria is

considered to be the economic nerve-centre of sub-Saharan Africa (SSA). The country's population is the highest in SSA at 167 million (World Bank, 2018). Lagos is Nigeria's most economically important city, containing much of the nation's wealth and economic activity, driven by one of the largest seaports in Africa, and the largest international airport in the region. With an estimated 21 million inhabitants, Lagos accounts for 65 per cent of Nigeria's commercial, financial and business activities (Lagos State, 2020). Most of the country's largest banks and financial institutions are located in Lagos, including the headquarters of multinational and domestic conglomerates, as are larger trade partners and the nation's public enterprises. Whilst foreign embassies are obliged to be located in Abuja, the administrative capital, many countries maintain a presence in the city.

Furthermore, given its historical circumstances, in spite of SSA being diverse and multicultural in character, it is considered a cultural unit (Wanasika et al., 2011). Therefore, the SSA culture (and by extension, Nigeria) has been described as paternalistic, collectivist, high power-distant, traditionalist and religious (Wanasika et al., 2011; Okpara, 2012). Others such as Oppong (2017) describe it as developmental, deferring to elders, hybrid (traditional and western), and in need of economic development. Either way, these cultural descriptions of SSA (and Nigeria), differ notably from Western and Asian contexts. We therefore expect these to impact significantly on our understanding of employee service behaviours (Oruh et al., 2019: cited in Nwagbara, 2020). Given the strategic economic and cultural importance of Nigeria and Lagos, one would expect there to be a significant body of research about employee behaviours. However, this is not the case, as there are relatively fewer scholarly articles or peer-reviewed empirical studies contextualised in this domain.

Considering the context from the perspective of the hospitality industry, Lagos is the first point of entry for many international visitors to Nigeria, and a major terminus for domestic travellers. The substantial market created in Lagos has therefore attracted significant investment in the tourism and hospitality sectors. According to W Hospitality Group (2020), Nigeria has the largest number of rooms in the SSA hotel chain development pipeline. This means that, in addition to the existing hotel stock, approximately 8,000 rooms operated by international hotel chains such as Accor, Marriott, Hilton, Radisson, etc., are expected to open in Nigeria, the majority of which are located in Lagos. To a large extent, the sustainability of these developments requires a well-trained and committed workforce (Nwosu, 2016). Hence, research into the drivers of employee service behaviours in the hospitality industry in Nigeria needs to be addressed.

The implications of the hospitality context on the employment relationship are also important. It is generally acknowledged that employment in the hospitality sector is characterised by unfavourable conditions related to hours, work environment, pay, exploitation, etc. (Nwosu, 2009; Baum et al., 2020). To this effect, Nwagbara (2020) affirms that the employment relationship in Nigeria favours employers over employees. Likewise, Adisa et al. (2019: cited in Nwagbara, 2020) identifies the Nigerian workplace as patriarchal, hierarchical, status-oriented, and with social inequalities. It is these characteristics of the workplace that have perhaps engendered the militant unionism that characterises the hotel sector in Nigeria (Nwosu, 2016). Furthermore, there is widespread unemployment in Nigeria; in 2018, the unemployment rate was 23.7 per cent, with 30 per cent of these being post-secondary school graduates (World Bank, 2020). Consequently, a sizeable number of educated individuals are employed in comparatively low wage jobs (Aminu, 2019), which, as previously stated, characterises jobs in the hospitality sector. From this, we could infer that the hospitality industry has a crop of employees who are in it, not by choice but by circumstance. It is now clear to see how the hospitality context presents unique perspectives that could impact strongly on employee service behaviours.

1.4 Significance of the Study

Employee service behaviour is a critical determinant of service quality. In any situation that involves human interactions, variability and unpredictability are constants due to the psychological and physiological state of individuals. In addition, environmental conditions such as climate, also contribute to the transformation of employee service behaviours, either positively or negatively (Newman et al., 2018). Therefore, the study of employee perceptions of service climate, their work-related states of mind, and value perceptions of work, will in the first place, provide an opportunity for a deeper understanding of how superior employee service behaviour can be achieved. What is more, there is little evidence in the OB literature of studies about work ethic in a service climate-behaviour context, which makes this study both novel and timely.

Secondly, service climate, work engagement and work ethic are three constructs with special relevance to services sector research, primarily because of their link to employee service behaviours. For service climate, this follows logically from the fact that it is focused on providing support to employees in their role as service providers (Schneider et al., 2017). Job demands, particularly in the hospitality industry, are known to be highly stressful, and if positive service outcomes are expected in this environment, then engaged employees are necessary contributors (Chen et al., 2018). In addition, for service goals to be met, employees need to view their work with people with a certain degree of esteem, something that a strong work ethic imparts (Rendtorff, 2009). Consequently, the significance of this study lies with extending existing theory about employee service behaviour by investigating the effects of these three positive constructs, which hitherto have not been combined in one study.

Thirdly, work ethic is considered a relatively old research construct, since its origins date back to the early 1900s as the Protestant Work Ethic (PWE) (Furnham, 1984). Examining a contemporary conceptualisation of work ethic, the multidimensional work ethic profile (MWEP) developed by Miller et al. (2002), and its interaction with other relatively newer constructs like service climate and work engagement, will make valuable theoretical and empirical contributions to the existing literature.

Fourthly, as work in progress, the literature so far points to a paucity of studies about service climate, work engagement, work ethic and service behaviour from a non-Western, particularly sub-Saharan African context. In the section about the research context above, we discussed the strategic importance of Nigeria as a country of interest, and of the relevant nuances in the hospitality industry that will allow for a richer interpretation of the research findings. In addition to providing valuable insights about the interaction of these constructs within this alternative framework.

Fifthly, this study makes an important contribution to the methodology literature by offering a far-reaching application of a strand of the latest modelling thinking in psychology. By combining two analytical traditions from psychology and econometrics, specifically, mixed-effects models (MEM) and fixed-effects models (FEM) to estimate the regression coefficients for the relevant hypotheses, it is now possible to compare the effects of the exogeneity assumption on proposed relationships from two different perspectives.

Finally, the overall practical significance of this study is the improvement of service quality in organisations by means of a greater understanding about the antecedents of employee service

behaviour and how these can be effectively managed at both the individual and organisational levels.

1.5 Research Questions and Hypotheses

This aim of this study is to investigate how employee service behaviour in the hospitality industry in Nigeria, is influenced by service climate, work engagement and work ethic. The research questions and hypotheses formulated to address the relationships between the constructs are listed below and visualised in Figure 1.1:

Research Question 1: What is the effect of service climate on employee service behaviour?

Hypothesis 1_a: Individual- and group-level service climate will have positive effects on employee service behaviour.

Hypothesis 1_b: Service climate will have more positive effects on self-rated service behaviour than on supervisor-rated service behaviour.

Hypothesis 1_c: There is a difference between the effects of individual- and group-level service climate on employee service behaviour.

Research Question 2: Does work engagement explain how the effects of service climate on employee service behaviour operate?

Hypothesis 2: Work engagement mediates the effects of service climate on employee service behaviour.

Research Question 3: Does employee work ethic have influence on the effects of service climate on employee service behaviour?

Hypothesis 3: Work ethic moderates the effects of service climate on employee service behaviour.

Research Question 4: Does service climate explain how the effects of work ethic on employee service behaviour operate?

Hypothesis 4: Service climate mediates the effects of work ethic on employee service behaviour.

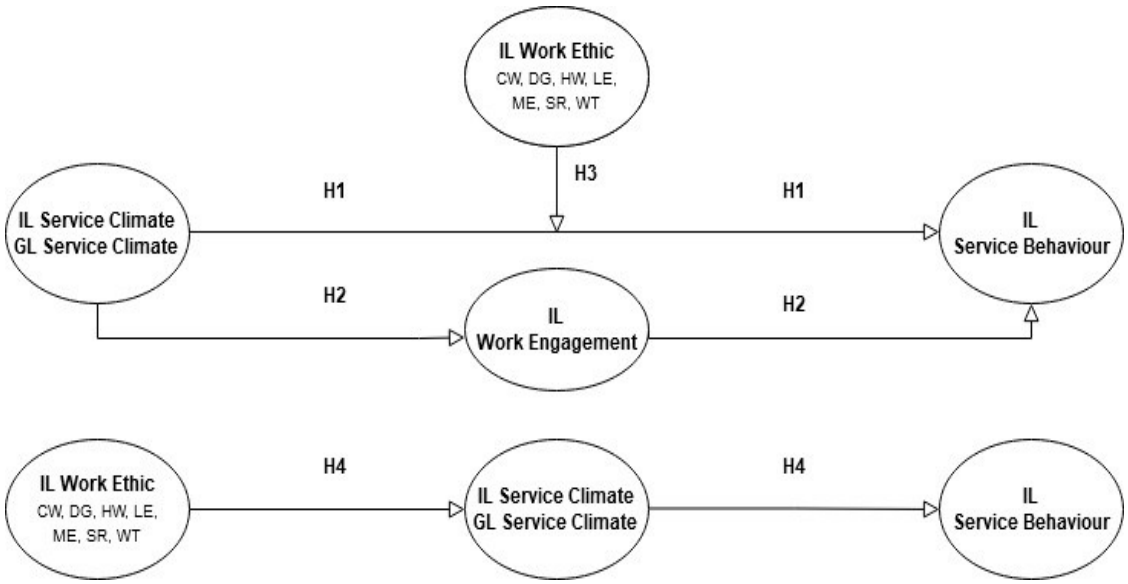


Figure 1-1 Visual representation of study hypotheses

Notes:
IL refers to the construct measured at the individual level
GL refers to the construct measured at the group level
CW, DG, HW, LE, ME, SR, WT refer to the work ethic dimensions: *centrality of work, delayed gratification, hard work, leisure, morality/ethics, self-reliance and wasted time.*

1.6 Methodology

The ontological assumption for this study is that the human person is capable of making free and responsible decisions. From this premise, it is possible to assume that employee perceptions, motivations, values and behaviours, are all outcomes of a human agency. In addition, the epistemological stance assumed is that reality is a collection of hard facts. The world is made up of objective and subjective realities that together shed meaning on life experiences. Research can therefore be geared towards unearthing either of these perspectives of reality, or both. The perceptions of service climate, a work-related state of mind, the value placed on work, and behaviour, are all measurable entities. As such, it is possible to arrive at a conclusion about the intensity of employee perceptions, levels of work engagement, strength of work ethic and differences in service behaviours. Consequently, a quantitative approach is adopted for the study, specifically by means of a survey questionnaire administered to hotel

employees in Lagos and three other cities in Nigeria. The data collected was analysed using regression techniques to test the study hypotheses, and to answer the research questions.

1.7 Main Findings

The main findings from this study show:

- The effects of service climate on employee service behaviour are positive, for both the individual-and group-level climates. This confirms that in the Nigerian hospitality sector, where the work environment is characterised by poor practices and policies, employees still respond positively (both as individuals or as a group) to the efforts by the organisation to create a positive work environment.
- Also, the results show that the MEM and FEM estimates for the effect of individual-level service climate on employee service behaviour are similar. This means that the hotel level effects, i.e., type, size and age, are not substantive. Furthermore, there are contextual service climate effects on employee service behaviour. That is, within a hotel, the effect of individual-and group-level service climate on employee service behaviour differs. Even in Nigeria, where the cultural context is collectivist, hierarchical and deferring to elders, individuals retain their personal perspectives about the work environment, regardless of the group.
- Work engagement mediates the effect of service climate on employee service behaviour. Also, there is evidence of a stronger influence of mediation for OCB compared to task behaviour. This confirms that within the context of a high-stress environment that characterises hotel work, organisations that provide employees with the necessary resources to carry out their duties, increase their engagement with their work, and this leads to more positive behaviours, especially those that go over and beyond the call of duty.
- The effects of service climate on employee service behaviour are moderated by work ethic. That is, the higher the level of work ethic in employees, the weaker the effect of service climate on their service behaviours. For the Nigerian context, improving the

service climate will have exponential effects on employee behaviour, especially with employees who have a higher level of work ethic.

- Service climate mediates the effects of work ethic on employee service behaviour. A strong work ethic operates, not only directly to produce positive employee service behaviours, but also through a positive service climate. Therefore, in Nigeria, for employees' positive work ethic to impact on their service behaviours, organisations must also improve the service climate.

1.8 Study Limitations

We recognise that by employing a cross-sectional design for this study, the identification of causal mechanisms in the data is restricted. Future research may address this limitation by extending the study to a second time period, thus testing the hypothesised relationships using longitudinal data. Second, the study sample includes hotel employees. Prospective research should consider widening the scope to include service employees from other types of hospitality organisations, which will allow for greater generalisation. Third, work engagement is used as a composite variable in the study. It would also be of interest to explore the relationships using each of the dimensions separately. Finally, as an alternative research design, we also encourage future research involving focus group discussions and interviews. In this way, new insights about the relationships between service climate, work engagement, work ethic and employee service behaviour will be arrived at.

1.9 Structure of the Thesis

The rest of the thesis is structured as follows:

Chapter 2 contains a review of the relevant literature, beginning with a brief account of the literature search process. The theoretical frameworks are discussed, followed by a systematic exposé of the origin and conceptualisations of the research constructs, and empirical findings.

Chapter 3 details the methods, procedures and analyses used in the study. The epistemological and ontological assumptions of the study, the rationale behind the choice and use of the data collection and analytical techniques, together with the preliminary analyses, are also presented.

Chapter 4 contains the results and discussions. This is done systematically, following the research questions and corresponding hypotheses outlined in the study.

Chapter 5 brings the study to a conclusion by presenting a summary of the theories, empirical evidence from the literature and from this study. In addition, the limitations, contribution, theoretical and managerial implications, and recommendations for future research are also included.

Chapter 2 Literature Review

2.1 Background

In the following sections, we reflect on the origins and conceptualisations of the study constructs, present relevant controversies, and identify some of the new directions suggested in the literature for future research.

2.1.1 Employee Service Behaviour

The concept of roles helps in understanding employee behaviour in the workplace (Katz and Kahn, 1978). A role, which may be defined as the duty that is expected of someone in a particular situation (dictionary definition), clarifies expectations on the part of the organisation and the individual. According to role theory, an individual's identification with that role will result in different outcomes or behaviours (Thoits, 1991). Thus, the saliency of roles underlies work behaviour. Based on this premise, a common enough definition of human behaviour is the response to external and internal stimuli. Ajzen and Fishbein (1977: 889) define behaviour as 'an observable action in an individual'. The key idea is that behaviour is a response which involves an action. When applied to organisational behaviour as a discipline, behaviour refers to the form and manner of human interactions that take place within organisations.

Given that an organisation exists primarily to achieve set goals, the study of behaviour is invariably linked to the fulfilment of individual roles that impact on the achievement of organisational goals. Behaviour in an organisation does not happen in any arbitrary manner but is normally focused on specific outcomes. Hence, the key to understanding work-related behaviour is linked to the idea of performance.

Organisational performance can be understood as an outcome or result that, in the end, determines whether the organisation has achieved, is achieving or will achieve its goals (Cameron and Whetten, 1981). The term 'performance' connotes the end-result of an intervention. In the OB literature, employee performance typically refers to the outcomes of employee behaviour (or interventions) which include customer satisfaction, employee satisfaction and financial performance (Sonnentag and Frese, 2002). Within the service

literature, employee service performance has been established as a key determinant of customer service and satisfaction (Salanova et al., 2005).

Strictly speaking, behaviour is distinct from performance (Campbell et al., 1993). In fact, on an input-output measure, behaviour could be considered an antecedent of performance. That is, behaviour refers to observable actions in employees, while performance is the outcome of behaviour. Tsaur and Lin (2004) argue that employee behaviour precedes service performance, and that employee behaviours are an observable phenomenon distinct from the outcomes or consequences of these behaviours. Performance may also be described as the outcome of useful behaviours; thus, work-related behaviour is to some extent work-related performance. It is clear to see how employee behaviour and employee performance have been used interchangeably in the literature (Chuang and Liao, 2010).

Furthermore, Wright, Dunford and Snell (2001) refer to the element of free will present in employee behaviour. The exercise of freedom implies that the employee retains the power to act or not to act; and this has many positive ramifications for the organisation especially when these choices are made for the common good. What this perspective of employee behaviour reinforces is the distinction between the behaviour itself and the outcomes of that behaviour.

We therefore conclude that employee behaviour and employee performance, unless explicitly referred to as performance outcomes like customer satisfaction and financial performance, refer to one and the same reality, and can both be used interchangeably. When used interchangeably, then it refers to an employee's response to a stimulus, and not to an external measure of the goodness or badness of that response (which would be more of a performance measure). So, in reviewing the literature, even though the terms are used interchangeably, we are concerned with performance as behaviour, where there is no objective measurement or judgement, but a subjective perception of how a person carries out their roles, and not an objective judgement.

Derived from Brief and Motowidlo's (1986) general definition of prosocial behaviour, Kim and Lee (2009) describe service behaviour as being altruistic by nature. That is, it involves the performance of actions that are beneficial to others. Therefore, by its very essence and regardless of the intention for which it is performed, service can be regarded as a form of selflessness. The very act of serving tends towards the good of another, which is an important distinction to make given that a range of other behaviours exists in a work context. As such, specific references to service behaviour in the literature have been identified (Tsaur and Lin,

2004; Hui et al., 2007; Cheng, Hong and Yang, 2018), which gives credence to its use in this study.

The OB literature (e.g., Katz and Kahn, 1978; Tsaur and Lin, 2004; Chuang and Liao, 2010) refers to two main forms of employee behaviour, namely task or in-role behaviour, and organisational citizenship behaviour (OCB), extra-role or discretionary behaviour. These behaviours have been established as empirically distinct constructs (Hoffman et al., 2007). The main distinction between the behaviours depends on whether there is a formal prescription by the organisation of what an employee is expected to do, or not.

The construct 'task behaviour' may be identified with the concept introduced by Katz and Kahn (1978) as core-task behaviour which identifies the role player as acting within a defined boundary of expectations. Normally, it is the organisation that sets these expectations in line with overall organisational goals. Borman and Motowidlo (1993) define task behaviour as technical activities that develop or provide resources needed for achieving organisational goals. With this definition, the authors link behaviour with effectiveness, that is, that they are specified and executed according to plan. Podsakoff and MacKenzie (1997) in their paper, described service-oriented behaviours as being task related. For instance, in hospitality, service behaviour will necessarily involve tasks such as serving food and beverages, laying beds, and checking-in guests.

Organ (1988:4), define OCB as discretionary behaviour that benefits the organisation but lies outside of the formal reward system. It refers to behaviour that goes over and above what is expected in the line of duty; and since it has not been formally mandated by the organisation, its performance is not recognised in the way that task behaviours are, that is, through the rewards system. Needless to say, there appears to be a slight shift in organisations' approach to OCBs. For example, Spector and Fox (2010) claim that an evolution of this definition has taken place and OCB is now actually rewarded by organisations. Furthermore, unlike task behaviour which presupposes some external obligation, OCB stems from the individual, and is for the benefit of the organisation, co-workers, customers or other individuals (Williams and Anderson, 1991; Gavino, Wayne and Erdogan, 2012: Zhu, 2013). Kirk-Brown and Dijik

(2011) also refer to two other forms of OCB, one directed towards the individual (OCB-I) and the other towards the organisation (OCB-O).

There is a dominance of OCB as an outcome in the extant OB literature (Zhu, 2013). One of the reasons that has been put forward for this imbalance is, according to Griffin et al. (2007), the changing nature of work and the workplace. When one considers the transformation of human work systems from the manual and repetitive tasks of the industrial revolution era, to the present-day technology-driven, continuous learning, collaborative, remote working models, it becomes clearer how routine tasks form a little part of the work life of people. In addition, what has become a highly competitive market-based world economy, there is now a greater need for employees to exercise initiative and ensure that organisations continue to attract customers. In such a case, Motowidlo (2000) infers that task behaviour alone might prove insufficient for achieving organisational goals, and would call for discretionary behaviours as well. Wickramasinghe and Perera (2012) however argue that the fulfilment of task behaviours may be more relevant in organisations where rewards are linked to task outcomes rather than to employee initiative.

With regard to this study's constructs, there is a strong link between OCB and service contexts evident in the literature (Konovsky and Pugh, 1994; Kidwell et al., 1997; Chang and Chang, 2017). More specifically, Chuang and Liao (2010) argue that in a positive service climate, one would expect to encounter stronger OCBs than prescribed behaviours. As do D'Amato and Zijlstra (2008) who suggest that OCB is more expected in a service context. Perhaps the definition of OCB as an altruistic construct in Borman and Motowidlo (1993) may explain this linkage. As mentioned earlier, the very act of service requires in some way, an altruistic disposition in the service provider, which therefore makes it logical that the outcomes of this would also be altruistic in nature. This position brings us to a better understanding of the antecedents of task behaviour and OCB. According to Borman and Motowidlo (1993), abilities and skills are more likely to predict task behaviour, while attitudes, are more likely to predict OCB. When one considers the unpredictability of service encounters, it is understandable how services might require more of right attitudes from employees than skills and ability alone. Podsakoff et al. (2000) also found OCB to be more strongly influenced by personality and attitudinal factors than by ability, knowledge or training. This perhaps explains how altruism, as an attitude found in service providers exercising their duties, is associated more with OCB than with task behaviour.

Conversely, for work engagement as a state of mind, the argument appears to be that expectations are that the abilities and skill exhibited by engaged employees will impact more on task behaviour than on OCB (Steele et al., 2012). In the case of work ethic, Banister (2017) alludes to the fact that work ethic is expected to have stronger effects on OCB than on task behaviour, simply for the fact that employees 'must' carry out prescribed tasks, but in the case of OCB, the element of free choice then provides the opportunity for altruistic or selfish behaviours to manifest.

That been said, Belogolovsky and Somech (2010) present a different perspective about task behaviour and OCB, when they infer that employees may perceive that their OCB are in actual fact prescribed. What this means is that the distinguishing line between task behaviour and OCB is blurred, at least from the perspective of employees. In an actual work situation, it may be difficult to distinguish when one begins and when the other ends. Some studies have alluded to this overlap, for example, Kim and Lee (2009) in their research on flight attendants and service behaviour suggest that there are elements of functionality or task-specificity in extra-role behaviours. The service interaction between flight attendants and passengers necessitates the engagement of extra-role behaviours in order to address unexpected needs that may arise. This element of initiative and discretion reflects the extra-role behaviour while to some extent, being an organisational expectation, could in turn be described as in-role in nature.

Also, LePine, Erez and Johnson (2002) proposed OCB as a multidimensional behaviour construct. This is reinforced by the evidence in Piercy et al. (2006) who found OCB effects on in-role behaviour. This intermingling of behaviours, according to Van Dyne et al. (1995) has repercussions on attempting to distinguish between the two behaviours in a study. Following on from here, there have been calls to consider in more depth how in-role behaviours may actually differ from OCB (e.g., Ackfeldt and Coote, 2005) since, as Yun, Takeuchi and Liu (2007) advance, both behaviours bring value to the organisations.

2.1.2 Service Climate

In Schneider et al. (2017) the historical development of climate research begins with Lewin, Lippitt and White (1939) who conducted a study of social climates among campers; reference

to its origins in 'Gestalt' psychology is also made; contributions by Fleishman (1953), McGregor (1960), Likert (1967) and, Litwin and Stringer (1968) to the general climate research are also acknowledged. One of these early definitions of climate refers to it as 'a measure of the total effect of the environment on individuals in a group' (Litwin and Stringer, 1968). In other words, climate is the result of a process that evaluates the things that matter in the workplace, and that will impact on people. From this definition, one can perceive the role of human cognition as it quantifies, analyses and predicts these variable effects. In another definition, climate perceptions are defined as psychological descriptions of what people agree characterises the practices and procedures in a system (Schneider,1975). As with the Litwin and Stringer (1968), the element of cognition, where meaning is attached to things, is also present in this definition. With Schneider (1975) we find the entry of psychological evaluations of the work environment into the climate literature. The author specifies how these interests within the work setting can be identified, namely through an observation of what is rewarded, supported or expected (Schneider, 1990). In short, climate can be summed up as, the employees' perceptions of the objective work context that matter.

For service climate, this objective work context is rooted in service quality, and so hinges on three assumptions. Firstly, that customers expect excellent service from a service organisation. Secondly, that the means for providing excellent customer service may not be in place in every service organisation; in such a case, gaps in organisational support for service delivery are bound to emerge. Thirdly, that all service organisations desire to deliver excellent customer service, and employees work towards this goal (Dimitriades, 2007). Therefore, the goal of service climate research is to identify effective organisational support systems for service delivery. According to Schneider (1998), the foundation of a service climate is to ensure that employees have all that is needed in order to deliver expected service. Consequently, it would not be out of place to refer to service climate as an organisational resource, especially as the literature on organisational climate alludes to it as such (e.g., Neal, Griffin and Hart, 2000; Patterson et al., 2005; Agrawal et al., 2012a; Eldor and Harpaz, 2016; Schneider et al., 2017;).

This consideration of service climate as a resource provides the framework for better appreciating its role in achieving sustainable competitive advantage (Bowen and Schneider, 2014). The theory of the resource-based view of the firm (RBV) prescribes that the competitive advantage of an organisation lies in the bundle of valuable, rare, inimitable and non-substitutable (VRIN) resources available to it (Barney, 1991). We argue that service

climate may be considered as a VRIN resource with the potential to generate competitive advantage for the organisation. Firstly, any practice or policy that leads to positive service outcomes can be considered valuable to the organisation. Secondly, identifying organisations that provide everything needed to achieve service quality will be a rarity. Thirdly, given that every organisation is unique, service climate is not easily duplicated, and hence inimitable. Finally, service climate cannot be substituted to achieve the same strategic outcomes in a different organisation, which makes it non-substitutable.

Bowen and Schneider (2014) suggest that it is the inimitable dimension of service climate that offers service organisations the best opportunities for achieving competitive advantage. They explain that duplicating in one organisation, the exact same climate of service in another is impossible. And, according to the authors, herein lies the source of advantage. Organisations that work towards supporting and rewarding employees' service-focused behaviours through their own unique combination of policies, practices and procedures, sets them apart from others. Needless to say, the onus is on the organisations to ensure that the service climate created is positive and favourable, if there is to be any advantage over the competition. Furthermore, the intangible character of service climate appears to be an added advantage for achieving competitive advantage. Neal, West and Patterson (2005) reinforce this argument by submitting that competitive advantage is more easily achieved through intangible resources.

Another consideration that will be discussed later in the empirical literature relates to the multidimensionality of the service climate construct. Basically, employees appraise several indicators within the system and arrive at a conclusion about the prevailing service climate. According to Hui et al. (2007), these indicators may include service standards, training opportunities, facilitating the service process, and rewarding good service. Another viewpoint considers service climate as core human resource practices (Schneider et al., 2006; Tang and Tang, 2012). Others describe the dimensions as "resources, training, managerial practices, and assistance required to perform effectively" (Schneider, White and Paul, 1998:151); a concern for employees and a concern for customers (Borucki and Burke, 1999); and "role stress and lack of harmony; job challenge and autonomy; leadership facilitation and support; and work-group cooperation, friendliness and warmth" (James et al., 2008:9). In each of these sets of dimensions, one can identify the same realities but described differently. Clearly, these

descriptions all refer to the need that employees have for facilitative support, in whatever form it takes. Regardless of what structures are put in place, if employees are treated unfairly or the structures are poorly managed, then the essence of creating a favourable climate is defeated from the onset. Therefore, a general consensus is that the dimensions of service climate encompass job knowledge and skills, service quality, rewards and recognition, leadership, communication, and available resources (Schneider et al. 1998).

We now refer back to the earlier definition of service climate, where reference is made to 'shared' perceptions. The discussion about whether service climate should only be measured as an aggregate of individual perceptions, or that individual perceptions are just as valid, is a discussion outside the scope of this study. However, suffice it to say, some authors are of the opinion that service climate studied at the organisational level makes more empirical sense than at the individual level. For example, Garcia, Cifre and Grau (2010) argue that service delivery is collective by nature, and is not dependent on the efforts of one individual, and that service climate should reflect the perceptions of the team rather than those of the individual. We find this argument valid, but somehow, it discounts the intimacy that characterises the service relationship between provider and customer (Schneider, Macey and Young, 2006; Manning et al., 2012), and for which we find the psychological or individual-level evaluation of service climate is justified.

In a sense, this distinction between individual- and group-level service climate presents interesting opportunities for contextualisation. That is, employees as individuals, and employees as a unit, could rightly be considered as two different contexts. Perhaps, as the literature reveals, the emphasis has been more towards considering the different levels of service climate as distinct constructs (e.g., Hong et al., 2013); or focusing on defining the research context of the study (Bowen and Schneider, 2014). We argue instead that evaluating service climate using each level as a specific context introduces an interesting perspective to the service climate literature.

2.1.3 Work Engagement

The origin of the term engagement as it is used in the organisational behaviour literature is attributed to Kahn (1990) who defined personal engagement as an individual's physical, cognitive, emotional and mental connectedness to their work role. Work engagement has been described as a positive psychological, affective-motivational, persistent and multidimensional construct with cognitive, affective and behavioural outcomes (Maslach, Schaufeli and Leiter,

2001; Alfes et al., 2013a; Alfes et al., 2013b; Macey and Schneider, 2008; Eldor and Harpaz, 2016; Karatepe and Olugbade, 2016).

It is held that work engagement belongs to the cognitive-affective domain (Schaufeli and Bakker, 2004; Alfes et al., 2013b), which means that it involves some level of rationality as opposed to an impulsive reaction to events or situations within the work environment. Some authors refute the proposition that the construct is attitudinal (e.g., Saks, 2006); others argue to the contrary (e.g., Truss et al., 2013). There are references to its relationship to well-being and burnout, which has led to the discussion of work engagement as an occupational health psychology construct (Hallberg and Schaufeli, 2006; Bakker et al., 2008).

The literature is replete with references to apparently different types or forms of engagement - personal engagement, employee engagement, work engagement, job engagement and organisational engagement. It is important at this stage to clarify the meaning of these terms in order to minimise any ambiguity with regards to their use. Some authors like Schaufeli (2013) distinguish work engagement as more task specific, from employee engagement which has broader connotations that include the organisation. Simpson (2009) specifies the distinctions between some of the 'engagements' commonly in use. For example, personal engagement derived from Kahn (1990) is distinguished from Maslach and Leiter's (1997) definition of engagement as the opposite of burnout, or the lack of stress effects present in an individual at work. The Schaufeli et al. (2002) definition of work engagement as vigour, dedication and absorption in one's work, is differentiated from Harter, Schmidt and Hayes' (2002) definition of employee engagement as involvement, satisfaction and enthusiasm for work in general. In addition, Saks (2006) distinguishes between job engagement, the connection that an individual has with their job, and organisational engagement as the connection that an individual has with the organisation. Musgrove (2014) in their study, clearly distinguish between job engagement and organisational engagement. Finally, for Kim et al. (2013), work engagement encompasses all the terms that have been used to describe it.

This proliferation of engagement conceptualisations has led some researchers to conclude that the construct lacks consistency (Shuck and Wollard, 2010; Knight et al., 2017). Rightly does Kaur (2017) allude to the confusion that arises from the arbitrary adoption of terms used to

qualify engagement. However, this is may not necessarily be the case, as the empirical evidence shows the contrary. Engagement is well understood to be that state of mind that keeps employees highly connected to their work. It is perhaps the evolutionary process of this fairly new construct that has created this state of apparent ambiguity. The onus is on researchers to define and maintain the 'prefix' attached to engagement in their studies. Having said this, it is clear that a common thread runs through all forms of engagement, and that is the idea of a 'personal investment' of the individual in their work or in the organisation (Christian, Garza and Slaughter, 2011). For the purpose of this study, engagement will henceforth be referred to as work engagement as conceptualised by Schaufeli et al. (2002) of the Utrecht Group.

Research has shown that work engagement is more commonly conceptualised at the individual level for the majority of studies (Karatepe and Olugbade, 2016). Now there have been attempts to broaden methodologies to include organisational-level studies of work engagement such as in Salanova, Agut and Piero (2005) who aggregated engagement to the unit level, and Barrick et al. (2015), who introduced the concept of collective organisational engagement. In addition, Bailey et al. (2017) found in their review, evidence of a number of studies that used team-level engagement.

Schaufeli et al. (2002: 74) define work engagement as "a positive, fulfilling, work related state of mind that is characterised by vigour, dedication, and absorption". Vigour or the physical component, is understood to be the strong, willing and sustained effort that is put into one's work; dedication or the emotional component on its part, refers to the enthusiastic and unswerving attitude towards work and the challenges that may occur in the course of its execution; while absorption or the cognitive component is a total immersion in the work that one does and which requires an extra effort to extricate oneself from. Where there is work engagement, employees invest their physical, emotional and cognitive selves into the jobs that they do. Therefore, work engagement fundamentally relates to how employees experience the work that they are involved in (Bakker et al., 2011).

There is a debate about whether work engagement is distinct from other similar psychological constructs especially since the construct is used interchangeably with others such as job involvement and organizational commitment (Hallberg and Schaufeli, 2006). Christian et al. (2011) present clear distinctions between engagement, job satisfaction, organisational commitment and job involvement. Some authors agree with the distinction between these

constructs, for example, Storm and Rothmann (2003) describe commitment as more of an allegiance to the organisation; Saks et al. (1996) posit involvement as more cognitive than affective; while Bakker et al. (2011) suggest engagement is better defined as an antecedent of commitment.

Another closely related construct to work engagement is flow, defined as 'the state in which people are so involved in an activity that nothing else seems to matter (Csikszentmihalyi and Csikszentmihalyi, 1975, p. 4). According to Rothbad (2001), flow may have similarities with the absorption dimension of engagement, but engagement is multidimensional and includes vigour and dedication factors as well. Furthermore, for some authors engagement alludes to the experience of frequent positive emotions at work (Albrecht, 2012), an experience which is accompanied by positive energy devoid of any reluctance. Consequently, there are some who find similarities between engagement and employee well-being (Schaufeli, 2008; Bakker and Oerlemans, 2011; Albrecht, 2012), and also to burnout (Hallberg and Schaufeli, 2006), the opposite construct to engagement. It would appear that this debate brings to light the fact that perhaps some dimensions of the work engagement construct are related to other existing constructs. Either way, the evidence supports that there is a justifiable distinction between work engagement and other constructs.

2.1.4 Work Ethic

Work ethic has been studied as a construct in theology, philosophy and psychology (Suazo and Turnley, 2010). This study situates it as a psychological construct based on the contributions of Furnham (1984) and Miller et al. (2002). In addition, work ethic in this study is contextualised within a work effort-performance framework, which Meriac et al. (2013) identify as the main focus of contemporary research in the field. This characteristic of work ethic being work-related is affirmed by Van Hoorn and Maseland (2013:4) who define it as 'the importance attached to work'. By work, we mean all productive activities, be they physical or mental that individuals are engaged in for the betterment of themselves and society. Specifically, for this research, this work takes place within an organisational context.

As a construct, work ethic has been defined in several different ways. Four main definitions are relevant to this study, namely, work ethic as a principle construct (Pučėtaitė and Lämsä

(2008), an individual difference construct (Suazo and Turnley, 2010; Meriac, Slifka, and LaBat, 2015), a value (Parry and Urwin, 2011), and as a multidimensional construct (Miller et al., 2002).

Firstly, as a principle construct, work ethic is not innate but is acquired thorough an experiential process called learning. In human development, the sources of learning derive from observation, experience, education and intuition, both at the family, community and societal levels (Bandura and Walters, 1977). Pučėtaitė and Lämsä (2008) posit that work ethic is acquired through a socialisation process. This is an important consideration as the work ethic construct is considered to have a strong cultural dimension (Hulin and Blood, 1968; Pučėtaitė and Lämsä, 2008; Forquesato, 2016). Work ethic exists and is influenced by the culture within which it exists. And as will be discussed in the empirical literature, this explains the prevalence of studies in work ethic that centre around comparisons based on demographics. The origin of the work ethic in a specific religious context is also evidence of this cultural grounding.

Secondly, it has been shown that there are variations in work ethic based on gender, age, ethnicity, culture, etc. (Pogson et al., 2003). This suggests that individuals form a specific work ethic based on personal characteristics and circumstances. According to Brody and Ehrlichman (1997) this is explained by the differing responses of individuals to stimuli. The unique composition of individuals means that the factors that impact on work ethic will be shaped differently within the individual. This confirms work ethic as an individual difference construct (Suazo and Turnley, 2010; Meriac et al., 2015).

Thirdly, there is strong support in the literature for work ethic as a value-based construct. For one, Furnham (1990) describes the work ethic construct as a collection of work values. Wollack et al. (1971) defined work values as derived from work ethic, a view supported by Parry and Urwin (2011) who indicated that work values originated in the Protestant Work Ethic (PWE) construct, and Meriac et al., (2015) who found similarities between work values and the work ethic construct. Dose (1997) and Mussner et al. (2017) refer to work ethic and work values as synonymous. While Jonck (2017) differentiates between work ethic and work values. For Li and Madsen (2009:171), work ethic is ‘a construct of work-related values and attitudes.’ What seems to emerge from these viewpoints is that there is a strong association between work ethic and work values. As such, the OB literature is replete with references to the link between the two. For instance, Blood (1969) used work ethic to conceptualise work

values; Wayne (1989) demonstrated work values to be a distinct construct from work ethic; Miller et al. (2002) described work ethic as a multidimensional set of values; while Parry and Urwin (2011) made reference to the origins of modern work values research in PWE. Evidently, there is a strong connection between work values and work ethic.

Finally, criticisms have also been levelled at some conceptualisations of work ethic measures, as focusing narrowly on certain aspects of work ethic (Ryan, 2002). Some authors have shown that the conceptualisation of work ethic as a multidimensional construct, has led to important outcomes. For instance, Christopher, Zabel and Jones (2008) found different effects in their study when work ethic was measured as a composite, and when measured using individual dimensions. This finding was also supported in Van Ness et al. (2010). One of the ways the consolidation of work ethic as a multidimensional construct emerged was with the development of the multidimensional work ethic profile (MWEP) as a measure by Miller et al. (2002). However, it is not very clear what Miller and colleagues proposed as the theoretical framework for explaining the MWEP.

The six main dimensions of work ethic posited by Furnham (1990), and reaffirmed in Miller et al. (2002) include, the centrality of work, delayed gratification, hard work, leisure, morality/ethics, self-reliance and wasted time. The centrality of work dimension refers to the prime importance given to work in the life of an individual; work is considered not as an unavoidable chore but as an essential part of one's existence. For the delayed gratification dimension, this refers to that willingness an individual has to forgo any reward until work goals have been achieved; for such an individual, this patient striving is a form of gratification in itself. As the term implies, the hard work dimension refers to the sustained effort that an individual puts into the achievement of work goals. The leisure dimension refers to the degree of importance that is given to activities that do not constitute what would normally be considered as work; that is, how important non-work activities are to an individual. The belief in a value system where right or wrong exists forms the nucleus of the morality/ethics dimension. For the self-reliance dimension, the individual recognises that the achievement of work goals depends to a great extent on personal effort; there is a recognition that personal effort is an important contributor to any proposed work outcome. Finally, the dimension of

wasted time explains the managed and effective use of work time that shuns distractions and whatever could distract the individual from achieving work goals.

We find in Dose (1997) a useful tool for explaining the nature of each of these seven dimensions of the work ethic construct mentioned above. The author developed a four-point continuum of criteria about work regarding morality (what should be done) versus preference (what I like), and also the social (what is generally accepted) versus the personal (what I prefer to do) criteria (Figure 2.1). Morality/ethics relate to the universal value placed on justice and fairness in human societies. As a universal principle, in order for the workplace to function with any semblance of order, then rights and duties of others must be respected. It is clear to see how a member of an organisation that holds to this premise with regard to other members and the organisation would be favourably considered.

Within the personal-moral quadrant, the individual relies more on personal resources than societal norms to define their position regarding the 'right thing to do'. As Dose (1997) suggests, this is not entirely independent of what obtains in the wider society. With delayed gratification, an individual who does not seek immediate rewards for work done, exhibits an inner strength derived from a personal 'code' that presents waiting for the rewards of one's work as the better course of action. Likewise, with wasted time, the individual is moved not to waste time at work but to turn to more productive activities out of a personal sense of justice to other members of the team and to the organisation.

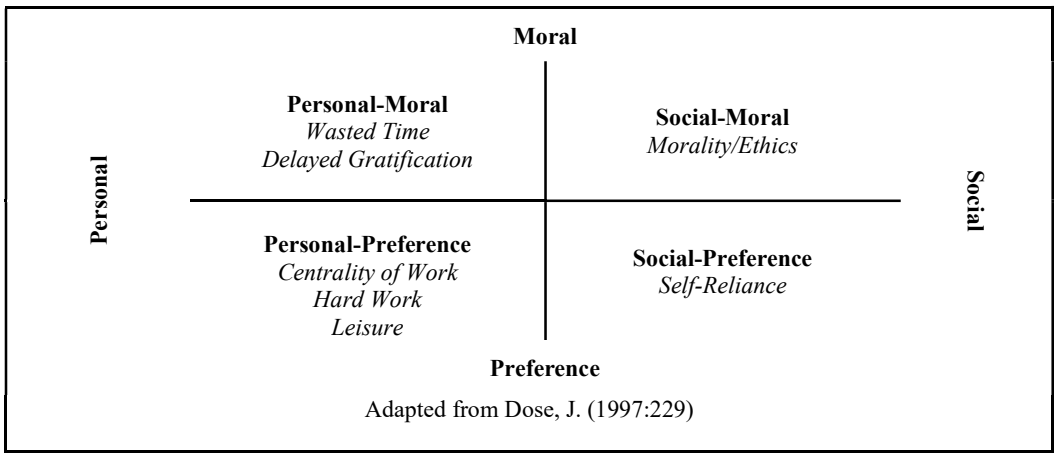


Figure 2-1 Framework for work values

For social-preferences, cultural norms and behaviours shape the values people have about life in society. The self-reliance dimension has very strong individualistic undertones where a member of the organisation would rely more on personal effort to get things done, than on

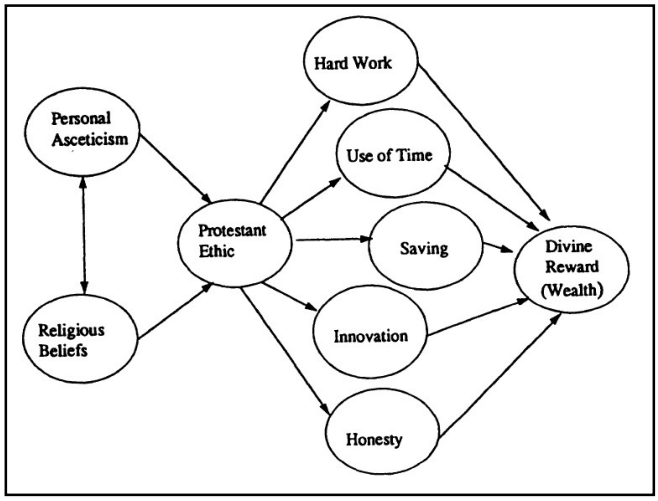
collective efforts, say at the level of the team. This is not surprising given widespread individualism in the Western societies where these psychological constructs were first defined.

A strong belief in the centrality of work, hard work and the relevance of leisure all relate to the personal-preference quadrant. Each of these dimensions are a result of the choice of an individual to evaluate work from a perspective that is to a great extent, subjective. Here, there is no apparent social necessity to conform to one belief system or way of acting. The element of free choice characterises these dimensions. That a person chooses to take work as the most important part of their life, or decides how much time off work is necessary, suggests a volitional aspect to these dimensions of work ethic.

Finally, in other outcomes from a review of the work ethic literature, work ethic was included as a dimension of work commitment in Morrow (1993); work ethic and commitment were found to have similar variances (Christopher et al., 2008); while Meriac et al. (2015) found grit to be related but empirically distinct from work ethic. Clearly, there is some theoretical fragmentation about work ethic as a construct in itself, and its relationship with other constructs in the OB literature. This is a clear call for a structured review that will help harmonise all these findings and create conceptual clarity. In summary, from all preceding discussions, it is evident that work ethic is considered as a cognitive construct, presupposing an experiential knowledge of a concept, that has been internalised and acts as a multidimensional guiding principle.

Before we conclude this section on work ethic, it is important to reflect briefly on the contribution of PWE to the work ethic literature. The importance, validity and contributions of PWE research cannot be disputed (Jones, 1997). Its origin dates back to the early twentieth century thesis titled ‘The Protestant Ethic and the Spirit of Capitalism’ written by the German sociologist Max Weber between 1904 and 1905. In his theory, Weber proffered that the success of capitalist Europe was rooted in the Protestant religion which extolled the virtues of hard work and perseverance, and which viewed prosperity as a grace and a reward for one’s faith in God (Furnham, 1984). In effect, the three main tenets of the theory proposed by Weber were individualism, asceticism and industriousness (Wollack, et al., 1971). The conceptual model of the Protestant Work Ethic (PWE) is shown in Figure 2.2. The model shows that from

its inception, the concept of work ethic derived from the individual's beliefs and personal effort; it rested on five main pillars related to hard work, use of time, frugality, honesty and innovativeness; and, resulted in a reward of wealth.



Adapted from Jones (1997:763)

Figure 2-2 Weber's model of the Protestant Work Ethic (PWE)

The development of the theory took root against the backdrop of industrialisation in capitalist Europe and North America and as result took credit for the triumph of the capitalist ideology. The perception of the White Anglo-Saxon Protestant (WASP) as the epitome of success was reinforced by the emergence of several industry captains who fit into this mould (Kaufmann, 2004). This mutually reinforcing theory gained ground and PWE became the established work ethic construct.

One of the earliest conceptualisations of the PWE can be traced to McClelland et al. (1953) who studied the link between PWE and the need for achievement. The study found that those with a stronger desire to achieve tended to be more successful. Other early PWE researchers were Goldstein and Eichhorn (1961) who carried out a survey among Midwestern farmers in the United States. In this study, the authors explored relationships between PWE on health, leisure and work behaviours and found that farmers with a higher orientation toward hard work were not necessarily more economically successful than the ones with a lower orientation to hard work. Ryan (2002) states that several instruments to measure PWE emerged in the 1960s and 1970s, the most notable ones being those developed by Goldstein and Eichlorn (1961), Blood (1969) and Mirels and Garrett (1971). According to Furnham (1984), the thrust of PWE research has centred around work and the work environment, the

lack of work, individual differences and demographics. He also argues that most studies have remained focused on constructing measurement scales for PWE.

Over the years, several criticisms had been raised about the conceptualisation of work ethic as a religious construct (e.g., Furnham, 1984; Granato, Inglehart and Leblang, 1996; Dose, 1997). The basis of the arguments of these authors seem to lie, not with the presumed validity of PWE as a construct, but with the assumptions on which it is based, these being that hard work and success are rooted in religious faith. The question is, could it not be an equally valid assumption to make that industriousness and success are possible without necessarily ascribing to religion? As it stands, the discussion of this question goes beyond the scope of this study.

As a result of these controversies and to some extent, the increasing secularisation of capitalist-based societies, there has been a noticeable decline in PWE research. As previously mentioned, the validity of the construct is undisputed, rather, it is the context that has undergone a transformation (Pučėtaitė and Lämsä, 2008). This makes it even more pertinent that work ethic research continues to evolve in order to derive deeper insights into contemporary work attitudes and behaviours. This is supported by Saks, Mudrack and Ashforth (1996) who argue that with the growth of services and importance of job attitudes, work ethic research is becoming increasingly important. Miller et al. (2002) refer to research related to organisational concerns about rising levels of poor work attitudes and performance, and which they suggest are linked to poor work ethic.

Additionally, in an attempt to move away from this dominance of Protestantism in work ethic research, interest into how other religious traditions view work ethic has led to the emergent Islamic work ethic (Ali and Al-Owaihan, 2008), the Confucian work ethic (Zhang et al., 2015), and others. According to Ali and Al-Owaihan (2008), work ethic as a construct is not limited to one cultural or religious tradition but can be found across board, albeit conceptualised differently. Needless to say, these are fairly new developments compared to the century-old PWE, but do stand to contribute to a better understanding of the motivations and outcomes related to human work.

2.2 Theoretical Framework

Our discussion of the origins and conceptualisations of the research constructs form the main theme in the previous section. In order to understand the effects of service climate, work engagement and work ethic on employee service behaviour, a reflection on the theoretical grounding for these proposed relationships is needed. In the following section, we present four theories in the OB and psychology literature that provide a rationale for this study.

2.2.1 Social Exchange Theory

The social exchange theory (SET) posits that social interactions are characterised by the exchange of mutual obligations between the parties (Blau, 1964; Emerson, 1976). What this means is that there is a dynamic of 'giving' and 'receiving' that takes place between the individuals, which creates a mutually beneficial relationship. If, however, either of the individuals fails to honour the agreed or assumed obligations to the other, then this results in negative outcomes. The idea of reciprocity, obligation and relationship are three aspects of SET that will help explain the proposed effects of service climate on employee service behaviour, in addition to the possibility of there being other variables that could influence this relationship. The literature confirms that SET has been used in service climate research (Borucki and Burke, 1999; Kang et al., 2018) and work engagement as well (Bailey, 2017). The direct application to work ethic research is yet to be identified, although evidence has been found in work values research (Dose, 1999).

Cropanzano and Mitchell (2005) refer to reciprocity as the rules or norms that govern social exchange. In an organisational setting where reciprocity occurs, there are expectations on the part of the organisation that having provided the necessary resources and tools, employees will in turn work towards achieving organisational goals. Likewise, on the part of employees, there are expectations that having invested time and energy, there will be some reward or recognition from the organisation. The obligations that are exchanged between the individuals could be tangible or intangible. For the organisation, tangible would include monetary rewards, work tools and other resources, while recognition and leadership are some of the more intangible resources available for exchange. On the part of employees, work behaviours could be said to represent the tangible resources while positive attitudes may be considered intangible. The social exchange relationship rests on the premise that when individuals perceive that a contribution is valued, reciprocate with positive behaviours. An employee who feels undervalued by the organisation is more likely to show this discontent by negative

behaviour; while positive behaviour will indicate contentment with being valued and appreciated (Eisenberger et al. 2001; Rhoades and Eisenberger, 2002; Ilkhanizadah and Karatepe, 2017).

Based on these three elements of reciprocity, obligation and relationship, it is possible to explain how service climate could exercise an influence on employee service behaviour. As mentioned earlier, service climate is created from organisational inputs directed towards service delivery. These are generally identified with tools, technology, communication, leadership, service performance auditing, rewards and recognition, training and development (e.g., Bowen and Schneider, 2014). These inputs constitute one of the obligations that the organisation has towards employees, that is, if the organisation is committed to achieving service excellence. Conversely, there are expectations on the part of employees that these resources will be provided in exchange for positive service behaviour. We can conclude that implicit within these mutual obligations is reciprocity between the organisation and the employee, that is, an exchange of obligations that creates a mutually beneficial relationship.

At the beginning of this section, we referred to the possibility that SET may accommodate other variable effects that could alter the balance between reciprocity, obligation and relationship. For instance, Tsui et al. (1997) suggest that resources of exchange are influenced by the existing rules of reciprocity, which means that the type of resources and the degree of importance attached to each depend to a large extent on what individuals' expectations are. This suggests that service climate and service behaviour outcomes could differ based on what either the individual or the organisation consider to be important. Clark and Mills (1979) also refer to the existence of different levels of reciprocity which could result in different levels of outcomes. Where there are high levels of reciprocity, the social exchange is more likely to result in mutually-beneficial outcomes as opposed to low reciprocity levels. An employee with high reciprocity is more likely to fulfil obligations towards the organisation better than one with low reciprocity. Thus, based on the notion of cause and effect, interaction or intervening effects are possible where varying levels of reciprocity exist within a social exchange context.

Furthermore, we argue that differences in reciprocity could be attributed to differences in individual psychological traits such as attitudes, motivations, value systems and experiences.

The psychology literature is clear in confirming that antecedents of individual behaviour are in part rooted in psychological traits (Bettencourt, Gwinner and Meuter, 2001; Saks, 2006; Chiaburu et al., 2011). Thus, with work engagement, which we have established as the physical, cognitive, emotional and mental connection of an employee to work (Kahn, 1990), employees' level of reciprocity could be influenced by higher levels of engagement when expectations are duly met by the organisation (Alfes et al, 2013a). Notwithstanding, we will adopt an alternative framework in a later section to explain the proposed mediating role that work engagement could perform in the service climate-service behaviour relationship.

In the case of work ethic, which is understood to be the importance attached to work (Van Hoorn and Maseland, 2013), employees' level of reciprocity could also be influenced when work ethic is stronger. This expectation resonates with Dose (1999) who found that where similar work values exist, higher levels of reciprocity occur. As has been mentioned, the similarities between work ethic and work values in the literature (e.g., Mussner et al. 2017) allow us to suggest that, between employees with a strong work ethic and the organisation providing the necessary resources and support to employees (in a sense, the organisation exhibits a positive 'work value' by providing these resources), higher levels of reciprocity can be expected. Thus, the perceptions of service climate by the employee constitute the organisation's contribution to the relationship, while positive behaviour constitutes the contribution of the employee. This reciprocal exchange when moderated by work ethic should result in higher levels of reciprocity where the exchange is congruent with the positive work values of each party, and to lower levels of reciprocity where a discordant exchange exists (either the employee has a poor work ethic, or the organisation does not meet employee expectations regarding 'work values').

In conclusion, the SET constitutes an appropriate explanatory framework for the assumed relationship between service climate and employee service behaviour, as well as for the possibility of intervening and interaction effects as well.

2.2.2 Social Interdependence Theory

In our discussion of SET, the contexts within which service climate could exist are not considered. Since context forms an important part of this study, the inclusion of an additional framework is required. But firstly, the context of interest for this study relates to measurement, that is, service climate observed as either individual or aggregated perceptions within the same organisation (Swift and Campbell, 1998). How this context impacts on the effects of service

climate on employee service behaviour appears to resonate with the social interdependence theory (SIT). Formulated by Morton Deutsch (1949), social interdependence is said to exist when actions of members of a group who are connected by common goals influence each other. There is an intricate web of interdependencies created where members influence each other, while also influencing the group. This interdependence may flow in either direction. According to Feaster et al. (2011) actions, beliefs and attitudes can be transmitted from individuals to the group and vice versa. From here, we deduce that within an organisation, individual perceptions of service climate influence group perceptions of service climate, and conversely, the group perceptions influence the individual. From SIT, therefore, we expect interdependencies between individual- and group-level effects of service climate on employee behaviour within the same organisation.

Having established this, it is equally important to consider that individuals and the group are distinct realities. If, according to SIT, the contextual service climate (individual or group) necessarily includes interdependencies, then unless explicitly accounted for, it will not be possible to interpret independently the effects of these service climates on employee service behaviour. Therefore, this theoretical framework allows us to understand how evaluating contextual service climate effects on behaviour will require the separation of these interdependencies. This important insight will be applied in the subsequent chapter when considering analytical techniques related to the service climate context.

2.2.3 Job Demands-Resource Theory

As discussed earlier, we alluded to the possibility that SET provides an explanation for how work engagement could mediate the effects of service climate on employee service behaviour. Here we find that the Job Demands-Resource Theory (JD-R) provides a much-needed perspective from the job itself. JD-R explains the interaction between the physical, social, psychological and organisational aspects of a job that require continuous effort, i.e., job demands and those that provide support to meet these demands, i.e., job resources (Bakker and Demerouti, 2007). According to the theory, job demands (JD) may constitute a source of stress and burnout while job resources (JR) have the potential to motivate individuals to achieve work goals. Employees are more likely to be engaged with work when the resources for

carrying it out are available. In effect, the presence of job resources leads to engagement (ibid) and to the attainment of positive organisational outcomes.

With this established, it can be concluded that an organisation that provides the necessary resources and supportive environment for fulfilling work obligations, facilitates employee well-being, which in this case is work engagement. In Section 2.1.1, we identified organisational climate as a job resource (Bakker and Demeriouti, 2007). By extension, service climate, as a type of organisational climate, can also be considered as a job resource. Consequently, where the prevailing service climate is positive, and the work environment is characterised by high job demands, then all the elements for eliciting engagement among employees are present. With this, the proposed path from service climate to work engagement in the research model is fully explained. Furthermore, since employee service behaviour can be equated with positive organisational outcomes referred to in JD-R, then service climate effects on work engagement leads to positive organisational outcomes. The second path from work engagement to positive employee service behaviour is likewise fully explained.

Another proposal of JD-R is that work environments with high levels of JD will be characterised by stressful conditions, employee burnout and higher attrition rates. The presence of JR in such an environment leads to higher levels of engagement. Now the services sector, particularly the hospitality industry is known as a high stress environment characterised by long hours, low pay, (Netemeyer, Maxham and Pullig, 2005; Yang, 2012; Tsaur and Tang, 2012). This is mainly experienced among frontline service employees who are the primary service providers. The theory suggests that the presence of a positive service climate in these high stress conditions will lead to higher levels of work engagement and hence more positive service behaviours.

2.2.4 Social Perceptions Theory

In our preceding discussions, we considered the effects of service climate on employee behaviour, and the intervening effects of work ethic on this relationship. However, in a reverse case where work ethic is proposed as a predictor of service climate, we find that the social perceptions theory (SPT) provides strong theoretical support. The general thrust of the theory originated by Postman, Bruner and McGinnies (1948), explains the relationship between individual values and the formation of perceptions. The authors describe three mechanisms by which a personal value system could lead to the formation of perceptions and to specific behaviours. The values that are important to a person (value orientation) develop in

them a certain sensitivity when forming perceptions about reality (perceptual sensitisation). This process then creates an internal defence system that allows a person to respond by rejecting what does not conform to these perceptions (perceptual defence) or accepting what conforms to them (value resonance). In other words, individual values pre-dispose or sensitise one to the recognition and interpretation of external stimuli more easily.

There is broad evidence of the value-perception framework in the literature across a number of themes such as alternative work values (Ravlin and Meglino, 1987); employee/organisation cooperation (Tyler, 1999); person-job and person-organisation fit (Lauver and Kristof-Brown, 2001), personal values and service climate perceptions (Saito, 2016), and work values and employee effort (Abdelmoteleb, 2020). It is therefore possible to explain how work ethic (understood here as a set of positive work values in an individual) shapes employee perceptions of the work environment. If one considers that service climate is a positive indicator or stimuli sent out by the organisation to signal what are rewarded, expected and supported behaviours for service excellence, then according to SPT, it is logical that an employee who already values service excellence, will more easily detect and respond positively to these stimuli. That is, if an employee's orientation towards work is positive, then the employee will be more sensitive to contributions that the organisation makes towards creating a work environment that is positive and conducive for employees. Moreover, when there is value resonance between the employee and organisation, these signals are more easily picked up, and which then lead to the formation of perceptions. As such, work ethic pre-disposes the employee to perceive a favourable service climate in line with these positive work values. Conversely, a lack of value resonance will more easily lead to negative perceptions about the organisation. This argument also explains how individual differences could arise between employees who experience the same external stimuli and yet form widely differing perceptions that lead to divergent behaviours.

In summary, SET provides the theoretical framework to explain why service climate could lead to positive effects on service behaviour, including the interaction effects of work engagement, and the intervening effects of work ethic. In addition, the SIT explains how contextual effects of service climate could be accounted for in the service climate-behaviour relationship. JD-R allows for a better understanding of the mechanism for service climate

effects on service behaviour through the mediation of work engagement. Finally, the link between work ethic and service climate resonates with the SPT.

2.3 The Empirical Literature

In this section we review, analyse and discuss the empirical findings in the literature for the relationships between service climate, work engagement, work ethic, and employee service behaviour. In addition, future directions for the research agenda are also presented.

2.3.1 Employee Service Behaviour

The importance of this construct as an outcome variable in the OB literature is reflected in the number of studies that have used it. For instance, out of 116 studies used for this review, 64 used employee behaviour as the outcome variable. This is not surprising as we stated earlier in the introduction that people play a pivotal role in any organisation. In the long run, it is the behaviour of the 'drivers' in an organisation, i.e., people, that determine where the organisation is headed. Besides, this is readily observable when considering the effects behaviours could have on overall organisational performance. For example, on reflection, the outcomes of employee turnover intentions (e.g., Kang et al., 2018), counterproductive behaviour (e.g., Den Hartog and Belschak, 2012), and unethical pro-organizational behaviour (Grawboski et al., 2019), point toward underlying issues which may have a significant impact on organisations. For instance, the direction of turnover intention is generally indicative of the level of employee satisfaction/dissatisfaction with a situation; counterproductive or destructive behaviours suggest disgruntlement; while performing unethical actions on behalf of the organisation portrays some form of unquestioned loyalty. That said, it is possible to reach a better understanding of a phenomenon through its effects on employee behaviour.

First, we intend to identify the antecedents of task behaviour and OCB that are not specific to this study. This is done in order to appreciate the development of behaviour research in the OB literature. In the earlier cited references, evidence shows that employee behaviour has been studied primarily as an outcome. Identified predictors of employee behaviour were found to be either psychological in nature, or the outcome of existing social relationships. Psychological variables found to influence OCB are: personality and attitude (Podsakoff et al., 2000), perspective taking (Kamdar et al., 2006); organisational commitment (Colquitt et al., 2001); job satisfaction (Zeinabadi, 2010); impressions management (Bowler and Brass, 2006); organisational ethical climate (Leung, 2008); and service climate (Chang and Chang, 2017).

Some studies found an effect on both task behaviour and OCB by affective commitment (Becker and Kernan, 2003) and POS (Tremblay et al., 2010). In Raja and Johns (2010), the effect of neuroticism on both task behaviour and OCB was negative for higher levels of job scope; in addition, the relationship between extroversion and OCB was also moderated by job scope. For social relationships, predictors of OCB include positive leader-member exchange relationships (Kamdar and Van Dyne, 2007); group cohesiveness (Ng and Van Dyne, 2005); while organisational justice predicted both OCB and task behaviour (Cohen and Keren, 2008).

More specific to this study, employee behaviour (task behaviour and OCB) was identified as an outcome of service climate, work engagement and work ethic. Studies found direct effects of service climate on service task performance and OCB (Hong et al., 2013), customer-oriented OCB (Schneider et al., 2005; Dimitriades, 2007), service performance (Li and Huang, 2017) and service behaviour (Jiang et al., 2016). Direct effects of work engagement were observed for service behaviour (Cheng et al., 2018), in-role and OCB (Bailey, 2017; Zhong et al., 2016), and extra-role customer service (Karatepe, 2013), while direct effects of work ethic on OCB were also identified (Meriac, 2012; Meriac and Gorman, 2017).

For mediated effects, the literature shows work engagement mediating the effects between leaders' autonomy-support climate and service performance by (Chen et al., 2018), and also between HPWP and extra-role customer service (Karatepe, 2013). In addition, internal service quality was found to mediate between service climate and employee performance (Fung et al., 2017). Evidence of service climate moderation were identified for the effects of work engagement on service behaviour (Cheng et al., 2018), while leadership effects on employee service performance were also moderated by service climate (Wieseke et al., 2011). Finally, a mediated-moderated relationship was identified where career aspiration moderated the mediation effect of service orientation between service climate and service performance (Li and Huang, 2017).

While there is ample empirical evidence of employee service behaviour studied as an outcome of this study's predictors, it is apparent that a bias towards the conceptualisation of behaviour as OCB rather than task behaviour exists. According to Eldor and Harpaz (2016), this comes as no surprise given the changing landscape of work which requires higher investments in

OCB in order to remain relevant. For this reason, empirical reviews on OCB were more readily available e.g., Organ and Ryan (1995), Podsakoff et al. (2000), and Spitzmuller, Van Dyne and Ilies (2008); no review that was dedicated solely to task behaviour was found. In addition, most of the studies measured employee behaviour using single raters, either self-rated (Kang et al., 2018), customer-rated (Salanova et al., 2005) or supervisor-rated (Meriac and Gorman, 2017). We are yet to identify a study with related constructs that used multiple raters for employee behaviour.

Finally, the antecedents of employee behaviour in a service context were all either American (US and Canada), European, or from the Far East. This paucity of literature related to sub-Saharan Africa confirms the need to test and extend existing theories about the antecedents of employee behaviours within this context. Nonetheless, there are now a few studies emerging from a sub-Saharan Africa context that consider employee behaviour outcomes, namely, customer incivility and employee turnover intention in Nigeria (Alola, 2019), and ethical leadership and deviant behaviour in Cameroon (Tarkang et al., 2019).

This brief review shows the various antecedent variables related to task behaviour and OCB, which include the predictors within the psychological domain, our key area of interest. It is clear that there is more evidence of OCB outcomes in the literature than for task behaviour. In addition, the majority of studies use single raters for employee behaviour than is the case for multiple raters.

2.3.2 Service Climate

There have been several reviews about the service climate construct over the last decade, for example, Kuenze and Schminke (2009), Manning et al. (2012), Hong et al. (2013), Bowen and Schneider (2014), and Schneider et al. (2017). Based on these reviews and on other recent literature, service climate has been studied as a predictor, mediator, moderator and outcome variable, alongside organisational, employee and customer variables.

From the organisational perspective, themes such as leadership, HR practices, systems support, interventions, financial performance, organisational trust, servicescape and organisational climate were identified. For leadership, service climate was studied as a positive outcome of predictors such as leader motivation (Lam and Schaubroeck, 2000), group leaders' service-focused behaviour (Liao and Chuang, 2007), service-oriented leadership (Hong et al., 2013), and transformational leadership at team-level (Hur, van den Berg and

Wilderom, 2011); and also, as a negative outcome for owner service values (Andrews and Rogelberg, 2001). Hui et al. (2007) in their study identified service climate as a moderator of the relationship between effective leadership and service quality outcomes. Wieseke et al. (2011) observed mediating effects of service climate between leadership and employee service performance, as did Schneider et al. (2006) between service-oriented leadership and customer-focused OCB. Finally, Salvaggio et al. (2007) found that the effect of a core self-evaluation trait in leaders on their service quality orientation was mediated by the service climate.

High performance HR practices related mainly to recruitment and selection, policies, reward schemes and pay, were identified as positive predictors of service climate (He, Li and Lai, 2011; Tang and Tang, 2012; Hong et al. 2013). In other studies, service climate mediated the effects of HR practices on customer experiences (Rogg et al. 2001), and high-performance HR practices on employee service performance (Chiang and Liao, 2010).

With regard to system supports provided by other organisational units, internal service quality was related to the service climate (Schneider et al., 1998; Ehrhart et al., 2011). For Fung et al. (2017), internal service quality mediated the effects of service climate on employee performance. Fewer studies were found for organisational interventions e.g. the positive impact of manager training on service climate (Walker, Smither and Waldman, 2008); financial performance e.g. the positive effect of service climate on financial performance (Hong et al. 2013); organisational trust, e.g. service climate mediated between organisational trust and employee satisfaction (Solnet, 2006); servicescape, where service climate moderated the effects of communicative and substantive staging of the servicescape on customer emotions (Chang, 2016); and organisational climate (Garcia et al., 2010).

Several papers linking service climate to employees were identified, some of which were related to performance/behaviour engagement, job satisfaction, affect, commitment and exhaustion. For the performance/behaviour literature, service climate was positively related to service performance (Borucki and Burke, 1999; Liao and Chuang, 2004; Hong et al. 2013); customer-oriented OCB (Dimitriades, 2007); task behaviour and OCB (Way et al., 2010); OCB (Hong et al. 2013; intention to stay (Schulte et al., 2009); and service behaviour (Jiang et al. 2016). Service climate was also identified as a mediator or in a mediated relationship. For

instance, mediating effects of service climate were established between service-oriented leadership and customer-focused OCB (Schneider et al. 2006); customer orientation and focused behaviour (Grizzle, et al. 2009); high performance-oriented HRM practices and employee performance (Chuang and Liao, 2010); and, work engagement and patient-centred care behaviour (Abdelhadi and Drach-Zahavy, 2012). For engagement-related factors, Salanova et al. (2005) showed that service climate mediated the effects of employee engagement on customer experiences. A reverse relationship was identified in Abdelhadi and Drach-Zahavy (2012), where work engagement mediated the effect of service climate on patient-centred care behaviours; as did Kang et al. (2018), who established that the effects of service climate on turnover intention were also mediated by engagement.

Service climate was also identified as a moderator of work engagement effects on service behaviour (Cheng et al., 2018). In addition, Li and Huang (2017) found that the mediated effect of service climate on service performance by service orientation, was in turn moderated by career aspiration. Other employee-related outcomes show positive effects of service climate on job satisfaction and commitment (Hong et al. 2013), and employee affect (Schulte et al., 2009). Furthermore, mediating effects of service climate between positive emotional display and exhaustion (Lam, Huang and Jansenn, 2010) were also identified.

Finally, several studies that explored the relationship between service climate and customer experiences were also found. For example, there were positive effects of service climate on customer-perceived service quality (de Jong, de Ruyter and Lemmink, 2005) as well as on customer responses (Brown and Lam, 2008). So also, with moderated relationships, the effects of service climate on customer experiences were found to be stronger for high customer-contact contexts (Dietz, Pugh, and Wiley, 2004), service intangibility (Mayer, Ehrhart, and Schneider, 2009), and internal service quality (Ehrhart et al., 2011). Customer satisfaction, a consequent of service climate was another contributor (Chathoth, et al., 2007; Krajl and Solnet, 2010; Hong et al. 2013).

Some gaps are observed in the extant literature on service climate. Overall, the review of the literature illustrates that employee outcomes are the most studied. An observation supported by Schneider et al. (1998), and Bowen and Schneider (2014). There are comparatively fewer studies that consider customer and organisational outcomes. We also take the direction of most studies by considering employee outcomes, specifically, service behaviours. In addition, Auh et al (2016) make a case about the lack of research around service climate antecedents.

As has been shown, very few studies examine what these antecedents are. The need for additional research around antecedents of service climate is also mentioned in Hong et al. (2013). Thus, we find support for the inclusion of work ethic as an antecedent of service climate in this study. Finally, the context of these service climate studies above are either American, European or Asian. This presents another gap in the literature for addressing sub-Saharan African contexts.

2.3.3 Work Engagement

The extant literature on work engagement is vast. There are five recent reviews on the work engagement construct, two of which are quantitative (Christian et al., 2011; Knight et al., 2017), one narrative (Bailey et al., 2017), and two others, more general (Simpson, 2009; Wollard and Shuck, 2011). These, together with other more recently published articles, were used for the following review. An overview from the 75 empirical articles show that work engagement has been studied in an individual or organisational context, or combined.

Studies of the work engagement construct within an organisational context examined leadership, job resources and demands, HR practices, job design, and other organisational interventions and contexts. Positive associations were found between work engagement and a unit manager's span of control (Cathcart et al., 2004); transformational leadership (Christian et al., 2011; Tims et al., 2011; and leader–member exchange (Cheng et al., 2013). One study confirmed negative effects of abusive supervision on work engagement (Sulea et al., 2012). For cross-context studies, mediating effects of engagement were identified for the effects of trust on in-role performance and OCB (Chughtai and Buckley, 2011); transformational leadership on extra-role performance (Salanova, et al., 2011); leaders' autonomy-support climate on service performance; and transformational leadership on service climate (Kopperud, Martinsen and Humborstad, 2014). Additionally, the effect of leadership intervention on work engagement was mediated by employees' perceptions of work–culture support and strategic alignment (Biggs et al. 2014).

Mixed results were found for the effects of work engagement, organisational and job resources, and job demands. Hakanen et al. (2005) found positive effects of job resources on work engagement, as between service climate and engagement (Barnes and Collier, 2013;

Kang et al., 2018); De Braine and Roodt (2011) established the same between job demands and engagement, while Gan and Gan (2014) did not find any significant relationships between the same. In Christian, et al. (2011), negative effects between physical job demands and work engagement were also observed. Furthermore, comparing job resources and job demands, Mauno et al. (2007) identified job resources as a better predictor of work engagement.

A number of mediated relationships were observed where work engagement acted as a predictor, e.g. service climate mediated the effects of organisational resources and work engagement on employee performance and customer loyalty (Salanova et al.,2005); as a mediator, e.g. between the effects of job resources and turnover intention (Schaufeli and Bakker, 2004), job resources and demands on organisational commitment (Richardsen et al., 2006), job resources on proactive behaviour (Salanova and Schaufeli, 2008), and organisational, team and job resources on extra-role behaviour (Albrecht, 2012); and finally, as an outcome, e.g. for the effect of job resources on work engagement mediated by self-efficacy (Xanthopoulou et al., 2007).

With regard to human resource practices, mediated relationships were confirmed for the relationships between perceived HRM practices, and OCB and turnover intentions (Alfes et al., 2013a). Similarly, Karatepe (2013) detected mediating effects of work engagement on HPWP and extra-role customer service. Job design factors in the work engagement literature are linked to autonomy and other job characteristics such as individual tasks, task significance and empowerment. For example, Xanthopoulou et al. (2009) and Christian et al. (2011) found no association existed between autonomy and work engagement. In another study, these findings were contradicted by Buys and Rothmann (2010), who established that no association existed between the same constructs. Laschinger and Finegan (2005) identified that empowerment mediated work engagement and work life.

In addition, positive mediating effects were also observed for work engagement for different organisational contexts, for example, between work life and employee perceptions of organisational change (Leiter and Maslach, 2004); workplace ostracism and service performance (Leung et al., 2011); procedural justice and extra-role customer service (Karatepe, 2011); and perceived learning climate and extra-role performance (Eldor and Harpaz, 2016). Furthermore, for organisational interventions, Xanthopoulou et al. (2009) found mediating effects of engagement between coaching and financial performance; Carter, Nesbit and Joy (2010) identified positive effects of theatre-based interventions on

engagement; as did Hu and Schaufeli (2011) for engagement on organisational commitment. Finally, work engagement mediated the effects of CSR on career satisfaction and voice behaviour (Ilkhanizadeh and Karatepe, 2017).

For work engagement studied within an individual context, the literature is dominated by performance and behaviour outcomes. This is expected given that work engagement, as earlier mentioned, is considered as an affective-motivational construct. Nonetheless, there is also evidence of other outcomes. Findings for positive associations of work engagement as a predictor were confirmed for positive affect (Balducci et al. 2011); conscientiousness (Christian et al, 2011); meaningfulness, safety and ability (Chen et al. 2011); workplace optimism (Medlin and Green, 2009); work-life experiences (Koyuncu et al., 2006); psychological capital (Kang et al., 2018); psychological climate (Lee, 2015); psychological empowerment (Mendes and Stander, 2011); self-efficacy (Del Libano et al., 2012), and positive health outcomes (Freeney and Fellenz, 2013). Additionally, as an outcome, work ethic was found to positively predict work engagement (Czerw and Grabowski, 2015).

From the review of direct effects of work engagement on performance and behaviour outcomes that fall outside the scope of this study, engagement was found to have negative effects on counterproductive behaviour (Den Hartog and Belschak, 2012), and turnover intention (Yalabik et al., 2013); but positive associations with innovative behaviour (Gorgievski, Bakker, and Schaufeli, 2010); Type A behaviour (Hallberg et al., 2007); and voice behaviour (Wong et al., 2010). More specific to this research, work engagement effects were found to be positive for types of performance and behaviour, such as in-role performance (Halbesleben and Wheeler, 2008; Chughtai and Buckley, 2011); task behaviour (Gorgievski, Bakker, and Schaufeli, 2010; Steele et al., 2012); in-role and extra-role performance (Bakker and Demerouti, 2008); contextual performance (Gorgievski, Bakker, and Schaufeli, 2010); task and contextual performance (Christian et al., 2011); work performance (Balducci, Fraccaroli, and Schaufeli, 2010); job performance (Van Bogaert et al., 2013); OCB-I and OCB-O (Kirk-Brown and Dijik, 2011); service performance (Yeh, 2012).

For indirect effects involving work engagement in a performance and behaviour relationship, Xanthopoulou et al. (2008) confirmed the mediating effects of engagement on the relationship

between self-efficacy, and in-role and extra-role performance; Rich, Lepine, and Crawford (2010) also found same mediating effects of work engagement for relationships between value congruence, POS and core self-evaluations on task behaviour and OCB. For Karatepe and Ngeche (2012), job embeddedness mediated between work engagement and job performance. Finally, a single study by Chang (2016) explored customer outcomes within a work engagement-behaviour context, and found that work engagement moderated the relationship between customer emotions and employee behavioural intentions.

In summary, the review of the empirical literature on work engagement brings to light the diversity of studies. This widespread adoption is evidence of its importance in OB research. That been said, the literature on work engagement within a performance and behaviour context is the main focus of this study. Some attention has been paid to other outcomes, but this was considered necessary for providing a complete overview. From the review, we find clear evidence that work engagement is a positive motivational construct. Also, the majority of studies have fallen within an individual context, a lot fewer studies on work engagement have involved organisational contexts.

As only four studies examined service climate and engagement (Salanova et al, 2005; Barnes and Collier, 2013; Kopperud et al, 2014; Kang et al., 2018), there is a justifiable concern to expand this organisational context. Work engagement has expectedly been identified as a predictor and mediator, with only scant evidence to support it as a moderator and outcome. This does not preclude additional research about service climate as a possible antecedent of work engagement. Expectedly, the dominant contexts for the majority of these studies continue to reflect Western and Eastern origins. Again, this demonstrates a key gap in the literature that this study intends to fill by using a sample from sub-Saharan Africa.

2.3.4 Work Ethic

It is important to reiterate the origins of work ethic research in PWE. Any advances in knowledge about the work ethic construct, to some extent, resonate in the findings in this area. An overview of PWE research in Furnham (1984) shows that apart from studies that focus on the construction of valid and reliable measures, studies about how PWE relates to other constructs can generally be categorised under work (Aldag and Brief, 1975), unemployment, (MacDonalds, 1971), individual differences (Furnham and Bland, 1983), and demographics (Ray, 1982). Findings from more recent studies show that the PWE dimension of hard work has a positive relationship with persistence, purpose and past orientation (Mudrack, 1997).

Conversely, Ryan (2002) found that the hard work and independence dimensions of PWE had a negative relationship with the OCB helping dimension. Finally, Christopher et al. (2010) found that PWE positively predicted intelligence.

The evolution of work ethic research away from the PWE construct, and our interest in the MWEP, means that most of the literature on work ethic dates from the early 2000s. The research articles reviewed give a strong indication of the relative novelty of the MWEP in the work ethic literature. For instance, in their seminal paper that introduced the MWEP, Miller et al (2002), conducted six studies in order to determine the dimensionality of the work ethic construct, construct a multidimensional measure, confirm construct validity, assess generalisability across different samples and ascertain relationships. As a result, most of our reviewed papers fall into one or other of these categories. Some have looked at comparing work ethic across generations, e.g. Jonck et al. (2016, 2019) found differences among generations of Baby Boomers, Generation X and Generation Y in a South African sample; Real et al. (2010) found little or no obvious differences in work ethic dimensions across Millennials, Generation X and Baby Boomers; Jobe (2014) observed delayed gratification, leisure and hard work, differed across three generations of nurses; and for Hite, Daspit and Dong (2015), self-reliance in Caucasian and other ethnic groups of the same generations differed significantly. Conversely, in Real et al. (2010), the differences in the work ethic profile between three generations were negligible.

Other studies have focused on specific populations, for instance, Christopher et al. (2008) observed that striving for achievement strongly predicted hard work, centrality of work, wasted time and delayed gratification in a predominantly American-Caucasian sample; self-reliance was consistent across US and Polish samples in Chudzicka-Czupała et al. (2012); and outcomes of self-reliance, leisure and hard work were strongest for students compared to workers in Van Ness et al. (2010). Empirical evidence was also found for work ethic studies that explored measurement equivalence across American, Mexican and Korean samples (Woehr, Arciniega and Lim, 2007); careers (Pogson et al, 2003), gender (Meriac, Poling and Woehr,2009), and academic performance (Meriac, 2012). Only one identified study explored the relationship between work ethic and an organisational-level factor, namely Forquesato (2016), who found a correlation between work ethic and the intensity of firms' incentives.

For individual-level factors, two categories of studies emerged, those related to psychological factors, and those related to performance or behaviour factors. For the psychological studies, Parkhurst et al. (2011) observed that work ethic predicted those who would end up choosing assignments that required more effort; in Meriac (2012), a high leisure orientation was found to relate with disengagement; positive relationships were identified between self-reliance and, the need for affiliation and autonomy (Meriac, et al. 2013); in the same study, work ethic was found to predict job satisfaction (ibid); the centrality of work dimension was found to predict work engagement (Czerw and Grabowski, 2015); hard work and self-reliance dimensions had a negative relationship with ego depletion; and Fakunmoju (2018) detected a significant effects of work ethic on life satisfaction.

For performance and behaviour outcomes, Miller et al. (2002) found that delayed gratification, leisure and self-reliance predicted job performance. In Mann (2010), self-rated extra-role behaviour was predicted by each of the seven work ethic dimensions. Work ethic also influenced student citizenship and counterproductive behaviour (Meriac, 2012), and organizational citizenship behaviour (Meriac and Gorman, 2017). Fair salary moderated the effect of centrality of work, leisure and self-reliance dimensions on innovative behaviour (Mussner et al., 2017). Variance in turnover intentions was linked to work ethic (Meriac et al., 2015), while no relationship was found between morality/ethics and delayed gratification, and individual innovative behaviour (Mussner et al. 2017). Finally, hard work dimension had positive effects on employee's willingness to carry out unethical pro-organisational behaviour, while centrality of work, delayed gratification, leisure and morality had negative effects on the same (Grabowski et al., 2019).

The aim of this review was to determine extant work ethic research, and it has shown that four main themes define the literature. The first is related to studies that attempt to distinguish work ethic from other psychological constructs. This is expected given the relatively recent development of the MWEP. The evidence shows that work ethic is related to some psychological constructs viz. intelligence and conscientiousness. The second relates to measurement equivalence of the MWEP. Given that the original MWEP was developed in English, research has delved into the development of non-English versions such as Korean, Spanish and Polish. The third theme regarding the generalisability of work ethic introduces a series of comparative studies. This establishes the importance that demographic and other sample characteristics have in work ethic research. The fourth theme which is of interest to

this study, involves the relationships between work ethic and other variables, particularly those that are work-related.

The empirical evidence of work ethic and work behaviour outcomes relate to job turnover, intentions to quit, organisational citizenship behaviour, counterproductive behaviour and individual innovativeness. All these findings lend support to the proposed study and to some extent show where possible gaps lie with regard to work ethic and employee behaviour. Except for Mussner et al. (2017) who considered how salary moderates of the effect of work ethic on innovative behaviour, as far as we have found, no study has considered work ethic as a moderator of a climate-behaviour relationship, nor have we identified work ethic as a predictor in a relationship where climate mediates and behaviour results. Finally, the literature again shows a clear imbalance in terms of context. The majority of studies were carried out in the United States, with a few exceptions. There are only four relevant studies by Jonck et al. (2016, 2017, 2019) and Oyelade (2017) that are contextualised in South Africa and Nigeria respectively. This helps to reinforce the need to situate the study of work ethic in a sub-Saharan Africa context.

2.3.5 Related Empirical Literature within the Context of SSA and Nigeria

In this section, we will critically engage the empirical literature in SSA and Nigeria, in order to position the study within this under-researched context. A review of the OB literature confirms few empirical and peer-reviewed studies related to employee service behaviour, and to the antecedents – service climate, work engagement and work ethic. Not only in identifying the pathways of relationships, but also examining differences in levels within these relationships.

Four papers were identified that examined employee behaviours conceptualised as OCB. Two of these examined the mediating role of OCB between - leader-member exchange (LMX) and employee performance in Ghana (Atatsi et al., 2020); and, perceived organisational support (POS) and employee performance in Zimbabwe (Chinomona, 2012). One paper explored the mediation of employee engagement between HR practices and OCB in Uganda (Owor, 2016). While another investigated the relationship between two antecedents, POS and perceived fair interpersonal treatment (PFIT), and OCB in Nigeria. From this literature, we observe that task

behaviour construct is absent as an employee outcome; OCB is considered as a mediator and outcome variable; and, we identify employee engagement as an antecedent of OCB. In relation to this study, we would argue that three papers differ markedly from our goal to identify the antecedents of employee service behaviour. Only in Owor (2016) do we find some semblance to our study. However, even with this, the HR practices form only one small aspect of the service climate construct that we propose to investigate.

With regard to climate-related studies, three papers were identified. For the first, Govender and Ramroop (2012) looked at the relationship between research climate and perceptions of overall service quality and experience among postgraduate students in South Africa. In the second, Kutu and Popoola (2016) explored the relationship between the psychological work climate and organisational commitment in Nigeria. The third paper, Taiwo (2010) studied the relationship between work environment and worker productivity in Nigeria. As we can see, two of the studies relate to general work climates, while one is focused in postgraduate research. Hence, it is clear then that there are opportunities to address service climate within the SSA and Nigeria context.

A lot more research on engagement was found, although only four papers looked directly at work engagement as operationalised in this study. Ugwu et al. (2014) examined the relationship between organizational trust, psychological empowerment, and employee engagement in Nigeria. Here, both antecedents differ from that of this study, in addition to engagement modelled as an outcome and not a mediator. Karatepe and Olugbade (2016) in their paper explored the mediating effects of work engagement between high-performance work practices and job outcomes in Nigeria. For this paper the main differences lie with the antecedent and outcome variables. For instance, one of the outcomes relate to service recovery and creative performance, as opposed to this study's employee service behaviours. The same authors in another paper, Olugbade and Karatepe (2019), extended their research to examine the mediating role of work engagement between work stressors and four outcomes, which include job performance. However, as with all the previous studies, the antecedents differ from this study. Once again, the extant literature confirms that there has been little research in the SSA context around the proposed research model.

Finally, a review on the literature around work ethic conceptualised as MWEP, showed four studies. Jonck et al. (2017) in their studied examined the relationship between work values and work ethics in South Africa. In this study, work values were conceptualised as overt

behaviour as opposed to behavioural intent for work ethic. The main point of departure in is with the use of a values scale as a measure of behaviour, compared to this study which defines these as employee service behaviours. Other research by the same authors examined differences of the MWEP across generational cohorts (Jonck, et al., 2016), as well as the demographic differences of the same (Jonck, et al., 2019). Both these perspectives represent another departure from this study, which models work ethic as a moderator and predictor. The fourth paper investigated the link between work ethic and university worker productivity in Nigeria (Oyelade, 2017). Once more, we observe here, the diverging conceptualisation of the outcome variables.

In conclusion, though there is some evidence of research into employee service behaviours, work engagement and work ethic (the exception being service climate – no paper has yet been identified in the SSA context), the pathway of the relationships proposed for the three antecedents, and the differences in levels within these (service climate and work ethic) still has to be addressed. In addition to the broadening of employee service behaviours to include task behaviours.

2.4 Hypotheses Development

The preceding sections of this review have sought to situate this study within the theoretical and empirical literature that deals with the effects of service climate, work engagement and work ethic on employee service behaviour. In order to provide a rationale and justification for this study's research questions and hypotheses, we will now present a brief overview of cited references that are relevant to the study, and evaluate them on the basis of construct operationalisations, underpinning theory, and study design.

2.4.1 Service Climate and Employee Service Behaviour

As previously discussed, the relationship between service climate and employee service behaviour is anchored on the norms of reciprocity in SET. According to the theory, a mutually beneficial exchange of obligations between two parties leads to positive outcomes. We have seen that in the context of the employment relationship, the minimum obligation that organisations owe to employees is providing them with a work environment that is conducive,

and that the necessary resources for achieving work goals are available. This obligation is non-negotiable if the organisation is serious about achieving performance goals. In the context of this study, the obligations on the part of the organisation relate to the service climate. Creating a conducive climate of service requires that the practices, policies and procedures are in tune with service quality demands that the organisation makes on employees.

Conversely, on the part of the employees, their obligations relate to the fulfilment of their duties, as specified by the organisation for meeting service goals. In other words, the employees' service behaviour constitutes the response that is owed to the organisation for having created a positive service climate. Thus, we see how service climate and employee service behaviours constitute the obligations for the organisation and employee respectively. In a dynamic of reciprocity, each party gives what it is obliged to give, while receiving what is promised to it. This is the source of a mutually beneficial relationship.

Furthermore, we discussed how the SIT explains how members of a group connected by the same goals influence each other. Interdependencies are created which flow in either direction, that is, from the individual to the group, and from the group to the individual. Now, having previously established that service climate is measurable at the individual- and at the group-level, it follows from SIT that these pathways will be interdependent. Hence, we expect that positive service climate influences, whether at the employee or organisational level, will both lead to the same employee outcomes, that is positive service behaviours.

Five empirical studies found positive effects of service climate on service behaviour (Borucki and Burke, 1999; Liao and Chuang, 2004); customer-oriented OCB (Dimitriades, 2007); task behaviour and OCB (Way et al., 2010); and service behaviour (Jiang et al. 2016). These show that group-level service climate was the predominant antecedent used in the studies. For the outcomes, both task behaviour and OCB items were largely taken into account. Only one study adopted SET as its theoretical framework.; the others adopted either, the resource dependence theory; a 'common sense' theory or no theory at all.

It appears that the opportunities to extend this literature lie in three main directions. Firstly, to compare the effects of individual and group levels of analysis for service climate. The cited references have all studied service climate at the group level. It is of interest to compare what the effects of individual-level service climate on employee service behaviour would be. Bowen and Schneider (2014) have alluded to the need to study different climates within the same unit. While strictly speaking, group-level service climate is derived from an aggregation

of individual-level service climate perceptions of employees, these in a sense, represent two different climates operating within the same unit. That which belongs to the individual and that which is shared by the unit as a whole, are essentially different. Although Garcia et al. (2010) point out that greater consistency of results has been observed at the group-level service climate than at the individual level, it is still of interest to identify where and how these differences occur.

Secondly, research has shown that the incidence of common method bias is greatly increased by the use of a single source of ratings for predictor and outcome variables (e.g., Podsakoff et al., 2000; Min, Park and Kim, 2016). There is a call for the use of multiple rating sources for employee service behaviour (e.g., Borucki and Burke, 1999; Liao and Chuang, 2004). In their meta-analysis, Hong et al. (2013) found significant differences between the effects of service climate on employee behaviour based on rating source, and also that employee-rated service behaviour resulted in stronger relationships with service climate than did supervisor-rated service behaviour.

Interestingly too, Chuang and Liao (2010) in their study, refer to a non-significant effect of service climate on manager-rated behaviour, which contradicted findings in an earlier study by Liao and Chuang (2007) where the effects for service climate on employee-rated behaviour were significant. On closer inspection of the constructs used in the 2010 study, for the relationship in question, service climate was operationalised as a climate of concern for employees, and employee performance as in-role performance. In the 2007 study, composite service climate[1] and employee-rated service performance were used. In effect, the two studies are not strictly comparable based on the nuances introduced by different formulations of the predictor and outcome constructs which could also introduce variations in the outcomes of rating sources that have been observed.

With all these considerations in mind, it appears that the service climate and employee service behaviour relationship may well be modified by differences in the rating source. Therefore, we propose introducing some triangulation, for example with the use of different raters that will

[1] Schneider et al.'s (1998) service climate scale.

help minimise this bias. This approach seems to have been adopted in Li and Huang (2017), and will also allow for a comparison of effects based on each group of raters.

Thirdly, mixed effects modelling may well be the most appropriate technique to employ given that dual service climates will be studied in the same proposed model. We would expect to have both individual- and group-level effects of service climate on behaviour coupled with contextual climate effects. That is, if climate as a construct captures the ambience of an organisation, then the context within which the climate is measured (individual or group) in that organisation, should impact in some way on employees' behaviour as well. Therefore, there should be an analytical technique that will take these considerations into account in the same model.

The abovementioned findings and discussions lead to the following hypotheses:

> *Hypothesis* 1_a: Individual- and group-level service climate will have positive effects on employee service behaviour.
>
> *Hypothesis* 1_b: Service climate will have more positive effects on self-rated service behaviour than on supervisor-rated service behaviour.
>
> *Hypothesis* 1_c: There is a difference between the effects of individual- and group-level service climate on employee service behaviour.

2.4.2 Work Engagement as a Mediator

As discussed above, there is enough evidence to show that there are positive and direct effects of service climate on employee behaviour. An additional objective of this research is to determine if this positive relationship will persist in the presence of a mediating variable like work engagement. According to the JD-R theory, employees are more likely to be engaged with the work when the resources for carrying out that function are available. An organisation that provides the necessary resources and a supportive environment for fulfilling work obligations facilitates employee well-being, which in this case is work engagement. Organisational climate has been understood to be a form of organisational resource by several authors (e.g., Bakker and Demerouti, 2007) with a positive climate in place, the conditions for work engagement should be present.

Two papers of relevance emerged from the literature about indirect path relationships between service climate and employee behaviour. Specifically, Salanova et al. (2005), and Abdelhadi and Drach-Zahavy (2012).

Salanova et al. (2005) made a useful contribution to the literature by including in one study, all three level factors related to service climate, i.e., organisational, employee and customer factors. However, the research model used in in this study positions work engagement as an antecedent of service climate. For Salanova and colleagues, the premise is that the service climate that emerges within an organisation is contingent on how employees 'feel' about their work. Engaged employees, who exhibit vigour, dedication and absorption, pass this 'contagion' to the group. And through a process of group cohesiveness, positive perceptions of the service climate then emerge. Therefore, engaged employees form positive perceptions about the service climate. The theoretical framework for this study is different. Working from a JD-R perspective, the authors argue that when an organisation creates a supportive climate by providing necessary resources to employees, then employee well-being is facilitated. We argue that a positive service climate as an organisational resource leads to work engagement.

For Abdelhadi and Drach-Zahavy (2012), work engagement was found to mediate the effects of service climate on patient care behaviour. The research model used by Abdelhadi et al. is similar to that proposed for this study. In their explanation for the service climate-behaviour link, the authors argue that a reciprocal relationship is formed when organisational resources are made available, and in response, employees align their behaviours to fit this context. No explicit theory was referred to. However, the authors' reasoning is clearly derived from the SET. Likewise, the explanation for the relationship between service climate and work engagement is premised on the JD-R theory. For work engagement and behaviour, the authors argue that the motivational attribute of the work engagement construct leads to positive behaviours. All the core constructs, of service climate, engagement and employee behaviours are represented in this model, but within a health care context.

There appears to be an opportunity here to extend the empirical literature by examining how employee engagement mediates the effects of service climate on both task behaviour and OCB. The main differences in the literature relate to the fact that service climate is studied as

a consequent of work engagement on the organisational level in Salanova et al. (2005), while in Abdelhadi and Drach-Zahavy (2012) service climate is a predictor of work engagement at the individual level, in addition to there being different behavioural outcomes in a health-care setting. Calls to consider the simultaneous effects of engagement on both in-role and extra-role behaviour have been made by Christian et al. (2011). Likewise, in Bailey et al. (2017), the authors point out the need to broaden the contexts within which work engagement is studied. With this in mind, this study proposes to examine the mediating effects of employee engagement in a service climate and employee behaviour relationship, focusing specifically on multiple ratings of task behaviour and OCB within a hotel context.

Accordingly, the following hypothesis is proposed:

> *Hypothesis 2*: Work engagement mediates the effects of service climate on employee service behaviour.

2.4.3 Work Ethic as a Moderator

The basis for considering work ethic as a moderator of the effects of service climate on employee service behaviours, is supported theoretically by SET. As previously discussed, if differences in reciprocity could be attributed to differences in individual psychological traits such as work values as found in Dose (1999), then arguably, differences in reciprocity are also attributable to work ethic. That is, employees possessing differing intensities of work ethic will result in different intervening effects on the service climate-service behaviour relationship.

Since work ethic is rooted in a person's value system, we can argue that the attitudes that arise from this psychological orientation are distinct from external influences, say from the environment. And as stated earlier, with service climate, the organisation signals to employees what are the rewarded, expected and supported behaviours for service excellence. However, these signals, though important determinants of employee behaviour, nonetheless emanate from outside the employee's psychological domain. On the other hand, individual values are also known to be powerful predictors of behaviour (Arthaud-Day et al., 2012). Therefore, we would expect tension between service climate (as an external influence) and work ethic (as an internal influence) on employee service behaviour.

Furthermore, we recognise that there are different levels or intensities to work ethic. We show this in Figure 2-3. At high levels of work ethic, the employee may be described as being hardworking, ethical, assiduous, etc. On the contrary, at low levels of work ethic, the employee is considered indolent, unethical, and a time waster. We can then presume that the relationship between service climate and employee behaviour will also be subject to nuances in these differing levels of work ethic. We expect to find that at high levels of work ethic, the influence of service climate on positive service behaviour will weaken. This is, as mentioned earlier, the result of the powerful influence of individual values on employee behaviour. Conversely, at low levels of work ethic, the relationship between service climate and positive behaviour will be strengthened. In one sense, to compensate for the work ethic deficit that should normally drive these behaviours.

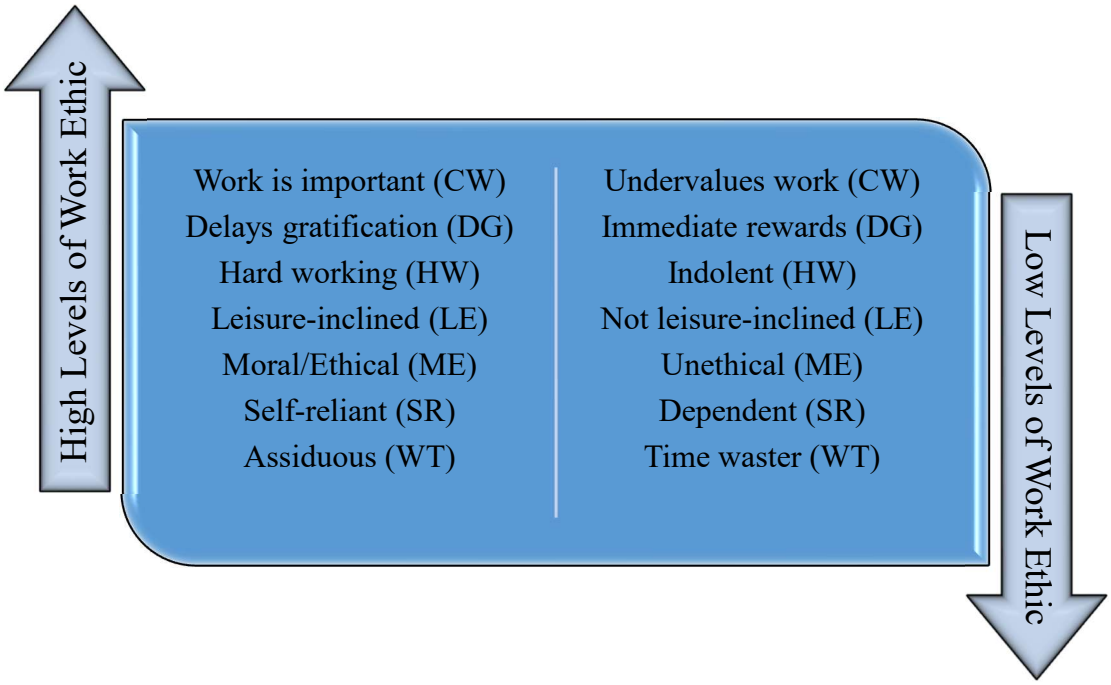


Figure 2-3 Levels of work ethic

Thus, the moderating influence of work ethic on the relationship between service climate and employee service behaviour, should demonstrate that external inducements matter less to employees with high levels of work ethic. Here, the sense of obligation and reciprocity are sharpened in the presence of higher levels of work ethic. Conversely, at lower levels of work ethic, we expect the reverse to happen. The sense of obligation and reciprocity are weakened,

and the employee relies more on external inducements, such as provided by the service climate, to influence behaviour.

In the empirical literature, to the best of our knowledge, no study has considered work ethic as a moderator of a climate-behaviour relationship, or as a moderator in any relationship. Therefore, we expect to extend the empirical literature by addressing this gap. And in response to the call by Hong et al. (2013) for more research into the effect of service climate on individual employee attitudes and service behaviours, we propose to examine if work ethic will moderate the service climate and employee service behaviour relationship.

Following on from this, we propose the following hypothesis:

> *Hypothesis 3*: Work ethic moderates the effects of service climate on employee service behaviour.

2.4.4 Work Ethic and Employee Service Behaviour: Service Climate as a Mediator

The effects of service climate on employee service behaviour, and of work ethic on behaviour, have been addressed both theoretically and empirically. Now, for the mediation of service climate in the work ethic-behaviour relationship, SPT provides the understanding that, as an individual value, a strong work ethic, pre-disposes employees to form more positive perceptions about work and work environments, than would be the case of employees with a weaker work ethic. We would therefore expect work ethic to act as a starting point from which positive perceptions about the work environment are amplified to influence employee behaviours positively.

In the wider literature, there is evidence of the value-perception link. For example, Abdelmoteleb (2020) found that value congruence between the employee and organisation accounted for some of the variance observed in the employee work effort. The conceptualisation of work values in Abdelmoteleb (2020) include job security, autonomy, growth and competence, all of which differed from work ethic used in this present study. Also, in another study cited earlier, Saito (2016) found no significant effects of personal values on service climate perceptions. Nonetheless, these personal values were conceptualised as self-transcendence, self-enhancement, conservation and openness to change. Again, the present study differs as personal or individual values are conceptualised as work ethic. Either way, the literature points to the paucity of empirical evidence for this proposed relationship.

Therefore, previous findings and premises suggest the following hypothesis:

> *Hypothesis 4*: Service climate mediates the effects of work ethic on employee service behaviour.

In conclusion, this section builds on the theoretical and empirical literature about the effects of service climate, work engagement and work ethic on employee service behaviour. We identify the existing gaps in the literature and also provide a rationale for advancing along this line of inquiry.

Chapter 3 **Methodology**

3.1 Background

The aim of this research is to examine the effects of service climate on employee service behaviour, and to explore how these effects are mediated by work engagement and moderated by work ethic. In addition, the study investigates how service climate mediates the effects of work ethic on employee service behaviour. This section provides an overview of the research design that has been adopted to test the six hypotheses formulated for this study. Measurement scales and analytical techniques are also discussed, together with the rationale for their selection and use.

3.2 Philosophical Assumptions

Part of the process for choosing a research design is understanding the ontological and epistemological underpinnings of the research (Tuli, 2010). Doing so helps to ensure that the entire research process is imbued by an internal logic and consistency that lends weight to discussions (Mingers, 2003; Johnson, Onwuegbuzie and Turner, 2007). This research is based on the ontological assumption that views the human person as an agent capable of making free decisions, and therefore able to choose a course of action in response to a given stimulus. Therefore, in examining human behaviour in an organisational setting, there is an understanding that service climate, work ethic and work engagement, as individual psychological states, will vary among employees. This argument forms the basis for the choice to undertake individual-level analysis of the study constructs (in addition to the aggregation of individual-level service climate to the group-level). The epistemological assumptions for this research are based on a positivist approach where the relationships between service climate, work engagement, work ethic and employee service behaviour are tested as quantitative realities.

3.3 Research Design

For this quantitative study, the research design was developed across six identifiable phases which are illustrated in Figure 3.1. The research activities listed did not all take place sequentially. For the most part, these activities overlapped, and in some cases, evolved in response to new developments in other phases of the design. Consequently, in the following subsections, we provide an explanation of the processes and procedures carried out in each of these phases, but without necessarily emphasising the order in which they were undertaken.

3.4 Literature Search

In order to adequately address the research questions in this study, it was important to review extant literature relating to the study constructs. This first literature review was conducted in 2017, and one of the key stages in this process was to develop a strategy for searching the vast OB literature and to identify relevant studies. In the first place, the identification of keywords to be used for the literature search were compiled. At the initial stages of this process, in order to understand what keywords were in use, a preliminary search on Google Scholar® was conducted. The final keywords were: organi?ation* practice*, employee engagement, employee behaviour, organi?ational support, service*, work ethic, and work ethic multidimensional inventory.

Key management databases used to conduct the literature search were: Web of Science®, JSTOR®, Scopus®, Emerald®, Business Source Premier®, Google Scholar®, Science Direct®, and PsycInfo®. The limiters were based on the year of publishing (2000-2017), peer-reviewed English language articles, and the exclusion of books, interviews and conference proceedings. So as to streamline the literature, it was important to consider research articles that formed an intersection of at least two of the identified constructs. The rationale for extending beyond this range was based on identifying any reviews that would support the historical development of the constructs. Given the relative antiquity of work ethic research, the date range was broadened to include research conducted in the 1990s.

As Table 3.1 shows, the total number of research articles from the literature search were rationalised to 2,301. Only research articles that considered service climate, work engagement, and work ethic (and related constructs) as independent variables were included. As were employee behaviour (and related constructs) for the dependent variable.

Due to the paucity of studies related to the broader conceptualisation of work ethic in a service climate-engagement-behaviour context, compared to the number of articles on the relationship between PWE and employee behaviour, these were also included. Thus, a total of 197 research articles were identified (Table 3.1).

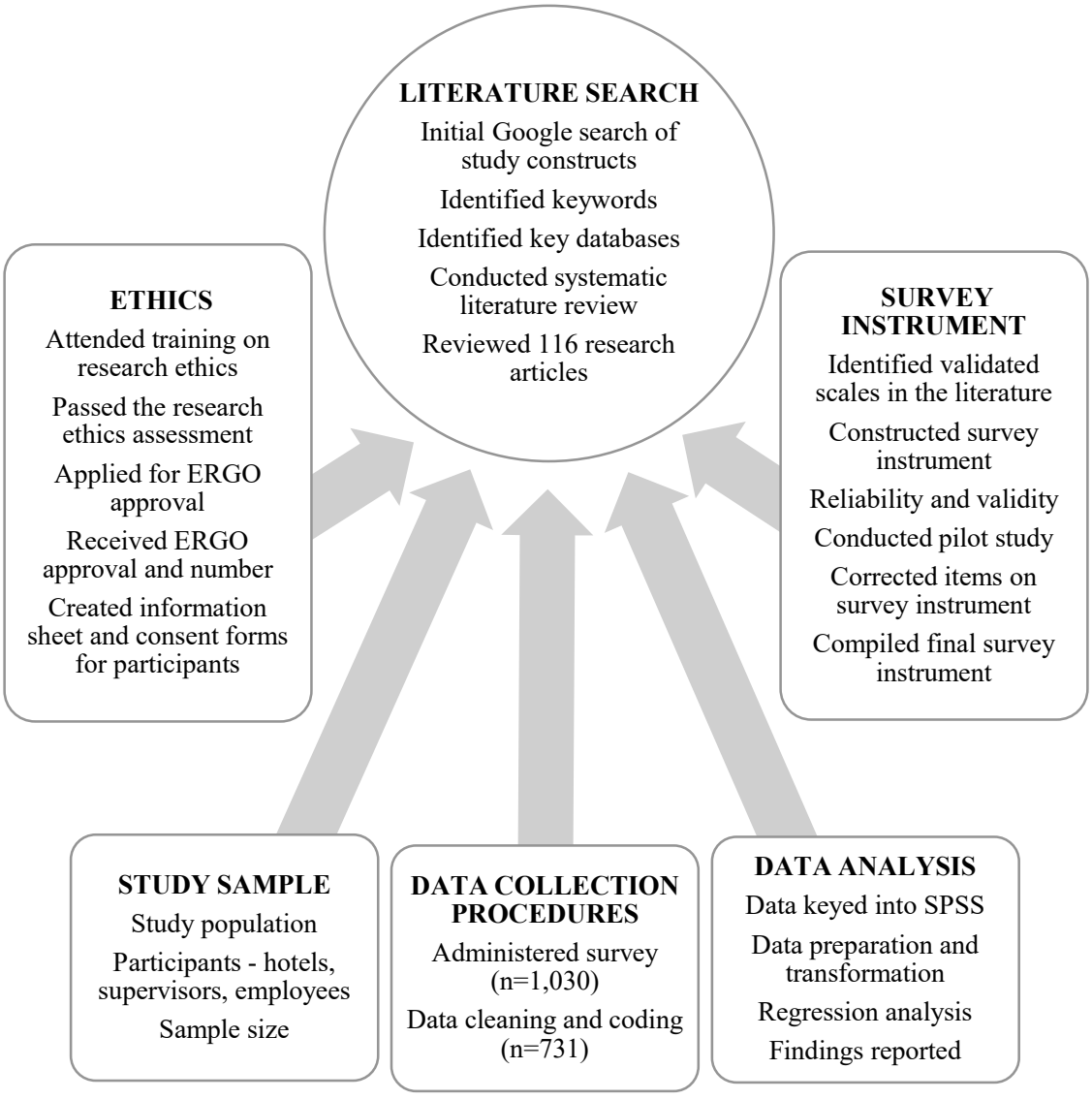


Figure 3-1 Research design

Table 3.1 Results from structured literature search

Database	Number of Hits	Relevant
Web of Science®	86	22
JSTOR®	276	4
Scopus®	74	9
Emerald®	603	1
Business Source Premier®	212	9
*Google Scholar®	500	27
**Science Direct®	500	125
PsychInfo®	50	0
Total	**2,301**	**197**

*17,700 hits of which only the top 500 were reviewed
**2,028 hits of which only the top 500 were reviewed

These citations were then transferred to Mendeley® Reference Manager to allow for better management of the research process. Once on Mendeley®, a search for duplicates was made which further reduced the number of articles. All un-ranked journals using the Chartered Association of Business Schools journal ranking database were excluded. Finally, after conducting a review of abstracts for relevance to the study, the total number of articles dropped to 43. It should be noted here, that not all articles addressed the study theme directly, but in themselves provided valuable understanding about relevant concepts. These related constructs were organisational climate, job resources and HR practices. For this reason, these articles were retained.

Out of the 43 articles, 39 of these were empirical-based articles, three were meta-analytical, and one conceptual-based. Only ten of the empirical research articles dealt with service climate specifically, 34 articles dealt with employee behaviour, while 13 articles were related to work or employee engagement. The work ethic articles included articles on the history and development of the construct but also empirical-based research related to work behaviours.

A second review of the literature was conducted in 2020 so as to update our findings with articles published after 2017 (the time of the first review), or simply missed out from the first search. Here, the key constructs were used for the keyword search, and the results returned 21 articles on service climate, 10 on work engagement, 23 on work ethic, and 20 on employee behaviour. A total of 73 new articles were retrieved bringing the total number of relevant articles to 116. From within these articles, several other studies of interest were identified and consulted.

3.5 Survey Instrument

The survey instrument used in this study was a compilation of items drawn from four existing scales in the literature. This section describes each of the scales and provides a rationale for its selection based on the empirical literature. But first, we present the study variables and their operational definitions in Table 3.2.

Table 3.2 Research variables and operational definitions

Name of Variable	Operational Definition	Type of Variable
Service Climate	a "'positive' and 'strong' shared perception [by employees] that policies, practices, and procedures, as well as the behaviours that are rewarded, supported, and expected, focus on service" (Bowen and Schneider, 2014, p.6).	Independent
Work Engagement	"a positive, fulfilling, work-related state of mind that is characterised by vigour, dedication, and absorption" (Schaufeli et al., 2002, p.74)	Independent
Work Ethic	a 'commitment to the value and importance of hard work' (Miller, et al., 2002, p.451).	Independent
Employee Service Behaviour	the role that the individual plays in their service function, which may either be role-prescribed or discretionary. (Tsaur and Lin, 2004)	Dependent

3.5.1 Service Climate

The most commonly used measure in service climate research is the global service climate scale by Schneider et al. (1998, 2000, 2005). Several studies used in the review used the scale drawn from the authors' different publications, namely, Liao and Chuang (2004), Salanova et al. (2005), Dimitriades (2007), Way et al. (2010) and Barnes and Collier (2013). Nonetheless, there are a number of other service climate scales identified in the literature. For example, Borucki and Burke (1999) used a 52-item scale developed by Burke et al. (1992) and Geer and Burke (1994) in their study, while Kang et al. (2018) used a scale developed by He et al. (2010). On closer observation, the scale by He and colleagues bears many similarities with the Schneider scale, and so can be considered a derivative.

Schneider et al. (1998) consider the service climate scale an extension of the Borucki and Burke scale in terms of causal ordering. However, on closer inspection, the main items in Borucki and Burke, that is, 'concern for employees' and 'concern for customers', are simply a different way of categorising the same concepts present in the Schneider scale. For example,

under a ‘concern for employees, the item ‘management support’ can be related to the ‘leadership support’ in the Schneider scale. There appears to be a strong validation that different service climate scales identified in the literature measure the same items. Notwithstanding, Manning et al. (2012) argue that using the same service climate scale developed with specific industries in mind would not be as precise when used in other industries. The author cites the case of the SERV*OR scale developed by Lytle et al. (1998) to measure hotel service climate. When used for bank employees in Solnet (2006), significant differences in factor structure of the service climate items were observed. Nonetheless, given that a broad range of industries have been studied using the same Schneider scale, lends support to its validity.

In conclusion, the 7-item global service climate scale (Schneider, White and Paul, 1998) was used to measure service climate as perceived by the employees (see Appendix A, Section 1). On a 7-point rating scale ranging from 1 (strongly disagree) to 7 (strongly agree), employees were asked to rate how they perceived *their job knowledge and skills; and the hotel’s overall service quality, efforts to measure and follow up service quality, rewards and recognition schemes, leadership, communication efforts, and provision of necessary resources for service delivery*. Examples of some items include ‘The effectiveness of communication efforts to both employees and customers’ and ‘The recognition and rewards employees receive for the delivery of superior work and service’.

3.5.2 Work Engagement

The most prevalent work engagement scale in the literature is the Utrecht work engagement scale (UWES) developed by Schaufeli et al. (2002). Out of 172 empirical papers reviewed in Bailey et al. (2017), 148 of these adopted the UWES for measuring work engagement. Differences lay mainly in the number of items used, the most commonly used being the 17- and 9-item versions (ibid). These findings present a compelling argument and justification for the use of the UWES in this study. In the end, the 17-item version was used to measure employee work engagement (see Appendix A, Section 3). On a 7-point rating scale ranging from 1 (absolutely never) to 7 (all the time), employees were asked to rate statements related to *vigour*, *dedication* and *absorption* when at work. Examples of some items include ‘When I get up in the morning, I feel like going to work’ and ‘I feel happy when I am working intensely’.

3.5.3 Work Ethic

Work ethic as operationalised in this study is distinct from the PWE. As previously mentioned, there have been several PWE measures developed e.g., Goldstein and Eichlorn (1961), Blood (1969) and Mirels and Garrett (1971). But there is only one dominant scale developed to measure work ethic as a secular and multidimensional construct, the MWEP (Miller et al., 2002). Since then, there have been over 44 research studies that have used the MWEP. Several translations of this scale from English to other languages have been made e.g., Korean and Spanish (Woehr et al., 2007), and Polish (Czerw and Grabowski, 2015). Also, a shorter version of 28-items down from the original 65-item was developed by Meriac et al., (2013). Finally, in an unpublished dissertation, an attempt to develop a different multidimensional work ethic scale was made (Mann, 2010).

For this study, the 28-item multidimensional - shorter version (MWEP-SF) scale by Meriac, et al. (2013) was used to measure employee work ethic (see Appendix A, Section 4). On a 7-point rating scale ranging from 1 (strongly disagree) to 7 (strongly agree), employees were asked to rate four statements each related to the work ethic dimensions: centrality of work, self-reliance, hard work, leisure, morality/ethics, delayed gratification, and time wasting. Examples of some items include, 'Working hard is the key to being successful' and 'It is important to treat others as you would like to be treated'.

3.5.4 Employee Service Behaviour

It is important to reiterate the distinction between employee performance and behaviour as it determined the adoption of the behavioural measures used in this study. Performance and behaviour have been used interchangeably in OB literature as specifications of employee outcomes. We concluded from the reviewed literature that employee service behaviours and employee service performance, refer to one and the same reality and are used interchangeably. For example, Way et al. (2010) defined job performance behaviour in terms of task behaviour and OCBs.

With this argument in mind, the scales in the reviewed literature all represent valid measures for a variation of both employee service performance and employee behaviours. One scale used in four studies (Borucki and Burke, 1999; Liao and Chuang, 2004, 2007; Chuang and

Liao, 2010), is the Burke (1996) service performance measure. It clearly addresses how employees or customers perceive the service-related actions of employees such as helping, suggesting and explaining things, which is employee service behaviour. We therefore argue that the Burke (1996) service performance scale is a measure of employee service behaviour.

Another outcome was customer-oriented OCB adopted in two studies, Schneider et al. (2005) and Dimitriades (2007). The earlier study used the Bettencourt and Brown (1997) scale which addresses the pro-social employee service behaviours such as helping, assisting and serving customers. The latter study used items from the Morrison (1996) and Organ (1998) scales, which addressed employee service behaviour as in previous scales. In their studies, Schneider et al. (2005) and Dimitriades (2007) both focused on OCBs rather than task behaviour.

Consequently, we adopted the Bettencourt and Brown (1997) scale as derived in the Tsaur and Lin (2004) study to take into cognisance both task behaviour and OCB. Although the Williams and Anderson's (1991) 24-item scale addresses OCB and task behaviour in a robust manner, it is the adoption of Tsaur and Lin's (2004) 6-item scale that provided a measure specifically tailored to employee service behaviour (Appendix A, Section 2).

On a 7-point rating scale ranging from 1 (strongly disagree) to 7 (strongly agree), employees were asked to rate each statement related to their task behaviour and OCB. Likewise, supervisors were asked to rate each employee using the same scale. In order to achieve this, a separate survey instrument containing the same employee service behaviour items was prepared for supervisors (Appendix B). The items were adjusted to reflect that the supervisors were rating employees. This way, there were self-rated and supervisor-rated data for each employee.

3.5.5 Final Survey Instrument

The framework of the final survey instrument is detailed in Table 3.3, which shows the 58-item survey instrument for employees and the 6-item survey for supervisors.

Table 3.3 Existing scales used in this study

Construct	Scale	Source	Items	Raters
Service Climate	Global Service Climate Scale	Schneider, White and Paul, (1998)	7	Employees only
Work Engagement	Utrecht Work Engagement Scale (UWES)	Schaufeli et al. (2002)	17	Employees only
Work Ethic	Multidimensional Measure of Work Ethic Profile – Shorter Version (MWEP-SF)	Meriac et al., (2013)	28	Employees only
Service Behaviour	Service Behaviour Scale	Tsaur and Lin (2004)	6	Employees and Supervisors
		Total number of items	**58**	

In addition to the core items, the employee instrument had six demographic items, while the supervisor instrument had eight demographic items. For the employees, these included gender, age, education, department and tenure. For the supervisors, the same control demographic items applied in addition to length of time supervising each employee. Finally, the hotel information related to the number of rooms (size), type of hotel, and number of years in operation (age).

3.5.6 Pilot Study

Before administering the final survey, a pilot study was conducted. The main aim was to ascertain if the scale items were understood, correct any inconsistencies, and obtain feedback on any constraints that respondents might have faced when completing the questionnaire. The pilot was carried out in the hospitality department of a students' hall of residence in Lagos. This setting is considered to be similar to that of a small hotel, in that guest services available in the residence include reception and foodservice. Therefore, service employees in this residence were assumed to have similar service experiences as hotel employees. Consequently, five employees were self-administered the study instrument. A brief profile of these respondents reflected different levels of employment: a manager and supervisor, both of whom were educate up to the tertiary level; one full-time employee with no tertiary education; and two part-time interns.

Some of the feedback received was related to challenges with the sentence construction of the global service climate scale. For example, the item on job knowledge and skills was found to be confusing - 'Job knowledge and skills of employees in our business to deliver superior

quality work and service' was rephrased to 'Employees in your hotel have job knowledge and skills to deliver superior quality work and service'. Other issues arose with the work ethic scale. Some participants considered the questions to be repetitive, which was legitimate, as these items all reflected one or other of the same work ethic dimension. In addition, there were missing tick boxes in some, and the word tertiary was replaced with polytechnic/university to indicate that this meant a post-secondary qualification. Once completed, the study instrument was redrafted and administered to the study sample.

3.5.7 Reliability and Validity Issues

As discussed in the literature, the incidence of common method bias is greatly increased when there is a single source of ratings for both predictor and outcome variable in the same study (Podsakoff et al., 2000). Based on the literature, there is a strong leaning towards introducing third-party ratings to reduce this bias (Allen, 2000; Hong et al., 2013; Li and Huang, 2017). For Jiang et al. (2016) supervisor-ratings were used to minimise common method bias. Organ and Ryan (1995) made a case about the subjective nature of OCB by asking who is a better judge of one's altruism? The authors argue that a third-party rater is the better judge. Supervisors as third party raters would therefore be in a better position to assess an employee's overall behaviour, providing a more objective result. Contrary to this, Tang and Tang (2012) contest this claim and argue that self-rated OCBs are more reliable as employees, more than supervisors and customers, are in a better position to evaluate themselves. What is clear from these divergent views is that different rating sources for OCB are expected to yield some differences with regard to the outcomes. Interestingly, rating task behaviour appears to be less of a contentious issue, perhaps because this behaviour is easier to observe especially when it is absent.

One of the ways that validity issues were addressed in this research was to use extant and validated scales for survey. According to Drost (2011), using validated scales helps in attaining equally valid research outcomes. In addition, construct and discriminant validity of the measurement model was carried out in the preliminary analysis to further confirm the validity of these scales. These will be presented in the next chapter.

3.6 Study Sample

We will now consider the strategies employed to arrive at the sample of hotel employees and supervisors that were administered the survey instrument.

3.6.1 Study Population

While there is a fair distribution of hotels across Nigeria, the largest hotel markets are Lagos (the commercial capital) and Abuja (the administrative capital) (W Hospitality, 2018). Although the federal and state governments oversee hotel licensing and standardisation, the hotel industry in Nigeria is still highly unregulated. As a result, there is no comprehensive hotel directory that adequately captures the number, grading and location of hotels in the country. What is available from official sources like the Nigeria Tourism Development Corporation (NTDC) and the Lagos Hotel Licensing Office are inconclusive. Online booking websites, for example, Jumia Hotels, estimate that there are close to 5,000 hotels in Lagos and Abuja registered on their database (Jumia, 2018, personal email, Nov 6). Having reviewed the publicly available database, it was not clear what Jumia Hotels used as their criteria for inclusion or exclusion.

In terms of academic research, very little has been written regarding the scope and depth of the industry (Nwosu, 2016). As such, the compilation of a sampling frame for this study relied on two unpublished sources, a hotel consulting firm, and a professional association representing employers in the hospitality industry. In addition, from our review of studies using hotel samples, it was observed that the criteria for selection was mixed, namely, no identifiable criteria (Salanova et al., 2005; Leung et al., 2011), branding (Way et al., 2010), number of rooms (Kang et al., 2018) and star-rating (Karatepe, 2013). This suggests that there can be no objection for using room rates as a benchmark for the selection of a hotel sample in this study.

The consulting firm, W Hospitality Group, considered to be the leading source of hotel industry research for sub-Saharan Africa, provided a listing of both branded and non-branded hotels in Lagos that either charged a minimum room rate of US$80 (NGN28,800), or were known to be reputable service providers in the market. Consequently, a list of 44 hotels in Lagos was obtained from the firm. The Hotel and Personal Services Employers' Association of Nigeria (HOPSEA), which represents hotel, restaurant and contract catering employers, provided a directory of 51 member hotels. Using the same criterion of the US$80 room rate as above, and eliminating duplicates from the W Hospitality list, a total of 30 hotels were identified from the HOPSEA directory. In addition, 76 hotels listed on the Jumia Hotels Online portal met the criterion of room rates of US$80 and above. With duplicates eliminated,

an additional 66 hotels were identified. The final sampling frame consisted of 140 hotels. Most of the hotels of interest were located in the more developed suburbs of Lagos e.g., Eti-Osa and Ikeja. Two hotels in the city of Abuja, and one hotel each in Uyo and Ibadan, two smaller cities in southern Nigeria were included as the researcher was given access.

In order to arrive at an estimate of the population of hotel employees in Lagos, the following calculations were carried out. According to the latest figures from the National Bureau of Statistics, in 2011, an estimated 374,508 people worked in the accommodation and food services sector in Nigeria (NBS, 2012). This sector includes hotels, restaurants and other foodservice operations. Using the World Bank estimate of Nigeria's total population in 2012 stood at 167 million (World Bank, 2018), and the population of Lagos at 21 million (Lagos State, 2020). From these statistics, the population of Lagos is approximately 12 per cent of the total population of Nigeria. Taking 12 per cent of the base number of people working in the sector in Nigeria to represent the number of people working in the accommodation and food services sector in Lagos, an estimate of the total number of employees came to 44,000. This figure accounted for employees working in hotels alone and not in restaurants and other foodservice operations, and hotel employees in Abuja, Uyo and Ibadan, which have a comparatively smaller hotel market than Lagos.

3.6.2 Participants

The participants in this study were drawn from frontline service employees and their supervisors in the hotel industry. Specifically, employees in the front office department, that is, receptionists; and employees in the food and beverage department (F&B), that is waiters. The rationale for this follows from the evaluation of service behaviour as the direct interaction between a service employee and the customer. Receptionists, and waiters are in direct contact with the customer, and so were considered more appropriate for the needs of this research.

As explained in Section 3.5.7, multiple raters reduce the incidence of bias caused by using single raters for predictor and outcome variables. Since supervisors are in direct contact with employees, we argue that they are well placed to make judgements about employee performance or behaviour. For this reason, supervisors were included as participants. Consequently, each group of employees was evaluated for service behaviour by their direct supervisor.

3.6.3 Sample

Using a Survey Monkey® online sample size estimator, for the estimated population of hotel employees in Lagos at a confidence interval of 95%, the ideal sample size was 381. According to Muthén and Muthén (2002), there is strictly no rule of thumb which encompasses all studies and contexts with regards to the ideal sample size. From the empirical literature cited for this study, seven key papers had an average sample size of 480 employees (Liao and Chuang, 2004, 2007; Dimitriades, 2007; Chuang and Liao, 2010; Barnes and Collier, 2013; Kang et al., 2018; Way et al, 2010; Salanova et al., 2005). The largest sample size was 828 (Chuang and Liao, 2010) and the smallest sample size was 200 (Dimitriades, 2007). Based on this evidence, a sample size of 400, representing at least 1 per cent of the estimated hotel employee population was considered sufficient for this study.

Additionally, the proportion of supervisors in the sample was also considered. A ratio of 4:1 was assumed for the ratio between number of employees to one supervisor. Hence, a sample of 400 employees would require at least 100 supervisors. Contingencies such as no returns, missing, incomplete or illegible questionnaires, and withdrawn consent were all considered when determining the final number of survey questionnaires to be administered. Since each hotel had two departments of interest, namely, the front office and F&B, with four employees and one supervisor sampled from each department, a total of ten employees per hotel resulted in a sample of 1,400 questionnaires to be administered across 140 hotels.

Convenience sampling was employed as the most appropriate method for accessing the research participants. Obtaining permission from hotel owners and management to administer survey questionnaires was a significant challenge. Generally, there is a certain degree of suspicion about data collection and how it is used in this environment. As a result, it was necessary to rely on the researcher's industry network to obtain the necessary permissions required. This required several personal visits to the hotel owners and managers, followed by several phone calls to explain the purpose of the research, including the level of confidentiality offered.

3.7 Ethical Considerations

Potential ethical issues that were considered before the data collection were related to anonymity and confidentiality. These were managed by first attending a training course on research ethics in order to better appreciate where breaches in ethics protocols could occur. An information sheet to help participants understand the goal of the survey, and a consent form to give participants the opportunity to indicate their willingness to participate in the study, were prepared and submitted along with other documentation to the University for ethics approval. Having received the ethics approval, data collection commenced.

It is important to indicate that each survey questionnaire had no identifiers to specific persons. For the supervisors who were to assess employees' behaviour, identification of specific employees by the researcher was made impossible as only a serial number linked supervisors to their subordinates. In addition, given the assurance of absolute confidentiality to participants, only the researcher had access to the completed questionnaires. Completed questionnaires were collected from participants, kept in a sealed envelope and locked in a secure repository, as were the signed consent forms that were also administered.

3.8 Data Collection Procedures

The participants were approached through the general or human resource managers of each of the participating hotels. Employees were given the approved information sheet to read through, after which consent forms were presented for completion before the survey questionnaire was self-administered.

Given that there was a survey questionnaire for employees and another one for supervisors (who were to rate individual employees' behaviours), there were potential constraints related to the availability of both supervisors and employees. This was minimised by targeting the break times or shift-change times of the employees rather than on-duty employees. This process required significant planning and patience from both employees and management. In the end, some completed questionnaires were collected the same day, while others had to be collected on another day.

Based on the size of hotel and the need to create the least disruption to operations as possible, each hotel was given the option of presenting ten employees. This consisted of eight frontline service employees - four from the front office and four from the restaurant, including one

supervisor from each of the departments. In cases where the hotel had less than four employees per department, then all available employees were administered the survey. In larger hotels, the researcher requested for as many employees to be administered the survey as convenient for the hotel operation.

In the end, from January 30 to May 15, 2019, a total of 1,030 survey questionnaires were distributed across 55 hotels out of the 140 proposed hotels that granted access to the researcher. A total of 818 completed questionnaires from 53 hotels were returned, representing a response rate of 79.4 per cent. Out of these, 87 questionnaires were discarded for having missing data, or having been incorrectly filled. Finally, the total number of useable questionnaires came to 731, representing 579 employees and 152 supervisors from 53 hotels.

3.9 Data Preparation and Transformation

The process of data preparation and transformation began with coding each of the survey item responses and then entering the data into SPSS. This was followed by tests for reliability, exploratory factor analysis, the construction of composite variables, multiple imputation for missing data items, and finally, addressing outliers using winsorisation techniques. These analyses were conducted on the dataset in preparation for the simple and inferential statistical analyses that were to follow.

3.9.1 Test of Reliability

Cronbach alpha values were computed to ascertain the reliability of the survey instrument. In the literature, there is a debate about the opacity of the criterion that the minimum acceptable level for the Cronbach α must be 0.7. Lance, Butts and Michels (2006) suggest that while there is a rationale for this boundary score, there are also exceptions to the rule. Cortina (1993) refers to the practice among some researchers of increasing the number of test items to improve a Cronbach α score above 0.7 without addressing the inherent errors that may still exist in the instrument. Berthoud (2000) submits that an 0.6 α score is acceptable. Some authors suggest that a low α score does not necessarily imply that a scale is unreliable (Taber, 2018). What is clear from these contributions is that the minimum threshold for the Cronbach

α does not have to be 0.7 at all times and in all circumstances. Thus, there could be several reasons for lower Cronbach α scores that do not imply that reliability has been compromised.

3.9.2 Exploratory Factor Analysis

EFA was conducted to assess factor validity of each scale item. As was previously mentioned in Section 3.5.7, validated scales were used from published papers. Strictly speaking then, undertaking EFA here does not add to the existing knowledge about these scales. However, it was a matter of interest to the researcher to reconfirm the validity of the scales with this new dataset. That is, whether each of the test items corresponded to the factor that was purported to measure a specific construct or dimension of a construct. For each of the scale items, a correlation matrix was computed to ascertain if the items were significantly correlated. Bryman and Cramer (2011) suggest that significant correlations indicate the presence of one or more factors. Extraction of the factors for the service climate, work engagement, work ethic and employee service behaviour scales was conducted using principal components analysis with varimax rotation to establish how many factors existed for items factors. For the 28-item work ethic scale, seven factors were fixed as the multidimensional work ethic profile (MWEP) is designed along seven constructs, namely centrality of work, delayed gratification, hard work, leisure, morality/ethics, self-reliance and wasted time. Similarly, for the 6-item service behaviour scale, two factors were fixed to establish the distinction between task behaviour and OCB. The number of factors was not fixed for the work engagement and service climate scales. In determining the number of factors, eigenvalues were set to be greater than 1.0 using the Kaiser-Guttman rule, and a mean communality greater than or equal to 0.6 (ibid.). The results are reported in the following chapter.

3.9.3 Construction of Composite Variables

The construction of composite variables from the existing items was done in line with techniques suggested in the relevant literature. For the main study variables, the following composite variables were computed:

- Individual-level service climate, being the mean score of all 7 climate items. All items were measured on a 7-point rating scale ranging from 1 (strongly disagree) to 7 (strongly agree).
- Group-level service climate, being the mean score of the individual-level service climate scores aggregated to the hotel level. All items were measured on a 7-point rating scale ranging from 1 (strongly disagree) to 7 (strongly agree). However, in order

to justify the aggregation of the individual-level service climate scores to the group-level, intraclass correlations (ICC) and within-group interrater agreement (r_{wg}) indices were computed (James et al. 1984). The ICC(1) coefficient was 0.456 and the ICC(2) 0.855. According to Bliese (1998), an ICC(1) value of greater than 0.1 and 0.75 for an ICC(2) value are acceptable cut-off points. Also, the r_{wg} values for the seven items fell between the -1 to +1 as suggested by James et al. (1984). Our values ranged from 0.38 to 0.92. Based on this, the aggregation of individual-level service climate to the group-level is justified.

- Work engagement, being the mean score of the vigour, dedication and absorption item scores. All items were measured on a 7-point rating scale ranging from 1 (absolutely never) to 7 (all the time)
- The dimensions of work ethic - centrality of work, delayed gratification, hard work, leisure, morality/ethics, self-reliance and wasted time – being the mean scores of each of the 4 items per dimension. All items were measured on a 7-point rating scale ranging from 1 (strongly disagree) to 7 (strongly agree).
- Task behaviour, being the mean score for the 3 task items, for employee and supervisor ratings. All items were measured on a 7-point rating scale ranging from 1 (strongly disagree) to 7 (strongly agree).
- OCB, being the mean score for 3 OCB items for employee and supervisor ratings. All items were measured on a 7-point rating scale ranging from 1 (strongly disagree) to 7 (strongly agree).

As the mean score computation command in SPSS ignores cases with missing values, it was decided to compute the mean scores to allow for one missing value in the computation of the mean scores of all the variables.

3.9.4 Multiple Imputation

A simple missing data analysis procedure was conducted to ascertain the proportion of missing values in the dataset. This was considered to be an important preliminary step as missing values in a dataset, depending on the severity, may impact on the precision of analytical techniques. According to Dong and Peng (2013), there is no consensus in the

literature as to the acceptable proportion of missing data. But in a cited reference in their article, Bennett (2001) proposed an upper limit of 10% as the acceptable limit for missing values. We then adopted this as the criteria for this study. For our dataset, the proportion of missing values for the 'employee age' control variable was 22.2%. To allow for uniformity in data transformation, the decision was made to apply the multiple imputation technique to all employee control variables.

Following recommendations from Schlomer, Bauman and Card (2010), the Little's MCAR Test was conducted to ascertain whether these data were missing completely at random (MCAR), or in a non-random way. If the data were MCAR, then it would be possible to employ the multiple imputation technique to replace the missing data items. The technique involved simulations to identify patterns in the existing data. These were then subjected to probability judgements in order to ascertain what the missing data items might have been, and then replaced these in the dataset. With multiple imputation, there is a reasonable justification that the replaced values are appropriate and match the values that are missing from the existing distribution. This technique helps to ensure that the dataset size is maintained as much as possible, and finds support in the methodological literature (Donders et al., 2006).

Results from Little's MCAR test [p-value =0.861] showed that the data items for the employee control variables were all missing in a completely random manner. Therefore, the multiple imputation technique could then be used to replace the missing data for all the employee control variables, except for employee department which had no missing data.

3.9.5 Outliers and Winsorisation

Before proceeding with the bivariate analysis for correlation, the dataset was examined for the presence of outliers. Outliers typically indicate that some data items fall outside of the normal distribution of the dataset. The presence of influential outliers in a dataset have been found to affect regression models significantly (Foltz, 2019). Several outliers were identified in the dataset ranging from 1 to 105 (see Appendix C). We argue that some of these outliers represent legitimate responses by the respondents, who felt differently about the item compared to other respondents. For others, this could have been a case of respondent fatigue (Rolstad, Adler and Rydén, 2011). Nonetheless, in order to avoid a potential distortion of the regression models, winsorisation of the dataset was carried out to address the presence of these outliers (Hoaglin, Iglewicz and Tukey, 1986). The authors recommended the inter-quartile

range (IQR) rule to judge outliers in a dataset, that is, an outlier will be any value which falls outside the range of 'less than Q1-1.5IQR or greater than Q3+1.1IQR.

In order to test the effects of winsorisation on the data, individual items for the service climate and task behaviour scales were saved as a separate dataset. The items were then analysed using the Explore tab in SPSS to identify the mean, median, quartiles and the interquartile ranges for each item. Identifying the outliers, the values were replaced with the minimum cut-off for an outlier, for example, the 'job knowledge item' on the service climate scale (Q1 = 6, Q3 = 7, IQR =1; Q1-1.5IQR = 6-1.5 = 4.5 and Q3+1.1IQR = 7+1.5=8.5) showed that an outlier for this item would be any value below 5 or above 7. Thus, all values for this item that were less than 5 (that is, 1, 2, 3 and 4) were substituted by the cut-off value of 5. Boxplots identified the lower end outliers. There were no outliers at the upper limit. After winsorising the data, the mean and standard deviations for the service climate and task behaviour composites were computed.

3.9.6 Regression Assumptions

All assumptions for linear regression were tested on the winsorised dataset. Pearson's correlation coefficient was calculated to identify linear bivariate relationships between the variables. P-P plots were constructed and the results showed that the data was normally distributed. Also, by plotting the predicted values and residuals on a scatterplot, the data showed the residuals to be fairly equally distributed although with a slight diagonal direction, confirming the homoscedasticity of the data. Variance inflation factor (VIF) values were used to test for multicollinearity using the threshold of 'below 10' to identify non-multicollinear variables (Alin, 2010). All VIF values were below 10, thus indicating that the predictor variables were not highly correlated with each other.

3.10 Data Analysis Procedures

A review of analytical techniques in the key references cited in this study shows regression analysis to be the preferred method for the study of relationships between psychological constructs, either on its own, or as part of an analytical technique. For example, Saks (2006) used multiple regression analysis to build a model of relationships between the antecedents

and consequences of employee engagement; Meriac and Gorman (2017) sought to predict relationships between a multidimensional work ethic construct and contextual employee performance using path modelling; Chuang and Liao (2010) tested a theoretical model of high performance work systems, service climate, unit performance and employee behaviour using structural equation modelling; finally, Liao and Chaung (2007) tested a model of transformational leadership, employee service performance, and customer relationship outcomes using hierarchical linear modelling.

3.10.1 Regression Techniques

The main focus of this study is to test six hypotheses relating service climate, work engagement and work ethic to employee service behaviour. There are arguments that could justify the adoption of any modelling technique. Therefore, in the following sections, we briefly describe the strengths and drawbacks of each of these techniques, and then present our rationale for selecting our preferred method(s).

3.10.1.1 Ordinary Least Squares

Multilevel modelling is a technique that uses clustered or nested data. For this form of data, variables at Level 1 represent the basic level, followed by variables at subsequently higher levels, as the case may be. Now, ordinary least square (OLS) regression is the foundational premise on which all other advanced regression models are built. It represents the simplest form of linear regression that estimates the effects of a Level 1 predictor on a Level 1 outcome. Therefore, this technique does not allow for multilevel modelling. Something that is a major disadvantage, as the dataset for this study consists of employees at Level 1 nested within hotels at Level 2. Clearly, an OLS model, without additional analyses to account for the Level 2 or hotel variation (as will be seen later in Hayes' PROCESS procedure), will result in biased estimates.

3.10.1.2 Multilevel Modelling

This regression technique is also known as linear mixed models, hierarchical linear models, or mixed-effects models. It works on the premise that data may be related at different levels of analysis (Snijders and Bosker, 2012). The most common example of multilevel data used in the organisational behaviour literature is employees nested or clustered in teams, and teams nested in units or the organisation. A model of nested data takes into account all the effects of predictors nested within other predictors. The literature shows several iterations of this

technique based on multi-level analysis of individuals (Liao and Chuang, 2004; Liao and Chuang, 2007; Leung et al., 2011; Zhong, et al., 2016). One issue that arises when analysing nested data is that the variables of interest share variances at the different levels where they are formulated. Multilevel modelling allows for the separation of these within-level and between-level variances (McNeish and Kelley, 2019). Thus, the advantages of this technique include being able to account for the non-independence of nested data, and in addition, to facilitate the analysis of cross-level interactions, and explore more interesting research questions (Snijders and Bosker, 2012). One limitation associated with multilevel modelling relates to the separation of within- and between-effects (contextual effects modelling). Here, Gelman (2006) advises caution to avoid misleading conclusions that may arise from inferring causality where it does not or cannot exist.

3.10.1.3 Mediation using Hayes' PROCESS Procedure

In addition, advances in regression have led to newer techniques such as Hayes' PROCESS procedure. This technique uses OLS regression and bootstrapping procedures to conduct mediation, moderation and conditional process analysis. Hayes (2018) acknowledges discussions about the assumptions related to random errors and exogeneity (as in the case of nested data). Nonetheless, evidence from the empirical literature attests to the widespread validity of this technique (e.g., Prado et al., 2014).

Hayes' PROCESS procedure for SPSS was adopted in this study as a simpler method for testing mediation. Prado et al. (2014) explain that tests of mediation have generally been conducted following Baron and Kenny's (1986) seminal study, which outlined three conditions that had to be met before mediation could be confirmed. Figure 3.2 illustrates these conditions as follows: the effect of the predictor X on the mediator M (pathway a), the effect

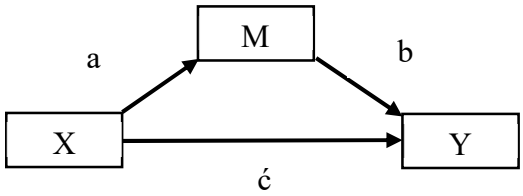


Figure 3-2 A simple mediation model

of the predictor X on the outcome Y (pathway ć), and the effect of the mediator M on the

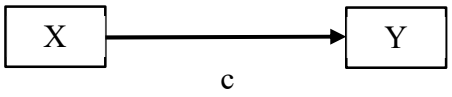


Figure 3-3 A non-mediated model

outcome Y (pathway b) must all be statistically significant.

In addition, pathway ć must be closer to zero than pathway c shown in Figure 3.3, that is the effect of the predictor X on the outcome Y in a non-mediated model. When these conditions are met, a Sobel test is then conducted to test the significance of the mediating effects using p-values. According to the authors, there are limitations inherent in the Sobel test that assume normality for the mediated pathway (a*b) that otherwise cannot be determined.

In the Hayes' PROCESS procedure, rather than determining p-values from a distribution that may not be normal, a bootstrapping technique is used to construct the confidence interval. According to Hayes (2018), the logic lies with not assuming that mediation occurs when the total effect in a mediation model is significant, but that the indirect or mediating effect can be significant whether the total effect is significant or not. What Hayes argues here is that testing for mediation should be addressed directly rather than inferring mediation has occurred from the results of the total effect.

In conclusion of this section, we acknowledge path modelling and structural equation modelling (SEM) as two robust analytical techniques for the study of relationships. However, the main reason for not adopting path modelling for our study is that we propose to test a single hypothesised path from a single predictor (service climate) to a single outcome (employee service behaviour). Since path modelling assumes the existence of a theoretical model with varying paths, it overcomplicates what could otherwise be achieved using a more straightforward approach. In the same vein, the data structure in this study has less than 20 employees in several hotels, which, based on the assumptions of SEM, presents a potential drawback for adopting it as an analytical technique in this study.

3.10.2 Regression Model Specification

Based on the preceding discussions, we have assumed OLS, multilevel modelling, and mediation using Hayes' PROCESS procedure as the main regression techniques for this study. In order to clarify our analyses therefore, it is important to point out how we apply these techniques to our study hypotheses.

3.10.2.1 Ordinary least square (OLS) regression

The ordinary least square (OLS) regression technique was employed as the foundation for obtaining some first, baseline estimates for all hypotheses. With this technique, the independence of observations was assumed, which meant that the estimates did not account for the fact that employees were clustered in different hotels. The procedure was carried out using Stata.

As a first step, we estimated the following linear models for by OLS using notation from McNeish and Kelley (2019)[2]:

$$behaviour_{ij} = \beta_0 + \beta_1 il\ service\ climate_{ij} + \beta_2(employee\ controls)_{ij} + \beta_3(hotel\ controls)_j + r_{ij} \qquad (1)$$

$$behaviour_{ij} = \beta_0 + \beta_1 gl\ service\ climate_{ij} + \beta_2(employee\ controls)_{ij} + \beta_3(hotel\ controls)_j + r_{ij} \qquad (2)$$

where $behaviour_{ij}$ is the employee service behaviour score for the i^{th} employee in the j^{th} hotel; il refers to the individual-level, and gl to the group-level; β_0 is the intercept of the model; β_1 is the estimate of the coefficient of service climate[3]; β_2, the estimate of the coefficients of employee controls; β_3 is the estimate of the coefficients of hotel controls; and r_{ij} is the random error. This baseline analysis was needed to get a first feel of the hypothesised relationships.

[2] All subsequent regression notation is drawn from McNeish and Kelley (2019).
[3] Work ethic is another predictor for some models in this study; it is not indicated in this illustration of OLS equations.

All subsequent mediation and moderation extensions of our hypotheses were then accommodated within these estimated equations.

3.10.2.2 Multilevel Modelling

A number of multilevel modelling techniques have been identified in the methodology literature, but which have often been developed along specific disciplines. McNeish and Kelley (2019), in their seminal paper, contrast two approaches – the mixed-effects model (MEM) commonly used in psychology, education, organisational behaviour, etc., with the fixed-effects model (FEM) used mainly in econometrics and finance. The authors present a detailed explanation of MEM and FEM in the traditions of psychology and econometrics respectively. Their discussion about these two schools of thought for modelling clustered data, forms the basis for the analytical choices and direction of our study. In the following paragraphs, we provide a detailed summary of the key ideas presented in their paper.

Several analytical techniques have evolved to address clustered data such as employees nested in hotels, pupils in schools, or economic indicators in specific time periods. Interestingly, these analytical techniques have developed along disciplinary lines. For instance, MEM has been the traditional approach used in the behavioural and psychology literature, while FEM is the common approach in the econometric and finance disciplines. This distinction is logical when considering the ontological and philosophical traditions of these disciplines. However, McNeish and Kelley (2019) argue that in the present context where interdisciplinary research is being encouraged, there is a need to explore modelling approaches used across disciplines in order to obtain deeper knowledge and insights.

It appears that the basis for the discipline-specific adoption of MEM and FEM resides in the treatment of the exogeneity assumption in regression. If the coefficient estimates are to be unbiased, then the random effects (and, of course, the residuals) in the model must be uncorrelated with the predictor variables. That is Cov (X, μ) = 0, where X are the predictors and μ the random effects. In MEM, the random effects are included in the model, so the exogeneity assumption regarding the random effects must hold. MEM also allows the Level 2 or cluster-affiliated variables (e.g., group-level service climate, or the hotel controls such as type, size and age) to be estimated. In the case of FEM, the exogeneity assumption for the random effects can be relaxed since all Level 2 effects are controlled for by adding dummies of the cluster-affiliation variables into the model as categorical predictors (i.e., hotel dummies

in our study). In this case, since all Level 2 predictors have been assumed into the dummy variables, no Level 2 predictor coefficients are estimable in a FEM.

With regard to other assumptions underpinning MEM and FEM, what is clear is there are more assumptions to consider in a MEM. For instance, all random effects must be included, the covariance structure of random effects and residuals must be correctly specified and also normally distributed, and the clusters must be randomly sampled. Conversely, the main assumption needed for a FEM is that the predictors are correctly specified in the model. The contrast between the number of assumptions is perhaps one reason for the paucity of interdisciplinary research across the psychology and econometric traditions, especially in the area of regression modelling.

In addition, interdisciplinary confusion also arises from the definition of 'fixed effects' in each tradition. In MEM, fixed effects refer to the estimates of the effect of the predictor (X) on the outcome variable (Y), without taking cluster-affiliation into account. This means that the estimated model would resemble an ordinary least square regression (OLS) model. Further, random effects are defined as the effect of X on Y and how this differs from the fixed effect estimate for each cluster. On the other hand, fixed effects in FEM are defined as the unobserved Level 2 effects put in the model as dummies. These dummies assume all variability of Level 2 predictors, and therefore no other cluster variables are needed in the model.

In what follows, we describe the procedures for estimating the regression coefficients using both MEM and FEM. That is, each relevant hypothesis to be tested will have two estimates, one for each modelling technique.

3.10.2.2.1 Mixed effects model-random intercept (MEM)

As previously mentioned, conducting OLS regression analysis with the assumption that observations are independent of each other meant that the cluster effect of employees in different hotels was ignored. MEM was employed to take into account the multilevel nature of our data and evaluate whether the relationships between the predictors and service behaviour varied across hotels.

Taking into account the multilevel nature of our data, we estimated the MEM model as follows:

$$behaviour_{ij} = \beta_{0j} + \beta_{1j} il\ service\ climate_{ij} + \beta_2 (employee\ controls)_{ij} + r_{ij} \qquad (3)$$

$$\beta_{0j} = \gamma_{00} + \beta_3 (hotel\ controls)_{\ j} + \mu_{0j} \qquad (4)$$

$$\beta_{1j} = \gamma_{10} \qquad (5)$$

where β_{0j} is the hotel-specific intercept for the j^{th} hotel; β_{1j} is the hotel-specific estimate of the coefficient of service climate for the j^{th} hotel – with (5), we assume that this is 'fixed' across hotels and equal to γ_{10} ; β_2, the estimates of the coefficients of employee controls; β_3 is the estimates of the coefficients of hotel controls; γ_{00} is the grand-intercept for employee service behaviour across all hotels; and r_{ij} is the residual for the i^{th} employee in the j^{th} hotel; while μ_{0j} is the random hotel effect.

The above is a 'random intercept' model, due to the presence of μ, the random hotel effect in equation (4). Substituting (4) and (5) to (3), we get the following equation that will be estimated by (restricted) maximum likelihood (given standard normality assumptions):

$$behaviour_{ij} = \gamma_{00} + \gamma_{10} il\ service\ climate_{ij} + \beta_2 (employee\ controls)_{ij} + \beta_3 (hotel\ controls)_{\ j} + \mu_{0j} + r_{ij} \qquad (6)$$

The difference of (6) with our simple OLS equation is the explicit modelling of Level 2 through the μ random hotel effect. Crucially, this μ is uncorrelated with all right-hand side variables (the exogeneity assumption). Again, all mediation and moderation extensions of our hypotheses can be accommodated within the estimated equation.

3.10.2.2.2 Fixed effects model (FEM)

By using FEM, all random hotel effects (μ) in the MEM (equation 6) are removed and dummy hotel variables are included as predictors in the equation (McNeish and Kelley, 2019). The model is the following:

$$behaviour_{ij} = \gamma_{00} + \gamma_{10} il\ service\ climate_{ij} + \alpha_j hotel\ dummies_j + r_{ij} \qquad (7)$$

where α_j is the estimate of the coefficient of hotel dummies and all the rest as previously defined.

Effectively, FEM controls for the Level 2 or hotel effect. The FEM is derived from a different assumption concerning the μ's in the MEM model (see equation (6)). If the latter are correlated with the service climate variable, the exogeneity assumption no longer holds and our MEM estimates are inconsistent. For this reason, we replace the μ's with the whole set of hotel dummies, i.e., the 'hotel effect' is no longer treated as an error term; instead, it is directly controlled for as a predictor. These dummies 'consume' all the variation at Level 2, hence the estimates for the coefficients of any group-level variable can no longer be obtained.

The 'within transformation' (or 'de-meaning') of equation (7) is a way to estimate the parameters of interest. This transformation gives a model that is much easier to estimate in practice (since the hotel dummies are dropped from the model):

$$behaviour_{ij} - behaviour_j = \gamma_{10}(il\ service\ climate_{ij} - il\ service\ climate_j) + (r_{ij} - r_j) \quad (8)$$

Note that the variables with the j^{th} hotel subscript in this equation are mean hotel values. Again, all mediation and moderation extensions of these hypotheses can be accommodated within the estimated equation.

In summary, based on the recommendations by McNeish and Kelley (2019), we combine the psychology with the econometric tradition in a multilevel regression setting. As previously discussed, all hotel level effects are randomised in the MEM, which means that the model will include Level 2 variables (hotel type, size and age). For the FEM, all hotel level effects are controlled for through the hotel dummies, so that no other Level 2 variation exists in the model. For this study therefore, the group-level service climate effect is not separately estimable in the FEM. Consequently, any comparison between MEM and FEM estimates will only be possible for the individual-level service climate coefficients.

3.10.2.2.3 Mixed effects-contextual effects model

Contextual effects modelling (CEM) examines regression relationships for variation occurring within and between groups (Cronbach and Webb, 1975), which is done by comparing within- and between-group regression coefficients. In multi-level regression, CEM is used to separate the individual-level effects from the group-level effects. Without this intervention, it is

assumed that the sources of variance that each of these levels introduces to the model are the same. It is argued that the context in which an individual operates in should have some influence on observed outcomes. Therefore, according to Feaster et al (2011), the experience of belonging to a group (between-group) will influence the experience of being an individual in that group (within-group). That is, the group context affects the individual. Relating this to the present study, the goal is to test whether the effect of group-level climate on employee service behaviour differs from the effect of individual-level service climate on the same outcome.

We are following Feaster et al.'s (2011) procedure for conducting CEM. Individual- and group-level service climate are entered into the same model as two distinct and substantive constructs. The group mean of the level 1 predictor (group-level service climate) and the individual deviation from the group mean of the level 1 predictor (individual-level service climate minus group-level service climate) are computed. This effectively decomposes the Level 1 variable (individual-level service climate) into the effect of between-group variation and the effect of within-group variation:

$$behaviour_{ij} = \beta_{00} + \beta_{01} gl\ service\ climate_j + \beta_{10}(il\ service\ climate_{ij} - gl\ service\ climate_j) + \beta_2(employee\ controls)_{ij} + \beta_3(hotel\ controls)_j + (\mu_{0j} + r_{ij}) \qquad (9)$$

where β_{01} is the estimate of the coefficient of the group-level service climate (between-group) and β_{10} is the estimate of the coefficient of the deviation of individual-level service climate from group-level service climate (within-group).

A test for the equality of the within- and between-hotel coefficients is then conducted using the following hypothesis:

$$H_o: \beta_{01} = \beta_{10} \qquad H_a: \beta_{01} \neq \beta_{10} \qquad (10)$$

If the null hypothesis is rejected, this implies that the effects of individual- and group-level service climate on employee service behaviour are different.

Model (9) above is akin to McNeish and Kelley's (2019) within-between specification of the MEM (WB-MEM) that incorporates both MEM and FEM assumptions. With this specification, the exogeneity assumption is maintained, while the Level 2 effects can be estimated:

$$behaviour_{ij} = \gamma_{00} + \gamma_{01} gl\ service\ climate_j + \gamma_{10}(il\ service\ climate_{ij} - gl\ service\ climate_j) + \mu_{0j} + r_{ij} \qquad (11)$$

McNeish and Kelley (2019) concede that the WB-MEM specification is similar to CEM commonly used in the psychology literature. However, they do make the case that with WB-MEM, the exogeneity concern for FEM is recognised explicitly. The emphasis in CEM is usually to assess the cluster-affiliated effects. But with WB-MEM, the authors stress how the proposed technique directly addresses the exogeneity assumption for FEM. In short, the contribution that McNeish and Kelley (2019) make to the literature is an understanding of how to integrate MEM and FEM in a single framework, while meeting the requisite assumptions for each technique. While we acknowledge McNeish and Kelley's (2019) contribution, we are mainly interested here in the contextual effects interpretation of equation (9), i.e., the result of the statistical test in (10) above. This will be our focus in the relevant section in the next chapter.

3.10.2.3 Mediation analysis using Hayes' PROCESS procedure for SPSS

Reiterating the above discussion on Hayes' PROCESS procedure, this involves estimating an OLS regression model using a simple mediation model corresponding to Hayes' Model 4[4] shown in Figure 3.4[5].

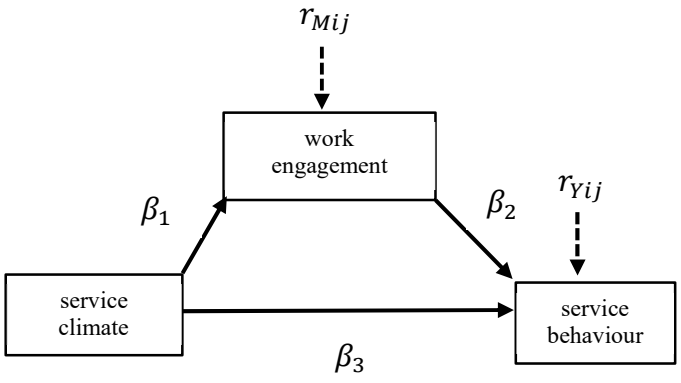


Figure 3-4 Statistical diagram for Hayes' mediation model 4

[4] Hayes' PROCESS procedure has 13 pre-programmed models corresponding to variations on mediation, moderation and conditional process models. Users select the model that best matches their research hypothesis.
[5] For illustrative purposes, only the mediating effects of work engagement were presented. The mediating effects of service climate can be presented in the same way.

We estimated our mediation models using the following equations in Hayes (2018):

$$work\ engagement_{ij} = \beta_M + \beta_1 service\ climate_{ij} + \beta_4(employee\ controls)_{ij} + \beta_5(hotel\ controls)_j + r_{Mij} \quad (12)$$

$$behaviour_{ij} = \beta_Y + \beta_3\ service\ climate_{ij} + \beta_2 work\ engagement_{ij} + \beta_4(employee\ controls)_{ij} + \beta_5(hotel\ controls)_j + r_{Yij} \quad (13)$$

where β_1, β_2 and β_3 are the estimates of the coefficients of interest in the hypothesized mediation pattern. An output of the direct, indirect and total effects is provided by the SPSS routine (see Appendix D). The output also includes employee and hotel controls estimates. Statistical inference concerning the indirect effect of service climate on employee service behaviour is arrived at by using a 95% bootstrap confidence interval set at 5,000 bootstrap samples. Thus, mediation is ascertained by determining that the indirect effect is statistically different from zero (Hayes, 2018).

3.10.3 Overall Summary of Data Analysis Procedures

In summary, six regression models are estimated using the relevant analytical techniques discussed in this section, summarised in Table 3.4.

Table 3.4 Study variables, regression models and techniques

Variable	Items	Dimensions	Use	Level	Type
Individual-level service climate	7	Single	Composite	Individual	Predictor Mediator
Group-level service climate	-^	Single	Aggregate	Group	Predictor
Work engagement	17	Multiple (3)	Composite	Individual	Mediator
Work ethic	4	Multiple (7)	Dimension Mean	Individual	Predictor Moderator
Employee service behaviour	4	Multiple (2)	Dimension Mean	Individual	Outcome

Hypothesis	Description	Regression Technique
1a	Effect of service climate on employee service behaviour*	OLS[1], MEM[2], FEM[3]
1b	Effect of service climate on employee service behaviour (rating source)**	OLS, MEM, FEM
1c	Effect of service climate on employee service behaviour (context)***	CEM[4]
2	Mediating effect of work engagement on relationship between service climate and employee service behaviour	PROCESS[5]

Table 3.4 Study variables, regression models and techniques

3	Moderating effect of work ethic on relationship between service climate and employee service behaviour	OLS, MEM, FEM
4	Mediating effect of service climate on relationship between work ethic and employee service behaviour	PROCESS

Technique	**Regression Model^^**
OLS	$\text{behaviour}_{ij} = \beta_0 + \beta_1 \text{il service climate}_{ij} + \beta_2(\text{employee controls})_{ij} + \beta_3(\text{hotel controls})_j + r_{ij}$
MEM	$\text{behaviour}_{ij} = \gamma_{00} + \gamma_{10} \text{il service climate}_{ij} + \beta_2(\text{employee controls})_{ij} + \beta_3(\text{hotel controls})_j + \mu_{0j} + r_{ij}$
FEM	$\text{behaviour}_{ij} = \gamma_{00} + \gamma_{10} \text{il service climate}_{ij} + \alpha_j \text{hotel dummies}_j + r_{ij}$
CEM	$\text{behaviour}_{ij} = \beta_{00} + \beta_{01} \text{gl service climate}_j + \beta_{10}(\text{il service climate}_{ij} - \text{gl service climate}_j) + \beta_2(\text{employee controls})_{ij} + \beta_3(\text{hotel controls})_j + (\mu_{0j} + r_{ij})$
PROCESS	$\text{work engagement}_{ij} = \beta_M + \beta_1 \text{service climate}_{ij} + \beta_4 \text{employee}_{ij} + \beta_5 \text{hotel}_j + r_{Mij}$ $\text{behaviour}_{ij} = \beta_Y + \beta_3 \text{service climate}_{ij} + \beta_2 \text{work engagement}_{ij} + \beta_4 \text{employee}_{ij} + \beta_5 \text{hotel}_j + r_{Yij}$

Notes:
^ as an aggregated mean of individual-level service climate, group-level service climate has no individual items
*refers to the predictor-outcome relationship
**hypothesis tests difference between self- and supervisor ratings of outcome
***tests the contextual service climate effects
^^only one example of each model is presented

Chapter 4 Results and Discussion

4.1 Results

This section presents all the results for the descriptive information, data preparation and transformation procedures, and inferential analyses.

4.1.1 Test for Reliability of Study Instrument

The instrument used for this study has four different scales. Scale items all have a good internal consistency (Table 4.1). Service climate [α=0.86], work engagement [α=0.87], work ethic [α=0.86] and employee service behaviour [e.g., task-e α=0.80] are higher than the generally accepted minimum α score of 0.7 (e.g. Taber, 2018). There are mixed results for the seven dimensions of work ethic - hard work [α=0.83]; centrality of work [α=0.66], delayed gratification [α=0.70] and wasted time [α=0.67] which are above or at the borderline of 0.7; while leisure [α=0.64], self-reliance [α=0.60], and morality/ethics [α=0.54] have α scores at or just under 0.6[6]. In addition, all statistically significant correlations between each of the predictor and dependent variables are positive. Service climate at both levels and work engagement, are more strongly correlated with task behaviours, as are hard work, morality/ethics and wasted time for the work ethic dimensions. The centrality of work, delayed gratification and self-reliance dimensions are more strongly correlated with OCBs.

[6] Appendix E presents a comparison of α scores obtained in four other studies that used the MWEP. The α scores obtained in this study are not widely different from these.

Table 4.1 Means, standard deviations, correlations and internal consistencies

	M	SD	n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Task_e[1]	6.5	.51	575	**.79**														
2. OCB_e	5.8	1.1	573	.34**	**.72**													
3. Task_s[2]	6.2	.56	570	.12**	.07	**.80**												
4. OCB_s	5.7	.89	570	.09*	.09*	.55**	**.77**											
5. IL SC[3]	6.0	.73	571	.38**	.13**	.23**	.13**	**.86**										
6. GL SC[4]	6.0	.39	579	.13**	.09*	.28**	.21**	.53**	…									
7. Work_Eng[5]	5.8	.70	529	.29**	.28**	.16**	.13**	.45**	.19**	**.87**								
8. CW[6]	6.0	.66	571	.22**	.24**	.11*	.05	.35**	.11*	.53**	**.65**							
9. DG[7]	5.2	1.1	556	.10*	.22**	.16**	.12**	.28**	.11*	.40**	.49**	**.70**						
10. HW[8]	6.4	.61	576	.24**	.10*	.04	.03	.22**	.07	.36**	.47**	.35**	**.83**					
11. LE[9]	4.6	1.4	571	.01	.15**	.08*	.10*	.08*	.10*	.12**	.08	.34**	.02	**.64**				
12. ME[10]	6.7	.34	578	.34**	.24**	.07	.06	.10**	.17**	.35**	.34**	.14**	.28**	-.06	**.54^**			
13. SR[11]	6.0	.78	565	.15**	.16**	.06	.02	.18**	.07	.34**	.37**	.42**	.42**	.23**	.29**	**.60**		
14. WT[12]	6.5	.44	577	.38**	.28**	.15**	.11*	.37**	.24**	.50**	.52**	.30**	.42**	-.01	.55**	.39**	**.67**	

Note: N=579. All correlations are at the individual level, with group-level service climate assigned to individuals. Reliability coefficients are reported on the diagonal.
*****Correlation is significant at the 0.05 level (2-tailed); ****** Correlation is significant at the 0.01 level (2-tailed).
[1] e = self-rated; [2] s = supervisor-rated; [3]individual level service climate; [4]group level service climate; [5]work engagement;
[6]centrality of work;[7]delayed gratification; [8]hard work; [9]leisure; [10]morality/ethics; [11]self-reliance; [12]wasted time
^One component variable for morality/ethics 'treat others as self' had zero variance and was removed from the scale.

4.1.2 Exploratory Factor Analysis

From the results of the exploratory factor analysis, the validity of all the scales is confirmed. Firstly, Table 4.2 shows the factor structure matrix for the service climate scale. All seven items load on one factor, and all factor loadings are strong (close to 1), indicating that a mono-factor strongly influences the variable items. For the communalities, all indices are also fairly strong, except for one item 'effective communication', which has an index of less than 0.5. Finally, 57.2 per cent of the total variance of the seven items is accounted for by a mono-factor. From these results, the validity of the service climate scale is confirmed.

Table 4.2 Factor loadings for 7-item service climate scale

Items	**Factor Loading**	**Communalities**
	1	
Leadership support	0.80	0.51
Resources for service delivery	0.78	0.59
Effective communication	0.78	0.47
Measure service quality	0.77	0.57
Excellent service quality	0.75	0.64
Job knowledge and skills	0.71	0.64
Recognition and rewards	0.69	0.62
Eigenvalues	4.00	
% of variance	57.2	
Extraction method: principal components analysis Rotation method: varimax Only factor loadings of 0.4 have been shown for clarity.		

Table 4.3 shows three factors that account for 53.8 per cent of the total variance of the 17 items on the work engagement scale. These three factors relate to the vigour, dedication and absorption dimensions of work engagement. Two items, 'persevere despite challenges' and 'immersed in work' both record low communalities and factor loadings, which indicates that the factors on which they load do not exercise a very strong influence on the variable items. Therefore, with the strength of factor loadings and communalities, and eigenvalues above 1.0, the validity of the work engagement scale is also confirmed.

Table 4.3 Factor loadings for 17-item work engagement scale

Items	Factor Loading			Communalities
	1	2	3	
Strong and vigorous at job	0.72			0.63
Full of energy at work	0.70			0.60
Enthusiastic about job		0.70		0.64
Happy with intense work	0.49			0.53
Job inspires me		0.75		0.66
Work has meaning and purpose		0.70		0.63
Feel like working in morning	0.71			0.56
Mentally resilient in job	0.63			0.49
Proud of the work		0.72		0.58
Work for long periods of time	0.71			0.55
Persevere despite challenges	0.41			0.35
Immersed in work				0.36
Time flies when working			0.59	0.50
Forget all when working			0.59	0.44
Carried away when working			0.75	0.61
Difficult to detach from job			0.59	0.45
Challenging job		0.47	0.53	0.57
Eigenvalues	6.26	1.67	1.22	
% of variance	36.8	9.8	7.2	

Extraction method: principal components analysis
Rotation method: varimax
Only factor loadings of 0.4 have been shown for clarity.

For the work ethic scale shown in Table 4.4, all items load on seven factors that were requested, because the scale is designed to measure seven dimensions - centrality of work, delayed gratification, hard work, leisure, morality/ethics, self-reliance and wasted time. Also, the seven factors account for 60.6 per cent of the total variance of the work ethic items. Strong patterns of loadings (at least 3 items per dimension) are observed for five of the scale dimensions. The items for the two remaining dimensions - morality/ethics and centrality of work - load on multiple factors. Since all eigenvalues are at or above 1, and average communalities are at or above 0.6 (with a few exceptions), the work ethic scale is validated.

Table 4.4 Factor loadings for 27-item work ethic scale*

Items	**Dimensions	Factor Loading							Communalities
		1	2	3	4	5	6	7	
Hard work provides accomplishment	CW		0.63						0.56
Hard work fulfils			0.71						0.65
Fulfilment from working					0.57				0.56
Content to spend day working					0.71				0.62
Waiting more worthwhile	DG		0.41					0.57	0.65
Waiting brings best in life			0.51						0.50
Distant reward better than immediate			0.72						0.60
More fulfilment from waiting								0.68	0.65
Success from hard work	HW	0.82							0.72
Hard work leads to good life		0.80							0.74
Working hard aids success		0.80							0.71
Able and willing may succeed		0.68							0.61
More relaxed leisure time	LE			0.80					0.68
World better if relaxing				0.77					0.64
Prefer job with more leisure time				0.53				0.54	0.60
More leisure time is good				0.72					0.61
Fair dealings with others	ME					0.63			0.56
No judgment without facts							0.75		0.61
Take responsibility for one's actions					0.50		0.44		0.59
Self-reliance aids success	SR	0.44						0.41	0.53
Strive for self-reliance						0.59			0.50
Independently control destiny						0.74			0.66
Self-dependence better off						0.52			0.57
Productive use of time	WT						0.48		0.53
Plan work day							0.48		0.54
Busy not time wasting					0.65				0.55
Efficient use of time							0.74		0.66
Eigenvalues		7.13	2.96	1.84	1.33	1.12	1.03	0.96	
% of variance		26.4	11.0	6.8	4.9	4.1	3.8	3.6	

Extraction method: principal components analysis
Rotation method: varimax
Only factor loadings of 0.4 have been shown for clarity.
* no variance observed for one item on the 28-item 'treat others as self', therefore this item was omitted from the analysis
**CW-centrality of work; DG-delayed gratification; HW-hard work; LE-leisure; ME-morality/ethics; SR-self-reliance; WT-wasted time

Finally, for the service behaviour scale, Table 4.5 shows all items load cleanly on four factors identified as: self-rated task behaviour, self-rated OCB, supervisor-rated task behaviour and supervisor-rated OCB. Strong loadings on each factor are observed, and all eigenvalues are at or above 1. The four factors account for 69.9 per cent of the total variance of the 12 behaviour items, and which confirms the validity of the scale.

Table 4.5 Factor loadings for 6-item service behaviour scale

*Items	Factor Loading				Communalities
	1	2	3	4	
Performance of required tasks		0.83			0.70
Help as required of me		0.82			0.73
Fulfil service job description		0.81			0.68
Voluntarily go beyond job requirements				0.82	0.69
Go beyond the call of duty				0.87	0.77
Willing go out of way				0.67	0.54
This employee performs required tasks	0.82				0.76
This employee helps as required of her/him	0.82				0.72
This employee fulfils service job description	0.79				0.69
This employee voluntarily goes beyond job requirements			0.76		0.67
This employee goes beyond the call of duty			0.85		0.75
This employee willing goes out of way			0.77		0.69
Eigenvalues	3.53	2.56	1.37	0.92	
% of variance	29.4	21.4	11.4	7.7	

Extraction method: principal components analysis
Rotation method: varimax
Only factor loadings of 0.4 have been shown for clarity.
*first six items are for employee raters, and the next six items for supervisor raters

4.1.3 Multiple Imputation

Results from multiple imputation used to replace the missing data for all the employee control variables are shown in Table 4.6. The differences between the employee control variables before and after multiple imputation are presented as original data and imputed values respectively.

Table 4.6 Multiple imputation for employee control variables

		Original Data			Imputed Values		
Covariates (scale)	**Iterations**	**N**	**Mean**	**Std. Dev.**	**N**	**Mean**	**Std. Dev.**
Employee age	1	474	31.03	6.41	578	31.06	6.42
Employee tenure	3	555	3.65	3.51	578	3.63	3.46
Covariates (nominal)		**Category**	**N**	**Percent**	**N**	**Percent**	
Employee gender	5	female	225	39.8	230	39.8	
		male	340	60.2	348	60.2	
Employee education	3	primary	1	0.2	9	1.6	
		secondary	104	18.6	105	18.2	
		tertiary	454	81.2	464	80.3	

4.1.4 Outliers and Winsorisation

The results from the winsorisation of the dataset to address outliers is shown in Table 4.7. Here the changes to the mean and standard deviation are presented to determine the effects of winsorisation on the original dataset.

Table 4.7 Comparison of statistics for original and winsorised datasets

Descriptive Statistics	Mean	Std. Deviation
Self-rated task behaviour	6.40	0.74
Self-rated task behaviour_win*	6.46	0.52
Individual-level service climate	6.00	0.92
Individual-level service climate_win*	6.20	0.47

*win refers to the winsorised item

The results show the winsorised means to be slightly higher than the non-winsorised means but with lower deviations. From the results of a paired t-test, the difference between the means is significant at the 0.05 level, but this could also be due to the size of the sample. According to Lien and Balakrishnan (2005) it is expected that there will be some differences between the estimates for winsorised and non-winsorised data. Since the difference between the estimates for this dataset are not substantive, then, the decision to employ winsorisation to minimise the effect of outliers is justified.

4.1.5 Descriptives

Summary statistics of the study sample are outlined in Table 4.8. The final study sample consists of 579 employees, 152 supervisors and 53 hotels. Hotel employees and supervisors in this sample population are predominantly male, graduates, and on average 34 years of age, with supervisors being older. They have worked for an average of 3½ years in their current employment as waiters, receptionists or supervisors in non-branded hotels.

A comparison of the mean ratings for each of the study variables (see Appendix F) shows that task behaviours [6.46 for Task-e and 6.21 for Task-s] are higher than the mean ratings for OCBs [5.75 for OCB-e and 5.66 for OCB-s]. The mean score for self-rated task behaviours is significantly higher than the mean score of supervisor-rated task behaviours [$t=8.821$, $p<.05$]. Conversely, the difference between self-rated and supervisor-rated OCBs are not statistically significant.

Furthermore, in the sample hotels (Table 4.8), employees' perceptions of the service climate [6.01] is positive. The mean rating [5.74] for work engagement shows that employees in this

sample are engaged in their work. The overall mean rating for work ethic [5.90] indicates a strong work ethic among employees in this sample. The individual dimensions of work ethic, morality/ethics have the highest mean rating [6.65] while leisure records the lowest mean rating [4.59]. These suggest that the sense of fairness and justice is a strong work value for employees in this sample population, while the need to rest and pursue other non-work activities is not as valued.

Results from a simple regression analysis to test the effect of employee and supervisor characteristics (age, gender, education, department, and tenure) on behaviour ratings of employees are presented in Appendices G and H respectively. The only statistically significant effect is observed for employee department, where the mean rating of OCB by waiters is lower than it is for receptionists [β=-0.216, $p<.05$].

Table 4.8 Descriptives of study sample

Variables (Nominal)		Frequency	%	*n
Employee Gender	Female	230	39.8	578
	Male	348	60.2	
Employee Education	Primary	17	2.9	578
	Secondary	105	18.2	
	Poly or University	456	78.9	
Employee Department	F&B	309	53.4	579
	Front Office	270	46.6	
Supervisor Gender	Female	54	38.0	142
	Male	88	62.0	
Supervisor Education	Secondary	10	7.5	134
	Poly or University	124	92.5	
Supervisor Department	F&B	81	53.3	152
	Front Office	71	46.7	
Hotel Type	Non-Branded	32	60.4	53
	Branded	21	39.6	

Variables	Mean	SD	Min	Max	n
Individual-level service climate	6.01	0.73	3.8	7.0	571
Group-level service climate	6.01	0.39	4.8	6.7	579
**Individual-level service climate (between-hotel)	0	0.62	-1.99	1.77	571
Work engagement	5.74	0.70	3.5	7.0	529
Centrality of work (CW)	6.03	0.66	4.0	7.0	571
Delayed gratification (DG)	5.20	1.11	1.8	7.0	556
Hard work (HW)	6.38	0.61	5.0	7.0	576
Leisure (LE)	4.59	1.37	1.0	7.0	571
Morality/ethics (ME)	6.65	0.34	5.0	7.0	578
Self-reliance (SR)	5.98	0.78	3.5	7.0	565
Wasted time (WT)	6.50	0.44	5.0	7.0	577
Self-rated task behaviour (Task-e)	6.46	0.51	5.0	7.0	575
Self-rated OCB (OCB-e)	5.75	1.07	3.0	7.0	573
Supervisor-rated task behaviour (Task-s)	6.21	0.56	5.0	7.0	570
Supervisor-rated task OCB (OCB-s)	5.66	0.89	3.0	7.0	570
Employee age	31.1	6.4	18.0	62.0	578
Employee tenure	3.7	3.5	0.	20.0	578
Supervisor age	37.1	6.8	25	59	98
Supervisor tenure	3.3	3.0	1	16	152
Years supervising employee	1.9	2.04	0	10	440
Hotel size	119	147	20	824	53
Hotel age	11.3	9.1	0	42	53

*discrepancies in totals relate to missing data

**centred variable calculated for Contextual Effects Model (CEM).

4.1.6 Hypothesis Testing

4.1.6.1 Hypothesis1_a

Hypothesis1_a predicts positive effects of service climate on employee service behaviours; it was tested using OLS, MEM and FEM. Recall that in Section 3.10.2.2, we outlined as one of the analytical procedures, the estimation of regression coefficients using both MEM and FEM, and the inclusion of OLS estimations only as a baseline. Table 4.9 shows that all effects of service climate on employee service behaviours are positive. This is supported for service climate at the individual-level [e.g., β=0.190, p<.01, for the OCB-e dependent variable] and also at the group-level [e.g., β=0.153, p<.05, for the Task-e dependent variable].

It is also apparent from Table 4.9 that the effect of individual-level service climate on all behaviours for MEM and FEM are similar. For example, the regression estimates for individual-level service climate obtained using MEM [e.g., β=0.267, p<0.05, for the Task-e dependent variable] and FEM [e.g., β=0.300, p<0.05, for the Task-e dependent variable] are both statistically significant. The same pattern of significance (or otherwise) is repeated across all other behaviours.

Expectedly, there are no FEM regression estimates for group-level service climate, as previously discussed with the modelling assumptions.

Table 4.9 OLS, MEM and FEM regression coefficients for Hypothesis 1_a

	Individual-level service climate			Group-level service climate	
Service Behaviours	**OLS**	**MEM**	**FEM**	**OLS**	**MEM**
Task-e[1]	0.259**	0.267**	0.300**	0.153**	0.153*
OCB-e	0.213**	0.190**	0.183**	0.248*	0.195 *ns*
Task-s[2]	0.159**	0.098**	0.075*	0.370**	0.318**
OCB-s	0.133*	0.050 *ns*	0.019 *ns*	0.419**	0.388*

* p < 0 .05 (two-tailed test). ** p < 0 .01 (two-tailed test). *ns* not significant. [1] e = self-rated. [2] s = supervisor-rated.
Control variables - employees: age, gender, education, job tenure; hotels – age, size (no. of rooms, type (branded/non-branded).
See Appendix I for an excerpt of results

However, differences are observed between the MEM estimates of individual-level service climate [β=0.190, p<.01, for the OCB-e dependent variable] and group-level [β=0.195, ns, for the OCB-e dependent variable].

The findings that are reported here show a difference between the two measurements for service climate that relate to the employee (individual perceptions) and to the unit (group perceptions) for type of behaviour. For group-level service climate estimates, OCBs [e.g., β=0.388, p<.05, for the OCB-s dependent variable] are higher than task behaviours [e.g. β=0.318, p<.01 for the Task-s dependent variable]. The converse holds true for individual-level service climate, task behaviours are higher [e.g., β=0.267, p<.01, for the Task-e dependent variable] than OCBs [e.g. β=0.190, p<.01, for the OCB-e dependent variable]. A seemingly unrelated estimation test found no significant difference between the estimates of individual- and group-level service climate on different types of behaviour, namely task behaviour and OCB (see Appendix J).

Thus, not only was Hypothesis 1_a supported, but these results suggest that the effects of service climate on employee service behaviours are positive and significant. In addition, these effects remain the same for both task behaviour and OCB.

4.1.6.2 Hypothesis1_b

Hypothesis 1_b predicted that the effects of service climate on self-rated service behaviour will be more positive than on supervisor-rated service behaviour. Differences between the effects of service climate on service behaviour are observed for the rating source (Table 4.9). For self- and supervisor-rated task behaviour at individual-level service climate[7],the self-rated estimates are higher [β=0.267, p<.01 for the Task-e dependent variable and β=0.098, p<.01 for the Task-s dependent variable]. For self- and supervisor-rated task behaviour at group-level service climate, the supervisor-rated estimates are higher [β=0.318, p<.05 for the Task-s dependent variable and β=0.153, p<.01 for the Task-e dependent variable].

A seemingly unrelated estimation test (see Appendix K) found these differences to be significant for service climate at the individual [χ2=7.21, p<.01, for Task-e and Task-s dependent variables] and group levels [χ2=5.44, p<.05, for Task-e and Task-s dependent variables]. However, for individual-level service climate on OCB, no significant difference is found between rating sources [χ2=0.97, ns] nor for group-level service climate [χ2=1.19, ns]. Thus, the effect of individual-level service climate for self-rated task behaviour is stronger

[7] Comparisons at group level service climate on OCB could not be conducted as only one significant result, OCB-e was returned.

than for supervisor-rated task behaviours. Hypothesis 1b is partially supported for task behaviours, but not OCB

4.1.6.3 Hypothesis1_c

As can be seen from the results in Table 4.10, both levels of service climate are treated as independent constructs in the model. And according to the discussion of the model specification in Section 3.10.2.2.3, there is an assumption here that the variation of individual- and group-level service climate effects on service behaviour are the same. Consequently, a contextual factor analysis was conducted to test Hypothesis 1_c which proposed that the effects of individual-level service climate will differ from the effects of group-level climate on employee service behaviour. A difference in the estimates will confirm the contextual effects of service climate on service behaviours.

Table 4.10 CEM regression coefficients for Hypothesis 1_c

Service Behaviour	Group-level service climate (between-hotel)	Individual-level (centred) service climate (within-hotel)	χ2 test for equality of coefficients
Task-e[1]	0.154**	0.299**	5.50*
OCB-e	0.210 *ns*	0.188**	0.01 *ns*
Task-s[2]	0.325**	0.075**	5.93*
OCB-s	0.388*	0.020 *ns*	4.22*

* p < 0 .05 (two-tailed test). ** p < 0 .01 (two-tailed test). *ns* not significant. [1] e = self-rated behaviour. [2] s = supervisor-rated
Control variables - employees: age, gender, education, job tenure; hotels – age, size (no. of rooms, type (branded/non-branded).
See Appendix L for full set of results.

The results in Table 4.10 indicate that the estimates of group-level service climate are significant with positive effects on all service behaviours except self-rated OCB [e.g., β=0.154, p<.01, for the Task-e dependent variable]. Likewise, the estimates of individual-level service climate are also significant with positive effects on all service behaviours except supervisor-rated OCB [e.g., β=0.188, p<.01, for the OCB-e dependent variable). The findings here also correspond to those confirmed in Hypothesis 1_a (Table 4.9) where non-significant results are observed for the relationships between individual-level service climate and OCB-s, and group-level service climate and OCB-e.

With regard to the contextual effects, there are significant differences between the within- and between-hotel estimates of service climate on all service behaviours except self-rated OCB

higher [e.g., χ^2=5.50, p<.05, for the Task-e dependent variable]. Thus, Hypothesis $1_{c,}$ is supported. There is evidence of contextual climate effects on employee service behaviour.

4.1.6.4 Hypothesis 2

To test Hypothesis 2 which predicted that work engagement mediates the effects of service climate on employee service behaviours, we conducted a simple mediation analysis using Hayes' PROCESS procedure for SPSS. The results shown in Table 4.11 indicate that there is evidence to support Hypothesis 2. For example, the effect that individual-level service climate exerts directly on self-rated OCB is not statistically significant [β=0.039, ns]. However, a bootstrap confidence interval for the indirect effect [β=0.187] of service climate operating through work engagement, and based on 5,000 bootstrap samples, does not include zero [0.117 to 0.260], confirms the positive effects of individual-level service climate through work engagement on self-rated OCB. The same can be seen for group-level service climate and self-rated OCB. The direct effect is not significant [β=0.102, ns] while the bootstrap confidence interval for the positive indirect effect [β=0.149] based on 5,000 bootstrap samples is statistically significant [0.072 to 0.239].

Table 4.11 OLS PROCESS regression coefficients for Hypothesis 2

Service Climate	Service Behaviour	Total Effects	Service Climate Coefficient	Work Engagement Coefficient	Indirect Effects	Proportion of Indirect to Total Effects
Individual-level service climate	OCB_e[1]	0.226*	0.039^{ns}	0.420*	0.187*	70%
Group-level service climate	OCB_e	0.252*	0.102^{ns}	0.425*	0.149*	60%
Group-level service climate	Task_e	0.154*	0.085^{ns}	0.208*	0.069*	45%
Individual-level service climate	Task_e	0.260*	0.209*	0.116*	0.051*	20%
Group-level service climate	Task_s[2]	0.354*	0.328*	0.077^{ns}	0.027*	8%
Individual-level service climate	Task_s	0.153*	0.134*	0.044^{ns}	0.019^{ns}	-
Individual-level service climate	OCB_s	0.123*	0.075^{ns}	0.110^{ns}	0.049^{ns}	-
Group-level service climate	OCB_s	0.400*	0.364^{ns}	0.105^{ns}	0.036^{ns}	-

For indirect effects, * statistically significant at the 95% bootstrap confidence interval (does not include zero)
For total and direct effects, * statistically significant at p<0.05 (two-tailed test)
^{ns} – not significant. [1] e = self-rated behaviour. [2] s = supervisor-rated
Control variables - employees: age, gender, education, job tenure; hotels – age, size (no. of rooms, type (branded/non-branded).
See Appendix M for excerpt of full results.

In addition, all the effects of service climate on self-rated behaviours through work engagement are statistically significant (e.g., β=0.069, bootstrap CI: 0.031-0.115, for the Task-

e dependent variable], while for the effects on supervisor-rated behaviour, only one significant relationship is observed [β=0.027, bootstrap CI: 0.028-0.058, for the Task-s dependent variable].

We also computed the proportion of indirect effects to total effects, also referred to as proportion mediated (PM). If the PM is large, this indicates that a large proportion of the total effects is due to mediation, while a smaller PM indicates otherwise. Table 4.11 shows that 70 per cent of the total effect of individual-level service climate on self-rated OCB is through work engagement. Similarly, 60 percent of the total effect of group-level service climate on self-rated OCB is through the mediator. In contrast, only 8 per cent of the total effect of group-level service climate on supervisor-rated task behaviour operates through work engagement.

In summary, there is evidence that work engagement mediates the effects of service climate on employee service behaviours. Additionally, the effect of service climate through work engagement is strongest for on OCB, and for self-rated behaviours. These results all confirm Hypothesis 2.

4.1.6.5 Hypothesis 3

In order to test Hypothesis 3 which predicted that work ethic moderates the effects of service climate on employee service behaviours, MEM and FEM were again both estimated according to the analytical modelling that we proposed earlier. In Table 4.12, there is an almost identical pattern of results in terms of size, direction and significance for both the MEM and FEM estimates. This is clearly shown in the moderating effect of morality/ethics on service climate at the individual level [MEM interaction estimate: β=-0.289, p<.05, for the OCB-s dependent variable; and FEM interaction estimate: β=-0.274, p<.05, for the same dependent variable]. As has been previously mentioned, this reinforces the results in Table 4.9 that the difference between MEM and FEM estimates in this sample are not substantive.

Additionally, each of the seven dimensions of work ethic are found to moderate one or other possible relationships between service climate and employee service behaviour. It is observed that the majority of significant interaction effects of work ethic are negative. For example, delayed gratification and service climate at the individual level [β=-0.119, p<.05, for the OCB-e dependent variable], and also for centrality of work and service climate at the group level [β=-0.162, p<.05, for the Task-e dependent variable]. Interestingly, the effects of group-

level service climate on supervisor-rated OCB moderated by work ethic are all positive [e.g. β=0.326, p<.05, for the OCB-s dependent variable].

Furthermore, delayed gratification and self-reliance are the only work ethic dimensions with significant interaction effects for both levels of service climate on service behaviour. For *delayed gratification*, there are significant and negative interaction effects for service climate at individual-level [β=-0.119, p<.05, for the OCB-e dependent variable], and group-level [β=-0.150, p<.01, for the Task-e dependent variable]. For *self-reliance*, these effects are found for service climate at individual-level [β=-0.192, p<.01, for the OCB-e dependent variable], and group-level [β=-0.339, p<.05, for the OCB-e dependent variable]. It is interesting to note that for both dimensions, these interaction effects relate exclusively to self-rated behaviours, with self-reliance to OCB only.

Table 4.12 MEM and FEM regression coefficients for Hypothesis 3

Service Climate	Service Behaviour	Work Ethic	MEM Climate Coefficient	MEM Ethic Coefficient	MEM Interaction Effect	FEM Climate Coefficient	FEM Ethic Coefficient	FEM Interaction Effect
Individual	OCB_e	DG	0.680**	0.920**	-0.119*	0.663**	0.910**	-0.118*
Individual	Task_e	DG	0.551**	0.349**	-0.060**	0.579**	0.352**	-0.060**
Individual	Task_e	HW	0.847**	0.694**	-0.096*	0.845**	0.675*	-0.091*
Individual	OCB_s	ME	1.960*	1.746*	-0.289*	1.830*	1.613*	-0.274*
Individual	OCB_e	SR	1.290**	1.334**	-0.192**	1.084*	1.120**	-0.157*
Individual	OCB_s	WT	1.353*	1.190*	-0.203*	1.460*	1.245*	-0.223*
Group	OCB_s[2]	CW	-1.559*	-1.956*	0.326*	-	-	-
Group	OCB_s	SR	-1.563*	-1.957**	0.324**	-	-	-
Group	OCB_s	DG	-0.688 [ns]	-1.181**	0.208**	-	-	-
Group	Task_e[1]	CW	1.103*	1.125*	-0.162*	-	-	-
Group	Task_e	DG	0.911**	0.936**	-0.150**	-	-	-
Group	Task_s	LE	0.668**	0.501*	-0.080*	-	-	-
Group	OCB_e	SR	2.188*	2.241**	-0.339*	-	-	-

* p < 0 .05 (two-tailed test). ** p < 0 .01 (two-tailed test). [ns] not significant. [1] e = self-rated behaviour. [2] s = supervisor-rated
Control variables - employees: age, gender, education, job tenure; hotels – age, size (no. of rooms, type (branded/non-branded).
See Appendix N for an excerpt of results.

It is also observed that three work ethic dimensions have significant interaction effects with service climate at the individual level alone - hard work [β=-0.096, p<.01, for the Task-e dependent variable], morality/ethics [β=-0.289, p<.05, for the OCB-s dependent variable] and wasted time [β=-0.203, p<.05, for the OCB-s dependent variable]. In contrast, for service climate at group level alone, centrality of work [β=-0.162, p<.05, for the Task-e dependent variable] and leisure [β=-0.080, p<.05, for the Task-s dependent variable] have significant and negative interaction effects.

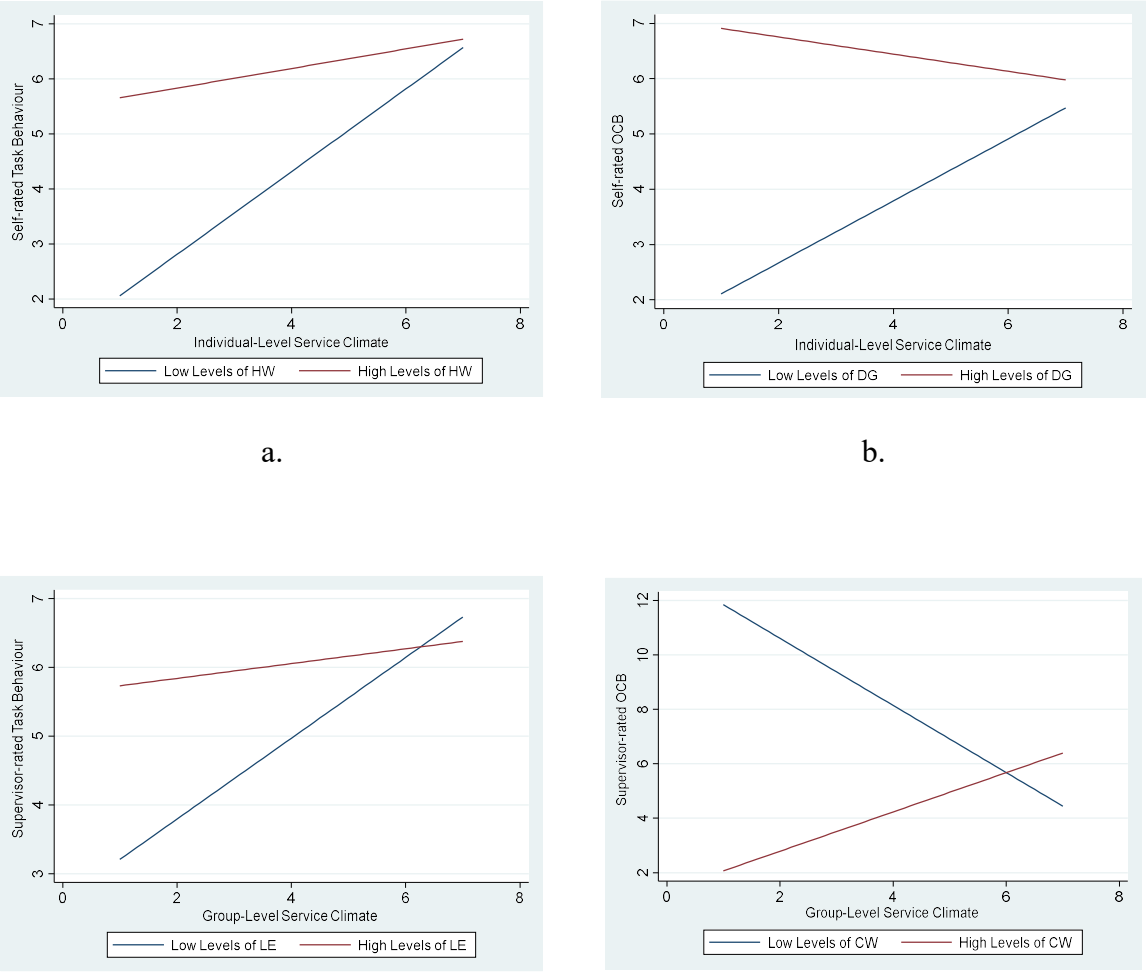


Figure 4-1 Moderation of work ethic

Figure 4.1 shows how work ethic moderates the effects of service climate on employee service behaviour for four selected models. As already stated in Section 3.5.3, items on the work ethic scale were measured on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). From Figure 4.1, low levels of work ethic correspond to the level of disagreement where 1 is the lowest rating, while high levels of work ethic correspond to the level of agreement where 7 is the highest rating.

In three of the graphs, (a), (b) and (c), at lower levels of work ethic, the effect of service climate on employee service behaviour is more positive than it is for high levels of work ethic (and which becomes slightly negative in (b)). The pattern observed when testing the

significance of the slopes[8] shows that for low levels of work ethic, all slopes are positive and significant, while for high levels of work ethic, the slopes are mostly negative and insignificant. For example, for individual-level service climate at low levels of delayed gratification, [slope=0.561, t=3.0, p=0.003, for the OCB-e dependent variable], while at high levels of delayed gratification, [slope=-0.156, t=-1.3, p=0.200, for the OCB-e dependent variable]. For graph (d), on the other hand, this relationship is the reverse: at lower levels of work ethic, the effect of service climate on employee service behaviour is less positive than at higher levels of work ethic. Once again, this pattern is overturned in the case of the interaction effects of work ethic dimensions (centrality of work, self-reliance and delayed gratification) on supervisor-rated OCB.

These moderation findings show that the effects of service climate on employee service behaviours are either strengthened or weakened, depending on the levels of work ethic. It is observed that at low levels of work ethic, the service climate effects on behaviour are strengthened. That is, for those employees who undervalue work, seek immediate rewards, or who are dependent; as well as those who are indolent, unethical, time wasters, or who are not inclined towards leisure activities. Conversely, for employees with high levels of work ethic identified as: hardworking, assiduous, ethical, self-reliant; who delay gratification, are inclined towards recreation, and for whom work is important, the effects of service climate on behaviour are observed to weaken. Furthermore, the effects of service climate on employee service behaviour are weakened where employees are self-reliant; but this same relationship is strengthened where employees are dependent. Finally, the patterns of weakened and strengthened service climate effects on employee service behaviour, are the same for both individual- and group-level service climate.

In summary, work ethic moderates the effect of service climate on employee service behaviour. These effects of individual- and group-level service climate on employee service behaviour are strengthened where low levels of work ethic exist, but weakened in the presence of high levels of work ethic. Also, these moderating effects are all negative except for a few group-level service climate effects on supervisor-rated OCB. The MEM and FEM estimates are all similar in size, direction and significance. Also, the interaction effects of work ethic are equally distributed for task behaviours and OCBs. It is also observed that most of the significant results are for self-rated behaviour outcomes. Thus, Hypothesis 3 is confirmed.

[8] See Appendix O for full results

4.1.6.6 Hypothesis 4

To test Hypothesis 4, we conducted a simple mediation analysis using Hayes' PROCESS procedure for SPSS to establish whether service climate mediates the effects of work ethic on employee service behaviours. The results in Table 4.13 indicate that all indirect effects of service climate are positive and significant. For example, the effect of self-reliance on supervisor-rated OCB [β=0.022] for a bootstrap confidence interval of 0.003 to 0.047 is statistically significant. Thus, the effects of work ethic on service behaviour are mediated by service climate. Other results show that all seven work ethic dimensions have indirect effects on service behaviour through individual-level service climate. Also, both self and supervisor rated behaviours are equally represented as outcomes of the mediated model. Furthermore, two direct effects of work ethic on service behaviour are negative and not significant: [hard work β=-0.013, ns, for Task-s dependent variable; and delayed gratification β=-0.007, ns, for Task-e dependent variable], the implication of which will be discussed later on.

As in Section 4.1.6.4, we again computed the proportion mediated (PM). Table 4.13 shows that for the two largest PM, 150 per cent of the total effect of individual-level service climate on supervisor-rated task behaviour is through hard work, and 117 per cent of the total effect of individual-level service climate on self-rated task behaviour is through delayed gratification. In contrast, the smallest PM is 8 per cent of the total effect of individual-level service climate on self-rated OCB operating through morality/ethics. An observation from these results is that the direct effects of work ethic on service behaviour tend towards statistically insignificance the larger the PM. For example, the direct effect of self-reliance on supervisor-rated OCB is not significant [β=0.005, ns, for OCB-s dependent variable] at a PM of 81 per cent. In contrast, the direct effect of delayed gratification on self-rated OCB is significant [β=0.209, $p<0.05$, for OCB-e dependent variable] at a PM of 10 per cent.

In summary, all indirect effects of service climate are positive and significant. All work ethic dimensions have effects on service behaviour through individual-level service climate. Hypothesis 4 is supported.

Table 4.13 OLS PROCESS regression coefficients for Hypothesis 4

Work Ethic	Service Behaviour	Total Effects	Work Ethic Coefficient	Service Climate Coefficient	Indirect Effects	Proportion of Indirect to Total Effects
HW	Task_s[2]	0.028[ns]	-0.013 [ns]	0.160*	0.042*	150.0%
DG	Task_e[1]	0.042*	-0.007 [ns]	0.257*	0.049*	116.7%
SR	OCB_s	0.027 [ns]	0.005 [ns]	0.126*	0.022*	81.5%
CW	OCB_s	0.060 [ns]	0.012 [ns]	0.123*	0.048*	80.0%
HW	OCB_s	0.044 [ns]	0.010 [ns]	0.129*	0.034*	77.3%
CW	Task_s	0.084*	0.026 [ns]	0.149*	0.059*	70.2%
SR	Task_s	0.038 [ns]	0.012 [ns]	0.149*	0.026*	68.4%
CW	Task_e	0.164*	0.071*	0.239*	0.093*	56.7%
SR	Task_e	0.084*	0.042 [ns]	0.250*	0.042*	50.0%
WT	Task_s	0.193*	0.110 [ns]	0.135*	0.083*	43.0%
ME	Task_s	0.130 [ns]	0.079 [ns]	0.152*	0.052*	40.0%
DG	Task_s	0.077*	0.051*	0.139*	0.026*	33.8%
HW	Task_e	0.188*	0.128*	0.237*	0.060*	31.9%
WT	Task_e	0.422*	0.301*	0.193*	0.121*	28.7%
ME	OCB_s	0.164 [ns]	0.122 [ns]	0.121*	0.042*	25.6%
HW	OCB_e	0.201*	0.154*	0.185*	0.047*	23.4%
LE	Task_s	0.035*	0.027 [ns]	0.156*	0.008*	22.9%
DG	OCB_s	0.097*	0.077*	0.106*	0.020*	20.6%
ME	Task_e	0.493*	0.416*	0.228*	0.078*	15.8%
SR	OCB_e	0.218*	0.190*	0.167*	0.028*	12.8%
DG	OCB_e	0.233*	0.209*	0.128*	0.024*	10.3%
ME	OCB_e	0.718*	0.663*	0.161*	0.055*	7.7%

For indirect effects, * statistically significant at the 95% bootstrap confidence interval (does not include zero)
For total and direct effects, * statistically significant at $p<0.05$ (two-tailed test)
[ns] – not significant. [1] e = self-rated behaviour. [2] s = supervisor-rated
Control variables - employees: age, gender, education, job tenure; hotels – age, size (no. of rooms, type (branded/non-branded).
See Appendix P for full set of results.

4.2 Discussion

The purpose of this study is to examine how three work-related constructs – service climate, work engagement and work ethic –relate to employee service behaviours. Overall, the mechanisms suggest direct, interacting and intervening effects, as well as effects due to rating sources and context. In this section, we provided a detailed discussion of the results identified in the preceding section.

4.2.1 Summary of Results

The first research question sought to uncover the effects of service climate on employee service behaviour. Our data suggests that when service climate is perceived as favourable by

employees, whether individually or in a group, there is a positive effect of this perception on both task behaviour and OCB. The study also shows that individual- and group-level service climate have similar positive effects on employee service behaviour. Comparing the size of effects for individual-level service climate on service behaviours rated by different sources, the hypothesis that more positive effects of service climate will be observed for self-rated behaviours than supervisor-rated behaviours is supported. Specifically, the effects of service climate on self-rated behaviours are stronger than supervisor-rated behaviours. It is also observed that in a hotel, the effects of individual- and group-level service climate on employee service behaviour differ. The hypothesis that context impacts on the effects of service climate on employee service behaviour is supported. In sum, the effects of service climate on employee service behaviour are positive, stronger for self-rated task behaviours, and subject to contextual climate effects.

The second research question in this study asked whether work engagement explains how the service climate-behaviour relationship comes about. The data show that positive changes in service climate lead to positive changes in work engagement, which in turn lead to positive changes in employee service behaviours. Basically, employees who find the service climate conducive respond to it by becoming more engaged with their work, and respond with more positive service behaviours. In sum, evidence of the mediating role of work engagement in the climate-behaviour relationship is provided.

The third research question addressed the effect of employee work ethic on the service climate-behaviour relationship. The data show negative moderation for all seven work ethic dimensions on the effects of service climate (individual and group) on employee service behaviours (task behaviour and OCB). This means that for employees with a high level of work ethic, the effects of service climate on service behaviour are weakened, while for employees with a low level of work ethic, the effects of service climate on service behaviour are strengthened. Also, the majority of these moderating effects were found for individual perceptions of service climate and self-rated behaviours. Therefore, in response to the third research question, there are negative intervening effects of employee work ethic on the effects of service climate on employee service behaviour.

Finally, the fourth research question sought to identify if service climate is one mechanism that can explain the effects of work ethic on employee service behaviour. The data provide

evidence that all seven work ethic dimensions have indirect effects on task behaviour and OCB through individual-level service climate. In effect, this means that an employee with a strong work ethic will tend to form more positive perceptions of the prevailing service climate; consequently, this will induce positive behaviour outcomes.

4.2.2 Analytical Techniques

The findings from this study reveal that the effects of service climate on employee service behaviour using either MEM or FEM are similar. The findings are also similar when work ethic is included as a moderator. Thus, the positive effects of service climate on employee service behaviour persist irrespective of how the hotel effects are modelled: as random effects (as in the MEM model) or as explicitly controlled for or fixed (FEM). In practical terms, this means that the affiliation to one hotel does not alter the effect of the prevailing service climate on employee service behaviours. For this study therefore, where service climate is favourable, positive employee service behaviours can be expected, regardless of the type, size or age of the hotel. That is, the effect on service behaviour of an employee's appraisal of the policies, procedures and practices of the hotel that they work in, is the same for hotels that are branded or non-branded, small or large, new or older.

However, the use of CEM has introduced a new perspective to the service climate literature. By means of the technique outlined in Feaster et al. (2011) that separates the two levels of service climate in the same model (at the individual and group level), it has been found that the effects of these two levels of climate on behaviour differ. It must be clarified here that these contextual effects derive from comparing individual- and group-level service climate measured within the same hotel, that is, contextually. Where contextual effects are confused with hotel effects, doing so would contradict the previous finding in Section 4.1.6.1 about the absence of substantive hotel effects using MEM and FEM techniques. The primary distinction between contextual and hotel effects for this study must therefore be clearly delineated. As discussed, with MEM and FEM, the individual- and group-level- climate effects on behaviour were analysed as independent constructs in separate models. The results show that regardless of the type, age or size of hotel, the effects of service climate (individual- or group-level) on behaviour remain the same. Conversely, with contextual effects, the individual- and group-level service climate were assumed to be interdependent within the same model, and analysed as such. Here, the results show that for the hotels in this study, contextual climate effects are present, hence, i.e., individual and group level effects of service climate on service behaviour differ.

4.2.3 Service Climate and Employee Service Behaviours

This study focused on identifying the effects of service climate on employee service behaviour. It was established that the relationship is positive, whether viewed from an individual employee or group perspective, and for both behaviours under consideration, namely task behaviour and OCB. These findings are in line with Social Exchange Theory (SET) used to conceptualise the relationship. When employees perceive that the organisation is committed to delivering excellent service through specific practices, policies and procedures, a climate of reciprocity emerges that leads employees to respond positively through service-oriented behaviours.

This finding is of strategic importance to the hospitality industry in Nigeria, which as we discussed earlier in Section 2.3.5, is characterised by poor employment conditions (Nwosu, 2016). Even within the wider context outside of hospitality, the employment relationship has been identified as exploitative (Nwagbara, 2020). This is not surprising given the high levels of unemployment in the country, which means that organisations may be taking advantage of the desperation for jobs to offer less than equitable employment packages. It therefore is an important finding that employees in this sample are generally willing to extend goodwill towards their employers, and to reciprocate with positive service behaviours. But this only happens when the organisations extend the goodwill to employees by creating a positive service climate.

Supporting evidence from the empirical literature shows positive relationships between group-level service climate and OCB (e.g., Schneider et al., 2005); individual-level service climate and OCB (e.g., Dimitriades, 2007); group-level service climate and task behaviour (Cheng et al. 2008); group-level service climate on both task behaviour and OCB (e.g., Chuang and Liao, 2010); and individual-level service climate and service performance (e.g., Li and Huang, 2017). This again confirms our findings that it does not matter whether service climate is measured at the individual- or as group-level, its positive effects on employee service behaviour remain the same. However, all of these studies operationalised service climate at either the individual-level or at the group-level. In response to recommendations by Li and Huang (2017) to consider both levels of service climate in one study, we have extended the empirical literature by testing individual- and group-level service climate effects on employee service behaviour using the same sample.

Having established the foundations of the service climate-OCB link in the literature, we also found empirical evidence from several studies that validated this link (e.g., Kidwell et al. 1997; Chang and Chang, 2017). There were noticeably fewer attempts to examine the links between service climate and task behaviour. Some reasons for this deficit may be that OCB precedes and facilitates task behaviour (Borman and Motowidlo, 1993); or that task behaviours vary while OCBs are constant; and task behaviours are more cognitive, while OCB more psychological (Borman et al., 2001). That being said, in this study we identified differences between the effects of service climate on behaviour (specifically for task behaviours) based on rating sources. In effect, by dismissing the task behaviour construct in service climate research, the risk is much higher that new relationships that could be unearthed may well remained undetected.

In this study, the effect of the service climate for self-rated behaviour is stronger than for supervisor-rated behaviour. Expectedly, employees tend to rate themselves better than others would. Studies show evidence of differing results for the effects of service climate on employee service behaviour which depend on the rating source (e.g., Hong et al., 2013; Li and Huang, 2017); self-reports are generally higher than third-party ratings (Allen et al., 2000; Kim and Carlson, 2016); and, self-reports show lower validity than third-party reports (Hoffman, Nathan and Holden, 1991, as cited in Griffin et al. 2007). Several reasons have been given for the discrepancies between rating sources. For instance, as cited in Allen et al. (2000), variations in mean rating scores may be introduced by context (Lawler, 1987), cognitive processes (Tsui and Oholtt, 1988) or individual differences (Hogan, 1991). It is therefore not surprising that self-evaluations by employees and third-party evaluations by supervisors may differ. We found support for this finding in a meta-analysis where the effects of service climate were found to be more positively related to self-rated service performance than to supervisor-rated service performance (Hong et al., 2013). However, in other service performance studies (Salanova et al., 2005; Liao and Chuang, 2004; Borucki and Burke, 1999), none tested differences in effect size across the rating sources. Furthermore, the operationalisation of constructs and study sample used in these studies are different from those used in this study. Therefore, by establishing the differences in effect sizes, our finding makes a key contribution to the empirical literature.

The findings in this study do not support that the effects of service climate on employee service behaviours differ according to type of behaviour. This presents conflicting evidence regarding service climate effects on behaviour. In the literature, employee behaviour outcomes

in a favourable service climate tend more to OCB than to task behaviour (Schneider et al. 2005; D'Amato and Zijlstra, 2008; Zhu, 2013; Eldor and Harpaz, 2016). There are compelling reasons that have been presented to explain the service climate-OCB link, not least of which are changing nature of work (Griffin, 2007) and the altruistic nature of service (Borman and Motowidlo, 1993). Notwithstanding, the findings suggest that when employees are happy with the service climate in the organisation, there is no noticeable difference in service behaviour, be it task-oriented or discretionary. According to the role identity theory proposed by Thoits (1991), this finding would be perfectly logical as the employee values work roles irrespective of what these roles are. Service climate signals to the employees what behaviours are supported, rewarded and expected, and these should encompass both task behaviour and OCB. The nature of the service industry requires the fulfilment of both work roles in order to achieve service goals, and this does not contradict SET, since reciprocity on the part of the employee, is not bound by behaviour in one form or another.

We previously discussed the social interdependence theory which explains how individuals belonging to a group exercise an influence on that group, and how group dynamics also exert an influence on the individuals. We also described how interdependencies, though they may exist between the individual and the group, are distinct realities in themselves. Furthermore, we also argued that the context of climate measured at the individual and group level is a key component that ought to be taken into account in any service climate-behaviour study. Consequently, the findings confirm contextual influences for service climate effects on employee service behaviours. Evidence from other empirical literature found significant effects of family context on hassles and coping adequacy (Feaster et al. 2011); individual values context on OCB in teams (Arthaud-Day, Rode and Turnley, 2012); and school climate context on bullying in secondary schools (Konishi et al., 2017). However, no study related to service climate and employee behaviour was identified.

It is now possible to proffer that the service climate effects on behaviour vary depending on whether this climate is derived from the employees individually or aggregated to the group. That is, hotel-level climate matters, and it matters in a different way than individual climate. Although from SIT it is clear to see that interdependencies exist between individuals and the groups to which they belong, yet our findings demonstrate that these interdependencies do not mean that the individuals are synonymous to the group. Our findings suggest that the social

interdependence framework does not override the independence of the individual from the group. That is, even where the individual and group mutually influence each other, the individual is distinct from the group. With that in mind, it is possible to see how individual-level service climate effects on service behaviour differ from group-level effects for the same.

These findings about contextual influences are insightful. First, given the Nigerian cultural context, which has previously been described as collectivist, hierarchical, deferring to elders (Wanasika et al., 2011; Okpara, 2012), it is interesting to note that employees still retain their individuality. The implications of this relate to the relationships between hotel union workers and the hotels. Typically, these have been acrimonious (Nwosu, 2016) and are built on the 'them versus us' and 'the elders have spoken' models. In such a situation, it may appear to be a difficult call for individual employees to express their personal opinions, especially when these differ from the group. As such, the service behaviours manifested by employees, may not necessarily stem from their free choices, but from a group decision. Thus, we find an opportunity for a better understanding of what can facilitate discussions between employees, hotel unions and organisations. In spite of the cultural context that gravitates towards the group, it is equally important to consider the individual employee as well.

In summary, when employees enjoy a positive service climate, they reciprocate with positive service behaviours. These positive effects of service climate on employee service behaviours differ according to the rating source but not by type of behaviour. However, the relationship is strengthened when employees self-report about how they carry out prescribed tasks. Finally, contextual climate effects, in terms of the measurement level (individual and group) have different effects on service behaviour.

4.2.4 The Mediating Effect of Work Engagement

Work engagement was established as one mechanism through which service climate influences employee service behaviour (Table 4.11). Thus, any positive variation in service climate causes a positive variation in work engagement, and subsequently in behaviour as well. That this mechanism replicates itself for all proposed relationships between the individual- and group-level service climate on both OCB *and* task behaviour, is perhaps indicative of the strength of work engagement as an intervening variable.

For general climate studies, there are similar results of positive mediation. In Eldor and Harpaz (2016), employee engagement was found to mediate the effects of perceived learning

climate on extra-role performance; while work engagement mediated the effect of unit leaders' autonomy-support climate on service performance (Chen et al., 2018). More specific to the service climate literature, positive mediating effects of work engagement were found for the effects of service climate on two outcomes – adaptability and career commitment (Barnes and Collier, 2004); and also, for service climate on patient care behaviours (Abdelhadi and Drach-Zahavy, 2013).

The validity of the JD-R theory has been confirmed by this convergence of findings about work engagement intervening in a resource-behaviour context. According to the main tenets of this theory, the tension between the interactions between job demands and job resources, has the possibility of causing either burnout, if the demands exceed the resources available, or engagement, where the resources exceed the demand (Bakker and Demerouti, 2007). In effect, employees are more likely to be engaged with work when the resources needed for carrying out the job are available. According to the theory, engagement is more readily observable in organisational contexts characterised by stressful conditions, that is where job demands are higher. This is logical, since in more sedate and calming work contexts, it would be difficult to distinguish at what point employees are engaged or not engaged. In fact, the tendency to job boredom and disengagement perhaps higher in work environments that are not challenging (Harju, Hakanen, and Schaufeli, 2016). Therefore, the organisational context for this study, that is, frontline services in hospitality, has more than fulfilled the description of highly stressful and challenging conditions (e.g., Tsaur and Tang, 2012). Consequently, the continuous demands made on hospitality employees to achieve service excellence invariably creates an atmosphere of resourcefulness that leads to engagement (Chen and Fellenz, 2020).

In addition, the literature identifies organisational climate as one of such resources (Bakker et al. 2007). And with service climate being a specific type of organisational climate, the findings show how it fits within this framework of 'resources'. All the policies and procedures, commitment to service quality, rewards and recognitions, leadership and communication efforts that the organisation puts in place to ensure that service excellence is achieved, signal to employees that these are the resources made available for them to deliver service. Here, the organisation is seen to be making concrete the decision to achieve excellent service outcomes. Thus, from our data, we see how the JD-R framework explains the positive

effects of service climate on the work engagement of frontline employees working in a stressful environment.

It is interesting to observe that these findings subsist in a context of high unemployment as is found in Nigeria (World Bank, 2020). As we have seen earlier, overqualified employees are found in low-wage jobs in Nigeria (Aminu, 2019); something that is also confirmed by this sample, where 79 per cent of hotel employees are graduates. This is to say that, given the choice, many of the employees in this sample will most likely not be in this employment. And yet, the levels of work engagement remain high. This probably alludes to the resilience of the employees in the face of adversity. In what would otherwise be a cause for disengagement and poor service behaviours, employees in this sample appear to thrive in it. Perhaps not unconnected to this long-suffering attitude is the religious culture (Wanasika et al., 2011) which tend to be more accommodating of hardship. It would be interesting to explore how this study replicates in a non-religious culture.

Furthermore, as the relationship between the organisation and employees can be described as social, then according to SET, the reciprocity, obligation and relationship assumed by both parties, explains how a positive service climate fostered by the organisation leads to reciprocal positive service behaviours. As Clark and Mills (1979) submit, if different levels of reciprocity could exist in a relationship, then there is the possibility that intervening factors could also exist. This therefore explains how the effects of service climate on employee service behaviour accommodate the mediation of work engagement.

Looking closer at the individual results, it is interesting to explore the differences between findings in this study and those in the empirical literature, namely, Barnes and Collier (2013) and Abdelhadi and Drach-Zahavy (2013). Firstly, measures similar to the ones used in this study for service climate and work engagement, were used in both these studies. In them, we also find supporting evidence for the effects of individual- and group-level service climate on employee service behaviour operating through work engagement. This is confirmed in Barnes and Collier (2013) who conceptualised service climate at the individual level, and Abdelhadi and Drach-Zahavy (2013), who did so at the group level. Secondly, the outcomes represent the main departure of this study's model from those in the literature. While there are several studies that have found positive effects of work engagement on task behaviour or OCB (e.g., Rich et al., 2010; Zhong, Wayne and Liden, 2016), to the best of our knowledge, no study has as yet, considered the effect of service climate operating through work engagement on both

task behaviour and OCB. Thirdly, in previous sections where the effects of work engagement on employee behaviour were discussed, we observed the dominant use of single-raters (Eldor and Harpaz, 2016; Zhong et al., 2016; Cheng et al., 2018). The anchor studies were no different and single-source behaviour ratings were either self-reported (Barnes and Collier, 2013) or third-party reported (Abdelhadi and Drach-Zahavy, 2013). Therefore, this study adds to the body of knowledge by taking a dual report approach to rating employee behaviours. However, notwithstanding these observed differences in rating sources, work engagement exercises a mediating role for service climate effects on service behaviour.

Finally, observing the proportion mediated (PM) of indirect to total effects for each type of behaviour, we find the PM for OCB outcomes to be in the top 30 per cent. Interestingly, this is in contrast to our previous discussions about the result where the effect of service climate on employee behaviours was undiscriminating for type of behaviour. Here, service climate working through work engagement influences OCB more than it does task behaviours. What this seems to suggest is that engagement, as an affective-motivation construct, encourages employees to push boundaries beyond what they would normally do. This finding is supported by the JD-R theory which attributes an 'energising' effect to engagement (Schaufeli, 2013). When engaged, service employees in hospitality who have to work under stress-inducing conditions, are more likely to develop a momentum that carries over into extra-role activities. Thus, service climate operating through work engagement has more of an effect on employees going that extra mile in order to satisfy customer needs, than the carrying out of prescribed, routine tasks.

4.2.5 The Moderating Effect of Work Ethic

In this study we have established that work ethic moderates the effects of service climate on employee service behaviours. We clarified in section 2.2.1 how the level of reciprocity between employees and the organisation could be influenced by psychological factors such as work ethic. We argued that higher levels of reciprocity should occur where the exchange is congruent with the positive work values of each party, and to lower levels of reciprocity where a discordant exchange exists (either the employee has a poor work ethic, or the organisation does not meet employee expectations regarding 'work values'). That is, if the organisation exhibits a positive concern for employees by providing resources to achieve work goals, then, employees recognise this and reciprocate with positive behaviours. However, the results show

that where employees possess high levels of work ethic, the level of reciprocity is actually weakened. That is, the employee exhibits positive behaviours fuelled more by their work ethic than by what has been received from the organisation. This result finds support in the literature where we find that individual values effect changes in levels of reciprocity between employees and the organisation (Dose, 1999).

As previously mentioned, at low levels of work ethic, the service climate effects on behaviour are strengthened, while these are weakened at high levels of work ethic. The implications of these findings suggest that for hotels in Nigeria, it would be counterproductive for the organisations to be content to work with a group of employees who, because of a conducive work environment, carry out their assigned tasks, or perhaps put on a show of altruistic behaviour (to be seen to be doing well), but who generally, undervalue work, demand immediate rewards for what they do, or manifest indolent and unethical tendencies. In such a situation, what influences positive employee behaviours more strongly is what they receive from the organisation, and not their intrinsic values. The organisation would have to invest more in creating a positive service climate to keep employees content and willing to work. However, should the organisation fail to meet its obligations in such a context, then poor service behaviours will quickly begin to manifest.

The contrary position appears to be the most sustainable. With employees at the high end of the work ethic spectrum, if the organisation makes an extra effort to improve the service climate, the overall effect on service behaviours will improve exponentially. This is because employees in this state are hardworking, ethical, assiduous, value work, and do not seek immediate rewards. These values will endure even where the organisations fail to meet all its obligations to employees. In the interim, we do expect that service behaviours will undergo a drastic change since their positive behaviours, in the first place, are shaped by the internal convictions of the employees.

Also, the self-reliant dimension of work ethic could be interpreted as being neutral in terms of the differences in levels. One is either dependent at low levels, or self-reliant at high levels. As it stands, we find that the effect of service climate on service behaviours is strengthened for employees who are dependent, and weakened for the more self-reliant employee. We could surmise that dependent employees, depict individuals who are less concerned about themselves; while the self-reliant employees are, for the most part, concerned about themselves. Consequently, we proffer that the effects of service climate on employee service

behaviour are strengthened when employees are more forgetful of self; while these effects are weakened for employees who are more self-centred. In the first, altruistic tendencies are seen to strengthen the degree of reciprocity between the organisation and the employee. While employees with more selfish tendencies weaken this relationship. Hence, this study makes a significant contribution to knowledge by advancing that in a service-climate context, the different relationships that emerge as a result of different levels of work ethic.

A review of the empirical literature also shows a general trend towards uncovering the direct effects of work ethic on a range of behaviour outcomes (Meriac and Gorman, 2017; Mussner et al. 2017; Grabowski et al., 2019). And although these studies conceptualise work ethic in the same way as this study, none of them examine the moderating effects of the individual dimensions. In the wider work ethic literature though, there is evidence of the Islamic work ethic moderating the effect between organisational commitment and job satisfaction (Yousef, 2001), but this conceptualisation deviates from the objectives of this study. Consequently, an important contribution emerging from these findings is that the present study extends the empirical literature by examining the moderating effects of work ethic within a climate-behaviour context.

In the first set of findings for the moderating effects of work ethic, the majority of these are found to be negative. This finding suggests that the effects of service climate on employee service behaviour become more positive at low levels of work ethic. Conversely, the effects of service climate on service behaviour become less positive at high levels of work ethic. What we see happening here is that a high level of work ethic among employees minimises the effects of service climate on behaviour. This finding has implications for organisations if it means that where work ethic among employees is strong, then the organisation may not need to work as hard to create a positive service climate. On the other hand, in a situation where the organisation is replete with employees with a poor work ethic, more effort will be needed to create a positive service climate in order to encourage positive service behaviours.

Explaining the conflicting results of the few positive moderation effects of work ethic that were identified is more challenging. If work ethic has positive moderating effects, then this implies that at low levels of work ethic, the effects of service climate on service behaviour will also be less positive, or even negative (see Figure 4.1). At high levels of work ethic, the effects of service climate on service behaviour will be more positive. For this finding to hold, then the

direct effects of service climate and work ethic on service behaviour would have to be either both negative or both positive. The theoretical framework and evidence from the empirical literature clearly show that these effects are positive (e.g., Schneider et al., 2005). Hence, the inconsistencies that derive from having positive moderating effects indicates that these results should be viewed with suspicion.

For types of behaviour, there is an equal distribution of these outcomes across task behaviours and OCBs. This reinforces the theoretical premise of role identity (Thoits, 1991), in that, work ethic imposes a saliency on work roles that the individual, regardless of what these roles are, values them. Finally, according to the rating sources, more self-rated behaviours served as outcomes of the relationship.

Overall, the data also shows that the positive moderating effects of work ethic are equally distributed across types of behaviour. This is interesting because we see the non-discriminatory effect of work ethic on work behaviour, regardless of the form it takes. Finally, self-rated behaviours were the predominant rating source, which is supported by Alan et al. (2000) who found differences in mean ratings of OCB with self-ratings being higher than third party-ratings. There is however debate about the validity of self-reports for job performance which some authors (e.g. Griffin et al, 2007) have found to have lower correlations than those of supervisory reports.

4.2.6 Service Climate as a Mediator

The effects of work ethic on employee service behaviour are found to be mediated by service climate (Table 4.13). That is, where an employee has a strong work ethic, it influences the employee's perceptions of the work environment, and in turn impacts on their service behaviour. These findings demonstrate a mechanism by which an individual's value system (work ethic) influences their judgements about a work system (perceptions), and which then impact on the individual's behaviour. The theoretical justification for this is found in the social perception theory (Postman et. al., 1948). Basically, a person's value-system acts as a prism through which reality is recognised and interpreted. Whatever personal values are held, this will come through in the perceptions and actions of the person. So too, work ethic, which has previously been established as a constellation of work values (e.g., Miller et al., 2002), as it resides within the person can be considered as personal values. This explains the redundancy of work ethic-group-level service climate relationship for this discussion. We surmise that from this set of personal work values, individual-level perceptions of service climate can be

shaped. Interestingly, in a similar study by Saito (2016), no significant effects of personal values on service climate perceptions were identified. However, Saito conceptualised personal values as self-transcendence, self-enhancement, conservation and openness to change, as opposed to the present study where work ethic is adopted as a personal or individual value.

James et al. (2008:15) in a review about climates found evidence of mediating effects of psychological climate on the effects of the 'work environment on affective reactions to that environment'. In a similar review, Kuenzi and Schminke (2009) identified several studies with climate mediators, e.g. safety climate between communication and attributions (Hofmann and Stetzer, 1998); general climate between HR factors and branch cluster performance (Gelade and Ivery; 2003; and, organisational climate between HRM system and organisational performance (Bowen and Ostroff, 2004). Other studies have shown mediating effects of service climate between HRM practices and customer experiences Rogg et al. (2001); service leadership behaviour and department-level customer-focused OCB (Schneider et al., 2005); employee engagement and customer experiences (Salanova et al., 2005); and high-performance-oriented HRM work practices and employee service performance (Chuang and Liao, 2010). The empirical literature, thus, supports the proposition that climate acts as a mediator for several types of relationships. However, there is a clear absence of antecedents that relate to work values as a whole, something that Auh et al. (2016) allude to as well. Therefore, the findings from this study extend the literature by confirming the mediation of service climate on the effects of work ethic on employee service behaviour.

In exploring the mediating effects of the individual work ethic dimensions, we observe differences in the size of the proportion mediated (PM) of indirect to total effects. The results show that the PM ranges from 150 to 8 per cent which demonstrates that service climate, a mediator of the effects of work ethic on service behaviour, changes in degrees of intensity for different work ethic dimensions. Of particular interest are the hard work and delayed gratification dimensions with the highest PM at 150 and 117 per cent respectively. The PM for these two work dimensions indicates that all effects of work ethic on service behaviour operate through service climate (as the proportions are all above 100). Consequently, the direct effect of work ethic (hard work and delayed gratification) on service behaviour are negligible, in addition to being non-significant. This means that for delayed gratification to have any effect on employee service behaviour, this must operate through the prevailing

service climate; and the same holds for the hard work dimension. Therefore, an important issue emerging from this finding is that the only way that work ethic can influence service behaviour is through enhancing the service climate. If there are factors within the organisation that diminish or harm the positive service climate, then the effects of employee work ethic will also be diminished.

Apart from hard work and delayed gratification, the PM for centrality of work and self-reliance were all at or above 50 per cent, with one exception (Table 4.13). This shows the relative importance of service climate in shaping how these two work ethic dimensions, influence service behaviours. If an employee's work ethic is to bear dividends for the organisation in terms of positive service behaviours, then organisation needs to ensure that all is in place that will foster a positive service climate.

Once again, Nigeria's context as paternalistic, collectivist, high power-distant, traditionalist and religious (Wanasika et al., 2011; Okpara, 2012), means that employees who have been formed in this culture, develop personal values, that identify with the positive efforts made by the organisation to create a conducive work environment. Indeed, Nigeria's social context, influences employees' worldview, which tends to be more appreciative and supportive than otherwise. This implies that for this sample, hotels should in turn, take advantage of the opportunity to enhance employee service behaviour by creating a positive service climate. By simply doing the needful, these organisations will be able to foster positive employee service behaviours.

In summary, although a strong work ethic among employees is capable of influencing positive service behaviours, stronger effects of work ethic on behaviour are observed when mediated by a positive service climate. However, if in addition to this, a positive service climate exists, then the effect of a strong work ethic on employee service behaviours will also be positively enhanced. For the organisation, achieving positive service behaviours in employees does not reside solely in having employees with strong work ethic, it is equally important that the organisation creates the right conditions for employees to thrive in. There are personal factors (work ethic) that influence the process through which behaviour comes about but this is also positively enhanced when it happens through positive influences of organisational factors (service climate).

Chapter 5 Conclusion

The services sector, and particularly the hospitality industry, is a significant contributor to the world economy. More so in sub-Saharan Africa where the hotel market growth indices are one of the highest globally. Given the vital role that people play in the sector, right attitudes and behaviours are highly sought. This study arose in a bid to better understand how positive service behaviours could be enhanced among service employees. Specifically, six research hypotheses were proposed to examine the effects of service climate, work engagement and work ethic on employee service behaviours in the hotel industry in Nigeria. Survey data from 579 employees and 152 supervisors across 53 hotels in Nigeria were used to test these hypotheses. In the following section, we present a summary of the theoretical frameworks that guided this study, the research findings, theoretical contributions, managerial implications and study limitations. Finally, recommendations for future research are also proposed.

5.1 Summary of Theoretical Framework

The theoretical framework to support these questions were drawn from four main theories. SET explained the elements of exchange and reciprocity present in a social relationship, and how these allow for the exchange of mutual benefits between both parties. In addition, SET explained the interaction of work ethic, and how it could alter the effects of service climate on behaviour by means of varying levels of reciprocity. SIT clarified the existence of social interdependencies within an organisation, in this case, between individuals and the group. The implications of this framework validated the existence of contextual service climate effects. With regard to the mechanism through which a prevailing service climate predicts work engagement among employees, the JD-R theory was adopted. According to the theory, this is made possible through the resulting associations between job demands, availability of job resources, and the impact of the (im)balance between the two on employees' state of mind. With SPT, it was possible to account for work values in individuals and how these shape their perceptions about reality. Consequently, a rationale for the formation of service climate perceptions as a result of employee work values (work ethic) was provided.

5.2 Key Findings

Regarding the methodology, this study has effectively combined two regression modelling traditions, MEM from psychology and OB, and FEM from finance and econometrics. Based on McNeish and Kelley (2019), it has been possible to test the relevant hypotheses by explicitly modelling hotel effects at Level 2 (MEM), and also, by substitution with hotel dummies (FEM), excluding these hotel effects. The outcomes for this study indicate that the differences between the regression estimates obtained using MEM and FEM are not substantive.

In response to the first research question, there are positive effects of service climate on employee service behaviour. A number of salient observations were made regarding this finding. First, social interactions involve the exchange of mutually beneficial obligations. Therefore, by providing the necessary resources for service delivery, organisations signal to employees what behaviours are expected, supported, and rewarded. In turn, employees respond to these signals with their positive service behaviours. Second, this mutually beneficial relationship between service climate and employee service behaviour persists, even for different operationalisations of service climates, that is, at the individual level and at the group level. In other words, the source of perceptions does not alter the positive effects of service climate on service behaviour. Third, service climate effect on service behaviour is present for both types of behaviour, task behaviour and OCB. That is, the positive effect of service climate on service behaviour exists even for different types of behaviour, albeit with stronger effects on self-rated than supervisor-rated behaviours. Fourth, as aforementioned, by modelling the effects of individual- and group-level service climate on employee service behaviour, using MEM and FEM, no substantive hotel effects are observed. That is to say, regardless of the presence or absence of hotel-level effects (as previously seen, these include type, age and size of hotel), the climate-behaviour relationship persists. Finally, individual-level effects of service climate on employee service behaviour differ from group-level effects of service climate when evaluated in the same context. Specifically, the context within which service climate occurs (in this case, individual-level versus group-level in the same hotel) implies differences between their effects on employee service behaviour.

In answer to the second research question, the effects of service climate on employee service behaviour are mediated by work engagement. Three main outcomes emerge from this finding. First, work engagement in a climate-behaviour context is a positive state of mind resulting

from the availability of job resources (the service climate) to meet job demands in a high-stress work environment such as in hospitality. Second, for work engagement, higher proportions of mediation are observed for self-rated behaviours compared to supervisor-rated behaviours. It appears that the effects of a self-rated predictor (work engagement) on a self-rated outcome (service behaviour) are more robust. Finally, self-rated behaviours have more positive effects for OCB than task behaviour, which supports the motivational character of the work engagement construct. That is, employees are motivated to go beyond routine tasks and exercise more discretionary behaviours in order to satisfy the needs of the customers.

Addressing the third research question, work ethic moderates the effect of service climate on employee service behaviour negatively. Two key observations arise from this outcome. The first being, as mentioned in earlier sections of this thesis, that levels of reciprocity are influenced by individual values. In this case, levels of reciprocity are either heightened or weakened when work ethic intervenes in the climate-behaviour relationship. Consequently, the effect of service climate on these service behaviours is weakened for high levels of employee work ethic. Hence the observation that employee work ethic changes how the prevailing service climate influences service behaviour. Secondly, the multidimensionality of work ethic as a construct is confirmed; a clear pattern is observed where certain work ethic dimensions moderate the effects of individual-level service climate on service behaviour, while others (with one exception) do so for group-level service climate on service behaviour. Therefore, not only does work ethic weaken the effects of service climate on service behaviour, but these effects will change depending on the work ethic dimension under consideration, and the type of service climate (whether individual-level or group-level).

In response to the fourth research question, service climate positively mediates the effects of work ethic on employee service behaviour. The value system that a person develops influences their view of reality. Therefore, an employee's work ethic influences the perceptions of service climate, which in turn influence service behaviour outcomes. Service climate showed mediating effects for nearly all work ethic dimensions' effects on service behaviour. Thus, the different stances that employees place on the value of work engender different relationships with service behaviour when working through the prevailing service climate. Furthermore, the mediating effects of service climate on the relationships between work ethic and service behaviour are proportionally higher for hard work, delayed

gratification, self-reliance and centrality of work. This perhaps indicates that these work ethic dimensions, influence employee service behaviour more effectively when they operate through the prevailing service climate than when this occurs directly.

5.3 Theoretical Implications

Several findings from this study provide unique contributions in the following ways.

First, we reiterate the contribution of this study to the methodology literature by adopting both MEM and FEM for testing the same hypotheses. As outlined in section 3.10.2.2, traditionally, the OB and psychology literature make the non-violation of the exogeneity assumption a necessary condition for conducting regression analysis on nested data using MEM. While for FEM commonly used in the economics literature, this assumption is made redundant with the elimination of the random level 2 effects and the inclusion of dummy variables. By adopting both seemingly opposed approaches to multilevel regression, it is now possible to compare level 2 effects as random effects (as in the MEM) or as explicitly controlled for (as in the FEM). In this study, these hotel effects are not substantive. As far as we know, very few studies outside the methodology literature have employed this combined technique, and more specifically, none a service climate-behaviour setting. In addition, the use of CEM in a climate-behaviour study adds to the body of knowledge about the effects of contextual climate on outcomes. Again, as far as we know, there has been no study that has examined the contextual effects of service climate on employee service behaviour.

Second, the majority of studies in the literature focus on service climate as a predictor of employee outcomes (Hong et al., 2013). In Auh et al. (2016), a call was made for more studies to identify the antecedents of service climate. Our findings about the effects of work ethic on employee service behaviour through the mediation of service climate respond to this call. Specifically, it has been established that work ethic predicts service climate, and moderates the effects of service climate on service behaviour. As such, these findings contribute to extending the literature on service climate and work ethic, because as far as we know, no study has examined work ethic within a service climate context.

Third, in terms of measurement levels, we find that service climate research has used either perceptions of individual employees (Dimitriades, 2007) or shared perceptions at the unit level (Chuang and Liao, 2010). In response to the call by Li and Huang (2017) for research into dual service climates, this study makes an important contribution about the effects of dual

service climates on employee service behaviours. Essentially, the results show that the effects of psychological and shared service climates on employee behaviours persist, even across analytical traditions, types of behaviour and context. What this suggests is that the source of perceptions (individual or shared) that determine the service climate is not substantive for its effects on employee service behaviour. In addition, we identify differences in effect size between self-rated and supervisor-rated task behaviours in the service climate-behaviour relationship. This makes another key contribution to the empirical literature as the application of effect size for multiple rating sources in service climate studies has been limited.

Fourth, there are relatively few studies that have explored the service climate and engagement relationship. Those identified, modelled outcomes different from those used in this study, e.g., customer loyalty (Salanova et al., 2005), career aspirations (Barnes and Collier, 2013), service climate (Kopperud et al, 2014) and turnover intentions (Kang et al., 2018). To the best of our knowledge, no research has addressed task behaviours and OCB as outcomes of service climate effects through work engagement. By identifying work engagement as a mediator between service climate and these dual behaviours, a response to the call by Christian et al. (2011) to address these outcomes has been made.

Fifth, another major contribution to knowledge relates to work ethic, in that work ethic has been found to moderate a service climate-behaviour relationship, and to predict service behaviour mediated through service climate. The psychology and OB literature are replete with studies about work ethic and employee outcomes (Meriac, 2012; Mussner et al., 2017; Grawboski et al. 2019), but with a noticeable gap within a climate-behaviour context. In addition, the cultural context of work ethic studies has traditionally been Western in origin, and more recently from the Far East. By addressing work ethic in a sub-Saharan Africa context, specifically Nigeria, this study contributes to the body of knowledge about work ethic, service climate and employee service behaviour.

There are also a couple of intriguing findings with respect to work ethic that were either not consistent with our expectations, or of special interest. In the first place, and in contrast to all other moderations, centrality of work, self-reliance and delayed gratification positively moderate OCB (Table 4.12). From all indications, these results contradict both theoretical and empirical evidence that the effects of climate on behaviour are positive (Borucki and Burke, 1999; Liao and Chuang, 2004; Dimitriades, 2007; Way et al., 2010; Hong et al. 2013; Jiang et

al. 2016). In order to justify a positive moderation by work ethic, then this relationship would have to be negative. Secondly, all the effects of hard work and delayed gratification on employee service behaviour operate through service climate. This finding demonstrates the strength of service climate in shaping the effects of work ethic on behaviour.

Finally, the finding that the relatively understudied task behaviour construct as an outcome of service climate effects, makes yet another contribution to the literature. Most service climate studies focus on OCB outcomes (Podsakoff et al., 2000; Colquitt et al., 2001; Kamdar et al., 2006; Leung, 2008; Zeinabadi, 2010; Chang and Chang, 2017). Introducing task behaviours as one of the outcomes for this study is a major contribution. As a result of this decision, the difference between rating sources was detected only for the effects of service climate on task behaviours, and not on OCB. Going by prior research, had we excluded examining task behaviours, this relationship would have gone undetected. With dual behaviours, it is now possible to identify the differing effects of service climate, work engagement and work ethic on service behaviour.

5.4 Managerial Implications

The practice-based problem that initiated this study is poor service behaviours among hospitality employees in Nigeria. In this section, we present several recommendations to owners and managers in the hotel sector who are concerned about improving the status quo. From all indications, this can only be achieved where there is commitment to address the shortfalls in creating the right conditions for employees to thrive in. Not only has this been shown to influence positive behaviours, but that it also helps to increase levels of work engagement in employees. Admittedly, when it comes to individual values, the organisation has little influence here. Having said this, the insights from this study provide organisations with a deeper understanding about the strategic importance of work ethic in determining the quality of the workforce. For the Nigerian hospitality context, identifying candidates with high levels of work ethic for future employment is a critical determinant for improved service behaviours.

We know outline the specific recommendations as follows:

What are the management implications of the effect of service climate on employee service behaviour? In the first place, the positive effects of service climate on employee service behaviour suggest that creating a conducive work environment is one strategy that

organisations can adopt to proactively impact on service quality. This should involve a concerted effort to address service leadership, communication, service quality and its measurement, rewards and recognition, employee knowledge and skills, and the availability of resources needed to achieve service standards. It should be noted that accomplishing all this requires time, effort and commitment on the part of the organisation. More importantly, without this commitment, the tendency to blame shortfalls in service quality on poor employee attitudes and behaviours will persist.

Having said this, it is also important that the emphasis on the reciprocity of the relationship between employees and the organisation is stressed. This study shows that the prevailing service climate signals to employees what the organisation considers important; and it is these signals that eventually shape employee behaviours. When employees perceive that the leadership is interested in achieving service quality, and not only demands this from the team, but also effects this through processes, procedures and resources, then employees reciprocate with behaviours that benefit the organisation.

Secondly, our results highlight that since individual- and group-level service climate have the same positive effects on service behaviour, either of these operationalisations can be used to assess service climate in the organisation. However, it should be noted that attempting to compare the effects of dual-level service climate within the same organisation, will require a different form of analysis (contextual effects). Conversely, since the rating source of employee behaviour, that is self-rated or supervisor-rated, led to a difference in the study effects, it highlights the need for organisations to adopt multiple-rater strategies when conducting employee surveys, if only to achieve an objective and more balanced assessment.

Thirdly, the empirical literature has predominantly featured outcomes of service climate on OCB. However, the finding that service climate also has positive effects on task behaviour is an important consideration for managers. Service quality is not only achieved by OCB, that is, when employees go over and beyond the prescribed tasks. Equally important for attaining service quality are the 'fundamentals', that is, the routine service tasks that are carried out in every operation. The point to be made here is, both task behaviour and OCB are necessary for service quality outcomes. While OCB may be the more appreciated type of behaviour from a customer perspective, the basics like, providing room service or answering a call, equally impact on the overall service experience.

Fourthly, regarding the interdependencies that exist between employees and the group to which they belong, that is, the context (we alluded to this in the second paragraph), it would be helpful for managers to reflect on the decisions that are made for the benefit of individuals and the organisation as a whole. As an example, the issue of equity for all is important, especially in terms of rewards and recognition, and in providing opportunities for knowledge and skills training for all employees. Given that group-level service climate impacts on employee service behaviour, it would be counterproductive for an organisation to be partial in the distribution of these rewards and recognition to favoured individuals. This research shows that though both have different effects, individual and group perceptions of the work environment both influence employee service behaviour. It behoves the organisation to create a favourable and inclusive service climate in a fair and transparent manner.

Does work engagement explain how the effects of service climate on employee service behaviour operate? The mediation results regarding this second research question provide another set of practical implications. As previously mentioned, a favourable service climate is a positive predictor of service behaviours. However, it is observed that the effects of climate on behaviour are more positive when employees are engaged. Basically, if managers make available the needed resources for employees to carry out their duties, in what is a highly stressful work environment (hospitality), then all the conditions for engagement are made present. When the work environment is conducive, and resources provided, engaged employees tend to exhibit positive service behaviours. The implication therefore is for managers to make that extra effort to provide employees with what is needed to deliver service effectively and efficiently, and this will in turn lead to better service quality. In addition, our findings indicate that one-way managers could assess the outcomes of this strategy is to evaluate employees' willingness to go out of their way to address customer needs, that is altruistic behaviour.

Does work ethic have influence on the effects of service climate on employee service behaviour? One main implication for the finding that work ethic has a moderating effect (that is, a high level of work ethic weakens the influence of service climate on behaviour), is that the organisation will benefit more when its employees have a high level of work ethic. Our study illustrates the reciprocity of the employee-organisation relationship even more. If the leadership aligns with the 'goodwill' of employees who are ready to work hard and well, and reciprocates by providing all the necessary conditions for a conducive work environment, then positive employee behaviours will ensue. Within the present research, the question arises,

how does the organisation influence the work ethic of its employees? Perhaps this could be addressed through coaching, mentoring and training interventions to encourage positive values about work. However, it must be said that this approach involves more challenges for the organisation. Value systems in individuals are usually acquired over time and are not subject to immediate change. A lot of patience and commitment will be required if this route is to be taken. In addition, the relatively high turnover in the hospitality industry means that employees may not remain long enough in the organisation before the effects of work ethic training are felt.

For service climate mediating between work ethic and employee service behaviour, we find that the effect of work ethic on behaviour is enhanced when the service climate is positive. Therefore, since work ethic is a predictor of individual perceptions of service climate, employees with a strong work ethic are more likely to pick up on the positive aspects of climate, no matter how scant these may be, and continue to act as expected. Organisations should recognise this and create an environment where employees are given their legitimate due so that they can thrive. Having employees who value hard work should be valued since they contribute to the improvement of service outcomes. It should also be noted, that employees with a strong work ethic, and who are aware of this dynamic, are in a better position to bargain and demand their legitimate rights from the organisation.

Finally, when hardworking and productive employees work where the prevailing service climate is positive, this influences their service behaviour positively. This has strong implications for the recruitment process in the organisation. Organisations may want to assess candidates' work ethic profiles in their recruitment and selection process. If more people who appreciate the value of hard work are brought into the organisation, and the organisation puts the means in place for a positive service climate to thrive, then the inevitable effects on employee service behaviour will be improved.

5.5 Limitations of the Study

Although this study has made significant theoretical and methodological contributions to the literature, it is important to acknowledge the limitations.

We recognise that by employing a cross-sectional design for this study, the identification of causal mechanisms in the data is restricted. Future research may address this limitation by extending the study to a second time period. It would be interesting to evaluate how (or if) service climate, work engagement, work ethic and employee service behaviour effects vary over time. Liao and Chuang (2007) in their study examined the effect of leadership on long-term customer retention mediated by employee performance, although the time factor was not applied directly to employee performance, but to customer retention. Nonetheless, as the concept of service quality implies continuous improvement, testing the hypothesised relationships using longitudinal data should provide additional insights.

Second, the study sample consists of hotel employees. The hospitality industry represents one of many service-related contexts such as restaurants, meetings, incentives, conferencing, exhibitions, leisure centres, etc. Each of these contexts involve different service demands. Salanova et al. (2005) in their study surveyed employees from hotels and restaurants. Although no differences were identified between hotel and restaurant employees for their study variables, future investigations would do well to allow for similar comparisons for each of the proposed relationships.

Third, work engagement is used as a composite variable in the study. According to Bailey (2017), fewer studies have adopted this approach with the majority treating the construct as multidimensional. Therefore, prospective studies may find it of great interest to explore the relationships using each of the dimensions separately.

Finally, we acknowledge that the proposed relationships exist within a social context that would require qualitative techniques to extract meaning (Ritchie et al., 2014). However, this observation does not negate the value of data obtained via quantitative techniques used in this study. We would nonetheless encourage future research to consider conducting focus group discussions and interviews in an alternative research design. In this way, new insights about the relationships between service climate, work engagement, work ethic and employee service behaviour will be arrived at.

5.6 Recommendations for Future Research

One major contribution made by this study to the methodological literature is combining the psychology and econometric traditions of regression modelling. By adopting the use of MEM and FEM techniques to estimate the regression coefficients in this study, a new line of

research in OB has been offered. We recommend that future researchers engage with this methodology and explore multilevel relationships between other psychological constructs related to this study.

Moreover, having identified that the service climate derived from individual perceptions (psychological climate) or shared perceptions (group service climate), exhibit the same positive effects on employee service behaviour, regardless of the analytical technique used, type of behaviour and context, we propose extending the research to identify if this pattern persists for other employee, customer and organisational outcomes.

It would also be of interest if regression techniques such as structural equation modelling are used to unearth other potential relationships between the constructs. For this, we recommend that the research design be adjusted to increase the number of observations for each hotel to at least 20. This follows on from the 20/50 Hox rule cited in Bell et al. (2010). In addition, the use of contextual effects modelling in the OB literature related to service climate is limited. This will allow for greater analytical depth for multilevel data with dual-measured constructs.

Subsequent research might also consider extending the rating sources for service climate to supervisors as well. In this way, comparisons of the effect of self-rated and supervisor-rated service climate on employee service behaviour can be made. As supervisors form the first line of management in an organisation, supervisor-rated service climate will provide insights into how management views the policies and the procedures that are expected, supported and rewarded. It would be of great interest to contrast these management perceptions with that of the employees, and to evaluate their effects on service behaviour.

Additionally, since this study conceptualised work engagement as a composite construct, the possibility to conduct the same mediating analysis using each of the dimensions of work engagement, that is, vigour, dedication and absorption, is of special interest. In this way, a more detailed understanding of how service climate operates through each of the dimensions of work engagement to influence service behaviour can be arrived at.

Employee service behaviour as the outcome variable for this research, was limited to task behaviour and OCB. It would also be constructive to explore effects of service climate, work engagement and work ethic on other behavioural outcomes such as turnover intention, as well as other employee outcomes such as job satisfaction.

The moderating effects of work ethic have opened further research opportunities in the OB literature. First, it would be interesting to explore if work ethic is transformable from a job demand to a job resource. Second, will high levels of work ethic lead to more job demands on employees, resulting in higher stress or exhaustion levels that weaken the service climate-behaviour relationship? Third, given that individuals with high levels of virtue tend to be more altruistic in behaviour, the role of human virtues (e.g., integrity, humility) could be substituted for work ethic as a moderator between service climate and employee service behaviour.

Also, a study to capture the effects of the COVID-19 pandemic on service behaviour will be timely. Given that several service operations have transformed some of their physical service delivery online, it would be interesting if future research examines the effect of service climate on virtual service quality.

Finally, the adoption of a mixed methods design by including qualitative in-depth interviews or focus groups might enhance our understanding of the research findings. Because of free agency, very little can be done by organisations to influence individual behaviour, it depends to a greater extent on employees to choose their behaviours. A qualitative approach therefore, will help to unearth individual motivations and rationale for certain behaviours.

In conclusion, our results support the proposed hypotheses that service climate, work engagement and work ethic influence employee service behaviour. We hope that this study will stimulate future research to extend theoretical insights and empirical findings that continue to develop our understanding of the psychological and organisational predictors of employee service behaviour.

Appendix A Employee Survey Instrument

Thank you for taking time out to fill this questionnaire. It will take you 10 minutes to complete. This survey is anonymous, so feel free to give your honest opinion.

Section 1 – Rate each of the statements about service using this scale:

		Strongly Disagree	Disagree	Somehow Disagree	Neither Agree nor Disagree	Somehow Agree	Agree	Strongly Agree
1.	Employees in our hotel have knowledge of the job and the skills to deliver superior quality work and service	☐	☐	☐	☐	☐	☐	☐
2.	Our hotel makes effort to measure and follow up the quality of work and service	☐	☐	☐	☐	☐	☐	☐
3.	Employees receive recognition and rewards for the delivery of superior work and service	☐	☐	☐	☐	☐	☐	☐
4.	The overall quality of service provided by our hotel to customers is excellent	☐	☐	☐	☐	☐	☐	☐
5.	Our management shows leadership by supporting employees' efforts to deliver service quality	☐	☐	☐	☐	☐	☐	☐
6.	Our hotel makes the effort to communicate effectively with both employees and customers	☐	☐	☐	☐	☐	☐	☐
7.	Employees are provided with the tools, technology, and other resources to support the delivery of superior quality of work and service	☐	☐	☐	☐	☐	☐	☐

Section 2 – Rate each of the statements about your service behaviour using this scale:

		Strongly Disagree	Disagree	Somehow Disagree	Neither Agree nor Disagree	Somehow Agree	Agree	Strongly Agree
1.	I perform all those tasks for customers that are required of me.	☐	☐	☐	☐	☐	☐	☐
2.	I help customers with those things which are required of me.	☐	☐	☐	☐	☐	☐	☐
3.	I fulfil responsibilities to customers as specified in the service job description.	☐	☐	☐	☐	☐	☐	☐
4.	I voluntarily assist customers even if it means going beyond job requirements.	☐	☐	☐	☐	☐	☐	☐
5.	I often go above and beyond the call of duty when serving customers.	☐	☐	☐	☐	☐	☐	☐
6.	I willingly go out of my way to make a customer satisfied	☐	☐	☐	☐	☐	☐	☐

Section 3 – Rate each of the statements about work in this hotel using this scale:

		Absolutely Never	Almost Never	Rarely	Sometimes	Often	Very Often	All the Time
1.	At work, I feel full of energy.	☐	☐	☐	☐	☐	☐	☐
2.	In my job, I feel strong and vigorous.	☐	☐	☐	☐	☐	☐	☐
3.	When I get up in the morning, I feel like going to work.	☐	☐	☐	☐	☐	☐	☐
4.	I can continue working for very long periods at a time.	☐	☐	☐	☐	☐	☐	☐
5.	In my job, I am mentally very resilient (strong).	☐	☐	☐	☐	☐	☐	☐
6.	At work, I always persevere, even when things do not go well.	☐	☐	☐	☐	☐	☐	☐
7.	I find the work that I do full of meaning and purpose.	☐	☐	☐	☐	☐	☐	☐
8.	I am enthusiastic about my job.	☐	☐	☐	☐	☐	☐	☐
9.	My job inspires me.	☐	☐	☐	☐	☐	☐	☐
10.	I am proud of the work I do.	☐	☐	☐	☐	☐	☐	☐
11.	I find my job challenging.	☐	☐	☐	☐	☐	☐	☐
12.	Time flies when I'm working.	☐	☐	☐	☐	☐	☐	☐
13.	When I am working, I forget everything else around me.	☐	☐	☐	☐	☐	☐	☐
14.	I feel happy when I am working intensely.	☐	☐	☐	☐	☐	☐	☐
15.	I am immersed in my work.	☐	☐	☐	☐	☐	☐	☐
16.	I get carried away when I'm working.	☐	☐	☐	☐	☐	☐	☐
17.	It is difficult to detach myself from my job.	☐	☐	☐	☐	☐	☐	☐

Section 4 – Rate each of the statements relating to work using this scale:

		Strongly Disagree	Disagree	Somehow Disagree	Neither Agree nor Disagree	Somehow Agree	Agree	Strongly Agree
1.	It is important to stay busy at work not waste time.	☐	☐	☐	☐	☐	☐	☐
2.	I feel content when I have spent the working.	☐	☐	☐	☐	☐	☐	☐
3.	One should always take responsibil one's actions.	☐	☐	☐	☐	☐	☐	☐
4.	I would prefer a job that allowed m have more leisure time.	☐	☐	☐	☐	☐	☐	☐
5.	Time should not be wasted; it shou used efficiently.	☐	☐	☐	☐	☐	☐	☐
6.	I get more fulfilment from items I l wait for.	☐	☐	☐	☐	☐	☐	☐
7.	A hard day's work is very fulfilling	☐	☐	☐	☐	☐	☐	☐
8.	Things that you have to wait for are most worthwhile.	☐	☐	☐	☐	☐	☐	☐
9.	Working hard is the key to being successful.	☐	☐	☐	☐	☐	☐	☐
10.	Self-reliance is the key to being successful.	☐	☐	☐	☐	☐	☐	☐
11.	If one works hard enough, one is li make a good life for oneself.	☐	☐	☐	☐	☐	☐	☐
12.	I constantly look for ways to produ use my time.	☐	☐	☐	☐	☐	☐	☐
13.	One should not pass judgment until has heard all of the facts.	☐	☐	☐	☐	☐	☐	☐

	Strongly Disagree	Disagree	Somehow Disagree	Neither Agree nor Disagree	Somehow Agree	Agree	Strongly Agree
14. People would be better off if they depended on themselves.	☐	☐	☐	☐	☐	☐	☐
15. A distant reward is usually more satisfying than an immediate one.	☐	☐	☐	☐	☐	☐	☐
16. More leisure time is good for peopl	☐	☐	☐	☐	☐	☐	☐
17. I try to plan out my workday so as waste time.	☐	☐	☐	☐	☐	☐	☐
18. The world would be a better place i people spent more time relaxing.	☐	☐	☐	☐	☐	☐	☐
19. I strive to be self-reliant.	☐	☐	☐	☐	☐	☐	☐
20. If you work hard you will succeed.	☐	☐	☐	☐	☐	☐	☐
21. The best things in life are those you to wait for.	☐	☐	☐	☐	☐	☐	☐
22. Anyone who is able and willing to hard has a good chance of succeedi	☐	☐	☐	☐	☐	☐	☐
23. It is important to treat others as you would like to be treated.	☐	☐	☐	☐	☐	☐	☐
24. I experience a sense of fulfilment fi working.	☐	☐	☐	☐	☐	☐	☐
25. People should have more leisure tir spend in relaxation.	☐	☐	☐	☐	☐	☐	☐
26. It is important to control one's desti not being dependent on others.	☐	☐	☐	☐	☐	☐	☐
27. People should be fair in their dealir with others.	☐	☐	☐	☐	☐	☐	☐
28. A hard day's work provides a sense accomplishment.	☐	☐	☐	☐	☐	☐	☐

Section 5 – General Information. *Please fill in or tick the appropriate boxes*

1. Age	2. Gender	3. Education	4. Employment	5. No. of years employed (this hotel)	6. Department
_____	☐ Female	☐ Primary	☐ Part Time	_____	☐ F&B
	☐ Male	☐ Secondary	☐ Full Time		☐ Front Office
		☐ Poly/University			

Appendix B Supervisor Survey Instrument

Thank you for taking time out to fill this questionnaire. It will take you 10 minutes to complete. This survey is anonymous, so feel free to give your honest opinion.

Section 1 – Use the scale below to rate each of the following statements relating to the service behaviour of the employees under your charge

EMPLOYEE ------: **How long have you been supervising this employee (months)**_____

		Strongly Disagree	Disagree	Somehow Disagree	Neither Agree or Disagree	Somehow Agree	Agree	Strongly Agree
1.	This employee performs all those tasks for customers that are required of him/her.	☐	☐	☐	☐	☐	☐	☐
2.	This employee helps customers with those things which are required of him/her.	☐	☐	☐	☐	☐	☐	☐
3.	This employee fulfils responsibilities to customers as specified in the service job description.	☐	☐	☐	☐	☐	☐	☐
4.	This employee voluntarily assists customers even if it means going beyond job requirements.	☐	☐	☐	☐	☐	☐	☐
5.	This employee often goes above and beyond the call of duty when serving customers.	☐	☐	☐	☐	☐	☐	☐
6.	This employee willingly goes out of his/her way to make a customer satisfied	☐	☐	☐	☐	☐	☐	☐

Section 2 – General Information about Yourself. *Please fill in or tick the appropriate boxes*

1. Age	**2. Gender**	**3. Education**	**4. How long you supervised in this hotel (months)?**	**5. Type of Hotel**	**6. Dept**	**7. Size of Hotel (rooms)**	**8. No. of years hotel has been in operation**
____	☐ Female ☐ Male	☐ Primary ☐ Secondary ☐ Poly/Uni	_____	☐ Indpt ☐ Branded	☐ F&B ☐ Front Office	_____	_____

Appendix C Outlier Analysis

The table below represents the SPSS output of the outlier analysis for each of the items for all respondents.

Item No.	Item Label	Number of Outliers	Item Total	% of Item Total
1	Job knowledge and skills	27	575	4.7
2	Measure service quality	37	572	6.5
3	Recognition and rewards	105	561	18.7
4	Excellent service quality	49	568	8.6
5	Leadership support	16	570	2.8
6	Effective communication	49	573	8.6
7	Resources for service delivery	17	578	2.9
8	Performance of required tasks	14	574	2.4
9	Help as required of me	11	573	1.9
10	Fulfill service job description	8	573	1.4
11	Voluntarily go beyond job requirements	14	567	2.5
12	Go beyond the call of duty	17	565	3.0
13	Willing go out of way	73	571	12.8
14	Full of energy at work	1	570	0.2
15	Strong and vigorous at job	58	571	10.2
16	Feel like working in morning	2	566	0.4
18	Mentally resilient in job	45	556	8.1
19	Persevere despite challenges	4	554	0.7
20	Work has meaning and purpose	52	566	9.2
21	Enthusiastic about job	49	551	8.9
22	Job inspires me	55	570	9.6
23	Proud of the work	55	564	9.8
27	Happy with intense work	5	559	0.9
28	Immersed in work	14	522	2.7
31	Busy not time wasting	20	574	3.5
32	Content to spend day working	29	566	5.1
33	Take responsibility for one's actions	36	572	6.3
35	Efficient use of time	6	570	1.1
37	Hard work fulfils	74	559	13.2
38	Waiting more worthwhile	6	555	1.1
39	Working hard aids success	61	573	10.6
40	Self-reliance aids success	8	566	1.4
41	Hard work leads to good life	44	574	7.7
42	Productive use of time	13	569	2.3
43	No judgment without facts	11	573	1.9
44	Self-dependence better off	18	570	3.2

Item No.	Item Label	Number of Outliers	Item Total	% of Item Total
45	Distant reward better than immediate	54	555	9.7
47	Plan work day	19	570	3.3
49	Strive for self-reliance	43	544	7.9
50	Success from hard work	46	566	8.1
52	Able and willing may succeed	21	573	3.7
53	Treat others as self	137	571	24.0
54	Fulfilment from working	23	570	4.0
56	Independently control destiny	52	565	9.2
57	Fair dealings with others	6	573	1.0
58	Hard work provides accomplishment	4	569	0.7

Appendix D Hayes' PROCESS Procedure for SPSS

Below is an excerpt of the Hayes' PROCESS procedure for SPSS for the effects of individual-level service climate (PsyClim) on self-rated task behaviour (Task_e) mediated by work engagement (Work_Eng). The employee covariates are age (e_age), gender (e_ge), education (e_ed), tenure, (e_te), department (e_de), while the hotel covariates are hotel age (hAge), hotel size (hSiz) and hotel type (HTyp). The 'dum' indicates that these are dummy variables.

```
***************** PROCESS Procedure for SPSS Version 3.4 *****************
        Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
   Documentation available in Hayes (2018). www.guilford.com/p/hayes3
**************************************************************************
Model  : 4
   Y  : Task_e    X  : PsyClim    M  : Work_Eng

Covariates: e_age dum_e_ge dum_e_ed dum_e_te dum_e_de dum_hAge dum_hSiz dum_hTyp

Sample Size:  520
**************************************************************************
OUTCOME VARIABLE: Work_Eng

Model Summary
        R      R-sq       MSE         F       df1       df2         p
    .4852     .2355     .3801   17.4525    9.0000   510.0000     .0000
Model
            coeff        se         t         p      LLCI      ULCI
constant   2.6992     .2932    9.2054     .0000    2.1231    3.2752
PsyClim     .4401     .0372   11.8260     .0000     .3670     .5132
e_age       .0104     .0047    2.2189     .0269     .0012     .0196
dum_e_ge   -.0458     .0577    -.7933     .4279    -.1593     .0676
dum_e_ed    .0024     .0696     .0339     .9730    -.1344     .1392
dum_e_te   -.1220     .0671   -1.8184     .0696    -.2539     .0098
dum_e_de    .0782     .0555    1.4085     .1596    -.0309     .1873
dum_hAge    .0685     .0607    1.1289     .2595    -.0507     .1877
dum_hSiz    .0900     .0630    1.4298     .1534    -.0337     .2137
dum_hTyp   -.0033     .0584    -.0566     .9549    -.1181     .1114
**************************************************************************
OUTCOME VARIABLE: Task_e
Model Summary
        R      R-sq       MSE         F       df1       df2         p
    .4319     .1866     .2154   11.6738   10.0000   509.0000     .0000


Model
```

	coeff	se	t	p	LLCI	ULCI
constant	4.7693	.2384	20.0080	.0000	4.3010	5.2376
PsyClim	.2093	.0316	6.6191	.0000	.1472	.2715
Work_Eng	.1162	.0333	3.4864	.0005	.0507	.1817
e_age	-.0046	.0035	-1.3104	.1907	-.0116	.0023
dum_e_ge	-.0653	.0435	-1.5019	.1337	-.1508	.0201
dum_e_ed	.0035	.0524	.0666	.9469	-.0995	.1065
dum_e_te	.0696	.0507	1.3727	.1705	-.0300	.1692
dum_e_de	-.0886	.0419	-2.1149	.0349	-.1709	-.0063
dum_hAge	.0494	.0457	1.0812	.2801	-.0404	.1393
dum_hSiz	.0071	.0475	.1490	.8816	-.0862	.1004
dum_hTyp	-.0907	.0440	-2.0633	.0396	-.1771	-.0043

********** DIRECT AND INDIRECT EFFECTS OF X ON Y **********

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
.2093	.0316	6.6191	.0000	.1472	.2715

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
Work_Eng	.0511	.0165	.0199	.0858

********** ANALYSIS NOTES AND ERRORS **********

Level of confidence for all confidence intervals in output: 95.0000
Number of bootstrap samples for percentile bootstrap confidence intervals: 5000

------ END MATRIX -----

Appendix E Comparison of α Scores

The table below compares the Cronbach α scores obtained for each of the work ethic items in the MWEP used in this study and in four other studies

Work Ethic Dimensions	This Study	Meriac et al (2013)	Czerw and Grabowski (2015)	Grawboski et al (2019)	Arciniega et al (2018)
Centrality of Work	0.65	0.86	0.80	0.78	0.73
Delayed Gratification	0.70	0.85	0.79	0.82	0.73
Hard Work	0.83	0.85	0.84	0.86	0.78
Leisure	0.64	0.78	0.81	0.78	0.62
Morality/Ethics	0.54	0.75	0.60	0.63	0.60
Self-Reliance	0.60	0.77	0.82	0.80	0.60
Wasted Time	0.67	0.77	0.69	0.70	0.65

Appendix F Paired T-Test for Rating Discrepancies

The table below represents the Stata output for the paired t-test for rating discrepancies. The variables shown include: self-rated task behaviour (Task_e) and supervisor-rated task behaviour (Task_s).

```
. ttest Task_e==Task_s

Paired t test
```

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
Task_e	566	6.467903	.0212652	.5059143	6.426135	6.509672
Task_s	566	6.206125	.0234566	.5580499	6.160052	6.252198
diff	566	.2617786	.0296761	.7060169	.2034896	.3200675

```
    mean(diff) = mean(Task_e - Task_s)                            t =   8.8212
Ho: mean(diff) = 0                             degrees of freedom =      565

 Ha: mean(diff) < 0           Ha: mean(diff) != 0           Ha: mean(diff) > 0
 Pr(T < t) = 1.0000         Pr(|T| > |t|) = 0.0000          Pr(T > t) = 0.0000

. ttest OCB_e== OCB_s

Paired t test
```

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
OCB_e	564	5.75591	.0450158	1.069065	5.667491	5.844329
OCB_s	564	5.664303	.0374239	.8887686	5.590795	5.73781
diff	564	.0916076	.0558291	1.325867	-.0180512	.2012663

```
    mean(diff) = mean(OCB_e - OCB_s)                              t =   1.6409
Ho: mean(diff) = 0                             degrees of freedom =      563

 Ha: mean(diff) < 0           Ha: mean(diff) != 0           Ha: mean(diff) > 0
 Pr(T < t) = 0.9493         Pr(|T| > |t|) = 0.1014          Pr(T > t) = 0.0507
```

Appendix G Simple Regression for Employee Characteristics and Behaviour Ratings

The table below represents the Stata output for a simple regression for employee characteristics and behaviour ratings The variables shown include: self-rated task behaviour (Task_e), self-rated OCB (OCB_e. The employee covariates are age (e_age), gender (e_gender), education (e_educ), tenure, (e_tenure), department (e_dept). The 'dum' indicates that these are dummy variables.

```
. regress Task_e e_age dum_e_gender dum_e_educ dum_e_tenure dum_e_dept
```

Source	SS	df	MS	Number of obs	=	574
				F(5, 568)	=	1.69
Model	2.17075266	5	.434150533	Prob > F	=	0.1354
Residual	146.045324	568	.257122049	R-squared	=	0.0146
				Adj R-squared	=	0.0060
Total	148.216076	573	.2586668	Root MSE	=	.50707

Task_e	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
e_age	-.0049012	.0035196	-1.39	0.164	-.0118142	.0020118
dum_e_gender	-.0402035	.0450581	-0.89	0.373	-.1287044	.0482974
dum_e_educ	.0348851	.0533082	0.65	0.513	-.0698202	.1395904
dum_e_tenure	.0999927	.0516601	1.94	0.053	-.0014754	.2014608
dum_e_dept	-.037464	.0428414	-0.87	0.382	-.1216109	.046683
_cons	6.601051	.1253995	52.64	0.000	6.354747	6.847354

```
.  regress OCB_e e_age dum_e_gender dum_e_educ dum_e_tenure dum_e_dept
```

Source	SS	df	MS	Number of obs	=	572
				F(5, 566)	=	1.96
Model	11.0766826	5	2.21533652	Prob > F	=	0.0835
Residual	641.10533	566	1.13269493	R-squared	=	0.0170
				Adj R-squared	=	0.0083
Total	652.182012	571	1.14217515	Root MSE	=	1.0643

OCB_e	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
e_age	.0063834	.0073785	0.87	0.387	-.0081092	.0208761
dum_e_gender	.029052	.0947794	0.31	0.759	-.1571103	.2152142
dum_e_educ	.0864202	.1117173	0.77	0.440	-.1330109	.3058512
dum_e_tenure	-.1014375	.1089244	-0.93	0.352	-.3153829	.112508
dum_e_dept	-.2166492	.090118	-2.40	0.017	-.3936558	-.0396426
_cons	5.615714	.2624591	21.40	0.000	5.100201	6.131226

Appendix H Simple Regression for Supervisor Characteristics and Behaviour Ratings

The table below represents the Stata output for a simple regression for supervisor characteristics and behaviour ratings The variables shown include: supervisor-rated task behaviour (Task_s), supervisor-rated OCB (OCB_s. The supervisor covariates are age (e_age), gender (e_gender), education (e_educ), tenure, (e_tenure), department (e_dept). The 'dum' indicates that these are dummy variables.

Source	SS	df	MS	Number of obs	=	84
				F(5, 78)	=	0.66
Model	.646779352	5	.12935587	Prob > F	=	0.6563
Residual	15.3325948	78	.196571728	R-squared	=	0.0405
				Adj R-squared	=	-0.0210
Total	15.9793741	83	.19252258	Root MSE	=	.44336

Task_s	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
dum_sup_gender	-.04133	.1151716	-0.36	0.721	-.270619	.1879591
dum_sup_educ	.0384665	.1831983	0.21	0.834	-.3262532	.4031863
dum_sup_tenure	.0733145	.3230027	0.23	0.821	-.5697343	.7163634
dum_sup_dept	.0846956	.1038825	0.82	0.417	-.1221185	.2915097
sup_age	-.0127321	.0084025	-1.52	0.134	-.0294603	.0039961
_cons	6.617612	.3890222	17.01	0.000	5.843128	7.392095

```
. regress OCB_s dum_sup_gender dum_sup_educ dum_sup_tenure dum_sup_dept sup_age
```

Source	SS	df	MS	Number of obs	=	84
				F(5, 78)	=	0.50
Model	1.45112433	5	.290224866	Prob > F	=	0.7775
Residual	45.5438394	78	.583895377	R-squared	=	0.0309
				Adj R-squared	=	-0.0312
Total	46.9949637	83	.566204382	Root MSE	=	.76413

OCB_s	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
dum_sup_gender	.174428	.1984963	0.88	0.382	-.2207478	.5696037
dum_sup_educ	.2179217	.3157391	0.69	0.492	-.4106666	.84651
dum_sup_tenure	-.3076356	.5566896	-0.55	0.582	-1.415919	.8006482
dum_sup_dept	.1428039	.1790397	0.80	0.428	-.2136367	.4992445
sup_age	-.0060973	.0144816	-0.42	0.675	-.034928	.0227335
_cons	5.549219	.6704731	8.28	0.000	4.214409	6.884028

Appendix I $H1_a$: OLS, MEM and FEM Regressions

The excerpt below shows a summarised Stata output of OLS, MEM and FEM regressions for the effects of individual-level service climate (PsyClim) on self-rated task behaviour (Task_e), supervisor-rated task behaviour (Task_s), self-rated OCB (OCB_e) and supervisor-rated OCB (OCB_s). The employee covariates are age (e_age), gender (e_gender), education (e_educ), tenure, (e_tenure), department (e_dept), while the hotel covariates are hotel age (hAge), hotel size (hSiz) and hotel type (HTyp). The 'dum' indicates that these are dummy variables.

OLS	Coef.	p
Task_e		
PsyClim	0.259	0.000
e_age	-0.004	0.218
dum_e_gender	-0.066	0.114
dum_e_educ	0.015	0.760
dum_e_tenure	0.065	0.185
dum_e_dept	-0.085	0.035
dum_hAge	0.075	0.088
dum_hSize	-0.006	0.891
dum_hType	-0.097	0.022
_cons	5.113	0.000
OCB_e		
PsyClim	0.213	0.001
e_age	0.005	0.502
dum_e_gender	0.012	0.897
dum_e_educ	0.096	0.390
dum_e_tenure	-0.128	0.247
dum_e_dept	-0.238	0.009
dum_hAge	0.080	0.416
dum_hSize	-0.099	0.333
dum_hType	-0.003	0.975
_cons	4.419	0.000
Task_s		
PsyClim	0.159	0.000
e_age	0.001	0.732
dum_e_gender	0.039	0.420
dum_e_educ	-0.025	0.662
dum_e_tenure	-0.034	0.551
dum_e_dept	0.134	0.004
dum_hAge	-0.038	0.452
dum_hSize	0.088	0.093
dum_hType	-0.126	0.011
_cons	5.195	0.000
OCB_s		
PsyClim	0.133	0.010
e_age	0.001	0.924
dum_e_gender	-0.013	0.871
dum_e_educ	-0.096	0.305
dum_e_tenure	-0.099	0.276
dum_e_dept	0.072	0.339
dum_hAge	-0.104	0.209
dum_hSize	0.007	0.933
dum_hType	-0.406	0.000
_cons	5.228	0.000

MEM	Coef.	p
Task_e		
PsyClim	0.267	0.000
dum_e_gender	-0.066	0.111
e_age	-0.004	0.261
dum_e_educ	0.013	0.786
dum_e_tenure	0.064	0.188
dum_e_dept	-0.085	0.032
dum_hAge	0.072	0.133
dum_hSize	-0.012	0.818
dum_hType	-0.095	0.045
_cons	5.058	0.000
OCB_e		
PsyClim	0.190	0.003
dum_e_gender	0.047	0.608
e_age	0.007	0.335
dum_e_educ	0.119	0.266
dum_e_tenure	-0.030	0.775
dum_e_dept	-0.224	0.009
dum_hAge	0.062	0.671
dum_hSize	-0.159	0.312
dum_hType	0.032	0.824
_cons	4.450	0.000
Task_s		
PsyClim	0.098	0.002
dum_e_gender	0.031	0.489
e_age	0.003	0.424
dum_e_educ	-0.021	0.697
dum_e_tenure	-0.005	0.922
dum_e_dept	0.147	0.001
dum_hAge	-0.030	0.715
dum_hSize	0.095	0.286
dum_hType	-0.114	0.165
_cons	5.501	0.000
OCB_s		
PsyClim	0.050	0.332
dum_e_gender	-0.012	0.872
e_age	0.004	0.537
dum_e_educ	-0.095	0.272
dum_e_tenure	-0.051	0.555
dum_e_dept	0.070	0.308
dum_hAge	-0.136	0.335
dum_hSize	-0.023	0.882
dum_hType	-0.357	0.011
_cons	5.658	0.000

FEM	Coef.	p
Task_e		
PsyClim	0.300	0.000
dum_e_gender	-0.068	0.119
e_age	-0.003	0.374
dum_e_educ	0.004	0.932
dum_e_tenure	0.067	0.199
dum_e_dept	-0.089	0.030
_cons	4.816	0.000
OCB_e		
PsyClim	0.183	0.007
dum_e_gender	0.061	0.515
e_age	0.007	0.339
dum_e_educ	0.140	0.204
dum_e_tenure	0.052	0.642
dum_e_dept	-0.216	0.014
_cons	4.397	0.000
Task_s		
PsyClim	0.075	0.027
dum_e_gender	0.024	0.609
e_age	0.003	0.392
dum_e_educ	-0.033	0.555
dum_e_tenure	0.005	0.929
dum_e_dept	0.160	0.000
_cons	5.583	0.000
OCB_s		
PsyClim	0.019	0.719
dum_e_gender	-0.013	0.865
e_age	0.004	0.481
dum_e_educ	-0.108	0.221
dum_e_tenure	-0.030	0.735
dum_e_dept	0.067	0.340
_cons	5.475	0.000

Appendix J $H1_a$: Suest Rating Analysis

The excerpt below represents the Stata output for the seemingly unrelated estimation test (suest) to compare the regression estimates of individual-level service climate (PsyClim) on self-rated task behaviour (Task_e); and individual-level service climate (PsyClim) on supervisor-rated OCB (OCB_s). The employee covariates are age (e_age), gender (e_gender), education (e_educ), tenure, (e_tenure), department (e_dept), while the hotel covariates are hotel age (hAge), hotel size (hSiz) and hotel type (HTyp). The 'dum' indicates that these are dummy variables.

```
. reg Task_e PsyClim e_age dum_e_gender dum_e_educ dum_e_tenure dum_e_dept dum_hAge dum_hSize dum_hType

      Source |       SS           df       MS      Number of obs   =       566
-------------+----------------------------------   F(9, 556)       =     12.64
       Model |  24.8260283         9  2.75844759   Prob > F        =    0.0000
    Residual |   121.37936       556  .218308202   R-squared       =    0.1698
-------------+----------------------------------   Adj R-squared   =    0.1564
       Total |  146.205389       565  .258770599   Root MSE        =    .46723

------------------------------------------------------------------------------
      Task_e |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     PsyClim |   .2591902   .0271741     9.54   0.000     .2058137    .3125667
       e_age |  -.0041217   .0033412    -1.23   0.218    -.0106847    .0024413
dum_e_gender |  -.0663252   .0418709    -1.58   0.114    -.1485698    .0159194
  dum_e_educ |    .015205   .0496869     0.31   0.760     -.082392    .1128021
dum_e_tenure |    .064681   .0486992     1.33   0.185    -.0309758    .1603379
  dum_e_dept |  -.0849976   .0402077    -2.11   0.035    -.1639753     -.00602
     dum_hAge |   .0749016   .0438118     1.71   0.088    -.0111553    .1609585
    dum_hSize |  -.0062344   .0453161    -0.14   0.891    -.0952461    .0827773
    dum_hType |  -.0974483   .0425054    -2.29   0.022    -.1809392   -.0139574
        _cons |   5.112591   .2122368    24.09   0.000     4.695707    5.529475
------------------------------------------------------------------------------

.
. estimates store ike

.
. reg OCB_e PsyClim e_age dum_e_gender dum_e_educ dum_e_tenure dum_e_dept dum_hAge dum_hSize dum_hType

      Source |       SS           df       MS      Number of obs   =       565
-------------+----------------------------------   F(9, 555)       =      2.60
       Model |  25.9415134         9  2.88239038   Prob > F        =    0.0061
    Residual |  616.256323       555  1.11037175   R-squared       =    0.0404
-------------+----------------------------------   Adj R-squared   =    0.0248
       Total |  642.197837       564  1.13864865   Root MSE        =    1.0537

------------------------------------------------------------------------------
       OCB_e |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     PsyClim |    .21252   .0613497     3.46   0.001      .092014    .3330259
       e_age |   .005058   .0075216     0.67   0.502    -.0097164    .0198323
dum_e_gender |   .0122116   .0945275     0.13   0.897    -.1734638     .197887
  dum_e_educ |    .096225   .1118903     0.86   0.390    -.1235551    .3160052
dum_e_tenure |  -.1276197   .1101358    -1.16   0.247    -.3439536    .0887142
  dum_e_dept |  -.2378482   .0907669    -2.62   0.009     -.416137   -.0595595
     dum_hAge |   .0804253   .0989008     0.81   0.416    -.1138404     .274691
    dum_hSize |  -.0991386   .1023139    -0.97   0.333    -.3001084    .1018313
    dum_hType |  -.0030256   .0957746    -0.03   0.975    -.1911507    .1850995
        _cons |   4.418854   .4781254     9.24   0.000     3.479698    5.358011
------------------------------------------------------------------------------
```

```
.
. estimates store uzo

.
. reg Task_s PsyClim e_age dum_e_gender dum_e_educ dum_e_tenure dum_e_dept dum_hAge dum_hSize dum_hType
```

Source	SS	df	MS		
Model	14.8053267	9	1.6450363	Number of obs	= 561
Residual	159.782116	551	.289985692	F(9, 551)	= 5.67
				Prob > F	= 0.0000
Total	174.587443	560	.311763291	R-squared	= 0.0848
				Adj R-squared	= 0.0699
				Root MSE	= .5385

Task_s	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
PsyClim	.1594318	.0317107	5.03	0.000	.0971432	.2217204
e_age	.0013214	.0038564	0.34	0.732	-.0062536	.0088964
dum_e_gender	.0390648	.048356	0.81	0.420	-.0559199	.1340494
dum_e_educ	-.0252733	.0578588	-0.44	0.662	-.138924	.0883775
dum_e_tenure	-.0335935	.0562845	-0.60	0.551	-.144152	.0769649
dum_e_dept	.1344583	.0465096	2.89	0.004	.0431005	.225816
dum_hAge	-.0383319	.0508778	-0.75	0.452	-.13827	.0616062
dum_hSize	.0883424	.0525279	1.68	0.093	-.0148369	.1915218
dum_hType	-.1263102	.049253	-2.56	0.011	-.2230569	-.0295635
_cons	5.194972	.2464348	21.08	0.000	4.710906	5.679039

```
.
. estimates store nora

.
. reg OCB_s PsyClim e_age dum_e_gender dum_e_educ dum_e_tenure dum_e_dept dum_hAge dum_hSize dum_hType
```

Source	SS	df	MS		
Model	30.6447934	9	3.40497705	Number of obs	= 561
Residual	419.482955	551	.761312077	F(9, 551)	= 4.47
				Prob > F	= 0.0000
Total	450.127748	560	.80379955	R-squared	= 0.0681
				Adj R-squared	= 0.0529
				Root MSE	= .87253

OCB_s	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
PsyClim	.1326864	.05123	2.59	0.010	.0320563	.2333165
e_age	.0005934	.0062391	0.10	0.924	-.011662	.0128488
dum_e_gender	-.0127211	.0784446	-0.16	0.871	-.1668082	.1413659
dum_e_educ	-.0956296	.0931024	-1.03	0.305	-.2785087	.0872495
dum_e_tenure	-.0993532	.0911745	-1.09	0.276	-.2784453	.0797389
dum_e_dept	.0721718	.0754214	0.96	0.339	-.0759769	.2203205
dum_hAge	-.1036143	.0823736	-1.26	0.209	-.265419	.0581903
dum_hSize	.0071407	.0850683	0.08	0.933	-.1599571	.1742384
dum_hType	-.4064925	.0798179	-5.09	0.000	-.5632771	-.2497078
_cons	5.227811	.3984316	13.12	0.000	4.44518	6.010441

```
.
. estimates store nna
```

```
.
. suest ike uzo nora nna

Simultaneous results for ike, uzo, nora, nna

                                                Number of obs     =        570
```

	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
ike_mean						
PsyClim	.2591902	.0293754	8.82	0.000	.2016155	.3167649
e_age	-.0041217	.0033572	-1.23	0.220	-.0107016	.0024582
dum_e_gender	-.0663252	.0408157	-1.62	0.104	-.1463225	.0136721
dum_e_educ	.015205	.0515813	0.29	0.768	-.0858925	.1163025
dum_e_tenure	.064681	.0462474	1.40	0.162	-.0259622	.1553242
dum_e_dept	-.0849976	.0401019	-2.12	0.034	-.163596	-.0063992
dum_hAge	.0749016	.0419145	1.79	0.074	-.0072493	.1570525
dum_hSize	-.0062344	.0425378	-0.15	0.883	-.0896069	.0771381
dum_hType	-.0974483	.0412546	-2.36	0.018	-.1783058	-.0165908
_cons	5.112591	.2143052	23.86	0.000	4.69256	5.532621
ike_lnvar						
_cons	-1.521847	.0575318	-26.45	0.000	-1.634608	-1.409087
uzo_mean						
PsyClim	.21252	.0620497	3.42	0.001	.0909048	.3341351
e_age	.005058	.0081338	0.62	0.534	-.010884	.021
dum_e_gender	.0122116	.0949561	0.13	0.898	-.1738989	.1983221
dum_e_educ	.096225	.1200135	0.80	0.423	-.138997	.3314471
dum_e_tenure	-.1276197	.1169012	-1.09	0.275	-.3567419	.1015025
dum_e_dept	-.2378482	.0928885	-2.56	0.010	-.4199063	-.0557901
dum_hAge	.0804253	.0942366	0.85	0.393	-.1042749	.2651256
dum_hSize	-.0991386	.0934233	-1.06	0.289	-.2822449	.0839678
dum_hType	-.0030256	.0969032	-0.03	0.975	-.1929523	.1869011
_cons	4.418854	.4934216	8.96	0.000	3.451766	5.385943
uzo_lnvar						
_cons	.1046949	.064426	1.63	0.104	-.0215778	.2309675
nora_mean						
PsyClim	.1594318	.0293651	5.43	0.000	.1018772	.2169864
e_age	.0013214	.0036153	0.37	0.715	-.0057644	.0084073
dum_e_gender	.0390648	.0487133	0.80	0.423	-.0564115	.134541
dum_e_educ	-.0252733	.0544275	-0.46	0.642	-.1319492	.0814027
dum_e_tenure	-.0335935	.0561094	-0.60	0.549	-.143566	.0763789
dum_e_dept	.1344583	.0466801	2.88	0.004	.042967	.2259495
dum_hAge	-.0383319	.0493121	-0.78	0.437	-.1349818	.0583179
dum_hSize	.0883424	.0511828	1.73	0.084	-.011974	.1886589
dum_hType	-.1263102	.0500033	-2.53	0.012	-.2243149	-.0283055
_cons	5.194972	.2276766	22.82	0.000	4.748734	5.64121
nora_lnvar						
_cons	-1.237924	.0524741	-23.59	0.000	-1.340771	-1.135076
nna_mean						
PsyClim	.1326864	.0512922	2.59	0.010	.0321556	.2332172
e_age	.0005934	.0059424	0.10	0.920	-.0110535	.0122402
dum_e_gender	-.0127211	.0804075	-0.16	0.874	-.170317	.1448747
dum_e_educ	-.0956296	.0953788	-1.00	0.316	-.2825686	.0913094
dum_e_tenure	-.0993532	.0884368	-1.12	0.261	-.2726862	.0739797
dum_e_dept	.0721718	.0771294	0.94	0.349	-.078999	.2233426
dum_hAge	-.1036143	.0719648	-1.44	0.150	-.2446628	.0374342
dum_hSize	.0071407	.0799496	0.09	0.929	-.1495576	.1638389
dum_hType	-.4064925	.0763344	-5.33	0.000	-.5561052	-.2568798
_cons	5.227811	.3951332	13.23	0.000	4.453364	6.002257
nna_lnvar						
_cons	-.2727119	.0654331	-4.17	0.000	-.4009585	-.1444654

```
.
. test [ike_mean]PsyClim=[uzo_mean]PsyClim

 ( 1)  [ike_mean]PsyClim - [uzo_mean]PsyClim = 0

           chi2(  1) =    0.64
         Prob > chi2 =    0.4225

.
. test [nora_mean]PsyClim=[nna_mean]PsyClim

 ( 1)  [nora_mean]PsyClim - [nna_mean]PsyClim = 0

           chi2(  1) =    0.39
         Prob > chi2 =    0.5300
```

Appendix K $H1_b$: Suest Rating Analysis

The excerpt below represents the Stata output for the seemingly unrelated estimation test (suest) to compare the regression estimates of rating sources. individual-level service climate (PsyClim) on self-rated task behaviour (Task_e); and individual-level service climate (PsyClim) on supervisor-rated OCB (OCB_s). The employee covariates are age (e_age), gender (e_gender), education (e_educ), tenure, (e_tenure), department (e_dept), while the hotel covariates are hotel age (hAge), hotel size (hSiz) and hotel type (HTyp). The 'dum' indicates that these are dummy variables.

```
. reg Task_e PsyClim e_age dum_e_gender dum_e_educ dum_e_tenure dum_e_dept dum_hAge dum_hSize dum_hType
```

Source	SS	df	MS	Number of obs	=	566
				F(9, 556)	=	12.64
Model	24.8260283	9	2.75844759	Prob > F	=	0.0000
Residual	121.37936	556	.218308202	R-squared	=	0.1698
				Adj R-squared	=	0.1564
Total	146.205389	565	.258770599	Root MSE	=	.46723

Task_e	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
PsyClim	.2591902	.0271741	9.54	0.000	.2058137	.3125667
e_age	-.0041217	.0033412	-1.23	0.218	-.0106847	.0024413
dum_e_gender	-.0663252	.0418709	-1.58	0.114	-.1485698	.0159194
dum_e_educ	.015205	.0496869	0.31	0.760	-.082392	.1128021
dum_e_tenure	.064681	.0486992	1.33	0.185	-.0309758	.1603379
dum_e_dept	-.0849976	.0402077	-2.11	0.035	-.1639753	-.00602
dum_hAge	.0749016	.0438118	1.71	0.088	-.0111553	.1609585
dum_hSize	-.0062344	.0453161	-0.14	0.891	-.0952461	.0827773
dum_hType	-.0974483	.0425054	-2.29	0.022	-.1809392	-.0139574
_cons	5.112591	.2122368	24.09	0.000	4.695707	5.529475

```
.
. estimates store ike

.
. reg OCB_e PsyClim e_age dum_e_gender dum_e_educ dum_e_tenure dum_e_dept dum_hAge dum_hSize dum_hType
```

Source	SS	df	MS	Number of obs	=	565
				F(9, 555)	=	2.60
Model	25.9415134	9	2.88239038	Prob > F	=	0.0061
Residual	616.256323	555	1.11037175	R-squared	=	0.0404
				Adj R-squared	=	0.0248
Total	642.197837	564	1.13864865	Root MSE	=	1.0537

OCB_e	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
PsyClim	.21252	.0613497	3.46	0.001	.092014	.3330259
e_age	.005058	.0075216	0.67	0.502	-.0097164	.0198323
dum_e_gender	.0122116	.0945275	0.13	0.897	-.1734638	.197887
dum_e_educ	.096225	.1118903	0.86	0.390	-.1235551	.3160052
dum_e_tenure	-.1276197	.1101358	-1.16	0.247	-.3439536	.0887142
dum_e_dept	-.2378482	.0907669	-2.62	0.009	-.416137	-.0595595
dum_hAge	.0804253	.0989008	0.81	0.416	-.1138404	.274691
dum_hSize	-.0991386	.1023139	-0.97	0.333	-.3001084	.1018313
dum_hType	-.0030256	.0957746	-0.03	0.975	-.1911507	.1850995
_cons	4.418854	.4781254	9.24	0.000	3.479698	5.358011

```
.
. estimates store uzo
```

```
. suest ike uzo nora nna

Simultaneous results for ike, uzo, nora, nna

                                                Number of obs     =        570
```

	Coef.	Robust Std. Err.	z	P>|z|	[95% Conf.	Interval]
ike_mean						
PsyClim	.2591902	.0293754	8.82	0.000	.2016155	.3167649
e_age	-.0041217	.0033572	-1.23	0.220	-.0107016	.0024582
dum_e_gender	-.0663252	.0408157	-1.62	0.104	-.1463225	.0136721
dum_e_educ	.015205	.0515813	0.29	0.768	-.0858925	.1163025
dum_e_tenure	.064681	.0462474	1.40	0.162	-.0259622	.1553242
dum_e_dept	-.0849976	.0401019	-2.12	0.034	-.163596	-.0063992
dum_hAge	.0749016	.0419145	1.79	0.074	-.0072493	.1570525
dum_hSize	-.0062344	.0425378	-0.15	0.883	-.0896069	.0771381
dum_hType	-.0974483	.0412546	-2.36	0.018	-.1783058	-.0165908
_cons	5.112591	.2143052	23.86	0.000	4.69256	5.532621
ike_lnvar						
_cons	-1.521847	.0575318	-26.45	0.000	-1.634608	-1.409087
uzo_mean						
PsyClim	.21252	.0620497	3.42	0.001	.0909048	.3341351
e_age	.005058	.0081338	0.62	0.534	-.010884	.021
dum_e_gender	.0122116	.0949561	0.13	0.898	-.1738989	.1983221
dum_e_educ	.096225	.1200135	0.80	0.423	-.138997	.3314471
dum_e_tenure	-.1276197	.1169012	-1.09	0.275	-.3567419	.1015025
dum_e_dept	-.2378482	.0928885	-2.56	0.010	-.4199063	-.0557901
dum_hAge	.0804253	.0942366	0.85	0.393	-.1042749	.2651256
dum_hSize	-.0991386	.0934233	-1.06	0.289	-.2822449	.0839678
dum_hType	-.0030256	.0969032	-0.03	0.975	-.1929523	.1869011
_cons	4.418854	.4934216	8.96	0.000	3.451766	5.385943
uzo_lnvar						
_cons	.1046949	.064426	1.63	0.104	-.0215778	.2309675
nora_mean						
PsyClim	.1594318	.0293651	5.43	0.000	.1018772	.2169864
e_age	.0013214	.0036153	0.37	0.715	-.0057644	.0084073
dum_e_gender	.0390648	.0487133	0.80	0.423	-.0564115	.134541
dum_e_educ	-.0252733	.0544275	-0.46	0.642	-.1319492	.0814027
dum_e_tenure	-.0335935	.0561094	-0.60	0.549	-.143566	.0763789
dum_e_dept	.1344583	.0466801	2.88	0.004	.042967	.2259495
dum_hAge	-.0383319	.0493121	-0.78	0.437	-.1349818	.0583179
dum_hSize	.0883424	.0511828	1.73	0.084	-.011974	.1886589
dum_hType	-.1263102	.0500033	-2.53	0.012	-.2243149	-.0283055
_cons	5.194972	.2276766	22.82	0.000	4.748734	5.64121
nora_lnvar						
_cons	-1.237924	.0524741	-23.59	0.000	-1.340771	-1.135076
nna_mean						
PsyClim	.1326864	.0512922	2.59	0.010	.0321556	.2332172
e_age	.0005934	.0059424	0.10	0.920	-.0110535	.0122402
dum_e_gender	-.0127211	.0804075	-0.16	0.874	-.170317	.1448747
dum_e_educ	-.0956296	.0953788	-1.00	0.316	-.2825686	.0913094
dum_e_tenure	-.0993532	.0884368	-1.12	0.261	-.2726862	.0739797
dum_e_dept	.0721718	.0771294	0.94	0.349	-.078999	.2233426
dum_hAge	-.1036143	.0719648	-1.44	0.150	-.2446628	.0374342
dum_hSize	.0071407	.0799496	0.09	0.929	-.1495576	.1638389
dum_hType	-.4064925	.0763344	-5.33	0.000	-.5561052	-.2568798
_cons	5.227811	.3951332	13.23	0.000	4.453364	6.002257
nna_lnvar						
_cons	-.2727119	.0654331	-4.17	0.000	-.4009585	-.1444654

```
.
. test [ike_mean]PsyClim=[nora_mean]PsyClim

 ( 1)  [ike_mean]PsyClim - [nora_mean]PsyClim = 0

           chi2(  1) =    5.44
         Prob > chi2 =    0.0197

.
. test [uzo_mean]PsyClim=[nna_mean]PsyClim

 ( 1)  [uzo_mean]PsyClim - [nna_mean]PsyClim = 0

           chi2(  1) =    0.97
         Prob > chi2 =    0.3246
```

Appendix L H1$_c$: CEM Regressions

The excerpt below shows a summarised Stata output of CEM regressions. The variables in the output are group-level service climate (ServClim_mean), individual-level service climate centred mean (GrpMeanCenClim), self-rated task behaviour (Task_e), supervisor-rated task behaviour (Task_s), self-rated OCB (OCB_e) and supervisor-rated OCB (OCB_s). The employee covariates are age (e_age), gender (e_gender), education (e_educ), tenure, (e_tenure), department (e_dept), while the hotel covariates are hotel age (hAge), hotel size (hSiz) and hotel type (HTyp). The 'dum' indicates that these are dummy variables.

		coef	p-value			
Task_e	ServClim_mean	0.154	0.004		Random-effects	
	GrpMeanCenClim	0.299	0.000	hotel_id:	Parameters	
	dum_e_gender	-0.064	0.120		var(_cons)	0.002
	e_age	-0.004	0.227		var(Residual)	0.211
	dum_e_educ	0.018	0.707			
	dum_e_tenure	0.061	0.202	Wald chi2(10)		120.4
	dum_e_dept	-0.086	0.030	chi2		0.000
	dum_hAge	0.071	0.111	Chi2 test for equality of coefficients		
	dum_hSize	-0.010	0.836	chi2(1)		5.5
	dum_hType	-0.110	0.013	p-value		0.019
	_cons	5.749	0.000			
OCB_e						
	ServClim_mean	0.210	0.247		Random-effects	
	GrpMeanCenClim	0.188	0.005			
	dum_e_gender	0.046	0.609	hotel_id:	Parameters	
	e_age	0.007	0.335		var(_cons)	0.140
	dum_e_educ	0.119	0.268		var(Residual)	0.960
	dum_e_tenure	-0.031	0.774			
	dum_e_dept	-0.224	0.009	Wald chi2(10)		22.1
	dum_hAge	0.062	0.670	chi2		0.015
	dum_hSize	-0.158	0.314	Chi2 test for equality of coefficients		
	dum_hType	0.034	0.814	chi2(1)		0.01
	_cons	4.332	0.000	p-value		0.909
Task_s	ServClim_mean	0.325	0.001		Random-effects	
	GrpMeanCenClim	0.075	0.026			
	dum_e_gender	0.031	0.494	hotel_id:	Parameters	
	e_age	0.003	0.437		var(_cons)	0.045
	dum_e_educ	-0.025	0.641		var(Residual)	0.235
	dum_e_tenure	-0.007	0.897			
	dum_e_dept	0.148	0.001	Wald chi2(10)		35.9
	dum_hAge	-0.027	0.726	chi2		0.000
	dum_hSize	0.100	0.235	Chi2 test for equality of coefficients		
	dum_hType	-0.089	0.251	chi2(1)		5.92
	_cons	4.115	0.000	p-value		0.015
OCB_s	ServClim_mean	0.388	0.023		Random-effects	
	GrpMeanCenClim	0.020	0.711			
	dum_e_gender	-0.013	0.854	hotel_id:	Parameters	
	e_age	0.003	0.554		var(_cons)	0.154
	dum_e_educ	-0.100	0.246		var(Residual)	0.604
	dum_e_tenure	-0.053	0.534			
	dum_e_dept	0.072	0.294	Wald chi2(10)		16.3
	dum_hAge	-0.130	0.338	chi2		0.095
	dum_hSize	-0.012	0.934	Chi2 test for equality of coefficients		
	dum_hType	-0.322	0.018	chi2(1)		4.22
	_cons	3.586	0.001	p-value		0.04

Appendix M H2: Hayes' PROCESS Procedure for SPSS

Below is an excerpt of the Hayes' PROCESS procedure for SPSS for the effects of individual-level service climate (PsyClim) on self-rated task behaviour (Task_e) mediated by work engagement (Work_Eng). The employee covariates are age (e_age), gender (e_ge), education (e_ed), tenure, (e_te), department (e_de), while the hotel covariates are hotel age (hAge), hotel size (hSiz) and hotel type (HTyp). The 'dum' indicates that these are dummy variables.

```
***************** PROCESS Procedure for SPSS Version 3.4 *****************

        Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 4
   Y : Task_e    X : PsyClim    M : Work_Eng

Covariates:
 e_age    dum_e_ge dum_e_ed dum_e_te dum_e_de dum_hAge dum_hSiz dum_hTyp

Sample Size:  520
**************************************************************************
OUTCOME VARIABLE: Work_Eng
Model Summary
        R      R-sq       MSE         F       df1       df2         p
     .485      .235      .380    17.452     9.000   510.000      .000

Model
            coeff         se          t          p       LLCI       ULCI
constant    2.699       .293      9.205       .000      2.123      3.275
PsyClim      .440       .037     11.826       .000       .367       .513
e_age        .010       .005      2.219       .027       .001       .020
dum_e_ge    -.046       .058      -.793       .428      -.159       .068
dum_e_ed     .002       .070       .034       .973      -.134       .139
dum_e_te    -.122       .067     -1.818       .070      -.254       .010
dum_e_de     .078       .056      1.409       .160      -.031       .187
dum_hAge     .068       .061      1.129       .259      -.051       .188
dum_hSiz     .090       .063      1.430       .153      -.034       .214
dum_hTyp    -.003       .058      -.057       .955      -.118       .111
**************************************************************************
OUTCOME VARIABLE: Task_e
Model Summary
        R      R-sq       MSE         F       df1       df2         p
     .432      .187      .215    11.674    10.000   509.000      .000
```

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.769	.238	20.008	.000	4.301	5.238
PsyClim	.209	.032	6.619	.000	.147	.271
Work_Eng	.116	.033	3.486	.001	.051	.182
e_age	-.005	.004	-1.310	.191	-.012	.002
dum_e_ge	-.065	.044	-1.502	.134	-.151	.020
dum_e_ed	.003	.052	.067	.947	-.099	.106
dum_e_te	.070	.051	1.373	.170	-.030	.169
dum_e_de	-.089	.042	-2.115	.035	-.171	-.006
dum_hAge	.049	.046	1.081	.280	-.040	.139
dum_hSiz	.007	.047	.149	.882	-.086	.100
dum_hTyp	-.091	.044	-2.063	.040	-.177	-.004

********** TOTAL EFFECT MODEL **********

OUTCOME VARIABLE: Task_e

Model Summary

R	R-sq	MSE	F	df1	df2	p
.409	.167	.220	11.372	9.000	510.000	.000

Model

	coeff	se	t	p	LLCI	ULCI
constant	5.083	.223	22.780	.000	4.645	5.521
PsyClim	.260	.028	9.197	.000	.205	.316
e_age	-.003	.004	-.964	.336	-.010	.004
dum_e_ge	-.071	.044	-1.608	.108	-.157	.016
dum_e_ed	.004	.053	.071	.943	-.100	.108
dum_e_te	.055	.051	1.085	.279	-.045	.156
dum_e_de	-.079	.042	-1.881	.061	-.163	.004
dum_hAge	.057	.046	1.243	.214	-.033	.148
dum_hSiz	.018	.048	.366	.714	-.077	.112
dum_hTyp	-.091	.044	-2.050	.041	-.178	-.004

********** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **********

Total effect of X on Y

Effect	se	t	p	LLCI	ULCI
.260	.028	9.197	.000	.205	.316

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
.209	.032	6.619	.000	.147	.271

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
Work_Eng	.051	.016	.021	.083

Model : 4
Y : OCB_e X : ServClim M : Work_Eng

Covariates: e_age dum_e_ge dum_e_ed dum_e_te dum_e_de dum_hAge dum_hSiz dum_hTyp
Sample Size: 524

****

OUTCOME VARIABLE: Work_Eng

Model Summary

R	R-sq	MSE	F	df1	df2	p
.250	.062	.473	3.794	9.000	514.000	.000

Model

	coeff	se	t	p	LLCI	ULCI
constant	3.213	.518	6.197	.000	2.195	4.232
ServClim	.351	.078	4.519	.000	.198	.503
e_age	.010	.005	2.010	.045	.000	.021
dum_e_ge	-.037	.064	-.582	.561	-.164	.089
dum_e_ed	-.015	.077	-.199	.842	-.167	.136
dum_e_te	-.059	.074	-.794	.428	-.205	.087
dum_e_de	.110	.062	1.783	.075	-.011	.231
dum_hAge	.059	.067	.880	.379	-.073	.192
dum_hSiz	.090	.070	1.284	.200	-.048	.227
dum_hTyp	-.003	.065	-.039	.969	-.131	.126

****

OUTCOME VARIABLE: OCB_e

Model Summary

R	R-sq	MSE	F	df1	df2	p
.318	.101	1.025	5.769	10.000	513.000	.000

Model

	coeff	se	t	p	LLCI	ULCI
constant	2.916	.791	3.684	.000	1.361	4.470
ServClim	.102	.117	.878	.380	-.127	.331
Work_Eng	.425	.065	6.549	.000	.298	.553
e_age	.000	.008	-.004	.996	-.015	.015
dum_e_ge	.021	.095	.226	.821	-.165	.207
dum_e_ed	.017	.114	.146	.884	-.207	.240
dum_e_te	-.126	.110	-1.148	.252	-.341	.090
dum_e_de	-.269	.091	-2.961	.003	-.447	-.090
dum_hAge	.035	.099	.348	.728	-.161	.230
dum_hSiz	-.100	.103	-.964	.335	-.302	.103
dum_hTyp	-.011	.096	-.115	.909	-.200	.178

********** TOTAL EFFECT MODEL **********

OUTCOME VARIABLE: OCB_e

Model Summary

R	R-sq	MSE	F	df1	df2	p
.161	.026	1.109	1.521	9.000	514.000	.137

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.282	.794	5.394	.000	2.723	5.842
ServClim	.252	.119	2.116	.035	.018	.485
e_age	.004	.008	.554	.580	-.011	.020
dum_e_ge	.006	.098	.056	.955	-.188	.199
dum_e_ed	.010	.118	.085	.932	-.222	.242
dum_e_te	-.151	.114	-1.325	.186	-.375	.073
dum_e_de	-.222	.094	-2.360	.019	-.407	-.037
dum_hAge	.060	.103	.580	.562	-.143	.263
dum_hSiz	-.061	.107	-.572	.568	-.272	.149
dum_hTyp	-.012	.100	-.121	.904	-.209	.184

********** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **********

Total effect of X on Y

Effect	se	t	p	LLCI	ULCI
.252	.119	2.116	.035	.018	.485

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
.102	.117	.878	.380	-.127	.331

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
Work_Eng	.149	.043	.071	.240

Appendix N H3: Work Ethic Moderation

The excerpt below shows a summarised Stata output of MEM regressions for the effects of individual-level service climate (individual) and group-level service climate (group) on self-rated task behaviour (Task_e), supervisor-rated task behaviour (Task_s), self-rated OCB (OCB_e) and supervisor-rated OCB (OCB_s); moderated (interaction effects) by seven work ethic dimensions – centrality of work (CW), delayed gratification (DG), hard work (HW), leisure (LE), morality/ethics (ME), self-reliance (SR) and wasted time (WT). * indicates significance at the 95% confidence level, while ns indicates non-significance.

Service Climate	Work Ethic Dimension	Service Behaviour	Service Climate Coefficient	Work Ethic Coefficient	Interaction Effect
Group	CW	OCB_s	-1.559*	-1.956*	0.326*
Group	SR	OCB_s	-1.563*	-1.957**	0.324**
Group	HW	OCB_s	-1.268 *ns*	-1.535 *ns*	0.258 *ns*
Group	DG	OCB_s	-0.688 *ns*	-1.181**	0.208**
Individual	CW	OCB_e	-0.507 *ns*	-0.208 *ns*	0.097 *ns*
Individual	WT	OCB_e	-0.482 *ns*	0.121 *ns*	0.085 *ns*
Individual	DG	OCB_s	-0.323 *ns*	-0.372 *ns*	0.073 *ns*
Group	WT	OCB_s	-0.085 *ns*	-0.419 *ns*	0.073 *ns*
Group	SR	Task_s	-0.138 *ns*	-0.404 *ns*	0.072 *ns*
Group	CW	Task_s	-0.089 *ns*	-0.336 *ns*	0.066 *ns*
Individual	LE	OCB_s	-0.246 *ns*	-0.356 *ns*	0.065 *ns*
Individual	LE	OCB_e	-0.108 *ns*	-0.274 *ns*	0.063 *ns*
Individual	ME	Task_e	-0.179 *ns*	0.048 *ns*	0.063 *ns*
Group	HW	Task_s	-0.035 *ns*	-0.304 *ns*	0.054 *ns*
Group	LE	OCB_e	0.014 *ns*	-0.120 *ns*	0.038 *ns*
Group	WT	Task_s	0.062 *ns*	-0.092 *ns*	0.035 *ns*
Individual	CW	OCB_s	-0.136 *ns*	-0.216 *ns*	0.033 *ns*
Individual	WT	Task_e	0.003 *ns*	0.122 *ns*	0.031 *ns*
Group	DG	Task_s	0.156 *ns*	-0.095 *ns*	0.026 *ns*
Individual	LE	Task_e	0.166 *ns*	-0.144 *ns*	0.022 *ns*
Individual	CW	Task_e	0.293 *ns*	0.116 *ns*	-0.008 *ns*
Individual	DG	Task_s	0.143 *ns*	0.132 *ns*	-0.014 *ns*
Individual	CW	Task_s	0.188 *ns*	0.131 *ns*	-0.017 *ns*
Individual	HW	OCB_s	0.179 *ns*	0.121 *ns*	-0.020 *ns*
Group	LE	Task_e	0.241 *ns*	0.117 *ns*	-0.020 *ns*
Individual	LE	Task_s	0.201 *ns*	0.162 *ns*	-0.023 *ns*
Group	ME	Task_s	0.511 *ns*	0.267 *ns*	-0.032 *ns*
Individual	ME	OCB_e	0.381 *ns*	0.828 *ns*	-0.035 *ns*
Individual	SR	OCB_s	0.264 *ns*	0.186 *ns*	-0.035 *ns*
Individual	SR	Task_e	0.481*	0.269 *ns*	-0.038 *ns*
Individual	SR	Task_s	0.348 *ns*	0.263 *ns*	-0.043 *ns*
Individual	ME	Task_s	0.398 *ns*	0.349 *ns*	-0.046 *ns*
Individual	HW	Task_s	0.444 *ns*	0.321 *ns*	-0.055 *ns*
Individual	DG	Task_e	0.551**	0.349**	-0.060**
Individual	HW	OCB_e	0.598 *ns*	0.593 *ns*	-0.070 *ns*
Individual	WT	Task_s	0.531 *ns*	0.503 *ns*	-0.070 *ns*
Group	CW	OCB_e	0.605 *ns*	0.870 *ns*	-0.080 *ns*
Group	LE	Task_s	0.668**	0.501*	-0.080*
Group	LE	OCB_s	0.801*	0.606 *ns*	-0.095 *ns*
Individual	HW	Task_e	0.847**	0.694**	-0.096*
Group	WT	Task_e	0.678 *ns*	0.988 *ns*	-0.097 *ns*
Individual	DG	OCB_e	0.680**	0.920**	-0.119*

Service Climate	Work Ethic Dimension	Service Behaviour	Service Climate Coefficient	Work Ethic Coefficient	Interaction Effect
Group	SR	Task_e	0.887*	0.813*	-0.122 *ns*
Group	HW	Task_e	0.988 *ns*	0.979 *ns*	-0.133 *ns*
Group	DG	Task_e	0.911**	0.936**	-0.150**
Group	CW	Task_e	1.103*	1.125*	-0.162*
Group	DG	OCB_e	0.974*	1.205*	-0.164 *ns*
Group	ME	OCB_s	1.598 *ns*	1.133 *ns*	-0.185 *ns*
Individual	SR	OCB_e	1.290**	1.334**	-0.192**
Individual	WT	OCB_s	1.353*	1.190*	-0.203*
Group	WT	OCB_e	1.380 *ns*	1.883 *ns*	-0.209 *ns*
Group	ME	Task_e	1.526 *ns*	1.788*	-0.219 *ns*
Individual	ME	OCB_s	1.960*	1.746*	-0.289*
Group	HW	OCB_e	2.227 *ns*	2.140 *ns*	-0.322 *ns*
Group	SR	OCB_e	2.188*	2.241**	-0.339*
Group	ME	OCB_e	2.661 *ns*	2.993 *ns*	-0.390 *ns*

Appendix O Test of Significance for Slopes in Work Ethic Moderation

The excerpt below is the Stata output for a test of significance for the slopes for the moderated effects of the work ethic dimensions for individual-level service climate (PsyClim) and group-level service climate (ServClim_mean) on employee service behaviour.

```
.
. margins, dydx(PsyClim) at(DG_Mean = (1 7))

Average marginal effects                        Number of obs     =        544

Expression   : Linear prediction, fixed portion, predict()
dy/dx w.r.t. : PsyClim

1._at        : DG_Mean         =           1

2._at        : DG_Mean         =           7
```

	Delta-method dy/dx	Std. Err.	z	P>|z|	[95% Conf.	Interval]
PsyClim _at						
1	.5607993	.1872421	3.00	0.003	.1938116	.927787
2	-.155315	.1208086	-1.29	0.199	-.3920956	.0814656

```
. margins, dydx(PsyClim) at(HW_Mean = (1 7))

Average marginal effects                        Number of obs     =        563

Expression   : Linear prediction, fixed portion, predict()
dy/dx w.r.t. : PsyClim

1._at        : HW_Mean         =           1

2._at        : HW_Mean         =           7
```

	Delta-method dy/dx	Std. Err.	z	P>|z|	[95% Conf.	Interval]
PsyClim _at						
1	.7512495	.2215351	3.39	0.001	.3170486	1.18545
2	.1778847	.0398977	4.46	0.000	.0996867	.2560827

```
.
. margins, dydx(PsyClim) at(DG_Mean = (1 7))

Average marginal effects                        Number of obs     =        544

Expression   : Linear prediction, fixed portion, predict()
dy/dx w.r.t. : PsyClim

1._at        : DG_Mean         =           1

2._at        : DG_Mean         =           7

------------------------------------------------------------------------------
             |            Delta-method
             |      dy/dx   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
PsyClim      |
         _at |
          1  |   .4916201   .0880066     5.59   0.000     .3191304    .6641098
          2  |   .1344426   .0555993     2.42   0.016     .0254699    .2434152
------------------------------------------------------------------------------

. margins, dydx(PsyClim) at(ME_Mean = (1 7))

Average marginal effects                        Number of obs     =        560

Expression   : Linear prediction, fixed portion, predict()
dy/dx w.r.t. : PsyClim

1._at        : ME_Mean         =           1

2._at        : ME_Mean         =           7

------------------------------------------------------------------------------
             |            Delta-method
             |      dy/dx   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
PsyClim      |
         _at |
          1  |   1.671152   .7099324     2.35   0.019       .27971    3.062594
          2  |  -.0642759   .0709713    -0.91   0.365     -.203377    .0748253
------------------------------------------------------------------------------

. margins, dydx(PsyClim) at(WT_Mean = (1 7))

Average marginal effects                        Number of obs     =        559

Expression   : Linear prediction, fixed portion, predict()
dy/dx w.r.t. : PsyClim

1._at        : WT_Mean         =           1

2._at        : WT_Mean         =           7

------------------------------------------------------------------------------
             |            Delta-method
             |      dy/dx   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
PsyClim      |
         _at |
          1  |   1.149812   .5232222     2.20   0.028     .1243158    2.175309
          2  |  -.0700361    .077324    -0.91   0.365    -.2215884    .0815162
------------------------------------------------------------------------------
```

```
. margins, dydx(PsyClim) at(SR_Mean = (1 7))

Average marginal effects                        Number of obs     =        555

Expression   : Linear prediction, fixed portion, predict()
dy/dx w.r.t. : PsyClim

1._at        : SR_Mean         =           1

2._at        : SR_Mean         =           7
```

	Delta-method dy/dx	Std. Err.	z	P>|z|	[95% Conf.	Interval]
PsyClim						
_at						
1	1.097659	.3438662	3.19	0.001	.4236941	1.771625
2	-.0549436	.0981278	-0.56	0.576	-.2472704	.1373833

```
. margins, dydx(ServClim_mean) at(DG_Mean = (1 7))

Average marginal effects                        Number of obs     =        551

Expression   : Linear prediction, fixed portion, predict()
dy/dx w.r.t. : ServClim_mean

1._at        : DG_Mean         =           1

2._at        : DG_Mean         =           7
```

	Delta-method dy/dx	Std. Err.	z	P>|z|	[95% Conf.	Interval]
ServClim_mean						
_at						
1	.7612516	.1872653	4.07	0.000	.3942184	1.128285
2	-.1376268	.0985091	-1.40	0.162	-.3307011	.0554476

```
. margins, dydx(ServClim_mean) at(CW_Mean = (1 7))

Average marginal effects                        Number of obs     =        568

Expression   : Linear prediction, fixed portion, predict()
dy/dx w.r.t. : ServClim_mean

1._at        : CW_Mean         =           1

2._at        : CW_Mean         =           7
```

	Delta-method dy/dx	Std. Err.	z	P>|z|	[95% Conf.	Interval]
ServClim_mean						
_at						
1	.9408644	.3835111	2.45	0.014	.1891964	1.692532
2	-.0336098	.0939758	-0.36	0.721	-.217799	.1505794

```
. margins, dydx(ServClim_mean) at(LE_Mean = (1 7))

Average marginal effects                        Number of obs     =        561

Expression   : Linear prediction, fixed portion, predict()
dy/dx w.r.t. : ServClim_mean

1._at        : LE_Mean         =           1

2._at        : LE_Mean         =           7
```

	Delta-method					
	dy/dx	Std. Err.	z	P>|z|	[95% Conf.	Interval]
ServClim_mean						
_at						
1	.5875195	.1556705	3.77	0.000	.282411	.892628
2	.1075082	.1325804	0.81	0.417	-.1523447	.367361

```
. margins, dydx(ServClim_mean) at(SR_Mean = (1 7))

Average marginal effects                        Number of obs     =        560

Expression   : Linear prediction, fixed portion, predict()
dy/dx w.r.t. : ServClim_mean

1._at        : SR_Mean         =           1

2._at        : SR_Mean         =           7
```

	Delta-method					
	dy/dx	Std. Err.	z	P>|z|	[95% Conf.	Interval]
ServClim_mean						
_at						
1	1.849365	.717448	2.58	0.010	.4431929	3.255537
2	-.1826485	.2236045	-0.82	0.414	-.6209052	.2556082

Appendix P H4: Hayes' PROCESS Procedure for SPSS

Below is an excerpt of the Hayes' PROCESS procedure for SPSS for the effects of work ethic dimension, hard work (HW_Mean) on supervisor-rated task behaviour (Task_s) mediated by individual-level service climate (PsyClim); and delayed gratification (DG_Mean) on self-rated task behaviour (Task_e) mediated by individual-level service climate (PsyClim);. The employee covariates are age (e_age), gender (e_gender), education (e_educ), tenure, (e_tenure), department (e_dept), while the hotel covariates are hotel age (hAge), hotel size (hSiz) and hotel type (HTyp). The 'dum' indicates that these are dummy variables.

Model : 4

Y : Task_s X : HW_Mean M : PsyClim

Covariates: e_age dum_e_ge dum_e_ed dum_e_te dum_e_de dum_hAge dum_hSiz dum_hTyp

Sample Size: 558

****

OUTCOME VARIABLE:

PsyClim

Model Summary

R	R-sq	MSE	F	df1	df2	p
.260	.068	.501	4.408	9.000	548.000	.000

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.384	.392	11.195	.000	3.615	5.154
HW_Mean	.260	.050	5.162	.000	.161	.360
e_age	-.002	.005	-.419	.675	-.012	.008
dum_e_ge	.054	.064	.841	.401	-.072	.179
dum_e_ed	.064	.077	.832	.406	-.087	.215
dum_e_te	.064	.074	.855	.393	-.083	.210
dum_e_de	.083	.061	1.355	.176	-.037	.204
dum_hAge	-.061	.067	-.908	.365	-.193	.071
dum_hSiz	.018	.070	.254	.800	-.119	.154
dum_hTyp	-.125	.065	-1.934	.054	-.252	.002

OUTCOME VARIABLE: Task_s

Model Summary

R	R-sq	MSE	F	df1	df2	p
.290	.084	.289	5.041	10.000	547.000	.000

Model

	coeff	se	t	p	LLCI	ULCI
constant	5.251	.330	15.933	.000	4.604	5.899
HW_Mean	-.013	.039	-.342	.732	-.090	.064
PsyClim	.160	.032	4.934	.000	.096	.224
e_age	.002	.004	.387	.699	-.006	.009
dum_e_ge	.040	.048	.815	.416	-.056	.135
dum_e_ed	-.007	.058	-.127	.899	-.122	.107
dum_e_te	-.031	.057	-.548	.584	-.142	.080
dum_e_de	.137	.047	2.934	.003	.045	.229
dum_hAge	-.035	.051	-.680	.497	-.135	.066
dum_hSiz	.085	.053	1.615	.107	-.018	.189
dum_hTyp	-.126	.049	-2.551	.011	-.223	-.029

********** TOTAL EFFECT MODEL **********

OUTCOME VARIABLE: Task_s

Model Summary

R	R-sq	MSE	F	df1	df2	p
.209	.044	.301	2.778	9.000	548.000	.003

Model

	coeff	se	t	p	LLCI	ULCI
constant	5.953	.304	19.608	.000	5.356	6.549
HW_Mean	.028	.039	.722	.471	-.049	.105
e_age	.001	.004	.293	.770	-.007	.009
dum_e_ge	.048	.049	.972	.331	-.049	.145
dum_e_ed	.003	.060	.047	.963	-.114	.120
dum_e_te	-.021	.058	-.360	.719	-.134	.093
dum_e_de	.151	.048	3.158	.002	.057	.244
dum_hAge	-.045	.052	-.854	.394	-.147	.058
dum_hSiz	.088	.054	1.634	.103	-.018	.194
dum_hTyp	-.146	.050	-2.906	.004	-.244	-.047

********** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **********

Total effect of X on Y

Effect	se	t	p	LLCI	ULCI
.028	.039	.722	.471	-.049	.105

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
-.013	.039	-.342	.732	-.090	.064

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
PsyClim	.042	.012	.021	.067

Model : 4

Y : Task_e X : DG_Mean M : PsyClim

Covariates: e_age dum_e_ge dum_e_ed dum_e_te dum_e_de dum_hAge dum_hSiz dum_hTyp

Sample Size: 544

****

OUTCOME VARIABLE: PsyClim

Model Summary

R	R-sq	MSE	F	df1	df2	p
.319	.102	.496	6.741	9.000	534.000	.000

Model

	coeff	se	t	p	LLCI	ULCI
constant	5.112	.253	20.170	.000	4.614	5.610
DG_Mean	.189	.027	6.873	.000	.135	.243
e_age	-.004	.005	-.790	.430	-.014	.006
dum_e_ge	.075	.064	1.163	.245	-.052	.202
dum_e_ed	.072	.077	.937	.349	-.079	.224
dum_e_te	.104	.074	1.398	.163	-.042	.250
dum_e_de	.084	.062	1.364	.173	-.037	.206
dum_hAge	-.077	.068	-1.135	.257	-.209	.056
dum_hSiz	-.019	.070	-.269	.788	-.156	.118
dum_hTyp	-.115	.065	-1.775	.076	-.243	.012

****

OUTCOME VARIABLE: Task_e

Model Summary

R	R-sq	MSE	F	df1	df2	p
.408	.166	.219	10.629	10.000	533.000	.000

Model

	coeff	se	t	p	LLCI	ULCI
constant	5.108	.224	22.849	.000	4.669	5.547
DG_Mean	-.007	.019	-.347	.729	-.044	.031
PsyClim	.257	.029	8.951	.000	.201	.314
e_age	-.003	.003	-.916	.360	-.010	.004
dum_e_ge	-.060	.043	-1.409	.160	-.145	.024
dum_e_ed	.023	.051	.448	.655	-.078	.124
dum_e_te	.066	.050	1.335	.182	-.031	.164
dum_e_de	-.078	.041	-1.899	.058	-.159	.003
dum_hAge	.071	.045	1.580	.115	-.017	.159
dum_hSiz	.009	.046	.191	.849	-.082	.100
dum_hTyp	-.096	.043	-2.214	.027	-.181	-.011

********** TOTAL EFFECT MODEL **********

OUTCOME VARIABLE:

Task_e

Model Summary

R	R-sq	MSE	F	df1	df2	p
.202	.041	.251	2.533	9.000	534.000	.007

Model

	coeff	se	t	p	LLCI	ULCI
constant	6.424	.180	35.595	.000	6.069	6.778
DG_Mean	.042	.020	2.147	.032	.004	.080
e_age	-.004	.004	-1.141	.255	-.011	.003
dum_e_ge	-.041	.046	-.896	.371	-.131	.049
dum_e_ed	.042	.055	.757	.450	-.066	.149
dum_e_te	.093	.053	1.754	.080	-.011	.197
dum_e_de	-.056	.044	-1.283	.200	-.143	.030
dum_hAge	.051	.048	1.066	.287	-.043	.146
dum_hSiz	.004	.050	.081	.936	-.093	.101
dum_hTyp	-.126	.046	-2.714	.007	-.217	-.035

********** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **********

Total effect of X on Y

Effect	se	t	p	LLCI	ULCI
.042	.020	2.147	.032	.004	.080

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
-.007	.019	-.347	.729	-.044	.031

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
PsyClim	.049	.011	.030	.070

********** ANALYSIS NOTES AND ERRORS **********

Level of confidence for all confidence intervals in output: 95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals: 5000

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