



A store-level analysis of frontline employees as enhancers of store loyalty

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Abstract

This study examined the relationships between frontline employees' (FLEs') shared perceptions of service-oriented high-performance work systems (SO-HPWSs), work engagement, and service climate. It also investigated how these shared perceptions related to store managers' assessments of FLEs' collective in-role and extra-role service performance, customer satisfaction, and store loyalty in the same retail chain. Data were collected from 781 FLEs, 70 store managers, and 803 customers from 70 stores in the same retail chain. Findings showed that SO-HPWSs predict work engagement and service climate; work engagement predicts service climate; and service climate predicts in-role and extra-role service performance and customer satisfaction.

Keywords Frontline employees (FLEs) · Service-oriented high-performance work systems (SO-HPWSs) · Work engagement · Service climate · In-role and extra-role service performance · Customer satisfaction · Store loyalty

1 Introduction

With growing competition in both traditional and online retail, businesses are prioritizing customer retention and loyalty over customer acquisition (Liu-Thompkins et al. 2022). Without loyalty, customers may easily switch to competitors offering lower prices (Bloemer and de Ruyter 1998). Arguably, the best strategy retailers could follow to build store loyalty would be by offering superior service (Asante

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et al. 2022), particularly through frontline employees (FLEs) delivering excellent customer service (Briggs et al. 2020; Jin 2024; Lee and Lee 2022). This would enhance customer satisfaction (Jung et al. 2022; Pangarkar et al. 2022; Revuelto-Taboada et al. 2023) which ultimately drives store loyalty and retailer profitability (Jung et al. 2022). The importance of excellent customer service is best summarized by Briggs et al. (2020, p. 277), who state that “... *the ability to effectively provide customer service face-to-face may be one of the few areas in which brick-and-mortar retailers can sustain a competitive advantage over their online foes.*” This could be attributed to FLEs building store loyalty by shaping customers’ service experiences (Nakamori et al. 2024; Pangarkar et al. 2022) and building confidence in the retailer by offering personalized attention to customers (Sivapalan et al. 2022). In fact, it is the positive shopping experience created by the FLEs that not only influences customers’ overall evaluation of the store but also their future repurchase intentions (Nakamori et al. 2024; Sok et al. 2023).

Accordingly, it is imperative to understand the factors that affect FLEs’ motivation and their service-related behaviors owing to the impact these behaviors have on customers’ satisfaction and loyalty (Nakamori et al. 2024; Pangarkar et al. 2022). Previous studies have shown that service-oriented high-performance work systems (SO-HPWSs), work engagement, and service climate shape FLEs’ in-role and extra-role service performance (Jiang et al. 2015; Linuesa-Langreo et al. 2017; Tang and Tang 2012). FLEs’ service climate perceptions and their in-role and extra-role service behaviors, in turn, affect customers’ satisfaction and loyalty (Salanova et al. 2005; Schneider et al. 2005). However, to our knowledge, no previous studies have *simultaneously* explored the interrelationships between these seven constructs, specifically at the store level of analysis.

Our proposed store-level model (see Fig. 1) draws from Bowen and Schneider’s (2014) service climate framework, and builds on existing research that has established that the survival and success of service firms is rooted in their human resources practices and in how these practices are directed to support FLEs to offer excellent service (Asante et al. 2022; Kashyap and Kang 2025). Our model

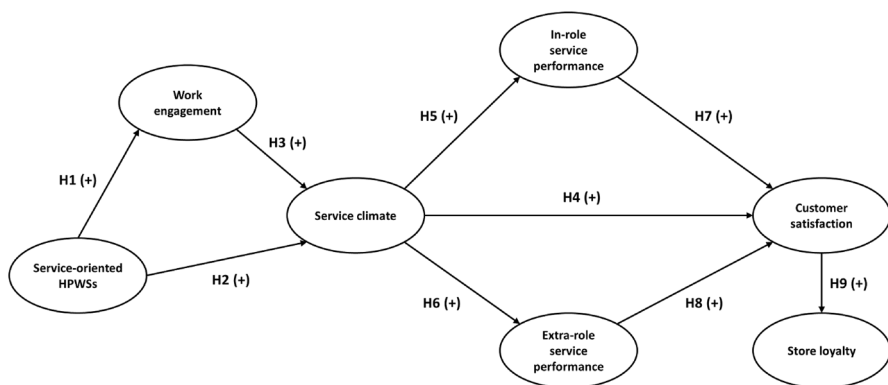


Fig. 1 The conceptual model

accordingly proposes that FLE's shared perceptions of the SO-HPWSs in their respective stores predict their collective work engagement (Karatepe 2013) and shared service climate perceptions (Jiang et al. 2015; Lin and Liu 2016). Collective work engagement also predicts service climate at the store level (Salanova et al. 2005; Kopperud et al. 2014), while the latter predicts FLEs' collective in-role and extra-role service performance as rated by their store managers (Ashill et al. 2022; Sok et al. 2023). At the store level, service climate, in-role service performance, and extra-role service performance together predict customer satisfaction, which in turn predicts store loyalty (Ashill et al. 2022; Jung et al. 2022; Qi et al. 2023).

This paper tested the conceptual model shown in Fig. 1 at a store level of analysis on data collected from an FLE–store manager–customer matched sample across 70 stores from the same retail chain. More specifically, we collected data on SO-HPWSs, work engagement, and service climate from FLEs. Store managers rated the collective in-role and extra-role service performance of all the FLEs in their respective stores, while customers provided data on their overall satisfaction and store loyalty. Finally, the individual-level employee and customer responses were aggregated to the store level, and all the relationships in the model were tested at this level across the 70 participating stores.

Our store-level focus is practically relevant because it matches the level at which retail managers evaluate and compare store performance (Eldor 2020). Such a focus is also academically valuable because most previous studies have investigated the relationships in Fig. 1 in isolation and at an individual level of analysis. Unfortunately, individual-level relationships do not necessarily generalize to higher levels of analysis (Klein and Kozlowski 2000). Further research is therefore required to explore simultaneously the network of relationships depicted in Fig. 1 at a store level of analysis in a single structural model.

The purpose of this study, accordingly, was to address this gap by *simultaneously* examining the relationships between SO-HPWSs, work engagement, service climate, in-role and extra-role service performance, customer satisfaction, and store loyalty. This was done at a *store level* of analysis using data from a matched sample of FLEs, store managers, and customers.

This paper makes the following contributions. First, the study specifically focused on FLEs' perceptions of the SO-HPWSs they experience in their respective stores. It is important to understand employees' SO-HPWSs perceptions because there is often a gap between the perceptions of FLEs and of store managers in this regard (Jiang et al. 2017; Liao et al. 2009). Second, to our knowledge, no previous research has investigated the relationship between employee-rated SO-HPWSs and service climate at a unit level of analysis. Third, this paper adds to the limited research on work engagement as an antecedent of service climate (Kopperud et al. 2014; Salanova et al. 2005), with only Salanova et al. (2005) focusing on this relationship at a unit level of analysis. Fourth, this paper adds to the limited research that jointly investigates both in-role and extra-role service performance as outcomes of service climate and as direct antecedents of customer satisfaction (Yavas et al. 2010). Fifth, despite the common belief that customer satisfaction leads to loyalty (e.g., Hogreve et al. 2017), this paper contributes by investigating this relationship on the unit level. To our knowledge, only two prior studies (Susskind et al. 2018a;

Towler et al. 2011) have investigated this relationship at the unit level of analysis in a retail setting. Additionally, unlike the current study, these two studies did not include service climate as a direct antecedent of customer satisfaction. Finally, the paper heeds the recent call by scholars (e.g., Briggs et al. 2020; Sok et al. 2023) for a triadic approach by including the perceptions of FLEs, store managers, and customers in the same model.

The next section reviews relevant literature, develops the hypotheses, and outlines the paper's conceptual model. Next, the methodology is discussed, followed by a presentation of the research results. This is followed by a discussion of the study's theoretical and managerial implications based on the findings. The paper concludes by identifying the study's limitations and offering recommendations for future research.

2 Literature review and hypotheses development

This paper tested the conceptual model shown in Fig. 1. The hypotheses highlighted in the figure are discussed next.

2.1 SO-HPWSs and work engagement

A generic high-performance work system (HPWS) is a system of coordinated human resource management (HRM) practices aimed at enhancing FLEs' general abilities, motivation, and opportunity to perform (Hong et al. 2013). SO-HPWSs specifically focus on enhancing FLEs' abilities, motivation, and opportunities to deliver high-quality service to customers (Jiang et al. 2015; Luu 2019). We focused on FLEs' *shared* perceptions of the SO-HPWSs they experience in their store, not on store managers' perspectives of them. This focus was appropriate because it is FLEs' shared perceptions of the SO-HPWS in their respective stores, not the actual practices or store managers' ratings of them, that ultimately affect their collective behaviors toward customers (Jiang et al. 2017; Liao et al. 2009; Wang & Xu 2017). Several previous unit-level studies have also specifically focused on employees' shared perceptions of the SO-HPWSs they experience in their work units (Jiang et al. 2015; Jo et al. 2021; Luu 2019; Wang & Xu 2017).

The SO-HPWS in the current study comprised six service-oriented HRM practices: selective staffing based on service-related criteria, service-focused training, financial compensation based on service performance, service-focused non-financial rewards and recognition, employee involvement in service-related decisions, and employee empowerment. These six practices, also known as service-oriented high-performance work practices (SO-HPWPs), were selected because of their relevance to the participating retailer and their inclusion in several prior studies involving SO-HPWSs (e.g., Jiang et al. 2015; Liao et al. 2009; Luu 2019).

Previous research has shown that FLEs' perceptions of the SO-HPWS in their workplace are an important antecedent of both their individual and their collective work engagement (Barrick et al. 2015; Karatepe 2013; Luu 2019; Schneider

et al. 2018). At an individual level, work engagement is defined as "... a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (Schaufeli et al. 2002, p. 74). In this definition, "vigor" refers to having high levels of energy and a willingness to invest effort in one's work; "dedication" means experiencing a sense of meaning, inspiration, significance, pride, and challenge at work, while "absorption" denotes feelings of happiness, concentration, and being deeply engrossed in one's work (Schaufeli et al. 2002).

Following Eldor (2020), this study focused specifically on the relationship between FLEs' *shared* perceptions of the SO-HPWSs in their respective stores and their *collective* work engagement at a store level of analysis. "Collective work engagement" refers to a positive, fulfilling, work-related motivational state shared by the FLEs who work together in the same retail store. It is characterized by the collective vigor, dedication, and absorption that emerges from these employees' interaction and shared experiences (Eldor 2020; García-Buades et al. 2016; Torrente et al. 2012).

Researchers typically draw on the job demands-resources (JD-R) model when investigating the relationships between work engagement, its antecedents, and its outcomes (Borst et al. 2019). In the JD-R model, an organization's HPWS and its constituent HPWPs are examples of organizational job resources that serve as antecedents of employees' individual and collective work engagement (Cooke et al. 2019; Luu 2019). According to Cooke et al. (2019), an organization's HPWS contributes to employees' work engagement in several ways. First, the HPWPs in an organization's HPWS enhance employees' commitment and dedication to their work and employer. Second, the HPWS is designed to energize employees and give them a sense of significance and purpose so that they become more engaged in their work and engage more readily in discretionary extra-role effort. Finally, HPWSs support the development of a range of individual-level psychological job resources that ultimately influence employees' work engagement at an individual level.

Several studies have reported a positive relationship between employee-perceived HPWSs and work engagement at the individual level of analysis in different service settings (e.g., Cooke et al. 2019; Karatepe 2013; Luu 2019). Fewer studies, however, have investigated the relationship between HPWSs and collective work engagement at higher levels of analysis. Barrick et al. (2015) reported a positive relationship between generic HPWSs and employees' collective work engagement at an organizational level of analysis. Schneider et al. (2018) reported a positive association between "organizational practices," which included several HRM practices, and employees' collective work engagement at an organizational level. Salanova et al. (2005) and Gracia et al. (2013) found a positive relationship between "organizational resources," which included two HRM practices (i.e., training and autonomy), and collective work engagement at the work unit level in different service settings. Finally, Lin et al. (2024) reported a positive relationship between FLEs' shared SO-HPWS perceptions and collective work engagement at the branch level of analysis across multiple financial service teams. Based on these findings, it is hypothesized that:

H₁ *FLEs' shared perceptions of their store's SO-HPWS positively predict their collective work engagement.*

2.2 SO-HPWSs and service climate

As a strategically focused form of organizational climate, “service climate” represents a collective and shared phenomenon (Salanova et al. 2005). More specifically, “service climate” refers to employees' *shared* perceptions of the extent to which policies, practices, and procedures they experience in the workplace and the behaviors they observe as being expected, supported, and rewarded emphasize high-quality service delivery to customers (Bowen and Schneider 2014; Hong et al. 2013; Jiang et al. 2016). While service climate is rooted in individual employees' perceptions, it is typically treated as a unit-level attribute of a team, department, or store, and is related to other constructs at a unit level of analysis (Jiang et al. 2015; Linuesa-Langreo et al. 2017; Schneider et al. 2005).

Previous unit-level studies found that FLEs' shared perceptions of the HPWS in their workplace predicted their shared service climate perceptions (Chuang and Liao 2010; Jiang et al. 2015; Tang and Tang 2012). This is not surprising, because an organization's HPWS communicates its strategic intent regarding service excellence, and signals to employees what the organization expects, supports, and rewards in this regard (Chuang and Liao 2010; Tang and Tang 2012). Consequently, an organization's HPWS enhances its service climate (Hoang et al. 2018; Tang and Tang 2012).

Furthermore, in their meta-analysis of unit-level research on the antecedents and outcomes of service climate, Hong et al. (2013) reported that both generic and SO-HPWSs are positively related to service climate. Notably, the meta-analytic correlation between SO-HPWSs and service climate was significantly stronger than that between generic HPWSs and service climate. Subsequently, the positive unit-level relationship between SO-HPWS and service climate was also confirmed by Jiang et al. (2015), Lin and Liu (2016), and Tang and Tang (2012). Thus, it is hypothesized that:

H₂ *FLEs' shared perceptions of their store's SO-HPWS positively predict their shared perceptions of the store's service climate.*

2.3 Work engagement and service climate

Work engagement plays a critical role in employee satisfaction and well-being (Van et al. 2024), ultimately resulting in higher profitability (Edmondson and Matthews 2024; Lee and Lee 2022). It also serves as a foundation for building a strong, positive service climate (Bowen and Schneider 2014; Schneider et al. 2018). In this regard, in the framework that they use as grounding for the service climate theory, Bowen and Schneider (2014, p. 9) argue as follows: “... 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.”

It has also been postulated that organizational resources (i.e., training, autonomy, and technology) would indirectly affect employees' shared perceptions of the service climate in their unit through their collective work engagement (Salanova et al. 2005). Kopperud et al. (2014) confirmed this view by establishing that work engagement mediates the relationship between transformational leadership and service climate.

Thus, based on the service climate framework (theory) of Bowen and Schneider (2014) and the conceptual work of Schneider et al. (2018) and Schneider (2020), as supported by previous empirical studies that established work engagement as a direct antecedent of service climate (Salanova et al. 2005; Kopperud et al. 2014), it is hypothesized that:

H₃ *FLEs' collective work engagement positively predicts their shared service climate perceptions.*

2.4 Service climate and customer satisfaction

Service climate is an important link between internal HRM and leadership practices and the service outcomes that customers experience (Hong et al. 2013). In this regard, Schneider et al. (1998) and Ehrhart et al. (2011) argue that a positive service climate will elicit desired service behaviors in FLEs that, in turn, will result in positive service quality evaluations and satisfaction judgments by customers. In their meta-analysis, Hong et al. (2013) reported a positive unit-level correlation between employees' service climate perceptions and customer satisfaction based on the results of 27 studies. More recently, Graham et al. (2020) also reported a direct positive unit-level relationship between service climate and customer satisfaction. It is thus hypothesized that:

H₄ *FLEs' shared perceptions of the service climate in their store positively predict store-level customer satisfaction.*

2.5 Service climate and FLEs' in-role and extra-role service performance

“In-role service performance” refers to the basic activities associated with an FLE's work role. These activities are expected and evaluated as part of employees' fundamental job responsibilities (Bettencourt and Brown 1997; Luu 2019). Expectations regarding in-role service performance are often explicitly specified in organizational policies, procedures, and service scripts, and in FLEs' formal job descriptions and performance evaluation criteria (Bettencourt and Brown 1997; Luu 2019).

“Extra-role service performance,” in turn, refers to “... *discretionary behaviors of contact employees in serving customers that extend beyond formal role requirements*” (Bettencourt and Brown 1997, p. 41). These behaviors are voluntary, and refer to instances when FLEs go the extra mile, go beyond job requirements, go above and beyond the call of duty, or go out of their way to assist customers (Schepers and Bosch 2020).

Individually and collectively, FLEs must perform exceptional in-role and extra-role service to ensure high-quality customer service, customer satisfaction, and loyalty (Somech and Drach-Zahavy 2016). A positive and strong service climate signals to FLEs that high-quality customer service is expected, supported, and rewarded, and thus collectively motivates them to engage in high-quality in-role and extra-role service performance (Jiang et al. 2016; Linuesa-Langreo et al. 2017). Hong et al.’s (2013) meta-analysis reported positive unit-level correlations between service climate and both in-role and extra-role service performance. Several primary studies not included in this meta-analysis subsequently confirmed these unit-level relationships (Jiang et al. 2015, 2016; Linuesa-Langreo et al. 2017; Tang and Tang 2012). It is hypothesized, therefore, that:

H₅ FLEs’ shared perceptions of the service climate in their store positively predict their collective in-role service performance.

H₆ FLEs’ shared perceptions of the service climate in their store positively predict their collective extra-role service performance.

2.6 In-role and extra-role service performance and customer satisfaction

FLEs play a critical role in ensuring customer satisfaction. In fact, the FLEs’ in-role and extra-role service performance creates positive service experiences for customers, thereby resulting in customer satisfaction (Hong et al. 2013; Somech and Drach-Zahavy 2016). In their framework depicting service climate theory, Bowen and Schneider (2014) explain that in-role service performance not only predicts customer satisfaction but also mediates the relationship between service climate and customer satisfaction.

Several previous studies found positive unit-level relationships between perceptual measures of FLEs’ collective in-role service performance and customer satisfaction (Bettencourt and Brown 1997; Liao and Chuang 2004; Yavas et al. 2010). Other studies reported positive unit-level relationships between FLEs’ collective extra-role service performance and customer satisfaction (Bettencourt and Brown 1997; Schneider et al. 2005; Tremblay et al. 2018). Based on these findings, the following hypotheses are proposed:

H₇ Managers’ perceptions of FLEs’ collective in-role service performance positively predict customers’ overall satisfaction judgments at the store level of analysis.

H₈ Managers' perceptions of FLEs' collective extra-role service performance positively predict customers' overall satisfaction judgments at the store level of analysis.

2.7 Customer satisfaction and loyalty

Customer loyalty is an organization's most enduring asset, enabling it to develop a long-term, mutually beneficial relationship with its customers (Kandampully et al. 2015; Pan et al. 2012). A loyal customer base is important because it reduces a firm's customer acquisition costs. Also, loyal customers tend to buy more from the focal firm than from its competitors, are less price sensitive, and engage more actively in positive word-of-mouth communication about the firm (Kandampully et al. 2015).

In this study, we specifically focused on customers' store loyalty, which can be defined as "*The biased (i.e. non-random) behavioural response (i.e. revisit), expressed over time, by some decision-making unit with respect to one store out of a set of stores, which is a function of psychological (decision making and evaluative) processes resulting in brand commitment*" (Bloemer and de Ruyter 1998, p. 500). In essence, store loyalty is underscored by a consumer's deeply held commitment toward and intention to revisit a specific store.

The positive relationship between customer satisfaction and loyalty is well-established in the marketing literature (e.g., Susskind et al. 2018a; Towler et al. 2011), including the positive relationship between customer satisfaction and store loyalty (Bloemer and de Ruyter 1998) and customer satisfaction and retailer loyalty (Liu-Thompkins et al. 2022). Three meta-analyses also support the satisfaction–loyalty relationship (Hogreve et al. 2017; Pan et al. 2012; Szymanski and Henard 2001). It is hypothesized, therefore, that:

H₉ Customers' overall satisfaction positively predicts their store loyalty at the store level of analysis.

3 Method

3.1 Sample and data collection procedure

We collected data during 2022 from FLEs, store managers, and customers recruited from all 70 stores of a South African home improvement retailer. Table 1 indicates the sample size for each respondent group and provides a demographic profile of the respondents.

3.2 Measures

We used three English-language questionnaires to collect data from the FLEs, store managers, and customers, respectively. Appendix A lists the items used to measure the study constructs, along with their respective factor loadings.

Table 1 Respondent profile

		FLEs	Store managers	Customers
Overall sample size		781	70	803
Sample size per store		Avg. 11.16 per store (SD=4.47)	1 per store	Avg. 11.47 per store (SD=4.30)
Gender	Male	68.0%	88.6%	56.2%
	Female	32.0%	11.4%	43.8%
Average age (years)		33.95 (SD=7.76)	42.21 (SD=7.39)	45.33 (SD=13.37)

3.2.1 Employee questionnaire

The employee questionnaire measured FLEs' perceptions of the SO-HPWS in their store, their store's service climate, and their work engagement.

SO-HPWS: To find suitable measures for the six SO-HPWPs included in the study, we considered the scales of Chuang and Liao (2010), Hong et al. (2017), and Liao et al. (2009). However, it was not possible to use any one of these scales unmodified for the following reasons. First, as indicated in Table 2, all three scales included some HRM practices that were not relevant to the current study. Second, the three scales had different conceptualisations of and used different sets of scale items to measure the remaining relevant HRM practices. Third, as Wang and Xu (2017) observed, a careful analysis of the item wording indicated that many of these scale items had a generic focus and did not specifically measure *service-oriented* HPWPs. Fourth, all three of the above-mentioned studies measured managers' perceptions of the SO-HPWPs in their respective work units, not FLEs' perceptions as were required for the current

Table 2 HPWPs included in the current and previous studies

	Current study	Liao et al. (2009)	Chuang & Liao (2010)	Hong et al. (2017)
Staffing/selection	✓		✓	✓
Training	✓	✓	✓	✓
Financial compensation/pay	✓	✓		
Rewards & recognition	✓		✓	✓
Involvement & participation	✓	✓	✓	
Empowerment/service discretion	✓	✓		
Interdepartmental service		✓		
Job design for quality work		✓		
Teamwork		✓		✓
Caring			✓	
Information sharing		✓		✓
Performance management & appraisal		✓	✓	✓

study. Consequently, several of the items in these scales had to be reworded to be appropriate for FLE respondents. Finally, the wording of several of the original scale items was not suitable for the participating retailer or was too complicated for the employee respondents, most of whom were second-language English speakers.

Consequently, we compiled a 26-item scale, adapted from the aforementioned scales, with items that specifically focused on SO-HPWPs. This scale measured FLEs' perceptions of service-oriented staffing (five items), training (four items), financial compensation (four items), non-financial rewards and recognition (five items), involvement (five items), and empowerment (three items). Appendix A provides the final set of scale items used to measure FLEs' perceptions of the SO-HPWS they experience in their stores, while Sect. 4.2 presents evidence on the reliability and validity of these scales.

Service climate: FLEs' perceptions of the service climate in their respective stores were measured with six items from the global service climate scale of Schneider et al. (1998). The scale points of this five-point scale ranged from 1 = very poor to 5 = excellent. *Work engagement:* We measured FLEs' work engagement with the nine-item version of the Utrecht Work Engagement Scale (UWES-9; Schaufeli et al. 2016). A pretest of this scale indicated that some FLEs were uncertain about the meaning of several of the scale items, especially those containing unfamiliar words and idiomatic expressions. Consequently, we reworded six of the original items to clarify their meaning. Respondents had to indicate their answers on a seven-point scale ranging from 0 = never to 6 = always.

Justification for aggregating FLEs' individual-level responses to the store level: Although the three FLE-rated constructs – SO-HPWS, work engagement, and service climate – were all measured with responses provided by individual FLEs, we used a direct consensus composition approach (Chan 1998) to aggregate the individual-level employee responses to represent these constructs as collective (i.e., shared) constructs at the store level of analysis. These items were worded to refer to the respondents themselves (Krasikova and LeBreton 2019). For example, to measure work engagement with the UWES-9 scale, we asked respondents *inter alia* to indicate the extent to which they agreed or disagreed with the following statement: “When I get up in the morning, I feel like going to work.” Such individual-level items can only represent a construct at a higher level of analysis if there is sufficient agreement or consensus in the responses of respondents from the same higher-level unit (Chan 1998). Researchers use aggregation statistics such as $r_{wg(j)}$, ICC(1), and ICC(2) to evaluate the degree of agreement in individual-level responses (Krasikova and LeBreton 2019). If the aggregation statistics indicate sufficient agreement in the individual-level responses, these can be aggregated to represent the construct at a higher level of analysis (Krasikova and LeBreton 2019). We present and discuss the aggregation statistics for the three employee-rated constructs later, in Sect. 4.3. Several previous studies have used a similar approach to operationalize the three employee-rated constructs at higher levels of analysis (e.g., García-Buades et al. 2016; Jiang et al. 2015; Wang and Xu 2017).

3.2.2 Store manager questionnaire

The store managers engaged actively with the FLEs in their respective stores each day and were thus able to evaluate the FLEs' in-role and extra-role service performance. We used two five-item, five-point Likert scales developed by Bettencourt and Brown (1997) to measure the store managers' perceptions of the collective in-role and extra-role service performance of the FLEs in their respective stores. Following previous studies (Jiang et al. 2015; Linuesa-Langreo et al. 2017), the store managers were asked to consider the *collective* behavior of all the FLEs working in their respective stores when answering the scale items. Since the scale items focused on FLEs' collective in-role and extra-role service behaviors, these responses were already at a store level of analysis and did not require further aggregation.

3.2.3 Customer questionnaire

The participating retailer specifically requested that we keep the customer questionnaire as short as possible so as not to overburden respondents or negatively impact their shopping experience. Consequently, *customers' overall satisfaction* with their store was measured with Ferraro et al.'s (2017) three-item, five-point Likert scale (where 1 = strongly disagree; 5 = strongly agree). *Customers' store loyalty* was measured with a four-item, five-point rating scale. The scale points were labeled as 1 = Very unlikely, 2 = Unlikely, 3 = Neither likely nor unlikely, 4 = Likely, and 5 = Very likely. Three of the scale items were taken from the loyalty dimension of Zeithaml et al.'s (1996) behavioral intentions scale, while the fourth item was adapted from Dutta et al.'s (2007) repurchase intention scale. We decided to add the fourth item from Dutta et al. (2007) because its wording ("Shop at this [brand name] store the next time you need to shop for tiles, bathroom ware and related products") better reflected store loyalty than the remaining two loyalty indicators in Zeithaml et al.'s (1996) behavioural intentions scale, which both reflected customers' intentions to recommend the store to others. Following Conway and Briner (2014) and Homburg et al. (2009), we also used a direct consensus composition approach to evaluate the degree of within-store agreement in customers' satisfaction and loyalty ratings (see Sect. 4.3). Thereafter, we aggregated these ratings to create an average store-level customer satisfaction and loyalty score for each store.

4 Results

4.1 Common method bias

We implemented several of the procedural remedies that MacKenzie and Podsakoff (2012) recommended to counteract common method bias. We obtained data on the focal constructs from different sources: the FLEs provided data on SO-HPWSs, work engagement, and service climate; the store managers rated the FLEs' collective in-role and extra-role service performance; and the customers provided data on overall customer satisfaction and store loyalty. The respondents were encouraged to

give honest answers, and we emphasized that participation in the study was voluntary and anonymous. The employee questionnaire used different scale point labels to measure the three focal constructs. Furthermore, the three questionnaires used in the study were pretested to ensure that each respondent group understood the survey questions correctly. Finally, we presented the scales measuring the six SO-HPWPs in the employee survey in random order. We also randomized the order in which the individual rating scale items were presented to the respondents in both the employee and the manager surveys.

Similar to previous studies (Hoang et al. 2018; Kang and Busser 2018), we evaluated the potential impact of common method bias on the individual-level responses through a χ^2 difference test to compare the fit of the hypothesized multi-factor measurement model with a one-factor model in which all the manifest indicators loaded on a single latent factor (Cooper et al. 2020). Since we employed the WLSMV estimator to compare the two measurement models, we conducted the χ^2 difference test with the DIFFTEST option in Mplus (Brown 2015). For all three samples, the one-factor measurement models exhibited a significantly poorer fit to the data than the hypothesized models (i.e., employee sample: root mean square error of approximation (RMSEA)=0.03 and standardized root mean square residual (SRMR)=0.03 for the eight-factor model vs RMSEA=0.13 and SRMR=0.13 for the one-factor model; manager sample: RMSEA=0.02, and SRMR=0.05 for two-factor model vs RMSEA=0.15 and SRMR=0.10 for one-factor model; and customer sample: RMSEA=0.05, and SRMR=0.01 for two-factor model vs RMSEA=0.15 and SRMR=0.04 for one-factor model). Common method bias, therefore, was not a concern in the study's data.

4.2 Validity and reliability assessment

We evaluated the dimensionality and psychometric properties of the employee-, manager-, and customer-rated scales separately with a series of confirmatory factor analyses (CFAs). Since Mardia's test for multivariate kurtosis indicated that the assumption of multivariate normality was violated in the employee and the customer data, the CFAs were all conducted with robust diagonally weighted least squares estimation using the WLSMV estimator in Mplus (Finney et al. 2016). The CFA results are shown in Table 3. The loadings of all the items on their respective factors

Table 3 Measurement models

Model*	CMIN	DF	CMIN/DF	P-value	CFI	RMSEA	SRMR
1	1380.58	751	1.84	0.001	0.98	0.03 (90% CI=0.03–0.04)	0.03
2	34.92	34	1.03	0.001	0.99	0.02 (90% CI=0.00–0.09)	0.05
3	60.20	13	4.63	0.001	0.99	0.05 (90% CI=0.04–0.06)	0.01

*Model 1 (employee data; n=781)=eight factor model comprising six SO-HPWPs, work engagement, and SC in which these constructs were modelled as first-order latent variables; Model 2 (store manager data; n=70)=two-factor CFA comprising in-role and extra-role service performance; Model 3 (customer data; n=803)=two-factor model comprising customer satisfaction and store loyalty

were statistically significant, with completely standardized loadings ranging from 0.68 (employee-related scale) to 0.94 (manager scale). It should be noted that the decision to combine Zeithaml et al.'s (1996) and Dutta et al.'s (2007) scale items seems to be justified when considering that the four items used all had standardised factor loadings of 0.88 or larger on the store loyalty latent variable with no cross-loadings on any other latent variables. In addition, when considering the reliability results (see Table 4), it can be concluded that the four items were all appropriate indicators of the latent variable of store loyalty.

Table 4 provides the construct reliability (CR), individual-level Cronbach's alpha (α), and average variance extracted (AVE) for each of the three measures. All the scales had CR and α values larger than 0.70, indicating adequate internal consistency reliability (Hair et al. 2019). The square roots of the AVE values were all larger than the correlations between the study constructs, confirming these scales' discriminant validity (Malhotra et al. 2017).

4.3 Data aggregation

Since this study's hypotheses were all tested at a store level of analysis, we had to aggregate the individual-level employee and customer ratings to the store level. To justify this aggregation, we calculated $r_{wg(j)}$, ICC(1), and ICC(2) (Biemann et al. 2012; LeBreton and Senter 2008).

We calculated $r_{wg(j)}$ separately for each store. It indicates the proportion of variance in individual-level ratings that can be attributed to the within-unit agreement among respondents from the same store (LeBreton and Senter 2008). As Table 5 shows, the mean and median values of $r_{wg(j)}$ for each of the employee- and customer-rated constructs, based on both a uniform and a slightly skewed null distribution, were all larger than 0.70, indicating strong to very strong within-store agreement in respondents' ratings of all these constructs (Biemann et al. 2012; LeBreton and Senter 2008). Overall, this indicates that there was sufficient within-store agreement in the individual-level ratings of all the constructs to justify their aggregation to the store level.

Next, we calculated ICC(1) for each employee- and customer-rated construct across all the stores. ICC(1) reflects the proportion of the total variance in respondents' individual-level ratings that are explained by unit membership, with values of 0.01, 0.10, and 0.25 indicating small, medium, and large effects respectively (LeBreton and Senter 2008). As Table 5 indicates, the ICC(1) values provided evidence for a store-level effect (LeBreton and Senter 2008) based on a large effect size for SO-HPWSs (0.28), a medium-to-large effect size for service climate (0.23), and a medium effect size for work engagement (0.12). The ICC(1) values of customer satisfaction and store loyalty were 0.09 and 0.10 respectively, representing small-to-medium effects (LeBreton and Senter 2008). Although these values seem small, they are comparable to the ICC(1) values reported for customer satisfaction (Conway and Briner 2014; Weller et al. 2020) and for store loyalty (Homburg et al. 2009) reported in previous studies. These ICC(1) values also provided support for a

Table 4 Descriptive statistics, psychometric properties, and bivariate Pearson's correlations among the individual-level employee-, manager- and customer-rated variables

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	0.94	0.89	0.47	0.41	0.88					
4. Non-financial rewards and 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	0.89	0.33	0.33	0.23	0.33	0.32	0.29	0.82	
8. SC	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						
Customer-rated variables (n = 803)												
1. Customer satisfaction	4.67	0.53	0.92	0.89	0.90							
2. Store loyalty	4.70	0.48	0.94	0.89	0.69	0.89						

SD Standard deviation, CR Composite reliability, α individual-level Cronbach's alpha

All correlations are statistically significant at the 0.01 level (two-tailed). The square roots of the average variance extracted (AVE) appear in bold on the diagonal

Table 5 Aggregation statistics

Variable	Mean / median r_{wgt} based on a uniform distribution	Mean / median r_{wgt} based on a slightly skewed distribution	ICC(1)	ICC(2)	One-way ANOVA
Employee-rated constructs					
SO-HPWSs	0.96/0.98	0.92/0.97	0.28	0.81	$F(69,711) = 5.27, p < .001$
SC	0.95/0.95	0.90/0.92	0.23	0.77	$F(69,711) = 4.40, p < .001$
Work engagement	0.96/0.98	0.92/0.97	0.12	0.59	$F(69,711) = 2.45, p < .001$
Customer-rated constructs					
Customer satisfaction	0.94/0.96	0.89/0.93	0.09	0.54	$F(69,733) = 2.16, p < .001$
Store loyalty	0.96/0.97	0.92/0.95	0.10	0.57	$F(69,733) = 2.31, p < .001$

store-level effect in the customer satisfaction and store loyalty ratings (LeBreton and Senter 2008).

Finally, we calculated ICC(2), which estimates the extent to which unit-level mean scores reliably distinguish between units, with ICC(2) values ≥ 0.70 generally considered acceptable (LeBreton and Senter 2008). As Table 5 indicates, the ICC(2) values for SO-HPWSs and service climate both exceeded the traditional cut-off of 0.70. Despite the ICC(2) value for work engagement being lower than the traditional cut-off of 0.70, it almost met Glick's (1985) lower benchmark of 0.60, as applied in previous unit-level studies (e.g., Barrick et al. 2015; Eldor 2020). These ICC(2) values collectively supported the aggregation of the individual-level ratings of SO-HPWSs, service climate, and work engagement to the store level. Despite the ICC(2) values for customer satisfaction and store loyalty being lower than 0.70, they were comparable with previous studies (Greenslade and Jimmieson 2011; Homburg et al. 2009). It should also be noted that low ICC(2) values should not prevent data aggregation if it is justified by theory and supported by satisfactory values for $r_{wg(j)}$ and ICC(1) and there is a statistically significant between-unit difference in the focal variables (Eldor 2020; Tremblay and Simard 2018).

Based on these findings, we proceeded to aggregate all the individual-level employee and customer ratings to the store level by calculating store-level composite scores.

4.4 Store-level composite scores

We calculated store-level composite scores by averaging the aggregated scores across the items in each multiple-item scale contained in the employee and customer questionnaires. For SO-HPWSs, we calculated a single store-level composite score instead of separate composite scores for the six SO-HPWSs measured in this study, thereby reflecting a central premise of strategic HRM research, namely, that the impact of HPWSs is best understood by investigating the overall HPWS rather than its constituent HPWSs in isolation (Chuang et al. 2013; Liao et al. 2009). The use of a single composite score to represent SO-HPWSs also ensures a favorable ratio of sample size to free parameters (Chuang and Liao 2010). To create this score, we used the subscale aggregation approach applied in several previous studies (Chuang and Liao 2010; Jiang et al. 2015) by first calculating a subscale score for each of the six SO-HPWSs measured by averaging FLEs' aggregated responses to the items in each subscale. This was justified by the high store-level Cronbach's alpha values obtained for all six subscales (average $\alpha=0.95$, ranging from 0.89 to 0.97). Thereafter, we created the single composite score representing SO-HPWSs by averaging the six subscale scores calculated (justified by the high store-level Cronbach's alpha value of 0.94 calculated across the six subscale scores).

Since the store managers rated the collective in-role and extra-role service performance of all the FLEs in their respective stores, their responses were already at the store level and did not require further aggregation. We created store-level composite scores for in-role and extra-role service performance by averaging each store manager's ratings on the applicable scale items.

Next, we calculated Cronbach's alpha at the store level to align the reliability estimates with the level of analysis at which a study's hypotheses were tested (Chen et al. 2004; Mathieu et al. 2006). All the Cronbach's alpha values exceeded 0.70, indicating acceptable internal consistency reliability at a store level (see the values in bold in Table 6).

4.4.1 Store-level structural model and hypothesis testing

Because of the small store-level sample size ($n=70$), we used a single-indicator path analysis approach to test the store-level structural model shown in Fig. 1. We tested the model with maximum likelihood estimation in Mplus, because Mardia's test of multivariate kurtosis did not indicate a problem with multivariate normality (Byrne 2016).

To incorporate measurement error into the model, we set the path from each latent variable to its composite scale score to the square root of the specific measure's reliability. We also set the random error variance of each single-item indicator to 1 minus its reliability multiplied by the scale score's variance (i.e., $[1 - \text{reliability}] \times \text{variance}$). We used this modeling approach because it allows for the evaluation of structural models when the unit-level sample size does not meet traditional sample size requirements (Jiang et al. 2015; Maynard et al. 2019; Susskind et al. 2018a). This approach also enables researchers to incorporate measurement error into their analyses (Greenslade and Jimmieson 2011). Following previous studies (e.g., Chen et al. 2004; Mathieu et al. 2006), we used the store-level Cronbach's alpha values as reliability indicators to ensure alignment with the level of analysis at which we tested the model.

To assess the overall fit of the structural model, we used the chi-square goodness-of-fit statistic (χ^2), comparative fit index (CFI), and SRMR as fit indices, and adopted $\text{CFI} \geq 0.95$ and $\text{SRMR} < 0.08$ as thresholds for acceptable model

Table 6 Store level means, standard deviations, and Pearson's correlations

	Mean	SD	Correlations							
			1	2	3	4	5	6	7	
1. SO-HPWSs	4.01	0.38	0.98							
2. Work engagement	5.53	0.33	0.56**	0.93						
3. SC	4.17	0.30	0.83**	0.63**	0.92					
4. In-role service performance	3.97	0.53	0.37**	0.32**	0.40**	0.81^a				
5. Extra-role service performance	4.11	0.58	0.39**	0.16	0.49**	0.59**	0.85^a			
6. Customer satisfaction	4.68	0.21	0.39**	0.23	0.42**	0.14	0.20	0.93		
7. Store loyalty	4.71	0.20	0.33**	0.18	0.36**	0.19	0.23	0.81**	0.95	

$n=70$, *SD* standard deviation

** $p < .05$ (2-tailed)

^aBecause the store manager evaluated the collective in-role and extra-role service performance of all the employees in their stores, the associated Cronbach's alpha values, appearing in bold on the diagonal, are also at the store level

fit (Hu and Bentler 1999). As Kenny et al. (2015) recommended, we did not use the RMSEA as a fit index because of the study's small unit-level sample size and the structural model's small degrees of freedom. Following Chen et al. (2018) and Tremblay and Simard (2018), we used CFI and SRMR as fit indices instead. Finally, we estimated the correlation between the disturbance terms for both in-role and extra-role service performance (this statistic is added by default in Mplus).

The SEM results indicated that the structural model achieved acceptable fit: $\chi^2(11) = 11.184$; $\chi^2/df = 1.017$; CFI = 0.999; SRMR = 0.034. Table 7 provides the standardized and unstandardized path coefficients.

Table 7 shows that seven of the nine hypotheses were supported. SO-HPWSs positively predicted both collective work engagement ($\beta = 0.58$) and service climate ($\beta = 0.73$), thus supporting H1 and H2, with work engagement positively predicting service climate ($\beta = 0.25$), supporting H3. Service climate positively predicted customer satisfaction ($\beta = 0.46$), in-role service performance ($\beta = 0.47$) and extra-role service performance ($\beta = 0.53$), thereby supporting H4, H5, and H6. Customer satisfaction positively predicted store loyalty ($\beta = 0.86$), supporting H9. Since in-role and extra-role service performance were not statistically significant predictors of customer satisfaction, H7 and H8 were not supported. The model explained 75% of the variance in store loyalty ($R^2 = 0.75$), 21% of the variance in customer satisfaction ($R^2 = 0.21$), 81% of the variance in service climate ($R^2 = 0.81$), 22% of the variance in in-role service performance ($R^2 = 0.22$), 28% of the variance in extra-role service performance ($R^2 = 0.28$), and 34% of the variance in collective work engagement ($R^2 = 0.34$). The covariance between the disturbance terms of in-role and extra-role service performance was statistically significant with a standardized estimate of 0.62 ($p < 0.001$) (this statistic is added by default in Mplus).

Table 7 Standardized and unstandardized path coefficients of the structural model

Hypothesized relationship	Standardized path coefficients	Unstandardized path coefficients	Hypothesis supported
H1: SO-HPWSs → Work engagement	0.58***	0.50***	Supported
H2: SO-HPWSs → SC	0.73***	0.58***	Supported
H3: Work engagement → SC	0.25**	0.23**	Supported
H4: SC → Customer satisfaction	0.46***	0.32**	Supported
H5: SC → In-role service performance	0.47***	0.82***	Supported
H6: SC → Extra-role service performance	0.53***	1.00***	Supported
H7: In-role service performance → Customer satisfaction	- 0.07	- 0.03	Not supported
H8: Extra-role service performance → Customer satisfaction	0.04	0.02	Not supported
H9: Customer satisfaction → Store loyalty	0.86***	0.81***	Supported

*** $p < .001$

** $p < .01$

5 Discussion

5.1 Theoretical implications

This store-level study investigated the relationships among FLEs' shared perceptions of the SO-HPWSs in their respective stores, their collective work engagement, and their shared perceptions of service climate. Additionally, the study examined how these shared employee perceptions influence store managers' evaluations of the FLEs' collective in-role and extra-role service performance, as well as customer satisfaction and loyalty. All the relationships were tested at the store level of analysis. To our knowledge, this is the first study to investigate these relationships simultaneously on store-level data obtained from a matched sample of FLEs, store managers, and customers.

The finding that FLEs' shared perceptions of the SO-HPWS in their store positively predict their collective work engagement is important for two reasons. First, this finding contributes to the limited literature on the unit-level relationship between HPWSs and employees' collective work engagement (Barrick et al. 2015; Lin et al. 2024; Schneider et al. 2018). Second, the relationship between employees' shared perceptions of SO-HPWS and their collective work engagement has received little research attention. As far as we could determine, only two studies (Karatepe 2013; Luu 2019) have previously investigated this relationship, but at an individual level of analysis. More recently, Lin et al. (2024) explored the same relationship at a unit level. However, these authors relied on managers' ratings of SO-HPWSs, which may differ substantially from frontline employees' perceptions of them. To our knowledge, this is the first study that has specifically investigated the relationships between frontline employees' shared perceptions of SO-HPWSs and collective work engagement with both constructs modeled at a store level. This finding indicates that a store's SO-HPWS is a crucial resource that stimulates FLEs' collective work engagement (Barrick et al. 2015).

The finding that store-level SO-HPWSs predict service climate confirms previous research (Hong et al. 2013; Jiang et al. 2015; Lin and Liu 2016). However, unlike previous studies that investigated managers' evaluations of SO-HPWSs, our paper focused specifically on FLEs' perceptions of them. This is important, because there is often a gap between FLEs' evaluations of the SO-HPWSs they experience and those of their managers (Jiang et al. 2017; Liao et al. 2009).

Our finding that collective work engagement predicts service climate at the store level confirms the unit-level findings of Salanova et al. (2005) and the individual-level findings of Kopperud et al. (2014). Thus, this paper adds to the limited research on collective work engagement as an antecedent of service climate, thereby supporting Bowen and Schneider's (2014) and Schneider et al.'s (2018) hypothesis that work engagement serves as a foundation for a positive service climate.

Our results confirm the meta-analytical results of Hong et al. (2013) and the findings of a more recent primary study by Graham et al. (2020) that service climate predicts customer satisfaction at a unit level of analysis. This finding thus

supports Schneider et al.'s (2005) argument that the service climate that FLEs experience in their workplace correlates with the service experiences they provide to their customers, ultimately translating into customer satisfaction.

Our finding that service climate positively predicts FLEs' collective in-role service performance supports the meta-analytical results of Hong et al. (2013), and the results of three more recent primary studies (Jiang et al. 2015, 2016; Linuesa-Lanagro et al. 2017). Similarly, the finding that service climate positively predicts extra-role service performance is also aligned with the meta-analytic results of Hong et al. (2013) and with the unit-level study of Tang and Tang (2012). To our knowledge, this paper is the first to investigate the store-level relationships between service climate and both in-role and extra-role service performance.

Surprisingly, we found that store managers' ratings of FLEs' collective in-role and extra-role service performance were not statistically significant predictors of customer satisfaction. These findings are counterintuitive. Previous unit-level studies have found that both perceptual (Bettencourt and Brown 1997; Liao and Chuang 2004) and objective (Yavas et al. 2010) measures of FLEs' in-role service performance positively predict customer satisfaction. However, only Yavas et al. (2010) included service climate, and found that an objective measure of employees' in-role service performance completely mediated the relationship between service climate and customer satisfaction at the unit level of analysis. Similarly, previous unit-level research reported a direct positive relationship between FLEs' extra-role service performance and customer satisfaction (Schneider et al. 2005; Tremblay et al. 2018). However, only Schneider et al. (2005) included service climate; they reported that extra-role service performance completely mediates the relationship between service climate and customer satisfaction. Thus, when comparing our results to previous studies, it is important to note that relatively few unit-level studies have investigated the relationships between in-role service performance, extra-role service performance, and customer satisfaction. It is furthermore important to note that *none of these studies* simultaneously included in-role service performance, extra-role service performance, and service climate as direct predictors of customer satisfaction, as we did in the current study. The available studies were conducted in different contexts, used different scales to measure the focal constructs, relied on different raters for each construct, had different sample sizes, and tested different structural models. As a result, it is difficult to compare these studies' results. Thus, by considering this detailed overview, we can offer two potential factors that may have contributed to the fact that the correlations and corresponding path coefficients between in-role service performance and customer satisfaction, as well as between extra-role service performance and customer satisfaction, were not statistically significant in our study. First, although our study's store-level sample size was larger than most similar studies, the sample size was still too small to ensure that our study had sufficient power to detect bivariate correlations of 0.14 and 0.20 and the corresponding path coefficients in our study's structural model as statistically significant. Second, we believe that range restriction in the store-level customer satisfaction scores may have attenuated the store-level relationships between both in-role and extra-role service performance and customer satisfaction. For example, we found that all 70 stores had customer satisfaction scores of 4.10 or larger in the five-point rating scale used

to measure this construct, while 94.3% of the stores had scores of 4.5 or larger. This indicates a restriction in the range of the store-level customer satisfaction scores that may have attenuated the correlations between in-role and extra-role service performance and customer satisfaction.

Our findings also confirm the importance of overall customer satisfaction as a predictor of customers' store loyalty at the store level of analysis. While customer satisfaction is widely regarded as an important predictor of loyalty at an individual level of analysis (Hogreve et al. 2017; Pan et al. 2012; Szymanski and Henard 2001), few unit-level studies have investigated the customer satisfaction-loyalty relationship in retail settings (Susskind et al. 2018b; Towler et al. 2011).

Finally, our findings not only support the service climate framework proposed by Bowen and Schneider (2014), but also contribute to the advancement of service climate theory by illustrating the interrelationships between SO-HPWSs, work engagement, service climate, and in-role and extra-role service performance, which ultimately result in customer satisfaction and store loyalty. Our findings, therefore, provide theoretical insights into the retailing discipline by illustrating how FLEs should be used as an offensive marketing strategy against not only other brick-and-mortar retailers but, even more importantly, the increasing number of online competitors. Our findings contribute to theory by providing evidence for the assertion by Briggs et al. (2020, p. 277) that "... *the ability to effectively provide customer service face-to-face may be one of the few areas in which brick-and-mortar retailers can sustain a competitive advantage over their online foes.*"

5.2 Managerial implications

To ensure store loyalty, retailers should invest in SO-HPWSs that are geared toward establishing a positive service climate at the store level, since doing so would result in customer satisfaction, which, in turn, would lead to store loyalty. Our results indicate that investments in SO-HPWSs would directly enhance FLEs' shared perceptions of the service climate in their store and indirectly enhance these perceptions by bolstering FLEs' work engagement. FLEs' perceptions of the SO-HPWS in their store should thus be strengthened by a coordinated system of service-focused HRM practices. These could include service-oriented recruitment and selection, service-focused training, developmental performance feedback focused on employees' in-role and extra-role service behaviors, compensation based on service performance, service-oriented recognition programs, involving employees in service-related decisions, and the empowerment of FLEs to deal independently with service-related problems. A well-designed SO-HPWS would signal to FLEs that the provision of high-quality customer service is expected, supported, and rewarded (Jiang et al. 2015; Tang and Tang 2012) and thus positively impact both their in-role and their extra-role service performance. Specifically, the training programmes should aim to enhance FLEs' customer service skills (Jin 2024; Tomazelli et al. 2024), rather than focus on store policies and general knowledge (Briggs et al. 2020). Store managers should also use short surveys or develop interview schedules that could be used when interviewing candidates for vacant positions in order to ensure that only

those candidates with excellent service skills and a passion for interacting with customers are appointed in service delivery roles (Jung et al. 2022; Sok et al. 2023). It is important to note that, as supported by our study findings, any investment in strengthening the SO-HPWSs that employees experience should strengthen their shared service climate perceptions. This, in turn, should indirectly bolster their in-role and extra-role service performance. Store managers could further strengthen the service climate in their stores by displaying service-oriented leadership behaviors and by ensuring that FLEs have the necessary equipment, systems, and back-office support to provide high-quality customer service (Bowen and Schneider 2014).

Additionally, store managers should not only consider rewarding in-role service performance, but also formally recognize those extra-role performances that are repeated and visible to the managers and to other staff. Such rewards could include weekly or monthly bonuses or complimentary tickets to sports events, concerts, or movies. Managers could also recognize FLEs for their extra-role performances through employee-of-the-month awards.

This paper's findings confirm that service climate is an important variable linking FLEs' shared perceptions of the SO-HPWSs in their store and their collective work engagement to their in-role and extra-role service performance and, more importantly, to customers' satisfaction and store loyalty. Retail managers should thus strive to create a strong, positive service climate in their stores. The findings also show that store managers can specifically bolster customers' overall satisfaction with a store visit by strengthening the service climate in their respective stores. To do so, store managers should track customers' service quality and satisfaction perceptions and share the results with FLEs; provide FLEs with the necessary tools, technology, and resources to enable them to provide high-quality service; and improve the quality of the internal service that FLEs receive from back-office support functions (Bowen and Schneider 2014; Schneider et al. 2005).

Finally, it should be reiterated that, if store managers do not appoint service-oriented FLEs and do not support FLEs with the necessary SO-HPWSs and a positive service climate, attempts to cultivate store loyalty will be in vain (Sok et al. 2023). It is the appointment and management of service-focused FLEs and the establishment of a rewarding service climate that results in customer satisfaction and, ultimately, store loyalty.

6 Limitations and directions for future research

The small store-level sample size ($n=70$) is this paper's first limitation. While the ratio of estimated parameters to sample size in this study compares favorably with that reported in previous research (Chi et al. 2011; Greenslade and Jimmieson 2011; Susskind et al. 2018b), the small sample size precluded the use of RMSEA as a fit index, and may have affected the power of the SEM analysis to detect individual path coefficients as statistically significant. Future studies should replicate the structural model tested in this paper in larger unit-level samples.

The variability in store-level customer satisfaction scores across the participating stores was small, suggesting range restriction in these scores. This may have led

to an underestimation of the store-level correlations between in-role service performance and customer satisfaction, and between extra-role service performance and customer satisfaction (Klein and Kozlowski 2000). Additionally, the small between-store variability in customer satisfaction scores may have attenuated the corresponding ICC(1) and ICC(2) values (Burke et al. 2018). To prevent these problems, future researchers could include seven or more scale points in their customer satisfaction measures (Anderson and Fornell 2000) or use a disconfirmation of expectations scale (Danaher and Haddrell 1996).

Following previous research (Jiang et al. 2015; Schneider et al. 2005), the current study was conducted across multiple stores of a single retailer. This may limit the generalizability of the paper's results to other retailers and service contexts. Future research should test the replicability of this paper's findings in a more diverse sample of independently functioning retailers or other service organizations. Finally, since we collected data on FLEs' perceptions of the SO-HPWS they experience in their respective stores, future studies could compare store managers' and employees' perceptions of SO-HPWSs to establish similarities or differences between these perceptions.

Appendix A

Scales and scale items used in the current study	Standardized factor loading
<i>Employee-rated scales (n=781)</i>	
<i>SO-HPWSs</i>	
<i>Staffing (AVE=0.74, CR=0.93, $\alpha=0.90$)</i>	
My store selects new employees with the necessary skills to serve customers well	0.82
My store carefully evaluates the ability of job applicants to provide high-quality service to customers when hiring new staff	0.86
My store carefully evaluates the customer service skills of job applicants before making new appointments	0.87
My store selects new employees based on their ability to provide high-quality customer service	0.88
My store makes a lot of effort to select the right people for customer service jobs	0.87
<i>Training (AVE=0.79, CR=0.94, $\alpha=0.90$)</i>	
In my store, we receive enough training on how to provide excellent customer service	0.88
We regularly receive customer service training in my store	0.86
My store invests a lot of time and effort on customer service training	0.90
My store emphasizes training to improve our customer service skills	0.91
<i>Financial compensation (AVE=0.78, CR=0.93, $\alpha=0.89$)</i>	
In my store, our profit share incentive is influenced by the quality of service we deliver to customers	0.89
In my store, part of our profit share incentive depends on how well we serve customers	0.88
We get more money for providing good customer service	0.85

Scales and scale items used in the current study	Standardized factor loading
We will get a larger profit share incentive for providing high levels of service to customers	0.91
<i>Non-financial rewards & recognition (AVE=0.68, CR=0.92, $\alpha=0.88$)</i>	
My store gives recognition to employees who are excellent in serving customers	0.87
My store gives recognition to employees for new ideas on improving customer service	0.88
In my store, if we improve the quality of service to customers, we will be recognized and rewarded	0.82
The recognition we get in my store is based on the customers' evaluations of our service	0.81
In my store, employees who provide excellent customer service will be promoted	0.75
<i>Involvement (AVE=0.72, CR=0.93, $\alpha=0.88$)</i>	
Our store operator asks our opinions on how to improve the customer service of this store	0.82
In my store, employees' suggestions for customer service improvements are usually implemented	0.86
In my store, employees have opportunities to suggest improvements to service processes	0.87
In my store, we often participate in decisions about customer service	0.86
Our store management shares information about customer satisfaction and customer surveys with us	0.84
<i>Empowerment (AVE=0.59, CR=0.81, $\alpha=0.71$)</i>	
In my store, we are encouraged to take initiative when dealing with customers	0.78
In my store, the store operator trusts us to use good judgement when dealing with customers	0.76
In my store, we have the flexibility to do our jobs well within the boundaries of company policy and financial considerations	0.77
<i>Work engagement (AVE=0.67, CR=0.95, $\alpha=0.89$)</i>	
I have a lot of energy when I am at work	0.83
At my job, I feel strong and full of energy	0.88
I like my job very much	0.86
My job inspires me	0.83
When I get up in the morning, I feel like going to work	0.86
I feel happy when I am working hard	0.67
I am proud of the work that I do	0.81
I give all my attention to my work	0.73
I am very excited when I am working	0.86
<i>Service climate (AVE=0.53, CR=0.87, $\alpha=0.82$)</i>	
How would you rate your store on ...	
... the overall quality of service provided to customers?	0.71
... the effectiveness of your store's communication efforts with customers?	0.71
... the effectiveness of your store's communication efforts with employees?	0.78
... the tools, technology, and other resources provided to employees to support the delivery of superior quality service?	0.68
... the knowledge and skills of employees in your store to deliver high quality service?	0.73
... the efforts to measure and track the quality of the service in your store?	0.77
Manager-rated variables (n = 70)	

Scales and scale items used in the current study	Standardized factor loading
<i>In-role service performance (AVE=0.67, CR=0.91, $\alpha=0.81$)</i>	
... perform all the tasks for customers that the company expects of them	0.70
... meet formal performance requirements when serving customers	0.81
... fulfil responsibilities to customers as specified in the “CTM Way” and related company policies	0.90
... adequately complete all the customer-service behaviours expected of them	0.80
... help customers with those things which are required of them	0.87
<i>Extra-role service performance (AVE=0.70, CR=0.92, $\alpha=0.85$)</i>	
... voluntarily assist customers even if it means going beyond their formal job requirements	0.75
... help customer with problems beyond what is expected or required	0.94
... often go above and beyond the call of duty when serving customers	0.75
... willingly go out of their way to satisfy customers	0.83
... frequently go out their way to help customers	0.89
Customer-rated variables (n = 803)	
<i>Customer satisfaction (AVE=0.80, CR=0.92, $\alpha=0.89$)</i>	
I am satisfied with my visit to this store	0.90
Shopping at this store was an enjoyable experience	0.89
My choice to shop at this store was a wise one	0.89
<i>Store loyalty (AVE=0.79, CR=0.94, $\alpha=0.89$)</i>	
Say positive things about this [brand name] store to other people	0.88
Consider this [brand name] store your first choice to buy tiles, bathroom ware and related products	0.88
Do more business with this [brand name] store in future	0.88
Shop at this [brand name] store the next time you need to shop for tiles, bathroom ware and related products	0.92

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Declarations

Conflict of interest The authors have no interests to declare. However, it should be noted that this paper forms part of a larger PhD thesis written in article format.

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