Antecedents of retail employees' service performance: A store-level exploration of a climate-centric versus an engagement-centric approach

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ABSTRACT

This paper compares two store-level models of the antecedents of frontline employees' in-role and extra-role service performance in a retail setting. In the climate-centric research model, service climate serves as a direct antecedent of in-role and extra-role service performance, while in the engagement-centric rival model, work engagement directly predicts in-role and extra-role service performance. The two competing models were assessed at the store-level of analysis on data collected from 781 frontline employees and 70 managers. Results indicate that service-oriented high-performance work systems and work engagement both predict service climate which, in turn, predicts employees' in-role and extra-role service performance.

Keywords – In-role and extra-role service performance, Work engagement, Service climate, Service-oriented high-performance work systems, Retailing

INTRODUCTION

With traditional brick-and-mortar retailers finding it increasing difficult to survive due to intensifying competition driven by the exponential growth in online retailing (Grewal et al., 2021; Reinartz et al., 2019), frontline employees, such as salespeople and cashiers, are playing an increasingly crucial role as differentiators and as creators of value for customers (Hughes et al., 2019; Wang, 2015). In traditional retailing, frontline employees contribute to service excellence and customer value by promoting the retailer's products and services, delivering the retailer's promises to customers, creating a favorable brand image in customers' minds, and by providing better customer service than competitors (Bettencourt & Brown, 1997). Retail customers' purchase decisions, service quality judgements, satisfaction, and store loyalty are thus directly influenced by the attitudes and behaviors of frontline employees (Akgunduz et al., 2022; Hughes et al., 2019; Wang, 2015). It is accordingly essential that frontline employees

demonstrate exceptional levels of both in-role (behaviors that are expected when serving customers) and extra-role service ('above and beyond' customer service behaviors) performance (Somech & Drach-Zahavy, 2016).

Retailers can directly enhance frontline employees' in-role and extra-role service performance through their service-oriented high-performance work system (Chuang & Liao, 2010; Jiang et al., 2015), by strengthening the retailer's service climate (Jiang et al., 2016; Linuesa-Langreo et al., 2017), and by bolstering employees' collective work engagement (Chen & Peng, 2021; Luu, 2019).

A service-oriented high-performance work system (SO-HPWS) is a coordinated system or 'bundle' of human resource management practices that aims to enhance frontline employees' ability and motivation to deliver high-quality service to customers (Hong et al., 2013; Wang & Xu, 2017). The individual human resource management practices in a SO-HPWS are known as service-oriented high-performance work practices (SO-HPWPs; Chuang & Liao, 2010). The SO-HPWS investigated in this study consisted of six SO-HPWPs, namely service-oriented staffing, training, financial compensation, non-financial rewards and recognition, participation, and empowerment. This paper specifically focused on frontline employees' shared perceptions of the SO-HPWS they experience in the retail store they work in, and on the extent to which these perceptions predict the employees' shared service climate perceptions and collective work engagement.

Service climate is a type of organizational climate. It refers to frontline employees' shared perceptions of the extent to which the policies, procedures, and practices they experience and the behaviours that are expected, supported, and rewarded in their workplace emphasize high-quality service delivery to customers (Bowen and Schneider, 2014; Hong et al., 2013; Jiang et al., 2016; Schneider et al., 1998). In short, service climate reflects frontline employees' shared perceptions that high-quality customer service is a strategic priority in their retail store and that the store manager actively supports their efforts in this regard (Carrasco et al., 2011).

This paper investigated work engagement as a collective workplace phenomenon. In this context, work engagement refers to a positive, fulfilling, work-related motivational state that is shared by the frontline employees working together in the same retail store, and that is characterized by the collective vigour, dedication, and absorption that emerges from the

interaction and shared experiences of these employees (Eldor, 2020; García-Buades et al., 2016; Torrente et al., 2012). When frontline employees are highly engaged in their work, they are energetic, mentally resilient, involved and focussed on their work (Torrente et al., 2012).

Previous empirical studies (e.g., Chuang & Liao, 2010; Jiang et al., 2015) and Bowen and Schneider's (2014) conceptual review indicate that SO-HPWSs, service climate and work engagement are all important antecedents of employees' in-role and extra-role service performance. However, to our knowledge no prior studies have simultaneously investigated the relationships between these five variables in a single structural model at a unit level of analysis.

This paper aims to address this gap by investigating how frontline employees' shared perceptions of the SO-HPWS in their respective stores affect their collective work engagement and their shared service climate perceptions, and how service climate, in turn, affects the employees' collective in-role and extra-role service performance as rated by their store managers (see Figure 1). This study specifically explores these relationships at the store level of analysis.

Our paper makes a number of contributions. First, to our knowledge, this is the first study to investigate the network of relationships between the five focal constructs at a store level of analysis. While previous studies have indicated that SO-HPWSs, work engagement, and service climate are important predictors of frontline employees' in-role and extra-role service performance, no study *simultaneously* investigated the network of relationships shown in Figure 1 in a single structural model at a *store-level* of analysis. Academically, a store-level focus is important because most previous studies have investigated the individual hypotheses contained in Figure 1 at an individual level of analysis. However, individual-level relationships do not necessarily generalize to higher levels of analysis (Klein & Kozlowski, 2000). Practically, a store-level focus is also relevant because it matches the level at which managers evaluate and compare the performance of stores (Eldor, 2020; Pugh and Dietz, 2008). Second, this paper focuses on SO-HPWSs instead of generic high-performance work systems (HPWSs) as an antecedent of collective work engagement. While a generic HPWS aims to enhance frontline employees' general ability and motivation to perform, a SO-HPWS is specifically focused on improving service quality by enhancing these employees' ability and motivation to deliver high-quality service to customers (Hong et al., 2013; Wang & Xu, 2017). Only two

previous studies (Karatepe, 2013; Luu, 2019) investigated the relationship between SO-HPWS and work engagement, but both did so at an individual level of analysis. Third, the unit-level relationship between service climate and work engagement requires further exploration since only two prior unit-level studies (Carrasco et al., 2011; Salanova et al., 2005) investigated this relationship. Furthermore, the unit-level relationship between service climate and extra-role service performance has also received scant attention, having been investigated in only four previous studies (Chuang & Liao, 2010; Schneider et al., 2005; Tang & Tang, 2012; Way et al., 2010). Further research on this relationship as well as on the relationship between service climate and in-role service performance is justified, given Bowen and Schneider's (2014) argument that service climate primarily affects customer experiences through extra-role service performance. Finally, comparatively few studies (e.g., Eldor, 2020; Salanova et al., 2005; Schneider et al., 2018) focused on work engagement as a collective unit-level construct. This paper adds to this stream of research by investigating selected antecedents and outcomes of collective work engagement in a retail context.

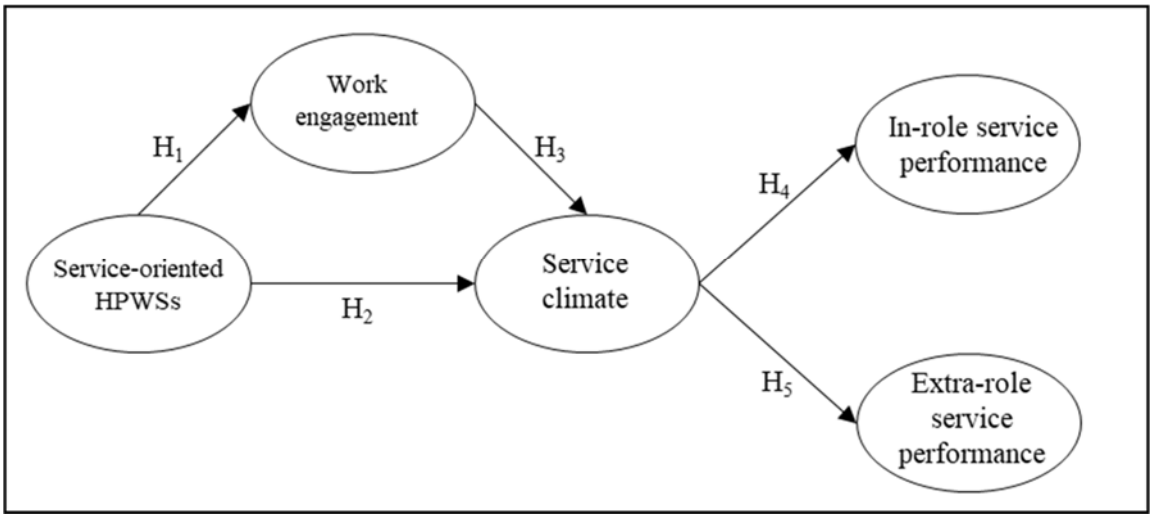
RESEARCH POSITIONING AND HYPOTHESES FORMULATION

Previous studies have mainly explored the relationships between our study constructs at an individual level of analysis (e.g., Cooke et al., 2019; Huang et al., 2018; Karadas & Karatepe, 2019). This paper focuses on the store level of analysis for the following reasons. First, in the retail context we investigated a customer typically interacts with multiple frontline employees during a single store visit. Customers' perceptions of the store visit are, therefore, shaped by the performance of multiple employees working as a team rather than by the performance of a single employee. In such a situation, the appropriate level of analysis is the group of frontline employees in a store with whom the customer interacted rather than with a single frontline employee (Benitez & Medina, 2022). Second, although employees' perceptions of SO-HPWSs are formed at an individual level, it is important that these perceptions are sufficiently shared among employees working in the same store to elicit the desired performance outcomes at the store level (Xi et al., 2019). Third, this study's focus on predicting store managers' evaluations of the collective in-role and extra-role service behaviors of frontline staff in their stores as a whole requires agreement in employees' perceptions of, and reactions to, the HPWS they experience at a store level; otherwise, aggregate store-level effects may fail to emerge (Piening et al., 2013).

A focus on the store level of analysis is also justified when considering that scholars study collective (store-level) HPWS perceptions because employees working together may engage in collective sense-making that, over time, leads to shared perceptions about the HPWS they collectively experience (Piening et al., 2013; Xi et al., 2019). Also, social information processing theory holds that individuals use information from their direct social environment to make sense of organizational values, norms, and practices, thereby resulting in shared perceptions of these practices as well as of the broader SO-HPWS of which these practices are part (Chuang & Liao, 2010; Xi et al., 2019). Finally, over time, attraction–selection–attrition processes can create a scenario where frontline employees with similar values, backgrounds, personalities, and interests are retained in the same store, resulting in a greater homogeneity in their perceptions of their work environment (Piening et al., 2013; Xi et al., 2019).

This paper accordingly tests the direct antecedents of frontline employees' in-role and extra-role service performance at the unit level. Service climate is positioned as a direct antecedent of in-role and extra-role service performance, while work engagement partially mediates the relationship between SO-HPWSs and service climate. Our research model and hypotheses are shown in figure 1.

Figure 1: Research model



SO-HPWSs and work engagement

A high-performance work system (HPWS) is a system of coordinated human resource management practices, also known as high-performance work practices (HPWPs), aimed at enhancing employees' abilities, motivation, and opportunities to contribute to organizational effectiveness (Jiang et al., 2015), thereby leading to better employee performance and, ultimately, to improved organizational outcomes (Hong et al., 2017). When these HPWPs are applied as a coordinated HPWS, they will synergistically augment one another's effects on the desired employee and organizational outcomes (Hong et al., 2017).

To link the content of HPWSs more closely to strategic organizational objectives, scholars have conceptualized service-oriented HPWSs (SO-HPWSs) consisting of service-oriented HPWPs (SO-HPWPs) that are specifically directed at enhancing customer service in service contexts (Luu, 2019; Wang & Xu, 2017) and at enhancing frontline employees' customer service delivery (Jiang et al., 2015; Luu, 2019). While there is no consensus on the specific SO-HPWPs to include in a SO-HPWS (Jiang et al., 2015; Luu, 2019), this study considered six SO-HPWSs previously identified as core elements of SO-HPWSs (Karadas & Karatepe, 2019; Liao et al., 2009; Wang & Xu, 2017), namely service-oriented staffing, training, financial compensation, non-financial rewards and recognition, involvement and empowerment. Based on previous research (Liao et al., 2009; Wang et al., 2019), we specifically focused on frontline employees' (not managers') perceptions of the SO-HPWS they experienced in their stores.

Work engagement, defined as "… a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (Schaufeli et al., 2002, p. 74), is important to service organizations because it engenders valuable employee and customer outcomes. For example, studies indicate that engaged employees experience higher levels of job satisfaction (Kopperud et al., 2014; Park et al., 2019), perform their jobs better (Park et al., 2019), and show higher levels of resourcefulness, proactive behavior, and personal initiative than do disengaged employees (Kang & Busser, 2018; Kopperud et al., 2014). Engaged employees are also more willing to go beyond the call of duty, stimulate their colleagues' work performance (Kang & Busser, 2018), have greater organizational commitment (Kopperud et al., 2014), and are less likely to resign from the organization (Park et al., 2019). Advantageous customer outcomes from higher employee work engagement include positive evaluations of functional and relational service quality (García-Buades et al., 2016), greater perceptions of service employee performance, and increased customer satisfaction (Park et al., 2019).

Studies on the relationship between SO-HPWSs (as well as HPWSs) and work engagement have been conducted at an individual level of analysis (e.g., Cooke et al., 2019) and collectively at the level of work teams (e.g., Gracia et al., 2013;), stores (Eldor, 2020) and organizations (e.g., Schneider et al., 2018). This paper defines collective work engagement as a positive, fulfilling, work-related motivational state that is shared by the frontline employees who work together as a team in the same retail store, and that is characterized by the collective vigour, dedication, and absorption that emerges from the interaction and shared experiences of these employees (Eldor, 2020; García-Buades et al., 2016). When the frontline employees working together in a store are engaged, they are collectively enthusiastic about their work, immersed in their work activities, and persistent when confronted with work-related challenges and problems (Bakker, 2017). Our focus on collective store-level work engagement is appropriate because the quality of the service customers receive in a retail store is often the result of the service-related behaviors of several frontline employees collaborating as a team (Gracia et al., 2013).

Scholars often draw on the job demands-resources model to explain why SO-HPWSs influence frontline employees' work engagement (Cooke et al., 2019; Luu, 2019). According to this model, employees' work engagement is a function of the job resources provided by the organization that enables employees to effectively deal with the demands of their jobs (Bakker, 2017). Job resources refer to physical, social, or organizational aspects of a job that enable employees to achieve their work-related goals, reduce the demands associated with their jobs, and stimulate their personal growth and development (Cooke et al., 2019). Several authors regard HPWSs in general and SO-HPWSs in particular as organizational job resources (Bakker, 2017; Cooke et al., 2019; Luu. 2019). These authors accentuate that an organization's SO-HPWS provide frontline employees with the knowledge, skills, discretion, and other resources necessary to enable them to effectively serve their customers and thus enhances their work engagement (Bakker, 2017; Cooke et al., 2019; Luu. 2019).

Most previous studies on frontline employees' perceptions of HPWSs and work engagement were conducted at an individual level of analysis. While these studies all reported a positive relationship between the two constructs (Cooke et al., 2019; Huang et al., 2018; Huertas-

Valdivia et al., 2018; Karadas and Karatepe, 2019; Karatepe, 2013; Karatepe and Olugbade, 2016; Luu, 2019), only two of these studies specifically focused on SO-HPWSs (Karatepe, 2013; Luu, 2019). Both reported a positive individual-level relationship between SO-HPWSs and work engagement.

Much less is known about the relationship between SO-HPWSs and work engagement at higher levels of analysis. In fact, to our knowledge no previous studies have specifically investigated the relationship between SO-HPWSs and work engagement at a store level of analysis. Barrick et al. (2015) reported a positive relationship between employees' perceptions of generic HPWSs and collective work engagement at an organizational level of analysis. Schneider et al. (2018) found a positive relationship between 'organizational practices', a broader construct that included several human resource management practices, and collective work engagement at an organizational level of analysis. Finally. Salanova et al. (2005) and Garcia et al. (2013) both reported positive relationships between 'organizational resources', a broad construct that included two human resource practices (i.e., training and autonomy), and collective work engagement at a work group level of analysis. While these findings lend indirect support for a possible positive relationship between employees' perceptions of SO-HPWSs and collective work engagement at a store level of analysis, this relationship should still be empirically confirmed. This is necessary because individual-level relationships may not generalize to higher levels of analysis (Klein & Kozlowski, 2000) and because most previous studies have not specifically focused on SO-HPWSs. Flowing from this discussion, it is hypothesized that:
H_1: Employees' shared SO-HPWS perceptions is a positive predictor of their collective work engagement at the store level.

SO-HPWSs and service climate

Service climate reflects frontline employees' shared perceptions regarding the policies, procedures, and practices as well as the behaviors they see as being expected concerning high-quality service delivery (Bowen & Schneider, 2014; Jiang et al., 2016). While service climate as a shared construct has its origin in the perceptions of individual employees, it is usually treated as a shared property of employees working as a team (e.g., Jiang et al., 2015). In short, service climate is a collective phenomenon (Bowen & Schneider, 2014) that reflects employees' shared perceptions that customer service is important in their work environment and that management actively supports their service quality efforts (Carrasco et al., 2011). Furthermore, a service organization's SO-HPWS communicates the organization's strategic

focus to employees, and indicates what is expected, supported, and rewarded in the organization (Hong et al., 2013; Wang & Xu, 2017), thereby contributing to the formation and strengthening of the organization's service climate (Tang & Tang, 2012; Wang & Xu, 2017).

The positive relationship between SO-HPWS and service climate has been established in individual-level (e.g., Wang & Xu, 2017) and unit-level (e.g., Jiang et al., 2015) studies. Hong et al.'s (2013) meta-analysis furthermore found that both generic HPWSs and SO-HPWSs have positive relationships with unit-level service climate. Despite these findings, it is important to note that most previous studies on the relationship between HPWSs and service climate focused on managers' evaluations of HPWSs. However, there is often a gap between employees' and managers' evaluations in this regard. Our study therefore specifically focused on frontline employees' ratings of both constructs. Furthermore, although the unit-level relationship between SO-HPWS and service climate have been confirmed meta-analytically and in primary studies, our study responded to Hong et al.'s (2013) call for additional primary research on the unit-level antecedents and consequences of service climate that can be added to future meta-analyses. It is thus hypothesized that:

H_2: Employees' shared SO-HPWS perceptions is a positive predictor of their shared perceptions of the store's service climate.

Work engagement and service climate

The extent to which work engagement serves as an antecedent and predictor of service climate has only been investigated in two prior studies. Additional research in this regard is therefore warranted, especially at a unit level of analysis. Salanova et al. (2005) were the first researchers to investigate this relationship and they did so at a unit level of analysis. These scholars hypothesized that organizational resources in the form of training, autonomy, and technology would predict employees' shared perceptions of the service climate in their unit indirectly through their collective work engagement. Drawing on the job demands-demands resources model, they argued that when the frontline employees who work together in a unit perceive that organizational resources (i.e., training, autonomy and technology) serve as job resources and remove obstacles at work, they will collectively feel more engaged and subsequently have more favorable shared service climate perceptions (Salanova et al., 2005). Salanova et al. (2005) empirically confirmed this hypothesis and reported a positive unit-level relationship between service climate and work engagement, with work engagement serving as a direct

antecedent of service climate and completely mediating the relationship between organizational resources and service climate.

Subsequently, Kopperud et al. (2014) tested an individual-level model in which the relationship between transformational leadership and service climate was mediated by work engagement. In this model, work engagement was again positioned as a direct antecedent of service climate. In two separate individual-level samples, Kopperud et al. (2014) found that work engagement partially mediates the relationship between transformational leadership and service climate, and therefore serves as a direct antecedent of the latter.

Conceptually, Bowen and Schneider (2014), Schneider et al. (2018), and Schneider (2020) describe work engagement as a foundation on which a service climate can be built. In this regard, Bowen and Schneider (2014, p. 9) indicated that "… a positive service climate exists when the foundation for it first exists in the engagement employees experience in their work and work world. Engaged employees are more willing to do the kinds of things that a service climate asks of them, and, similarly, a service climate is more easily built on a foundation of engaged employees". Like Salanova et al. (2005), these authors regard work engagement as an antecedent of service climate. It is therefore hypothesized that:

H_3: Employees' collective work engagement is a positive predictor of their shared service climate perceptions at the store level.

Service climate and in-role and extra-role service performance

Service climate by itself does not produce desired customer outcomes. Instead, it is frontline employees' in-role and extra-role service-oriented behaviors that tangibly yield desired outcomes such as customer satisfaction and loyalty (Bowen & Schneider, 2014; Wang, 2015).

In-role service performance, also called job performance (Karatepe, 2013) or customer service performance (Linuesa-Langreo et al., 2017), refers to the behaviors that frontline employees are expected to exhibit when serving customers (Bettencourt & Brown, 1997). More specifically, in-role service performance refers to normal behaviors that fulfil basic job requirements and that are expected and evaluated as part of the fundamental job responsibilities of a frontline employee's work role and job description (Chaoluck, 2017). Expectations for these behaviors may be derived from implicit norms in the workplace, or may be explicitly

specified in employees' job descriptions, performance evaluation criteria, or organizational policies and procedures (Bettencourt & Brown, 1997).

Extra-role service performance, also known as customer- or service-oriented organizational citizenship behavior (OCB) (Schneider et al., 2005), in contrast, refers to "… discretionary behaviors of contact employees in serving customers that extend beyond formal role requirements" (Bettencourt & Brown, 1997, p. 41). These voluntary behaviors fall outside the scope of employees' formal job prescriptions, are not directly and formally rewarded by the organization, do not carry negative sanctions if they are not performed, and imply that employees have 'gone the extra mile' while serving customers (Chaoluck, 2017).

To ensure customer satisfaction and loyalty, frontline employees must be enabled and motivated to excel in both their in-role and extra-role service performance (Somech & Drach-Zahavy, 2016; Wang, 2015). A strong service climate encourages frontline employees to engage in both forms of service performance since it signals to them that the organization expects, supports, and rewards these behaviors (Hong et al., 2013; Jiang et al., 2016; Linuesa-Langreo et al., 2017; Wang & Xu, 2017). Thus, a strong service climate motivates employees to offer exceptional in-role and extra-role customer service (Liao & Chuang, 2007).

Hong et al.'s (2013) meta-analysis and three subsequent primary studies (Jiang et al., 2015; Jiang et al., 2016; Linuesa-Langreo et al., 2017) reported a positive relationship between service climate and frontline employees' in-role service performance at a unit level of analysis. The unit-level relationship between service climate and frontline employees' extra-role service performance have received less research attention with only two prior studies confirming this relationship (Schneider et al., 2005; Tang & Tang, 2012). Furthermore, to our knowledge, no previous studies have explored the extent to which service climate *simultaneously* predict frontline employees' collective in-role and extra-role service performance at a store level of analysis. Based on this discussion, it is hypothesized that:

H_4: Employees' shared service climate perceptions positively predict their collective in-role service performance at the store level as rated by the store manager.

H_5: Employees' shared service climate perceptions positively predict their collective extra-role service performance at the store level as rated by the store manager.

METHOD

Sample and data collection

We collected data from the frontline employees and store managers of the 70 stores of a major South African home improvement retailer, who provided us with their employee and store manager contact details. Respondents received personalized e-mail invitations to complete an online questionnaire hosted on Qualtrics. An initial survey invitation and three follow-up reminders were sent to respondents over a four-week period to encourage participation. Of the 953 frontline employees invited to participate in the study, 781 fully completed the survey (response rate of 81.95%). Approximately 11 employee respondents participated per store. On average, the employee respondents were 34 years old and had worked in their current store for four and a half years. Most respondents were male (68%) and full-time appointments (75%). All 70 of the retailer's store managers, employed on a full-time basis, responded to the store manager survey. The majority of store managers were male (88.6%); were on average 42 years old; and worked in their current store for almost six years.

Measures

Frontline employees' perceptions of the SO-HPWSs (service-oriented staffing, training, financial compensation, non-financial rewards and recognition, involvement, and empowerment) in their respective stores were measured with a 26-item scale adapted from Chuang and Liao (2010), Hong et al. (2017), and Liao et al. (2009). The SO-HPWSs items were measured on five-point Likert scales ranging from 1 = Strongly disagree to 5 = Strongly agree. Frontline employees' perceptions of the service climate in their respective stores were measured with five items taken from Schneider et al.'s (1998) global service climate scale. We split one item (i.e., "How would you rate the effectiveness of your store's communication efforts to both employees and customers") into two separate items due to its double-barreled nature (Ding, 2018). Service climate responses were measured on five-point rating scales (1 = Very poor; 5 = Excellent). Since the respondents were non-native English speakers, we adapted the Utrecht Work Engagement Scale (UWES-9; Schaufeli et al., 2016) to simplify and clarify item meaning. The adapted UWES-9 scale was measured on a seven-point response scale (numbered and labelled as prescribed in the UWES-9 test manual, where 0 = Never; 6 = Always) (Schaufeli & Bakker, 2004).

Store managers were asked to rate the collective in-role and extra-role service performance of the frontline employees in their respective stores with the scales of Bettencourt and Brown

(1997), measured on a Likert scale ranging from 1 = Strongly disagree to 5 = Strongly agree. Managers were instructed to think of the typical behavior of all the frontline employees in their store when completing these scales (Jiang et al., 2016; Linuesa-Langreo et al.,2017).

Common method bias

Since common method bias is frequently mentioned as a methodological concern in cross-sectional survey research (Malhotra et al., 2017), we implemented several procedural remedies to counteract distorting effects thereof (MacKenzie & Podsakoff, 2012). Data on the antecedents and outcome variables were obtained from frontline employees and store managers respectively. Respondents were assured that participation was voluntary, anonymous, and confidential, and were encouraged to answer all the questions honestly. In the employee questionnaire, we used different scale point labels to measure the three focal constructs. Furthermore, by pretesting the employee questionnaire, we ensured that respondents clearly understood the questions. To counteract order bias, we randomized the six SO-HPWP sub-scales as well as the order of the individual scale items. We also used confirmatory factor analysis to evaluate the potential impact of common method bias among the individual-level employee-rated variables, by comparing the fit of the hypothesized eight-factor measurement model with a one-factor model in which all items loaded on a single factor. The one-factor model had a significantly poorer fit than the eight-factor model: χ^2 (779) = 10930.85, $p < 0.001$; χ^2/df = 14.03; CFI = 0.75; RMSEA = 0.13; SRMR = 0.13; $\Delta\chi^2 = 2565.08$, Δdf = 28, $p < 0.001$. Similarly, we compared the fit of the hypothesized two-factor model with that of a one-factor model on the manager-rated data. The one-factor model had a significantly poorer fit than the two-factor model: χ^2 (35) = 91.56, $p < 0.001$; χ^2/df = 2.62; CFI = 0.95; RMSEA = 0.15 (90% CI = 0.11-0.19); SRMR = 0.10; $\Delta\chi^2 = 19.46$, Δdf = 1, $p < 0.001$. Common method bias was thus not a major concern in the data.

RESULTS

Validity and reliability assessment

An individual-level confirmatory factor analysis (CFA; n = 781) was run on the employee-rated scales. Since the responses to most of the scale items were negatively skewed and clustered around the highest two scale points, and because Mardia's test of multivariate kurtosis indicated a violation of the assumption of multivariate normality (Byrne, 2016), we conducted the CFA with robust diagonally weighted least squares estimation as implemented by the

WLSMV estimator (Finney et al., 2016) in Mplus. In this analysis, the six SO-HPWS dimensions, work engagement, and service climate were modelled as first-order latent variables. Next, we conducted a two-factor CFA (in-role and extra-role service performance) on the manager-rated data (n = 70), again using the WLSMV estimator in MPlus. The fit indices for both the employee as well as the manager data showed acceptable fit (see Table 1).

Table 1: Measurement models

Model*	CMIN	DF	CMIN/DF	P-value	CFI	RMSEA	SRMR
1	1380.58	751	1.84	0.00	0.98	0.03 (90% CI = 0.03-0.04)	0.03
2	34.92	34	1.03	0.00	0.99	0.02 (90% CI = 0.00-0.09)	0.05

*Model 1 = employee data (n = 781); Model 2 = store manager data (n = 70)

Table 2 lists the construct reliability (CR), individual-level Cronbach's alpha (α) value, and average variance extracted (AVE) for the employee- and manager-rated scales, showing that all the scales had CR and α values larger than 0.7, thus indicating internal consistency reliability (Hair et al., 2019). The square roots of the AVE values were all larger than the correlations between the study constructs, thus indicating discriminant validity (Malhotra et al., 2017).

Table 2: Descriptive statistics, reliability and correlation matrix

Variables	Mean	SD	CR	α	Correlations*							
					1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Employee-rated variables (n = 781)												
1. Staffing	3.95	0.77	0.93	0.90	**0.86**							
2. Training	4.18	0.74	0.94	0.90	0.56	**0.89**						
3. Financial compensation	3.96	0.92	0.93	0.89	.047	0.41	**0.88**					
4. Non-financial rewards & recognition	3.82	0.85	0.92	0.88	0.66	0.56	0.53	**0.83**				
5. Involvement	4.25	0.64	0.93	0.88	0.60	0.62	0.42	0.67	**0.85**			
6. Empowerment	4.22	0.60	0.81	0.71	0.55	0.50	0.38	0.54	0.56	**0.77**		
7. Work engagement	5.55	0.70	0.95	0.8	0.330	0.33	0.23	0.33	0.32	0.29	**0.82**	
8. Service climate	4.20	0.53	0.87	0.82	0.53	0.55	0.39	0.55	0.60	0.45	0.32	**0.73**
Manager-rated variables (n = 70)												
1. In-role service performance	3.97	0.53	0.91	0.81	**0.82**							
2. Extra-role service performance	4.11	0.58	0.92	0.85	0.59	**0.84**						

SD = Standard deviation; α = individual-level Cronbach's alpha; * p < .01 (two-tailed); square root of AVE listed bold on the diagonal

Data aggregation

To justify the aggregation of the individual-level employee responses to the store level, we calculated three aggregation statistics – ICC(1), ICC(2), and $r_{wg(j)}$ (Jiang et al., 2015; Jiang et al., 2016). ICC(1) indicates the proportion of variance in individual-level ratings that are explained by unit membership (Bliese, 1998), with large ICC(1) values indicating a strong unit effect with little individual variability in respondents' ratings within units (Bliese, 1998). ICC(2) indicates how reliably unit-level mean scores differentiate between units (Krasikova & LeBreton, 2019). According to LeBreton and Senter (2008), ICC(1) can be interpreted as an effect size with values of 0.01 indicating a small effect, 0.10 indicating a medium effect, and 0.25 a large effect. ICC(2) values ≥ 0.60 are considered acceptable (Hong et al., 2017; Salanova et al., 2005). We furthermore calculated $r_{wg(j)}$ to evaluate within-unit agreement (LeBreton & Senter, 2008) for each employee-rated construct with higher $r_{wg(j)}$ values indicating higher levels of within-unit agreement (Woehr et al., 2015). While 0.70 is considered the acceptable cut-off (Biemann et al., 2012), values ranging between 0.91-1.00 are regarded as very strong agreement (LeBreton & Senter, 2008). Table 3 lists the aggregation statistics.

Table 3: Aggregation statistics

Construct	**ICC(1)**	**ICC(2)**	**One-way ANOVA**	**Mean / median $r_{wg(j)}$ based on a uniform distribution**	**Mean / median $r_{wg(j)}$ based on a slightly skewed distribution**
SO-HPWSs	0.296	0.825	$F(69,711) = 5.274$, $p < .001$	0.962 / 0.979	0.920 / 0.967
Service climate	0.238	0.777	$F(69,711) = 4.395$, $p < .001$	0.947 / 0.951	0.904 / 0.917
Work engagement	0.113	0.586	$F(69,711) = 2.446$, $p < .001$	0.958 / 0.978	0.920 / 0.967

The ICC(1) values indicate that 29.6% of the variance in employees' individual-level ratings of SO-HPWSs is explained by unit membership, representing a large effect; a medium-to-large effect for service climate (23.8% of the variance); and a medium effect for work engagement (11.3% of the variance) (LeBreton & Senter, 2008). The ICC(2) values for SO-HPWSs and service climate indicate strong agreement (LeBreton & Senter, 2008). While the ICC(2) value of 0.59 for work engagement is lower than the traditional cut-off of 0.70 (indicating 'moderate agreement') this value should not prevent data aggregation if it is justified by theory and supported by acceptable $r_{wg(j)}$ values and significant between-group variances (Eldor, 2020; Liao & Chuang, 2007) – as is the case in the current study. The mean $r_{wg(j)}$ values based on

both the uniform and slightly skewed null distributions indicate strong agreement for all three employee-rated constructs (LeBreton & Senter, 2008). Furthermore, since the results of the one-way ANOVAs on which the ICC(1) and ICC(2) values are based indicate statistically significant between-store differences for all three the employee-rated constructs, we proceeded to aggregate the individual-level employee ratings to the store level.

Next, following previous studies (e.g., Maynard et al., 2019; Weller et al., 2020), we calculated Cronbach's alpha at a store level since it aligns the reliability estimates with the unit level of analysis at which the paper's hypotheses are tested. The store-level Cronbach's alpha values (see Table 4) were larger than 0.70, indicating acceptable internal consistency reliability at a store level. Based on these analyses, we proceeded to aggregate the individual-level employee ratings to the store level. For service climate and work engagement, we calculated store-level composite scores by averaging across the aggregated store-level ratings of the individual items in the applicable multiple item scales. For SO-HPWSs, we created a single additive score with the subscale aggregation method (e.g., Jiang et al., 2015) before creating the single additive score by averaging the six subscale scores. Since the store managers evaluated the collective in-role and extra-role service performance of all the employees in their respective stores, these ratings were already at store level and no further aggregation was necessary. Table 4 details the means, standard deviations, store-level Cronbach's alpha values, and correlations among the store-level composite scores.

Table 4: Descriptive statistics, reliability and correlation matrix (store level)

				Correlations			
	Mean	**Standard deviation**	**Store level α**	**1**	**2**	**3**	**4**
1. SO-HPWSs	4.02	0.38	0.98				
2. Service climate	4.17	0.30	0.92	0.83*			
3. Work engagement	5.53	0.33	0.93	0.56*	0.63*		
4. In-role service performance	3.97	0.53	0.81	0.37*	0.40**	0.32*	
5. Extra-role service performance	4.11	0.58	0.85	0.40*	0.49*	0.16	0.59*

α = Cronbach's alpha (store-level); *p < .01 (2-tailed); n = 70.

Hypotheses testing

Because of the small store-level sample size (n = 70), we used a single-indicator path analysis approach and maximum likelihood (ML) estimation. This approach was justified since Mardia's test did not indicate multivariate kurtosis issues (Byrne, 2016). Each latent variable in the path analysis was measured by a single composite scale score. To incorporate measurement error into the model, we set the path from each latent variable to its corresponding composite scale score to the square root of the reliability of the applicable measure. Next, we set the random error variance of each single-item indicator to 1 minus its reliability, multiplied by the scale score's variance (i.e., [1 – reliability] x variance) (e.g., Jiang et al., 2015; Maynard et al., 2019).

The overall fit of the structural models was evaluated using the chi-square goodness-of-fit statistic (χ^2), the comparative fit index (CFI), and the standardized root mean square residual (SRMR). Because of the small store-level sample size and small degrees of freedom, the root mean square error of approximation (RMSEA) is not appropriate as a measure of model fit (Kenny et al., 2015).

In the SEM analysis, we allowed the disturbance terms of in-role and extra-role service performance to correlate as is done by default in MPlus (Keith, 2019). The results from the structural model indicate that the model fits the data well: χ^2 (4) = 9.108, p = 0.058; χ^2/df = 2.277; CFI = 0.969; SRMR = 0.038. The covariance between in-role and extra-role service performance was statistically significant with a standardized estimate (correlation) of 0.620. Table 5, listing the standardized and unstandardized path coefficients, indicates that all the study hypotheses were supported

Table 5: Hypotheses tests

Hypothesized relationship	Standardized path coefficients	Unstandardized path coefficients	Finding
H1: SO-HPWSs → Work engagement	0.584	0.498**	Supported
H2: SO-HPWSs → Service climate	0.727	0.577**	Supported
H3: Work engagement → Service climate	0.253	0.235*	Supported
H4: Service climate → In-role service performance	0.468	0.818**	Supported
H5: Service climate → Extra-role service performance	0.527	1.000**	Supported

Note: ** p < .001, * p < .01.

The squared multiple correlations (R^2) indicated that SO-HPWSs accounted for 34.1% of the variance in work engagement, while SO-HPWSs and work engagement accounted for 80.8% of the variance in service climate. Together, the three antecedents – SO-HPWSs, work engagement, and service climate – accounted for 21.9% of the variance in in-role service performance and 27.8% in extra-role service performance.

Rival model

Since previous studies using both individual and unit-level analyses reported positive relationships between service climate and work engagement (e.g., Carrasco et al., 2011; Kang & Busser, 2018), and between work engagement and employees' in-role and extra-role task performance (e.g., Chen & Peng, 2021; Eldor, 2020), it was appropriate to test an engagement-centric rival model. In this rival model, SO-HPWSs predict work engagement and service climate; service climate predicts work engagement; and work engagement, in turn, predicts frontline employees' in-role and extra-role service performance. Table 6 compares the SEM results from our climate-centric research model to that of the engagement-centric rival model.

Table 6: Model comparison results

Model*	**χ^2 (df)**	**p-value**	**CFI**	**SRMR**	**AIC**	**BIC**	**R^2 for in-role service performance**	**R^2 for extra-role service performance**
Research model	9.108 (4)	0.0584	0.969	0.038	229.208	265.184	0.219	0.278
Rival model	20.646 (4)	0.0004	0.900	0.114	240.746	276.722	0.150	0.047

*Model 1 = climate-centric research model; Model 2 = engagement-centric rival model

The results indicate that our research model fits the data better when considering that the CFI and SRMR values of the rival model were lower than the acceptable cut-off values of 0.95 and 0.08 (Hu & Bentler, 1999). The research model had better explanatory power than the rival model since the R^2 values in the research model explained 21.9% of the variance in in-role service performance and 27.8% in extra-role performance, compared with 15.0% and 4.7% respectively in the rival model. However, since the models were not nested, they could not be compared with a chi-square difference test. Instead, we compared the models on their Akaike Information Criterion (AIC) and Bayes Information Criterion (BIC) values. The model with

the *smallest* AIC and BIC values has a better fit, and is more likely to replicate (Wang & Wang, 2020). The research (rather than the rival) model is thus the preferred model.

DISCUSSION

Theoretical implications

This paper set out to test, at a store level, service climate as the direct predictor of in-role and extra-role service performance, while work engagement and SO-HPWSs, in turn, predicted service climate. The results indicate that our climate-centric research model achieved an acceptable fit to the data, while the fit of the engagement-centric rival model (in which in-role and extra-role performance were considered the outcomes of work engagement, with service climate and SO-HPWSs as the antecedents thereof) was not acceptable. Given this, we conclude that SO-HPWSs and work engagement are both important antecedents of service climate, which, in turn, predicts frontline employees' in-role and extra-role service performance at a store level of analysis.

The conclusion that store-level SO-HPWSs predict service climate not only supports previous findings (e.g., Hong et al., 2013; Jiang et al., 2015), but also contributes by focusing on frontline employees' ratings instead of managers' rating. We also found that SO-HPWSs positively predict work engagement, thereby contributing to the limited literature on the relationship between HPWSs and work engagement at a unit level of analysis (e.g., Schneider et al., 2018). More specifically, from the perspective of the Job Demands-Resources (JD-R) model, the finding confirms that SO-HPWSs are indeed important organizational resources that stimulate employees' collective work engagement in service contexts (Barrick et al., 2015).

Similar to previous studies (Kopperud et al., 2014; Salanova et al., 2005), our results indicate that work engagement positively predicts service climate. This finding implies that the extent to which frontline employees feel motivated and engaged is important for the creation and strengthening of a store's service climate (Salanova et al., 2005), thereby supporting the argument that work engagement serves as a foundation on which service climate can be built (Schneider, 2020; Schneider et al., 2018).

Finally, our findings support the results of previous unit-level research (Jiang et al., 2015; Jiang et al., 2016) by not only confirming that service climate predicts frontline employees' in-role service performance, but by also adding to the limited existing research (Chuang & Liao, 2010;

Schneider *et al.*, 2005; Tang & Tang, 2012) showing service climate as direct predictor of extra-role service performance at the store level of analysis.

Managerial implications

Our research findings should be encouraging to managers responsible for supervising frontline employees in service environments, since it could be clearly seen where managers should focus their attention to stimulate frontline employees' in-role and extra-role service performance. Before discussing specific managerial implications based on the research findings, it is necessary to offer two implications based on the overall interpretation of the research findings. First, managers should again be reminded how important it is to employ the "right" (i.e., customer-oriented) employees to service retailers' most important assets: their customers. By employing employees that are customer-oriented, retailers stand a greater chance of success due to the crucial role these employees play as differentiators and as creators of value for customers (Hughes et al., 2019; Wang, 2015). Second, it is important that retailers employ people who are "team players", since our results show that it is the (positive) service climate (i.e., employees' shared perceptions of their workplace) that influence employees' in-role and extra-role service performance. This implies it may be necessary to restructure parts of the retailers' operations by moving employees to where their skills could be best utilized (i.e., customer-facing or back-office).

Once the aforementioned has been noted, managers could use a three-pronged approach by implementing interventions to strengthen employees' perceptions of the SO-HPWS in their store, enhance frontline employees' work engagement, and bolster the store-level service climate.

Employees' perceptions of the SO-HPWS in their stores can be strengthened by building a coordinated system of SO-HPWPs. Our findings showed that it is not the isolated SO-HPWPs that lead to in-role and extra-role service performance, but the combination of several SO-HPWPs. Managers should thus focus on integrating several SO-HPWPs, including service-oriented staffing, training, financial compensation, non-financial rewards and recognition, participation, and empowerment (Akgunduz et al., 2022; Jiang et al., 2015; Liao et al., 2009; Tang & Tang, 2012). To be most effective, these SO-HPWPs must be aligned with, and complement, each other to form a coordinated SO-HPWS (Tang & Tang, 2012) that communicate a clear and distinctive focus on service excellence. This implies that all frontline

employees should be exposed to these practices to ensure the development of shared perceptions aimed at increasing customer service by, for example, continually exposing staff to service-focused training (Akgunduz et al., 2022; Zabala et al., 2022). Store managers should also recognize frontline employees who perform exceptionally in terms of both their in-role and extra-role service behaviors. The bonuses and other financial incentives paid to frontline employees should thus be tied to the achievement of clearly specified service-related performance criteria, such as improvements in a store's customer satisfaction scores. Managers should also show appreciation to frontline employees, and acknowledge the experience they have gained from interacting with customers, by involving these employees in service improvement, innovation, and delivery decisions.

Frontline employees' work engagement can be enhanced by ensuring that the job-related feedback they receive focus on their strengths; by matching employees' responsibilities with their abilities and talents; ; by providing frontline employees with the necessary supervisor support; and by creating an organizational climate encouraging co-worker collaboration (Akgunduz et al., 2022). Furthermore, frontline employees' working conditions can be improved by identifying and assisting in fixing problematic job tasks or technical operations, and by offering more flexibility to work schedules.

Finally, managers should bolster frontline employees' perceptions of the service climate in their stores to enhance their in-role and extra-role service performance by monitoring customers' service quality perceptions and sharing the results with employees. Managers should furthermore empower and require supervisors to engage in service-oriented leadership behaviors; provide employees with the necessary tools, technology, and resources to enable them to provide high quality service; and improve the quality of the internal service frontline employees receive from back-office support functions (Bowen & Schneider, 2014; Schneider et al., 2005; Zabala et al., 2022). This could be achieved, for example, by developing training programs specifically directed at back-office support staff to highlight the important link between back-office and customer-facing staff to, ultimately, ensure customer satisfaction, profitability and the retailer's success.

LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

The study limitations include the cross-sectional nature thereof, thereby precluding definite statements about the causal directions of the relationships included in our model. Claims about

the direction of causality can be strengthened through future longitudinal studies (Barrick *et* al., 2015). Furthermore, although the store-level sample size of 70 was small, it was nevertheless comparable with the sample sizes of similar unit-level (e.g., Chi et al., 2011; Maynard et al., 2019). Future studies should endeavor to test our model on larger samples, and could expand our model by adding direct antecedents of service climate, including service-oriented leadership (Jiang et al., 2015) and internal service quality (Ehrhart et al., 2011), as well as customer outcomes, such as customer satisfaction and loyalty (Wang, 2015). Following previous research (e.g., Jiang et al., 2015; Schneider et al., 2005), this study was conducted across multiple stores of a single retailer. This may limit the generalizability of the study's results to other service contexts. Future research should test the study's structural model in a more diverse sample of independently functioning retailers or other service organizations. Finally, since no theory could be used to explain why the engagement-centric model is less (or more) predictive than the climate-centric model, future research should follow a longitudinal approach involving a cross-lagged panel design to examine the interrelationships between "service climate" and "work engagement" at a unit level of analysis across time. This will enable researchers to present stronger evidence in favor of either the climate- or engagement-centric model.

Conflict of interest

The researchers have no conflict of interest to disclose.

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