

A MULTILEVEL INVESTIGATION OF FACTORS INFLUENCING EMPLOYEE SERVICE PERFORMANCE AND CUSTOMER OUTCOMES

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Previous work on service performance has focused on either organization- or individual-level analysis. This multilevel study of 257 employees, 44 managers, and 1,993 customers from 25 restaurants demonstrated that both individual- and store-level factors were significantly associated with employee service performance: conscientiousness and extraversion explained within-store variance, and service climate and employee involvement explained between-store variance. Further, employee service performance aggregated to the store level explained between-store variance in customer satisfaction and loyalty.

In response to an increasingly competitive marketplace, growing research attention is being devoted to factors contributing to desirable customer outcomes. Front-line service employees, placed at the organization-customer interface and representing an organization to its customers, play a pivotal role in service encounters, which often involve dyadic interactions between customers and service employees (Solomon, Suprenant, Czepiel, & Guttman, 1985). Empirical evidence shows that, to the extent employees are able to deliver high-quality service, customers are more likely to generate favorable evaluations of service encounters, experience higher satisfaction, and increase their purchases and the frequency of their future visits (e.g., Borucki & Burke, 1999; Bowen, Siehl, & Schneider, 1989). Therefore, it is important to understand what predicts employee service performance. The purpose of this study was to develop and test a multilevel framework in which employee service performance was examined as a joint function of

employee individual characteristics and service environment characteristics.

Previous work on service performance has focused on either organization- or individual-level analysis. In work addressing organizational factors, a common theme is that if an organization values service and establishes practices that facilitate and reward excellent service, a “climate for service” is likely to emerge (Schneider, 1990). This service climate will in turn influence service performance, which will ultimately impact customer satisfaction (Borucki & Burke, 1999; Johnson, 1996). This body of literature emphasizes the impact of managerial practices and service climate on customer perceptions of service quality and business-unit financial performance at the store level of analysis (e.g., Borucki & Burke, 1999; Johnson, 1996; Schneider, White, & Paul, 1998). On the other hand, researchers who are interested in studying service performance at the individual level of analysis (e.g., Barrick & Mount, 1991; Frei & McDaniel, 1998) have linked employees’ personalities to their service performance. Both approaches have made significant contributions to explaining service performance. However, neither approach adequately accounts for service performance. The store-level-only (or macro) approach ignores meaningful individual differences, while the individual-level-only (or micro) approach neglects contextual factors that can significantly influence and constrain individual behavior (Kozlowski & Klein, 2000). Examining one level at a time prevents one from knowing whether factors at one level remain important in explaining service performance after

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factors at the other level are accounted for. Neither would one know how factors across different levels interact with one another and jointly determine service performance. Additionally, results obtained at one level may not generalize to another level without generation of specification errors (Kozlowski & Klein, 2000).

In fact, the only study that simultaneously examined individual differences and contextual factors provides an intriguing picture, indicating that personality traits are not related to employee customer service behavior once job characteristics are accounted for (Rogelberg, Barnes-Farrell, & Creamer, 1999). This study was limited in that it did not specify a conceptual framework for cross-level phenomena; conceptualized job characteristics at the individual level, thus measuring individual perception more than actual context; and contained hypothesis tests in which the hierarchical structure of the data was not considered. However, Rogelberg and colleagues' study did indicate that the whole might not simply be the sum of its parts, thereby underscoring the importance of examining the joint impact and the interactive effects of individual and situational factors.

The present study was an attempt to advance knowledge in this area in several ways. First, it bridged the macro and micro perspectives by developing a multilevel framework and providing a more comprehensive picture of what kind of employees engage in good service performance and, at the same time, what kind of organizational interventions facilitate service performance. Second, drawing on the theory of situational strength (Mischel, 1977), we further integrated the two levels by investigating interactions across levels to see whether the impact of individual personalities on service performance differed in different situations. Finally, recognizing that organizations do not "perform" and that it is the individuals in an organization who perform in ways that allow it to achieve desirable customer outcomes (Kozlowski & Klein, 2000), we examined to what extent employee service performance, when aggregated to the store level, could explain between-stores differences in observed customer outcomes. The current study is the first that we are aware of in which multilevel theory and method were applied to employee service performance. Using hierarchical linear modeling (HLM; Bryk & Raudenbush, 1992), we tested the proposed model using data on the employees, managers, and customers of restaurants in a chain in the U.S. Midwest. This study answers Bowen and Waldman's call for research that pulls different sources of data together so that scholars can "better understand the requirements and consequences of

customer-driven employee performance" (1999: 178).

THEORETICAL BACKGROUND AND HYPOTHESES

Employee Service Performance: Conceptualization and a Multilevel Perspective

Employee performance, in general, refers to behaviors that are relevant to organizational goals and that are under the control of individual employees (Campbell, McCloy, Oppler, & Sager, 1993). In service settings, customers have become an important factor in how employee performance is defined (Bowen & Waldman, 1999). Bowen and Schneider (1988) noted three defining characteristics of service—intangibility, simultaneous production and consumption, and customer "coproduction"—all of which imply that "the consumer experience is as important as, if not more important than, the consumer good" (Bowen & Waldman, 1999: 164–165). Further, the quality of the interaction between employee and customer is critical in determining customer satisfaction. Therefore, the behavior of the employee plays an important role in shaping the customer's perception of service quality. Basing performance standards explicitly on customer expectations encourages employees' engagement in behaviors that are particularly functional in achieving desirable customer outcomes (Bowen & Waldman, 1999). It is consistent with this customer-driven approach to employee performance that in this study we defined *employees' service performance* as their behaviors of serving and helping customers. Employee service performance hence is distinguished from *service effectiveness*, which refers to the results of service performance, such as customer satisfaction and retention. Factors beyond employees' control influence variance in effectiveness measures, but the behavioral measure of service performance we employed in this study is less contaminated (Campbell et al., 1993).

In what follows, we develop hypotheses regarding the antecedents and consequences of employee service performance. Implicit in the development of our theoretical framework is the recognition that an organization is an integrated system and that individual and organizational characteristics interact and combine to shape individual and organizational outcomes (Kozlowski & Klein, 2000). The contribution of this multilevel perspective to organizational science is twofold: Both top-down and bottom-up effects on organizational behavior are illuminated. A top-down approach establishes the need to conceptualize and assess organization, sub-

unit, and group factors that can affect individual perceptions, attitudes, and behaviors. A bottom-up method, on the other hand, makes salient the processes that operate to reduce the variability of individual perceptions and behaviors, thus facilitating common interpretations of the emergence and existence of collective phenomena (Kozlowski & Klein, 2000). Therefore, in addition to the individual differences factors that have been identified as important correlates of service performance in the literature, we identified relevant contextual features and expected that these factors would have top-down influences on employee service performance via both a *direct* and a *moderating* effect. Also consistent with this multilevel perspective was our expectation that individual employees' service performance would combine to form a collective phenomenon at the organizational level through bottom-up processes and would significantly relate to organizational effectiveness measures, including customer evaluation of service quality, customer satisfaction, and customer loyalty. In our multilevel theory building, we sought to "connect the dots, making explicit the links between constructs previously unlinked within the organizational literature" (Klein, Tosi, & Cannella, 1999: 243). Figure 1 depicts the theoretical framework of this study.

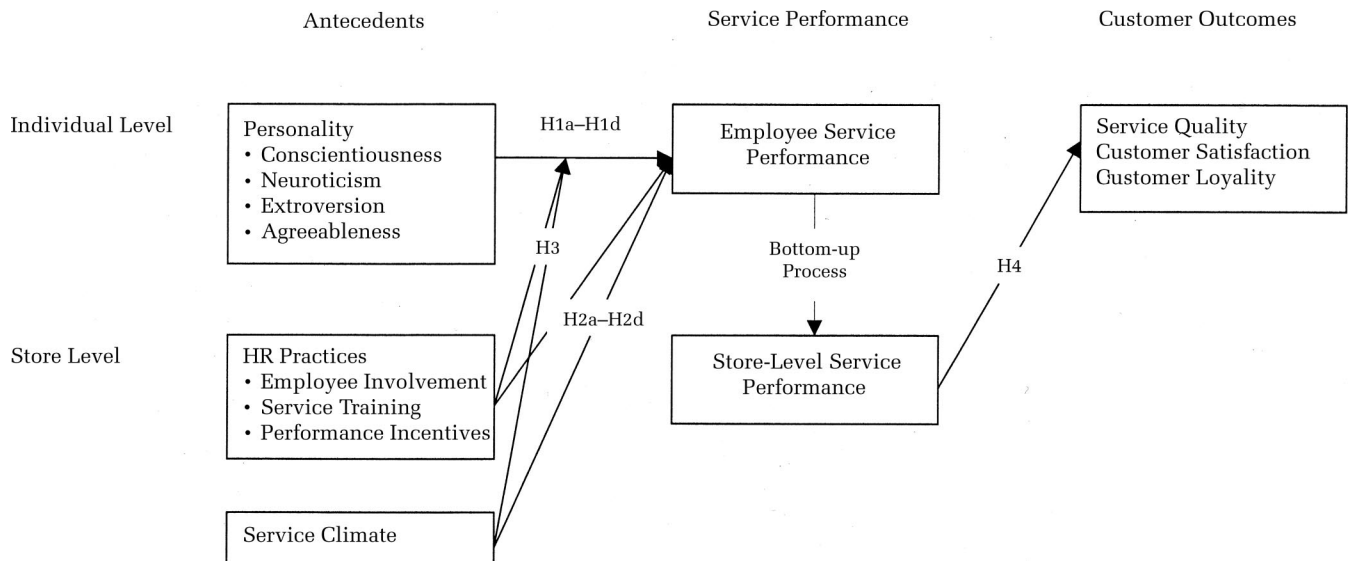
Individual-Level Antecedents of Service Performance: Personalities

Certain employees may be predisposed to engage in positive service-oriented behaviors. This study

employed the "Big Five" personality traits to examine effects of personality on service performance for two reasons. First, convincing evidence of the validity of the Big Five taxonomy has accumulated over the last few decades across different theoretical frameworks, measures, occupations, cultures, and sources of ratings (De Raad & Doddema-Winsemius, 1999; John & Srivastava, 1999). Second, the use of the unifying Big Five taxonomy instead of more specific personality traits facilitates the accumulation of knowledge and comparison of findings across studies of personality. There were theoretical and empirical reasons to expect that four of the Big Five personality dimensions would be related to service performance. Two of the traits, conscientiousness and neuroticism, were expected to be associated with performance in all jobs, and the other two traits, extraversion and agreeableness, were expected to be particularly relevant when performance involved interactions with other people, as it does in a service context (Barrick & Mount, 1991). In recent research, cognitive-motivational work orientations have been proposed as mediators between these personalities and job performance; such mediation would provide additional theoretical support for personality-service performance relationships (Barrick, Stewart, & Piotrowski, 2002).

Conscientiousness. Conscientious individuals are described as dependable, responsible, organized, hardworking, and achievement-oriented (Barrick & Mount, 1991). Because of these positive characteristics, conscientious people tend to do what is expected of them to accomplish work. Gellatly

FIGURE 1
A Multilevel Model of Service Performance



(1996) showed that conscientiousness related to performance through expectancy and goal choice. Barrick and colleagues (2002) also argued that conscientious individuals have higher intentions for achievement striving, which mediates the relationship between conscientiousness and job performance. Indeed, conscientiousness has been found to positively associate with job performance in all occupational groups tested in meta-analyses (Barrick & Mount, 1991, 1993). Additionally, results of Frei and McDaniel's (1998) meta-analysis revealed that conscientiousness was positively and strongly related to customer service orientation, a personality-based measure that had a mean validity of .50 predicting service-related criteria across the studies they analyzed.

Hypothesis 1a. Individual-level conscientiousness will be positively related to employee service performance.

Neuroticism. Common traits associated with neuroticism, the polar opposite of emotional stability, include being depressed, angry, anxious, temperamental, worried, and insecure (Barrick & Mount, 1991). It is argued that neurotic traits tend to inhibit the accomplishment of work tasks (Barrick & Mount, 1991). Barrick and coauthors also pointed out that the neuroticism traits "do not link to motivational goals and potentially detract from rather than enhance performance" (2002: 45). Two meta-analytic reviews have indicated a positive relationship between emotional stability and job performance (Salgado, 1997; Tett, Jackson, & Rothstein, 1991). Moreover, Mount, Barrick, and Stewart (1998) demonstrated that emotional stability was predictive of performance in jobs that involve considerable interpersonal interaction, particularly when the interaction involves helping and nurturing others. Finally, in their meta-analysis of research in service settings, Frei and McDaniel (1998) found that emotional stability correlated at a mean of .63 with various service-oriented measures. Therefore, we propose the following:

Hypothesis 1b. Individual-level neuroticism will be negatively related to employee service performance.

Extraversion. Extraverted people are sociable, gregarious, assertive, talkative, and active (Barrick & Mount, 1991). These traits trigger individuals' energy level and potency and also may lead to effective performance. Previous research has identified the desire to excel as a basic motivation of extraverts (e.g., Lucas, Diener, Grob, Suh, & Shao, 2000). Barrick and colleagues (2002) further demonstrated that status striving mediated the relation-

ship between extraversion and job performance for sales representatives. Research has shown a positive relationship between extraversion and the job performance of groups in occupations involving social interactions (Barrick & Mount, 1991, 1993). Since most of the tasks of service employees contain interactions with customers, we expected to observe that employees higher on extraversion would demonstrate better service performance.

Hypothesis 1c. Individual-level extraversion will be positively related to employee service performance.

Agreeableness. People who are agreeable are described as good-natured, forgiving, courteous, helpful, generous, and cooperative (Barrick & Mount, 1991). Barrick and colleagues (2002) argued that the trait of agreeableness is associated with the proximal motivational intention of communion striving, which stimulates actions directed toward obtaining acceptance from other people. Agreeable individuals are thus altruistic, sympathetic, and eager to help others, and they strive for cooperation rather than competition. Logically then, agreeable employees would be expected to be better at helping and serving customers. Indeed, the meta-analysis by Barrick and Mount (1991) showed a consistent, positive correlation between agreeableness and performance involving interpersonal interactions. Additionally, agreeableness was positively and strongly related to customer service orientation in Frei and McDaniel's work (1998). Thus,

Hypothesis 1d. Individual-level agreeableness will be positively related to employee service performance.

Store-Level Antecedents of Service Performance

As the employees of a store perform their work, they share contextual factors (store-level factors) that determine how effective they are. From the existing literature, we identified two important factors—service climate and human resource practices—and examined the relevant theoretical rationales and empirical work. We elaborate arguments drawn from this examination in the following subsections.

Service climate. There has been increasing awareness of the impact of organizational climate on employee behaviors. In general, the construct of organizational climate refers to shared perceptions among members of an organization regarding organizational policies, procedures, and practices (Schneider, 1990). Studies examining specific dimensions of climate, such as innovation climate

(e.g., Anderson & West, 1998), safety climate (e.g., Hofmann & Stetzer, 1996), and transfer of training climate (e.g., Tracey, Tannenbaum, & Kavanagh, 1995), have explained significant variance in specific behavioral outcomes. Climate determines how individuals behave by influencing how they think and feel about certain aspects of their environment (Salancik & Pfeffer, 1978). In particular, employees rely on cues from their surrounding work environments to interpret events, develop appropriate attitudes, and understand expectations concerning their behavior and its consequences (Salancik & Pfeffer, 1978). For example, when there exists a climate for safety, employees are more committed to safety, more likely to comply with safety rules and regulations, and less likely to be involved in accidents (e.g., Hofmann & Stetzer, 1996).

The current study examines climate and performance in the context of customer service. Service climate is defined as employees' shared perceptions of the policies, practices, and procedures that are rewarded, supported, and expected concerning customer services (Schneider et al., 1998). When there is a *climate for service*, employees have come to understand that superior customer service is expected, desired, and rewarded; other things being equal, they are more likely to provide good service. Some empirical evidence supports a relationship between service climate and employee service performance. For example, service climate has been shown to influence store-level service quality (e.g., Johnson, 1996; Schneider et al., 1998). We argue that favorable store-level service quality cannot be achieved without elevated service performance on the parts of individual employees inspired by the shared service climate and that a relationship between service climate and individual employee service performance will exist. Additionally, Borucki and Burke (1999) found a significant, positive relationship between service climate and employee service performance aggregated to the store level. Thus, we propose:

Hypothesis 2a. Store-level service climate will be positively related to employee service performance after individual-level personalities are controlled for.

Human resource practices. Human resource (HR) practices can play an important role in helping employees achieve high-quality service. These practices, on the one hand, provide employees with the skills, resources, and discretion they need to meet customer demands, making them *able to* deliver high-quality service. On the other hand, these practices may motivate employees to be more *willing to* provide good per-

formance. Our review of the literature on high-performance HR practices indicated employee involvement, training, and performance incentives as the most relevant for employee performance in service settings. These practices also closely capture the "foundation issues" specified by Schneider and coauthors (1998) that provide the fundamental support employees require to deliver service effectively. In what follows, we offer the theoretical rationales and empirical findings associated with each of these practices.

Involving employees by granting them discretion and inviting them to participate in decision making is one way organizations can improve service performance. Empowered employees can meet a wide range of customer demands and are able to share the information they collect about customer behaviors, thereby serving customers better and helping improve service quality. Research has indicated that service quality and customer satisfaction were enhanced when employees were involved in problem-solving idea generation (Schneider, Parkington, & Buxton, 1980) and in sharing customer evaluations (Johnson, 1996). Batt (1999) also found that service quality and sales were positively related to employee discretion and group self-regulation. Other research has shown that high-involvement work systems improved performance, reduced costs, and increased productivity (e.g., Appelbaum, Bailey, Berg, & Kalleberg, 2000; Huselid, 1995; Ichniowski, Shaw, & Prennushi, 1997). Thus,

Hypothesis 2b. Store-level employee involvement in decision making will be positively related to employee service performance after individual-level personalities are controlled for.

It is also reasonable to postulate that *service training* will increase employee service knowledge and skills and consequently improve employee service performance. Bishop (1990) documented that the increase in the productivity of newly hired employees was associated with their participation in company training programs. Bartel (1994) found a positive effect of training on employee productivity. Additionally, a meta-analytic review revealed that training and instruction practices had a positive effect on output quantity and quality and cost effectiveness (Guzzo, Jette, & Katzell, 1985). Other research has studied a more direct link between training and service performance. Evidence showed that new-employee formal training (Schneider & Bowen, 1985), general service training (Johnson, 1996), and gaining knowledge about an organization's environment and about service (Schneider et al., 1980) were helpful in achieving quality service and customer satisfaction. Batt

(1999) also showed that the more training employees were offered, the better was the service quality. On the basis of these previous research findings, we pose the following hypothesis:

Hypothesis 2c. Store-level service-related training will be positively related to employee service performance after individual-level personalities are controlled for.

It could be argued that as employees are provided with *performance incentives* (for instance, bonuses, wage raises, and promotions), they will be motivated to strive for excellent service. Many organizational theorists and managers have argued that incentives can motivate good performance and induce employees to comply with organizational goals. This view is consistent with motivational theories, according to which the extent to which people strive to meet their needs is associated with the level of “motivational force” they encounter. To induce greater motivational force, employers need to provide promising links between performance and reward systems and offer awards their employees value (Vroom, 1964). For instance, the meta-analysis by Guzzo and colleagues (1985) indicated that programs tying monetary rewards to individual-, group-, or organization-wide performance were related to productivity output. Additionally, performance incentives such as establishing reward contingencies (Schneider & Bowen, 1985) and recognizing superior service (Johnson, 1996) were found to relate to customer attitudes, overall quality, and employee service behavior. Thus,

Hypothesis 2d. Store-level service-performance incentives will be positively related to employee service performance, given controls for individual-level personality.

Situational Strength and Cross-Level Interactions

It has long been suggested that the relationship between personality and job performance may not be the same for all individuals in all situations. The strength of the situation in which performance takes place has been frequently discussed as a moderator of the personality-behavior relationship (e.g., Barrick & Mount, 1993; Mischel, 1977). In “strong” situations, expectations concerning desirable behavior are relatively uniform and unambiguous, and in “weak” situations, such normative expectations about behavior are absent (Mischel, 1977). Mischel further suggested that since strong situations constrain the range of behaviors a person may be willing to or able to engage in—while weak

situations leave the person more discretion in determining which behavior to undertake—individual differences in personality are more likely to influence behavior in weak situations than in strong situations. These arguments have received some support from the findings of research conducted in laboratory settings (e.g., Beaty, Cleveland, & Murphy, 2001) and in field settings (e.g., Barrick & Mount, 1993).

The theory of situational strength is also applicable to the study of store employees’ service behavior. In some stores, a clear emphasis and clear requirements and incentives for high-quality service performance may exist. However, other stores may not provide such unambiguous behavioral expectations. As a result, personality may predict individual employees’ service performance better in some stores than in other stores. The store-level factors specified in this study may help create a strong situation that constrains the expression of personality. As noted in previous sections, a positive service climate creates a general service-promoting atmosphere through managers’ commitment to service quality in everyday management; involving employees in service management signals that employee input and voice are valued as a way to meet various customer needs; service training sets clear behavioral standards across all aspects of a service encounter; and performance incentives enhance the instrumentality of service behavior by linking superior performance with rewards. Therefore, the existence of a favorable service climate and these HR practices send clear signals to employees that service behaviors and initiatives are expected, desired, supported, and rewarded in a store, thereby creating a strong service-oriented situation. Without these behavioral cues, employees tend to rely on their individual predispositions to direct their actions. As a result, these contextual factors will not only have a “main effect” on employee service performance, but will also constrain the effect of personalities on service performance, thereby exhibiting a moderating effect. Therefore, we propose the following:

Hypothesis 3. Store-level service climate and HR practices will moderate the relationship between personality and employee service performance at the individual level: the relationships between personality and employee service performance will be weaker in stores with higher levels of service climate and service-inducing HR practices.

Store-Level Service Performance and Customer Outcomes

Effectiveness is the bottom line of any organization. For a service organization, customers' perceptions of service quality, customer satisfaction, and customer loyalty are crucial indicators of effectiveness because of their close relationship with sales and profits, as is evidenced in the marketing literature (see Schneider et al., 1998). We expected that superior individual employee service performance, when aggregated to the store level, would contribute to achieving desirable customer outcomes. We examined the impact of store-level performance instead of individual employee's performance on customer outcomes for two reasons. First, most service encounters experienced by customers involve their interactions with and contributions from multiple service employees. For example, in the current study, a customer's evaluation of his or her dining experience was determined by the service performance of the hostess, the "busperson," the server, the cook, the cashier, and so on. Thus, the employees in a store work together as a team to create satisfactory service performance for a customer, and it is the overall level of employee service performance, not the performance of any particular employee, that determines customer outcomes. Second, the attraction-selection-attrition (Schneider, 1975), socialization, and social information processing and learning processes that may operate in a store, as well as its shared organizational environment, tend to result in relatively homogenous behaviors and performance across employees within the same store; therefore, a store-level service performance will emerge via bottom-up processes from individual employee performance and exist as a collective phenomenon. Borucki and Burke (1999) provided empirical evidence that aggregated employee service performance predicted customer outcomes. Thus, we propose:

Hypothesis 4. Store-level service performance will be positively related to customer evaluation of service quality, customer satisfaction, and customer loyalty.

METHODS

Participants and Procedures

Fifty-two stores of a family franchise restaurant chain operating in several states in the U.S. Midwest were invited to participate in the study. The franchiser designs signature menu items and provides a centralized purchasing and marketing strat-

egy but encourages the franchisees to maintain their individuality and grants them a large degree of latitude concerning everyday management matters, such as hiring, training, the degree of employees' involvement in decision making, incentive designs, and so on. We sent survey packages to these 52 restaurants. Each package contained copies of an employee questionnaire (equal to the number of employees in each restaurant, which was 25 on the average), 3 copies of a manager questionnaire, 150 copies of a customer questionnaire, and return envelopes. To ensure the anonymity of employee responses, we instructed the managers to designate an employee representative to collect sealed envelopes from employees, or set up a central collection box where employees could drop off their envelopes. Employees were also provided the option of sending their responses directly to the researchers.

We received 52 manager surveys and 351 employee surveys from 30 locations, a number representing approximate response rates of 58 percent for the restaurants, 56 percent for the managers, and 46 percent for the employees. We also received 2,167 customer surveys but were unable to calculate a response rate, because we did not know how many customers had actually been approached. Fifteen dishwashers who did not speak English and filled out the Spanish version of the questionnaire were excluded from the analyses owing to their lack of interaction with customers. Thirty-seven employees whose tenure was less than one month were also eliminated from the analyses owing to their lacking sufficient knowledge to provide accurate evaluations of restaurant policies and procedures. "Listwise" deletion of cases with missing values on variables further reduced the employee sample size to 264. Finally, we also excluded 7 employees from two restaurants from the analyses, because estimating the models of interest required at least 5 respondents per restaurant. The final usable sample thus consisted of 257 employees, 44 managers, and 1,993 customers from 25 franchised restaurants, with the number of employees per restaurant ranging from 5 to 21 ($\bar{x} = 10.3$), the number of managers ranging from 1 to 3 ($\bar{x} = 1.8$), and the number of customers ranging from 3 to 147 ($\bar{x} = 81.8$).

Eighty-nine percent of the employees in the final sample were Caucasian, 31 percent were male, and 45 percent worked full-time; the average age was 26 years old, and the average tenure was 35 months.

To lessen concern about possible sampling bias, we first compared sample means for the usable cases and the cases dropped on the basis of incomplete information on all relevant variables in the employee, manager, and customer samples. Results

of *t*-tests indicated the two groups were not statistically significantly different from each other, except on means for the conscientiousness variable obtained from the employee sample and on means for the age variable obtained from the customer sample. Specifically, employees with incomplete information had lower conscientiousness scores than those with complete information ($d = 0.30$, $p < .05$), and customers with incomplete responses were on the average older than those with complete responses ($d = 5.07$, $p < .01$). Further, we calculated the binary correlations between the response rates at restaurants and all variables specified in the study for both the employee data and the manager data and found none of the relationships was statistically significant at .05 level. Therefore, we concluded that sampling bias should not be a problem.

Measures

Variables relevant to the current study as well as their corresponding sources of information are described below. We list in the Appendix the complete scales for which we have obtained the permissions to reproduce the scale items, and below we provide example items for the other scales.

Employee service performance. Employee service performance was assessed using the sales personnel service performance measure from Borucki and Burke (1999). To adapt the measure, prior to the survey period we both consulted these authors and discussed specific items with restaurant managers at a bimonthly chain gathering they attended. We determined that 7 of the original 13 items could adequately capture the nature of restaurant service performance and the domain of the construct at the same time. The Appendix lists these items. The employees were asked to rate their own performance on an 11-point Likert-type scale with scale anchors ranging from “completely unsatisfactory” (1) to “extremely good” (11). The coefficient alpha was .88 for this scale.

Personalities. Conscientiousness, neuroticism, extraversion, and agreeableness were each measured by a ten-item scale from the International Personality Item Pool (IPIP) developed by Goldberg (1999). The average correlation between “domain markers” for the Revised NEO Personality Inventory (Costa & McCrae, 1992) and the corresponding scales in the IPIP is .77, which rises to .94 when corrected for attenuation due to the unreliabilities of both scales (Goldberg, 1999). Employees were asked to rate how accurately each item described them as they generally were on a five-point Likert-type scale (1, “very inaccurate,” 5, “very accurate”). Sample items include the following: “I am always

prepared” and “I make a mess of things” (reverse-coded) for conscientiousness; “I worry about things” and “I change my mood a lot” for neuroticism; “I start conversations” and “I don’t talk a lot” (reverse-coded) for extraversion; and “I am interested in people” and “I sympathize with others’ feelings” for agreeableness. The coefficient alphas were .77, .82, .85, and .81, respectively, for these scales.

Store-level antecedents. We constructed the store-level constructs by aggregating the individual employee or manager scores to the store level and testing the within-store agreement. Additionally, as Sirotnik (1980) suggested, we computed the internal consistency reliability estimates for these variables at the store level.

Employees were asked to rate, on the basis of their personal observation, their restaurant’s customer *service climate* on a seven-item global service climate scale (Schneider et al., 1998; 1, “poor,” to 5, “excellent”; $\alpha = .95$). An example item is “efforts to measure and track the quality of the work and service in your restaurant.” Managers were asked to rate the level of *employee involvement*, or the extent to which their employees had influence over decisions at work on a five-item scale (1, “not at all,” 5, “a great deal”) modified from Haynes, Wall, Bolden, Stride, and Rick (1999). The scale items are listed in the Appendix. The coefficient alpha for this scale was .85.

Managers provided information concerning *service training* by rating the extent to which various topics related to service performance were emphasized in the training or orientation of employees (1, “not at all”; 2, “to a moderate extent”; 3, “to a great extent”). This 13-item scale was based on Stevens, Knutson, and Patton’s (1995) DINESERV, a measure of restaurant service quality. We provide these items in the Appendix. The scale coefficient alpha was .91.

Managers provided information about *performance incentives* by answering three items we generated. A restaurant was considered to provide incentives for good service and coded with a 1 if they answered yes to the following: “Some monetary rewards, not related to employees’ regular pay, are provided (e.g., bonus or store coupon),” “Wages are tied directly to employees’ performance,” and “Good employees are promoted to a higher level position.” An internal consistency estimate was not relevant for this dummy-coded variable.

Customer outcomes. We measured three customer outcome variables: *customer evaluation of service quality*, *customer satisfaction*, and *customer loyalty*. Customer evaluation of service quality was assessed via the 29-item DINESERV

(Stevens et al., 1995). Customer satisfaction was measured with Gotlieb, Grewal, and Brown's (1994) 3 customer satisfaction items, which were adapted from Oliver (1980). Customer loyalty to the particular restaurant the customer visited was assessed with Webster and Sundaram's (1998) 5-item customer loyalty scale. We provide the items of these scales in the Appendix. The scale anchors for the three scales ranged from 1, "strongly disagree," to 7, "strongly agree." The coefficient alphas for service quality, customer satisfaction, and customer loyalty were .97, .96, .73, respectively.

Data Analysis

Because the key dependent variable of this study, employee service performance, was measured via employee self-reports, we assessed the construct validity of this measure by examining its dimensionality, criterion-related validity, and discriminant validity. We then checked the viability of the store-level constructs by examining the within-group agreement (r_{wg} ; James, Demaree, & Wolf, 1984), intraclass correlation (ICC[1]), and reliability of the mean (ICC[2]).

The service performance model to be tested was hierarchical, with the dependent variable, employee service performance, being an individual-level construct, and the predicting variables spanning the individual and store levels. The data were also hierarchical, since employees were "nested" in restaurants. We therefore adopted the hierarchical linear modeling (HLM; Bryk & Raudenbush, 1992) method and tested the model in four steps. First, we estimated a null model that had no predictors at either level 1 (the individual level) or level 2 (the store level) to partition the service performance variance into within- and between-stores components. Second, in a level 1 analysis, within each restaurant, service performance was regressed on grand-mean-centered individual-level predictors of personality. A regression line was estimated for each of the 25 stores in this step. In the third step, or the level 2 analysis, we used the intercept estimates obtained from level 1 as outcome variables and regressed these on the store-level predictors, including service climate and HR practices, to assess the main effects of the store-level factors. In the last step, we regressed the slope estimates obtained from level 1 on the store-level factors to detect cross-level interaction effects. We also computed the proportion of variance in service performance explained by individual-level factors ($R^2_{\text{within-stores}}$) as well as by store-level factors ($R^2_{\text{between-stores}}$)

using procedures described in Bryk and Raudenbush (1992).

Finally, we examined to what extent store-level service performance translated into desirable customer outcomes. Since customers were nested in restaurants, we conducted HLM analyses using individual-level customer-evaluated service quality, customer satisfaction, and customer loyalty as the outcome variables. At level 1, we controlled for individual customers' age and gender. At level 2, we included the average employee service performance at the store level while controlling for the level of local competition (assessed as the number of competing restaurants within a ten-minute drive).

RESULTS

Validity of Measures

Construct validity of service performance. We conducted the following analyses to demonstrate the validity of the service performance measure in this data. We first examined the dimensionality of this measure by conducting a principle components factor analysis with "varimax" rotation and obtained a one-factor solution in which all the items had high "loadings" (average loading = .85) on the single factor, which explained 73 percent of the variance. We then examined the criterion-related validity of the service performance measure by examining its relationship to other measures that should be theoretically related. As reported in Table 1, the pattern of correlations was consistent with the aforementioned nomological network. At the individual level, employee service performance was significantly correlated with conscientiousness ($r = .33, p < .01$), extraversion ($r = .26, p < .01$), neuroticism ($r = -.21, p < .01$), and agreeableness ($r = .29, p < .01$); at the store level, service performance was significantly correlated with service climate ($r = .47, p < .05$), employee involvement ($r = .50, p < .01$), service training ($r = .50, p < .01$), and customer satisfaction ($r = .42, p < .05$). As these relationships were largely consistent with theories about and empirical evidence on service performance, and some of these measures were obtained from sources other than the employees studied here, including coworkers, supervisors, and customers, the results provided criterion-related validity evidence for the service performance measure.

Further, we examined the discriminant validity of this measure by assessing its relationship with theoretically unrelated variables gauged by the same source (employees). No compelling theory or

TABLE 1
Descriptive Statistics and Correlations^a

Variable	Means	s.d.	1	2	3	4	5	6	7
Individual-level, employee									
1. Conscientiousness	3.74	0.56							
2. Extraversion	3.49	0.71	.18**						
3. Neuroticism	2.70	0.66	-.33**	-.21**					
4. Agreeableness	3.96	0.58	.55**	.26**	-.18**				
5. Employee service performance	8.31	1.75	.33**	.26**	-.21**	.29**			
Individual-level, customer									
1. Age	44.46	17.16							
2. Gender ^b	0.53	0.50	-.01						
3. Customer evaluation of service quality	5.77	0.85	.11***	.05*					
4. Customer satisfaction	6.09	1.03	.11***	.06**	.69***				
5. Customer loyalty	5.75	1.10	.19***	.06**	.46***	.55***			
Store-level									
1. Service climate	3.28	0.43							
2. Employee involvement	3.72	0.71	.24						
3. Service training	2.79	0.27	.29	.46*					
4. Performance incentives	0.80	0.41	.11	.33	.14				
5. Store-level service performance	9.35	0.83	.47*	.50**	.50**	.10			
6. Customer evaluation of service quality	5.77	0.24	.50**	.24	.24	.05	.36 [†]		
7. Customer satisfaction	6.10	0.31	.34 [†]	.28	.21	-.07	.42*	.89**	
8. Customer loyalty	5.77	0.29	.44*	.09	.14	-.36 [†]	.34 [†]	.81**	.83**

^a Employees $n = 257$; Customers $n = 1,993$; Stores $n = 25$.

^b Coded as male, 1; female, 0.

[†] $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Two-tailed tests.

empirical evidence suggests that employees from different ethnic backgrounds will deliver different levels of service performance; confirming the absence of such a difference, our data showed no statistically significant relationship between ethnicity and employee service performance ($r = .04$, $p > .10$; membership in the ethnic majority was coded as 1, and minority membership was coded as 0). Additionally, since the type of service this sample of restaurant employees provided did not involve a high level of technical difficulty, we had little reason to expect a significant relationship between service performance and employees' years of education; this again was what the data showed ($r = .03$, $p > .10$). Finally, there is no convincing evidence supporting a significant relationship between openness to experience as an element of personality and employee service performance. Our data again fitted with this belief; employees' self-reported scores on this personality dimension

(measured by the ten-item scale of the IPIP) was insignificantly related to employees' self-reported service performance ($r = .12$, $p > .05$).

In sum, the above results demonstrated that the service performance measure had a single-factor structure, was significantly correlated with theoretically related, yet distinct constructs measured by the same or different sources, and was uncorrelated with theoretically unrelated constructs measured by the same source, thus providing construct validity of this measure.

Aggregation of store-level variables. We checked the viability of the store-level variables: service climate, HR practices, and store-level service performance. We computed r_{wg} values for these variables and obtained median values of .87 for service climate, .93 for employee involvement, .98 for service training, .79 for performance incentive, and .94 for store-level service performance. These r_{wg} values were well above the convention-

ally acceptable value of .70. We also obtained the following ICC(1) and ICC(2) values: employee-perceived service climate, .12 and .56; employee involvement, .63 and .70; service training, .50 and .58; performance incentive, .17 and .24; and store-level service performance, .12 and .56. All of these were comparable to the median or recommended ICC values reported in the literature (see Schneider et al., 1998). We thus concluded aggregation was justified for these variables.

HLM Results for the Antecedents of Employee Service Performance

Null model. Our hypotheses predict that both individual- and store-level variables would be significantly related to employee service performance. In order for these hypotheses to be supported, there had to be significant between-store variance in employee service performance. Thus, using HLM, we estimated a null model in which no predictors were specified for either the level 1 or level 2 function to test the significance level of the level 2 residual variance of the intercept ($\hat{\tau}_{00} = .35, p < .001$). The ICC(1) was .12, indicating 12 percent of the variance in employee service performance resided be-

tween stores, and 88 percent of the variance resided within stores.

Individual-level predictors only. Hypotheses 1a, 1b, 1c, and 1d predict that individual personalities will be associated with individual employees' service performance. We estimated a level 1 model including these variables, with no predictors specified for the level 2 model. As a block, the personality variables explained 24 percent of the within-store variance. Specifically, conscientiousness ($\hat{\gamma} = .58, p < .001$) and extraversion ($\hat{\gamma} = .37, p < .001$) had significantly positive relationships with employee service performance. Therefore, Hypotheses 1a and 1c were supported. Contrary to the predictions of Hypotheses 1b and 1d, neuroticism and agreeableness were not significantly related to employee service performance.

Adding store-level predictors. To test Hypotheses 2a, 2b, 2c, and 2d, we estimated an HLM model in which the personality variables were the level 1 predictors and then regressed the intercept coefficients obtained from level 1 on the measures of store-level service climate and HR practices at level 2. As reported in Table 2, both service climate ($\hat{\gamma} = .45, p < .01$) and employee involvement ($\hat{\gamma} = .39, p < .05$) demonstrated significant relationships

TABLE 2
Hierarchical Linear Modeling Results for Employee Service Performance^a

Variable	Null Model	Individual-Level Predictors	Adding Group-Level Predictors
Level 1			
Intercept	9.33 (0.35***)	9.35 (0.35***)	5.66** (0.25***)
Conscientiousness		0.58*** (0.00)	0.51** (0.03)
Neuroticism		-0.15 (0.14**)	-0.08 (0.18**)
Extraversion		0.37*** (0.06)	0.39*** (0.04)
Agreeableness		0.23 (0.25)	0.32 [†] (0.19)
Level 2			
Service climate			0.45**
Employee involvement			0.28*
Service training			0.45
Performance incentives			-0.11
Within-store residual variance	2.52	1.92	1.93
$R^2_{\text{within-store}}^b$.24	
$R^2_{\text{between-stores}}^c$.29
Model deviance	989.42	938.47	933.87

^a Employees $n = 257$, Stores $n = 25$. Entries are estimations of the fixed effects (γ s) with robust standard errors. Estimations of the random variance components (τ s) are in parentheses. The τ s for the intercepts also represented the between-stores variance in employee service performance.

^b Proportion of within-store variance explained by level 1 predictors.

^c Proportion of between-store variance explained by level 2 predictors (after level 1 variables are controlled for).

[†] $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

One-tailed tests.

with service performance, after we had accounted for individual-level predictors. However, service training and performance incentives did not have significant relationships with service performance. As a group, the specified store-level variables accounted for 29 percent of the between-stores variance in service performance. Hence, Hypotheses 2a and 2b were supported, while Hypotheses 2c and 2d were not.

Testing cross-level interactions. Hypothesis 3 posits that the store-level variables will moderate the relationship between personalities and individual employees' service performance. A prerequisite for testing these cross-level interactions was that there be significant random variance for the personality variables in the intercepts-as-outcomes models estimated in the previous step. As reported in Table 2, in which estimates of the random-variance components appear in parentheses, only neuroticism had significant random variance ($\hat{\tau}_{22} = .18$, $p < .01$), suggesting significant variability in the level 1 neuroticism–service performance relationship across stores. We then examined whether this variance could be explained by store-level factors; none of these variables was significantly related to the neuroticism slopes. Therefore, Hypothesis 3 was not supported.

HLM Results for the Impact of Aggregated Service Performance on Customer Outcomes

We further investigated whether employee service performance aggregated to the store level was related to desirable customer outcomes. Three HLM analyses were performed, with service quality, customer satisfaction, and customer loyalty as the dependent variables, individual customer age and gender as the level 1 variables, and aggregated service performance and level of local competition as the level 2 variables. The results revealed significant between-stores variance in customer evaluation of service quality ($\hat{\tau}_{00} = .03$, $p < .001$), customer satisfaction ($\hat{\tau}_{00} = .02$, $p < .001$), and customer loyalty ($\hat{\tau}_{00} = .02$, $p < .001$). At the store level, aggregated store service performance was significantly related to customer satisfaction ($\hat{\gamma} = .07$, $p < .05$) and customer loyalty ($\hat{\gamma} = .06$, $p < .05$), but it was insignificantly related to service quality ($\hat{\gamma} = .03$, $p > .05$). Thus, Hypothesis 4 was partially upheld. Of the control variables, age, measured at the individual level, was significantly related to all of the three types of customer evaluations: the older the customer, the higher the evaluations they gave to the restaurants ($\hat{\gamma} = .01$, $p < .001$ for all outcomes). Female customers also rated service quality higher ($\hat{\gamma} = .06$, $p < .05$) and reported higher

satisfaction ($\hat{\gamma} = .12$, $p < .01$) and loyalty ($\hat{\gamma} = .13$, $p < .05$). At the store level, the higher the level of local competition was, the higher the customers' ratings on service quality, satisfaction, and loyalty ($\hat{\gamma} = .002$ for all outcomes; $p < .01$ for service quality and customer satisfaction, and $p < .05$ for customer loyalty). Store-level service performance and level of local competition explained 40 percent of the between-stores variance in service quality, 50 percent in customer satisfaction, and 50 percent in customer loyalty.

DISCUSSION

Prior research on service performance has been rather fragmented and has focused on either an organization level or individual level of analysis. This study bridged the gap between the macro and micro approaches. We proposed and tested a multilevel framework of employee service performance and examined individual-level (that is, personality variables) and store-level (that is, service climate and HR practices) antecedents of service performance as well as the impact of cross-level interactions on service performance. We found that significant variance in employee service performance existed both within and between stores and that some of the individual factors (conscientiousness and extraversion) and contextual factors (service climate and employee involvement) specified in this study explained a moderate amount of this variance. We also found significant between-store variance in customer outcomes and that employee service performance, when aggregated to the store level through bottom-up processes, contributed to the explanation of significant variance in customer satisfaction and customer loyalty. The results provide a “deeper, richer portrait of organizational life—one that acknowledges the influence of the organizational context on individuals' actions and perceptions *and* the influence of individuals' actions and perceptions on the organizational context” (Klein et al., 1999: 243). The present study is thus a compelling extension of the previous approach to research on service quality, in which investigation is limited to micro-only or macro-only analysis, an approach that ignores influences from other levels. Further, our use of hierarchical linear modeling facilitated taking a multilevel approach, which allowed us to investigate the impact of the predictors at different levels on the individual-level service performance outcome while maintaining the appropriate level of analysis for these predictors (Hofmann, 1997).

Some insignificant findings of this study are particularly thought-provoking. Although they might

be consequences of insufficient statistical power that was due to the small size of the sample, they may well suggest necessary modifications in measurement or model specification in future research. For example, service training and performance incentives were not found to relate to service performance. One possible explanation might be that just because service-related topics are covered in trainings does not mean that the employees learn them, transfer them to the job appropriately, and maintain them over time (Tracey et al., 1995). Future research should directly measure training effectiveness and the transfer of training to actual service performance in order to examine the impact of training on performance. The reason for the lack of association between performance incentives and service performance may be that our dummy-coded performance incentive measure was an improper "operationalization" of this construct. Or it could be the case that it is the intensity, not the existence, of performance incentives that matters. Additionally, the effectiveness of performance incentives hinges on the presence of an accurate performance appraisal system; if good performance does not receive favorable evaluations in a consistent and timely way, the instrumental connection between performance and outcomes will be decreased, and the motivational effect of performance incentives will be decreased in turn. Future research should measure the accuracy and consistency of performance evaluation processes in conjunction with the intensity of performance incentives. Finally, although we examined the impact of monetary incentives and promotion opportunities, future research should examine the role of intrinsic factors such as informal recognition in motivating service performance.

Our cross-level interaction hypotheses based on the theory of situational strength were not supported in these data. Personality seemed to play an important role in shaping individual employees' service behavior, regardless of the level of service climate and the existence of service-supporting HR practices. Previous research on general job performance has largely supported an interactionist perspective, but the only other study examining the interaction between contextual and personality variables in the context of predicting service-related behaviors (Rogelberg et al., 1999) also failed to find a significant interaction effect. Rogelberg and coauthors argued that the interaction effect might be most salient when service providers need to create a customized product, a task that is more demanding than serving a standard product. We share a similar sentiment. When there are no clear behavioral expectations, an employee who lacks

appropriate service-oriented personality characteristics will perform even more poorly when facing such complexity and uncertainty in service production. In other words, there may be a three-way interaction among personality, situation, and the nature of the service product. Therefore, it may not be surprising to have observed no interaction effects in this sample in which the employees typically serve standard items customers order from a menu. Future study may model this type of three-way interaction or examine the personality by situation interaction among employees who provide customized products (for instance, life insurance products).

Finally, we found that store-level service performance was associated with customer satisfaction and customer loyalty, but not with customer evaluation of overall service quality. One possible explanation for this insignificant result regarding service quality is that the service quality measures used here consisted of various factors, some of which (for instance, a restaurant's physical infrastructure) were clearly beyond the control of individual employees.

Limitations and Future Research

Limitations of this study should be noted. First, the primary dependent variable, employee service performance, was a self-reported measure. One might argue that self-reported measures have their strengths as assessments of employee performance, since a job's incumbents possess the best knowledge of how the job is performed. Supervisor ratings, the commonly used other-rated source of employee job performance data, may be both contaminated by employee impression management and invalidated by supervisors' lack of sufficient opportunity to observe performance. However, there are some concerns associated with using a self-reported service performance measure. The first is that employees tend to overreport their performance under the influence of social desirability bias, resulting in a restriction of range in this variable. Lack of variance will attenuate the estimated relationship between service performance and other variables. The fact that the service performance variable showed significant relationships with most of the theoretically related variables, including variables obtained from other sources (co-workers, store managers, and customers) lessened this concern and provided evidence regarding the construct validity of the self-reported service performance measure. Another criticism of self-reports is the possibility of their introducing common method bias (Crampton & Wagner, 1994). To reduce

common method variance, we followed Podsakoff and Organ's (1986) recommendations. In particular, we operationally defined all of the store-level constructs with measures from multiple raters and used different sources of information, including the employees, managers, and customers. We also conducted confirmatory factor analyses and found the one-factor structure fitted the data poorly in all three data sources. Further, if common method variance were high, the pattern of relationships we observed, which included some absences of relationship, would be unlikely. Finally, most of the relationships we saw were consistent with previous empirical and theoretical work on service performance. Therefore, it seems that common method effects did not significantly influence the findings. Nonetheless, those conducting future research should strive to obtain service employee performance evaluations from multiple raters, including employees themselves, supervisors, peers, and customers, as each of these sources of ratings can explain unique variance in performance measures (Atwater, Ostroff, Yammarino, & Fleenor, 1998).

Drawing on existing research, for the present study we identified a set of key individual and contextual correlates of employee service performance. However, there are likely to be other factors that have an impact on service performance. For example, individual ability and experience, employees' emotional displays during service encounters, group demographic composition, leadership style, and tip-sharing schemes among restaurant staff are additional individual- and store-level factors to be considered in the future.

Another limitation of the current study concerns potential generalizability. While restricting our sample to a single occupation from the same organization ruled out superfluous factors associated with different occupations and organizations, the generalizability of our results to other service organizations might be limited. However, the results were largely consistent with prior theoretical and empirical work, suggesting that they are not sample-specific. Nonetheless, future replication and extension of this multilevel investigation are warranted. Finally, this study employed a cross-sectional design, making causal inferences impossible. Future research should examine how these relationships develop over time.

Managerial Implications

The results of this study have substantial implications for service organizations. It has long been recognized that it costs five to eight times more to acquire a new customer than to retain a current one

and that existing customers are an avenue to bringing in new customers and a potential base for "cross-selling"¹ (see Schneider et al., 1998). Thus, customer retention is critical for a service organization's survival and success. We found that better employee service performance was associated with higher customer satisfaction and increased customer loyalty, both of which determine customer retention. Therefore, it pays for an organization to emphasize high-quality service performance and enhance service performance among employees.

Our study also provides specific recommendations for improving employee service performance. First, fostering a service-oriented climate helps. Employees do not work in a vacuum; their performance is influenced by the messages management sends and by the perceptions employees share among themselves. Organizations can use this mechanism to guide and educate their employees as to how the organizations value excellent service and to get policies and procedures implemented. When organizations demonstrate poor management of service, employees may feel that and start to shirk on their duties. Second, our results suggest it pays to involve employees in decision making by, for instance, allowing employees to participate in decisions that affect them and letting them resolve customer complaints on their own. This approach is consistent with the idea of employee empowerment used in total quality management (TQM). Research on TQM has well documented the value of employees' opinions. When employees have a say in how work is done, they assume responsibility and return more effective work. Third, in their employment selection procedures, managers may consider applicants' levels of conscientiousness and extraversion, among other selection criteria, to improve customer service performance. In sum, the results suggest that having the right employees, enforcing a positive service climate, and involving employees in service management each adds incremental utility to the others. The fact that these three sources of influence were simultaneously significantly related to service performance indicated that they did not merely act as substitutes for each other, but functioned *jointly* to achieve superior employee service performance.

In conclusion, the research presented here contributes to knowledge on service performance. This is the first study to bring the micro and macro perspectives together and to specify and test a

¹ Cross-selling is the strategy of selling new products to current customers on the basis of their previous purchases.

multilevel model of the antecedents and consequences of employee service performance. The findings underscore the importance of putting service performance back into its organizational context, which is inherently multilevel and integrated.

REFERENCES

- Anderson, N. R., & West, M. A. 1998. Measuring climate for work group innovation: Development and validation of the team climate inventory. *Journal of Organizational Behavior*, 19: 235–258.
- Appelbaum, E., Bailey, T., Berg, P., & Kalleberg, A. 2000. *Manufacturing advantage: Why high-performance work systems pay off*. Ithaca, NY: ILR Press.
- Atwater, L. E., Ostroff, C., Yammarino, F. J., & Fleenor, J. W. 1998. Self-other agreement: Does it really matter? *Personnel Psychology*, 51: 577–598.
- Barrick, M. R., & Mount, M. K. 1991. The Big Five personality dimensions and job performance: A meta-analysis. *Personnel Psychology*, 44: 1–26.
- Barrick, M. R., & Mount, M. K. 1993. Autonomy as a moderator of the relationships between the Big Five personality dimensions and job performance. *Journal of Applied Psychology*, 78: 111–118.
- Barrick, M. R., Stewart, G. L., & Piotrowski, M. 2002. Personality and job performance: Test of the mediating effects of motivation among sales representatives. *Journal of Applied Psychology*, 87: 43–51.
- Bartel, A. P. 1994. Productivity gains from the implementation of employee training programs. *Industrial Relations*, 33: 411–425.
- Batt, R. 1999. Work organization, technology, and performance in customer service and sales. *Industrial and Labor Relations Review*, 52: 539–564.
- Beaty, J. C., Cleveland, J. N., & Murphy, K. R. 2001. The relation between personality and contextual performance in “strong” versus “weak” situations. *Human Performance*, 14(2): 125–148.
- Bishop, J. H. 1990. Job performance, turnover, and wage growth. *Journal of Labor Economics*, 8: 363–386.
- Borucki, C. C., & Burke, M. J. 1999. An examination of service-related antecedents to retail store performance. *Journal of Organizational Behavior*, 20: 943–962.
- Bowen, D. E., Siehl, C., & Schneider, B. 1989. A framework for analyzing customer service orientations in manufacturing. *Academy of Management Review*, 14: 75–95.
- Bowen, D. E., & Waldman, D. A. 1999. Customer-driven employee performance. In D. A. Ilgen & E. D. Pulakos (Eds.), *The changing nature of performance*: 154–191. San Francisco: Jossey-Bass.
- Bryk, A. S., & Raudenbusch, S. W. 1992. *Hierarchical linear models*. Newbury Park, CA: Sage.
- Campbell, J. P., McCloy, R. A., Oppler, S. H., & Sager, C. E. A theory of performance. 1993. In N. Schmitt & W. C. Borman (Eds.), *Personnel selection in organizations*: 35–70. San Francisco: Jossey-Bass.
- Costa, P. T., & McCrae, R. R. 1992. *Revised NEO Personality Inventory (NEO PI-R) and NEO Five-Factor Inventory (NEO FFI) professional manual*. Odessa, FL: Psychological Assessment Resources.
- Crompton, S. M., & Wagner, J. A. 1994. Percept-percept inflation in microorganizational research: An investigation of prevalence and effect. *Journal of Applied Psychology*, 79: 67–76.
- De Raad, B., & Doddema-Winsemius, M. 1999. Instincts and personality. *Personality & Individual Differences*, 27: 293–305.
- Frei, R. L., & McDaniel, M. A. 1998. Validity of customer service measures in personnel selection: A review of criterion and construct evidence. *Human Performance*, 11(1): 1–27.
- Gellatly, I. R. 1996. Conscientiousness and task performance: Test of a cognitive process model. *Journal of Applied Psychology*, 81: 474–482.
- Goldberg, L. R. 1999. A broad-bandwidth, public domain, personality inventory measuring the lower-level facets of several five-factor models. In I. Mervielde, I. Deary, F. De Fruyt, & F. Ostendorf (Eds.), *Personality psychology in Europe*, vol. 7: 7–28. Tilburg, The Netherlands: Tilburg University Press.
- Gotlieb, J. B., Grewal, D., & Brown, S. 1994. Consumer satisfaction and perceived quality: Complementary or divergent constructs? *Journal of Applied Psychology*, 79: 875–885.
- Guzzo, R. A., Jette, R. D., & Katzell, R. A. 1985. The effects of psychologically based intervention programs on worker productivity: A meta-analysis. *Personnel Psychology*, 38: 275–291.
- Haynes, C. E., Wall, T. D., Bolden, R. I., Stride, C., & Rick, J. E. 1999. Measures of perceived work characteristics for health services research: Test of a measurement model and normative data. *British Journal of Health Psychology*, 4: 257–275.
- Hofmann, D. A. 1997. An overview of the logic and rationale of hierarchical linear models. *Journal of Management*, 23: 723–744.
- Hofmann, D. A., & Stetzer, A. 1996. A cross-level investigation of factors influencing unsafe behaviors and accidents. *Personnel Psychology*, 49: 307–339.
- Huselid, M. A. 1995. The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, 38: 635–672.
- Ichniowski, C., Shaw, K., & Prennushi, G. 1997. The effects of human resource management practices on productivity: A study of steel finishing lines. *American Economic Review*, 87: 291–313.

- James, L. R., Demaree, R. G., & Wolf, G. 1984. Estimating within-group interrater reliability with and without response bias. *Journal of Applied Psychology*, 69: 85–98.
- John, O. P., & Srivastava, S. 1999. The Big Five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research*: 102–138. New York: Guilford Press.
- Johnson, J. W. 1996. Linking employee perceptions of service climate to customer satisfaction. *Personnel Psychology*, 49: 831–851.
- Klein, K. J., Tosi, H., & Cannella, A. A. 1999. Multilevel theory building: Benefits, barriers, and new developments. *Academy of Management Journal*, 24: 243–248.
- Kozlowski, S. W. J., & Klein, K. J. 2000. A multilevel approach to theory and research in organizations: Contextual, temporal, and emergent processes. In K. J. Klein & S. W. J. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations*: 3–90. San Francisco: Jossey-Bass.
- Lucas, R. E., Diener, E., Grob, A., Suh, E. M., & Shao, L. 2000. Cross-cultural evidence for the fundamental features of extraversion. *Journal of Personality and Social Psychology*, 79: 452–468.
- Mischel, W. 1977. The interaction of person and situation. In D. Magnusson & N. S. Endler (Eds.), *Personality at the crossroads: Current issues in interactional psychology*: 333–352. Hillsdale, NJ: Erlbaum.
- Mount, M. K., Barrick, M. R., & Stewart, G. L. 1998. Five-factor model of personality and performance in jobs involving interpersonal interactions. *Human Performance*, 11: 145–165.
- Oliver, R. L. 1980. A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 17: 460–469.
- Podsakoff, P. M., & Organ, D. W. 1986. Self-reports in organizational research: Problems and prospects. *Journal of Management*, 12: 531–544.
- Rogelberg, S. G., Barnes-Farrell, J. L., & Creamer, V. 1999. Customer service behavior: The interaction of service predisposition and job characteristics. *Journal of Business and Psychology*, 13: 421–435.
- Salancik, G. R., & Pfeffer, J. 1978. A social information processing approach to job attitudes and task design. *Administrative Science Quarterly*, 23: 224–253.
- Salgado, J. F. 1997. The five factor model of personality and job performance in the European Community. *Journal of Applied Psychology*, 82: 30–43.
- Schneider, B. 1975. Organizational climates: An essay. *Personnel Psychology*, 28: 447–480.
- Schneider, B. 1990. The climate for service: An application of the climate construct. In B. Schneider (Ed.), *Organizational climate and culture*: 383–412. San Francisco: Jossey-Bass.
- Schneider, B., & Bowen, D. E. 1985. Employee and customer perceptions of service in banks: Replication and extension. *Journal of Applied Psychology*, 70: 423–433.
- Schneider, B., White, S. S., & Paul, M. C. 1998. Linking service climate and customer perceptions of service quality: Test of a causal model. *Journal of Applied Psychology*, 83: 150–163.
- Schneider, B., Parkington, J. J., & Buxton, V. M. 1980. Employee and customer perceptions of service in banks. *Administrative Science Quarterly*, 25: 252–267.
- Sirotnik, K. A. 1980. Psychometric implications of the unit of analysis problem (with examples from the measurement of organizational climate). *Journal of Educational Measurement*, 17: 245–282.
- Solomon, M. R., Surprenant, C., Czepiel, J. A., & Gutman, E. G. 1985. A role theory perspective on dyadic interactions: The service encounter. *Journal of Marketing*, 49(winter): 99–111.
- Stevens, P., Knutson, B., & Patton, M. 1995. DINESERV: A tool for measuring service quality in restaurants. *Cornell Hotel and Restaurant Administration Quarterly*, 36(2): 56–60.
- Tett, R. P., Jackson, D. N., & Rothstein, M. 1991. Personality measures as predictors of job performance: A meta-analytic review. *Personnel Psychology*, 44: 703–742.
- Tracey, J. B., Tannenbaum, S. I., Kavanagh, M. J. 1995. Applying trained skills on the job: The importance of the work environment. *Journal of Applied Psychology*, 80: 239–252.
- Vroom, V. H. 1964. *Work and motivation*. New York: Wiley.
- Webster, C., & Sundaram, D. S. 1998. Service consumption criticality in failure recovery. *Journal of Business Research*, 41: 153–159.

APPENDIX

Scale Items of Selected Variables

Service Performance^a

1. Being friendly and helpful to customers.
2. Approaching customers quickly.
3. Asking good questions and listening to find out what a customer wants.
4. Being able to help customers when needed.
5. Pointing out and relating item features to a customer's needs.
6. Suggesting items customers might like but did not think of.
7. Explaining an item's features and benefits to overcome a customer's objections.

Employee Involvement^b

1. Can employees influence what goes on in the work area as a whole?
2. Do you ask for employees' opinions before making decisions affecting their work?
3. Do employees have the opportunity to contribute to meetings on new work developments?
4. Are employees allowed to participate in decisions that affect them?
5. Can employees resolve customer complaints on their own?

Service Training^c

1. Keeping the dining area thoroughly clean.
2. The importance of staff members being clean, neat, and appropriately dressed.
3. Keeping restrooms thoroughly clean.
4. Quickly correcting anything that is wrong.
5. Serving food exactly as ordered.
6. Providing an accurate guest check.
7. Providing quick and prompt service.
8. Handling busy times smoothly.
9. Introducing customers to menu items, their ingredients, and methods of preparation.
10. Answering customers' questions in a friendly manner.
11. Being sensitive to customers' individual needs and wants.
12. Being sympathetic and reassuring if something is wrong.
13. Having customers' best interests at heart.

Performance Incentives

1. Some monetary rewards, not related to employees' regular pay, are provided (for example, store coupon or a bonus).
2. Wages are tied directly to employees' performance.

3. Good employees are promoted to a higher level position.

Customer Evaluation of Service Quality^c

1. Has visually attractive parking areas and building exteriors.
2. Has a visually attractive dining area.
3. Has staff members who are clean, neat, and appropriately dressed.
4. Has a décor in keeping with its image and price range.
5. Has a menu that is easily readable.
6. Has a visually attractive menu that reflects the restaurant's image.
7. Has a dining area that is comfortable and easy to move around in.
8. Has rest rooms that are thoroughly clean.
9. Has dining areas that are thoroughly clean.
10. Has comfortable seats in the dining room.
11. Serves me in a reasonable amount of time.
12. Quickly corrects anything that is wrong.
13. Is dependable and consistent.
14. Provides an accurate guest check.
15. Serves my food exactly as I ordered it.
16. Seems to handle busy times smoothly.
17. Provides prompt and quick service.
18. Gives extra effort to handle my special requests.
19. Has employees who can answer my questions completely.
20. Makes me feel comfortable and confident in my dealings with them.
21. Has personnel who are both able and willing to give me information about menu items, their ingredients, and methods of preparation.
22. Makes me feel personally safe.
23. Has personnel who seem well-trained, competent, and experienced.
24. Seems to give employees support so that they can do their jobs well.
25. Has employees who are sensitive to my individual needs and wants, rather than always relying on policies and procedures.
26. Makes me feel special.
27. Anticipates my individual needs and wants.
28. Has employees who are sympathetic and reassuring if something is wrong.
29. Seems to have the customers' best interests at heart.

Customer Satisfaction^d

1. I am happy about my decision to come to this restaurant.
2. I believe I did the right thing when I came to this restaurant.
3. Overall, I am satisfied with the decision to come to this restaurant.

Customer Loyalty^e

1. I will recommend this restaurant to others.
2. I am sure that I will not visit this restaurant again.
3. I will dine at another similar restaurant instead of this particular one.
4. I consider this restaurant to be reputable.
5. I definitely will not come to this restaurant again.

^a Adapted from Borucki and Burke (1999). Reproduced with permission from the *Journal of Organizational Behavior*.

^b Adapted from Haynes, Wall, Bolden, Stride, and Rick (1999). Reproduced with permission from the *British Journal of Health Psychology*, published by the British Psychological Society.

^c Adapted from Stevens, Knutson, and Patton (1995). Reproduced with permission from the *Cornell Hotel and Restaurant Administration Quarterly*.

^d Adapted from Gotlieb, Grewal, and Brown (1994) and Oliver (1980). Reprinted with permission from the *Journal of Applied Psychology* and from the *Journal of Marketing Research*, published by the American Marketing Association, Richard L. Oliver/Gilbert Churchill, November 1980, XVII, page 463.

^e Adapted from Webster and Sundaram (1998). Reproduced with permission from the *Journal of Business Research*.



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