

UNDERSTANDING ORGANIZATION-CUSTOMER LINKS IN SERVICE SETTINGS

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We develop a framework of service-unit behavior that begins with a unit's leader's service-focused behavior and progresses through intermediate links (service climate and customer-focused organizational citizenship behavior) to customer satisfaction and then unit sales. Data from a sample of 56 supermarket departments provide at least moderate support for our mediational hypotheses. We discuss findings with a particular focus on the relationship between internal organization functioning and external effectiveness in service settings. In addition, several issues related to testing for mediation using quantitative analysis are identified and discussed.

Service settings have tended not to be a focus for organizational scholars. This is true despite the fact that about 65 percent of the gross domestic product (GDP) in the United States is generated by private sector service firms (Lum & Moyer, 1998) and, perhaps more importantly, the fact that the production and delivery of services can differ in significant ways from the production and delivery of goods. A central way in which the production and delivery of services can differ from similar processes with regard to goods concerns the presence of customers and their interactions with employees. Because customers are frequently present for the production and delivery of services and, indeed, frequently participate in the production of their own services

(Lengnick-Hall, 1996), customer satisfaction is a central variable in the thinking of marketing (Love-lock & Wirtz, 2004) and operations management (Chase, Aquilano, & Jacobs, 1998) scholars and practitioners, but it has been far less central to organizational scholars (Schneider & White, 2004).

One stream of research in organizational studies that has focused on both the internal functioning of service organizations and the relationship of that functioning to customer satisfaction has come to be called "linkage research" (Wiley, 1996). In this line of thinking and research, the frequent interaction between customers and employees is used as a basis for the hypothesis that what employees experience in their work worlds is correlated with the experiences they provide for customers, and that it is these customer experiences that can translate into customer satisfaction (Oliver, 1997). This hypothesis has received considerable support in a number of studies of diverse service organizations, including banks (Johnson, 1996; Schneider, White, & Paul, 1998), retail stores (Wiley, 1991), and insurance companies (Schneider, Ashworth, Higgs, & Carr, 1996).

In what follows, we develop the following ideas in depth: (1) the activities associated with service quality that go on around employees (activities

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constituting, for example, the quality of service they receive from others and the competencies of coworkers to deliver high-quality service) symbolize the tone, atmosphere, or climate in which they work (Schneider, Bowen, Ehrhart, & Holcombe, 2000); (2) leadership's service quality behaviors (e.g., planning for service, rewarding good service behaviors) impact employee's work experiences (Bryman, 1996); (3) the leadership service quality behaviors and the service quality activities that surround employees impact the way they behave towards customers (Podsakoff & MacKenzie, 1997); and (4) the way people behave towards customers is related to customer satisfaction and subsequently to unit sales (Heskett, Sasser, & Schlesinger, 1997). The overall model is presented in Figure 1, which represents a larger systems framework that culminates in unit sales.

Figure 1 shows service leadership as a proximal antecedent of service climate and organizational citizenship behavior (OCB) focused on customers as a proximal consequence of service climate. As will be seen later, we conceptualize climate as a set of behavioral features, each of which sends a signal about the imperatives of a given setting. Thus, it is not only what leaders emphasize in their own actions, but the bundle of behavioral features of the environments they create and maintain that signals a strategic climate of interest—whether the strategic focus of interest be service (Schneider et al., 1998), safety (Zohar, 2000), or another strategic focus. Aldrich captured this idea well: "Routines and competencies may be bundled into complementary sets and even tightly coupled at the organizational level. If so, then these bundles drive the fates of the organizations that carry them, rather than routines and competencies taken in isolation (Levinthal, 1991). The effect of individual features of a system may depend upon the presence of other features" (Aldrich, 1999: 36–37). In other words, collections, or bundles, of complementary features constitute

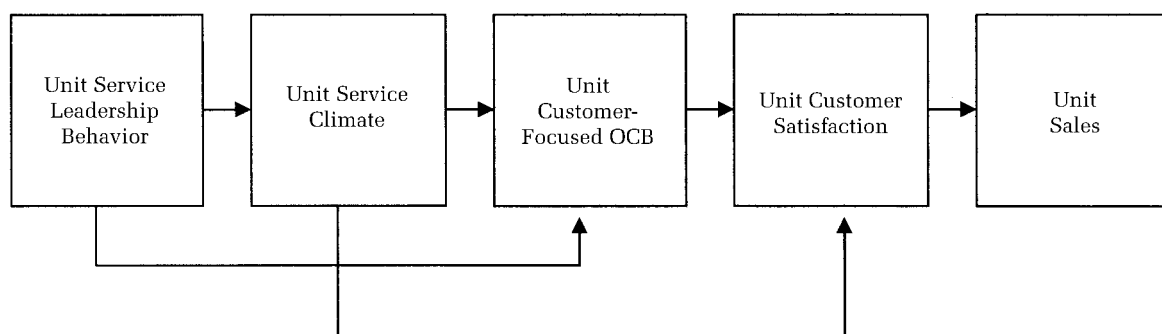
the facets of the climates employees perceive, and the messages these bundles send are strategic climates of interest.

Antecedents and Consequences of Service Climate

Leadership and climate. Early writings on climate by Lewin and his colleagues (Lewin, Lippitt, & White, 1939) and by McGregor (1960) emphasized the role of leaders in the creation of climate. More recent research has begun to examine this link more closely. For instance, Koene, Vogelaar, and Soeters (2002) examined the influence of leadership behavior (charisma, consideration, and initiating structure) on organizational climate and financial performance in a chain of supermarkets in Holland, and Pirola-Merlo, Hartel, Mann, and Hirst (2002) studied the impact of transformational and facilitative leadership on team climate.

In the current attempt to understand the antecedents of service climate, we focused on leadership that communicates a commitment to high levels of service quality, or what we call service leadership. Our approach parallels recent work on safety leadership as a primary antecedent of safety climate (Barling, Loughlin, & Kelloway, 2002; Zohar, 2002), in which researchers have distinguished not only between generic climate and strategic climate, but also between generic leadership behavior (behavior occurring across situations and outcomes) and specific leadership behavior (behavior focused on specific outcomes, such as "safety" for them and "service" for us). Our hypothesis is that leaders who emphasize the importance of service quality will be especially likely to do the things necessary to create a climate for service. This view is very similar to the one Schein (1992) proposed when he called leadership behavior the key mechanism by which culture is embedded in organizations. Our view is also very similar to the perspective of Berry (1995),

FIGURE 1
Hypothesized Mediated Model Linking Unit Leader Behavior to Unit Sales



who emphasized leader vision as a key antecedent of service quality. We specify that it is a unit's leader's behavioral focus on service quality as an imperative for the unit—recognizing and appreciating high-quality service, removing obstacles to service delivery, setting clear standards for service quality, and so forth—that fosters and sustains a service climate for employees.

Leadership, climate and OCB. As the behavior of leaders contributes to the creation of a service climate, we think, in turn, that a service climate engenders service behaviors toward customers on the part of those who experience the climate. Further, our thought is that employees engage not only in role-prescribed behaviors toward customers, but also in behaviors that go above and beyond the call of duty to promote the highest levels of customer satisfaction. In the organizational studies literature, behavior supporting organizational functioning but beyond the call of duty is called organizational citizenship behavior (OCB; Organ, Podsakoff, & MacKenzie, 2006). Such behavior directed at customers has been referred to as customer-focused OCB (Bettencourt & Brown, 1997; Bettencourt, Gwinner, & Meuter, 2001; Podsakoff & MacKenzie, 1997).

A number of antecedents of OCB have been conceptualized and studied, including the personality of the person displaying OCB, his/her job satisfaction and commitment, and the context in which he/she behaves (Organ et al., 2006). One of the most common antecedents of OCB researchers have identified is leadership behavior (MacKenzie, Podsakoff, & Rich, 2001); the logic behind this identification is that followers are likely to enact what a leader emphasizes by his or her behavior not only in their immediate task-related behavior but in other ways as well. Results from past research have clearly demonstrated that leaders affect the levels of OCB observed in followers. For example, in a review of empirical research on OCB, Organ et al. (2006) found that almost all of the studies that examined the relationship between leadership behaviors and OCB yielded significant results.

Organ and his colleagues (2006) noted that it is unclear whether the effects of leadership behavior on OCB are direct or indirect, with leader behavior affecting OCB through other variables and constructs (see Organ et al., 93). In the present study, we suggest that, at a minimum, service climate partially mediates the relationship between service leadership and customer-focused OCB. Thus, we pay attention to Organ and colleagues' (2006) finding of a direct relationship between leadership and OCB, but we also attend to their caution that there may be important mediators of that relationship.

This would seem to be particularly true in the case of OCB of a specific sort, such as the customer-focused OCB we examine here.

To our knowledge, there is no research on the relationship between service climate—or any kind of climate—and either generic OCB or customer-focused OCB. But there is research on the relationship between a variety of organizational attributes and generic OCB as well as research that shows that when employees are aware of the goal accomplishments their organization rewards, OCB for goal accomplishment increases (Organ et al., 2006). As the definition of climate in the relevant literature implies employees' understanding what the strategic goals of their organization are, we infer that service climate will impact customer-focused OCB. It does not follow from this logic that OCB must be directly rewarded for OCB to be demonstrated. The logic is that when a service climate signals employees that service quality behaviors are rewarded, then service-focused OCB is also likely to follow.

It follows from this discussion that service leadership leads to climate and to OCB and that climate also leads to OCB, yielding the following hypothesis:

Hypothesis 1: Service climate partially mediates the relationship between service leadership behavior and customer-focused OCB.

Implicit here are two further hypotheses: that service leadership is an antecedent to service climate and that climate is an antecedent to customer-focused OCB. We do not propose full mediation for climate in Hypothesis 1, given the extensive evidence for a direct relationship between leadership and OCB—though not customer-focused OCB. In this case, we would argue that a leader may also directly influence employee behavior through role modeling (Bandura, 1986) or exchange processes (Graen & Uhl-Bien, 1995). These direct influences would play separate roles from the influence leaders have through the climate they create. In addition, we propose no zero-order or direct mediated statistical relationship between leader behavior and either customer satisfaction or sales, though we obviously think leadership behavior has such long-term consequences. But these consequences are a function of what a leader creates in the form of climate, and therefore leader behavior is a distal rather than proximal cause of customer satisfaction and sales. In some situations, leaders interact with customers, directly impacting their immediate satisfaction and perhaps sales, but we would argue that such cases are exceptions in the world of consumer services, the focus of the present effort.

Climate, OCB, and customer satisfaction. Although the relationship between service climate and customer satisfaction appears to be a robust finding in the literature (Schneider et al., 2000), we propose that this relationship may not be appropriately conceptualized solely as a direct effect. To our thinking, some behavior on the part of service deliverers must intervene between the service climate they experience and the satisfaction that customers experience. Just about anyone who writes about climate or culture implicitly identifies them as causes of employee behavior, yet research on both topics too frequently attempts to go directly to outcomes, skipping the behavior between the messages received and the outcomes to which the behavior is more likely directly related (Siehl & Martin, 1990). We suggest, then, that customer-focused OCB at least partially mediates the link between service climate and customer satisfaction; the climate results in some kind of behavior, since that is precisely what climate should do. That is, we propose that the route whereby service climate produces customer satisfaction is through employees who engage in organizational citizenship behaviors that are directed toward customers.

Recent research on OCB confirms that the overall level of OCB that occurs in an organizational unit is linked to important unit outcomes, including customer satisfaction (Podsakoff & MacKenzie, 1997). For example, George and Bettenhausen (1990) showed a significant relationship between OCB and retail department sales even when sales were corrected for differences across department types. Additional studies with similarly significant results at the unit level of analysis are those of Podsakoff and MacKenzie (1994) and Koys (2001). The study by Koys is notable because of its longitudinal design and findings that the OCB level in restaurants in year 1 predicted profits in year 2. In another study of particular relevance to the present one, Bettencourt and Brown (1997) examined the relationship between customer-focused OCB and customer satisfaction in bank branches and found significant support for that relationship. By way of summary on the relationship between OCB and customer satisfaction, Podsakoff and his colleagues' (2000) review of a number of studies showed that OCB accounted for 38 percent of the variance in customer service indicators, such as customer satisfaction. We thus hypothesize the following:

Hypothesis 2. Customer-focused OCB partially mediates the relationship between service climate and customer satisfaction.

Implicit in this hypothesis is that service climate links to customer-focused OCB and that customer-focused OCB links to customer satisfaction. The relationship between service climate and customer satisfaction has been well established in the literature (see Dean [2004] for a complete review), and although we think that customer-focused OCB is likely the primary mechanism driving this relationship, other mechanisms may also exist. For instance, task-related behavior toward customers (what Podsakoff and MacKenzie [1997] referred to as "service-oriented behaviors") or emotional contagion processes (Pugh, 2001) may also help to explain this relationship. Therefore, we hypothesized partial mediation, rather than full mediation, for this relationship.

OCB, customer satisfaction, and sales. We suggest that OCB directed at customers does more than lead to customer satisfaction—it also results in sales. Although few studies have examined this relationship, some past research supports this hypothesis. For example, George (1991) showed that individuals' customer-focused OCB, as rated by supervisors, was significantly related to the individuals' sales. George and Bettenhausen (1990) replicated these results at the unit level of analysis.

We propose that OCB leads to sales through the mediator of customer satisfaction, and in this case we postulate full mediation. The relationship between customer satisfaction and sales has long been believed to exist, and this belief is the reason why organizations place a great deal of emphasis on customer satisfaction. In the marketing literature, this link between customer satisfaction and revenues has indeed been established as a robust finding (Keiningham & Vavra, 2001). The logic here is not only that satisfied customers make many repeat visits to the firm that satisfied them, but that the increased visits also increase levels of purchases (Lovelock & Wirtz, 2004). Although we did not actually study such customer behavior, we propose the following hypothesis:

Hypothesis 3. Customer satisfaction fully mediates the relationship between customer-focused OCB and sales.

The hypothesis of full mediation here is based on (1) the absence of a theoretical reason to expect OCB to relate to sales except through some experiences customers may have as a result of employees' OCB directed at them, and (2) a dearth of empirical research suggesting and/or demonstrating a direct OCB-sales link (for an exception, see George and Bettenhausen [1990]). This formulation is a potentially important conceptual insight in its own right; it is important to understand that organizational

actions are not immediately reflected in positive financial consequences except insofar as customers experience those actions. Our theorizing lends further credence to marketing scholars' emphasis on customer satisfaction as an important area of study (Oliver, 1997).

Summary

In Figure 1 we present an overall model summarizing the various hypothesized links we tested in the study reported here. The model begins with service-oriented leader behavior leading to service climate that, in turn, yields customer-focused OCB, customer satisfaction, and unit sales. Although other facets of organizational functioning may certainly impact the relationships hypothesized here, we propose that the variables captured in our framework represent the major processes by which climate is created and translated into important organizational outcomes.

METHODS

Overview

This study focused on departments (e.g., produce, meat, and deli) in stores of a supermarket chain in the eastern United States. The corporate focus in this organization was on departments, not stores; we discovered this in focus groups conducted to pilot-test our survey. Validating this department focus, we also discovered that customer satisfaction data were collected by the supermarket chain at the department level—not at the store level.

After extensive pilot tests of our survey with incumbent employees of the chain, we slightly modified existing surveys for the assessment of service leadership, service climate, and department customer-focused OCB. Service leadership and service climate were rated by department employees. Department-level OCB was assessed by department managers. Finally, the customer satisfaction and sales data were obtained from corporate records. Obviously, matching the various kinds of data required from each department to produce reliable results was a challenge; however, because it was important for us to test an overall model, we only included departments where data were available for all variables of interest in our analyses.

Sample

The number of employees responding to our survey represented approximately 40 percent of store

employees. Surveys were completed at work or home and were mailed back to the primary investigators. In our analyses, we only included departments of six or more employees because that cutoff permitted us to run analyses involving reports on leadership and climate by splitting the sample within a department into halves consisting of at least three employees providing the leadership data and at least three providing the climate data (aggregation statistics are reported later). This procedure of splitting the sample reduces same-source (response) contamination considerably, as Ostroff, Kinicki, and Clark (2002) showed, and resulted here in a database with different sources for all of the variables in our analyses. To be included in our sample, a department had to (1) be large enough (in terms of number of employees) to allow us to split the data and still allow for adequate aggregation statistics, and (2) provide matching data for all constructs of interest, to allow us to test a single structural equation model; our analyses utilize a total of 56 departments that met these requirements. Note that the response rate for department managers (who provided the OCB data) was also 40 percent.

In addition to the overall response rate, we also examined the within-department response rate, or the percentage of the total number of employees per department that responded to the survey. The mean within-department response rate was approximately 65 percent, ranging from 23 to 100 percent (larger departments tended to have lower response rates, pushing the overall response rate down). Although 70 percent of the departments had response rates of 51 percent or higher, we had some concern about the departments with the lowest response rates. Therefore, we compared the analytic results for the entire sample with the results for a sample from which we omitted the departments with the lowest response rates; we found no significant differences. Because there were no differences between the two samples, and no standard in the literature for a minimum within-group response rate, we conducted analyses on the full sample of 56 departments that met our criteria for inclusion.

Measures

Alpha reliabilities for all the survey measures used in this study (service leadership, service climate, customer-focused OCB, and customer satisfaction) are provided on the diagonal of Table 1. Employees provided ratings of service leadership and service climate using existing measures, or slight adaptations of such measures. *Service leadership* was assessed with a four-item measure developed by Schneider et al. (1998). A sample item

TABLE 1
Descriptive Statistics and Correlations among the Key Variables in the Study^a

	Mean	s.d.	1	2	3	4	5
1. Service leadership	3.63	0.64	(.95)				
2. Service climate	3.46	0.56	.40**	(.92)			
3. OCB, customer focused	3.65	0.89	.18	.29*	(.94)		
4. Customer satisfaction	0.00	0.93	.15	.08	.28*	(.96)	
5. Sales	0.00	0.93	-.07	-.21	.08	.23*	

^a We used two-tailed tests of significance except for hypothesized relationships, for which one-tailed tests were used. Customer satisfaction and sales were standardized within department type. The diagonal entries in parentheses reflect Cronbach's alpha internal consistency reliability estimates.

* $p < .05$

** $p < .01$

(rated on a scale ranging from 1, "to a very small extent," to 5, "to a great extent") was, "My department manager recognizes and appreciates high quality service." Schneider, Salvaggio and Subirats (2002) also used this measure, calling it "managerial practices." *Service climate* was assessed with an eight-item measure developed by Schneider et al. (1998). The items in the survey refer to a collection of behavioral features or activities of the departments all focusing explicitly on service quality. A sample item (rated from 1, "poor," to 5, "excellent") is, "How would you rate the job knowledge and skills of department employees to deliver superior quality service?" Department-level customer-focused OCB was rated by department managers using a five-item scale developed by Bettencourt and Brown (1997). A sample item (1, "to a very small extent," to 5, "to a great extent") is, "In my department, employees frequently go out of their way to help a customer."

Customer satisfaction data were collected through intercept (or transaction) sampling, a procedure in which customers are "intercepted" while shopping and asked to respond to questions about their experience. Intercept sampling has been shown to be as reliable and relevant as total market and annual surveys (Lovelock & Wirtz, 2004: 398). The questions asked were standardized for the most part, although we varied wording slightly by department (for instance, asking about the freshness of fruit or of fish as appropriate). In addition, some questions were asked in some departments that were not asked in others. Out of a total pool of 11 items, 6–10 were used in each department, and an average of 8.25 items were asked per department. Because we did not use all items in every department, we calculated alpha reliability for this scale on the basis of the pairwise correlation matrix among the 11 items.

Customer satisfaction was indexed via a variety of items tapping four correlated dimensions: satis-

faction with people, place, product, and price. When considering the antecedents of customer satisfaction, we were most interested in customers' satisfaction with the people who served them, as such satisfaction is most proximal to service climate and customer-focused OCB. However, when considering sales as our ultimate outcome, we deemed a general measure of customer satisfaction to be most fitting. Fortunately, the high correlation among the various satisfaction components indicated that a composite scale score would be appropriate, and therefore, that is what was created as our index of customer satisfaction. We also controlled for inherent differences between departments' customer satisfaction by standardizing within department type. Thus, all analyses to be presented were run on the standardized customer satisfaction data.

Sales data were collected for each department in the sample in the form of sales per quarter. Because departments varied in size, and some department types generated far more revenue per employee than others, we created a standardized sales score by adjusting for department size and type. Thus, the final number used in the analysis was sales per quarter per employee, standardized within department type.

Because these variables were tested in a causal model, it is important to realize the sequence in which the data were gathered. Data from employees (leadership behavior and climate) and from department managers (OCB) were collected in June. Customer satisfaction data were collected two months after the employee and manager data, and the accompanying sales data were provided by the organization from the third quarter of the year of the study.

Data Analysis

Tests of mediation. As James, Mulaik, and Brett (2004) noted, two approaches to testing for media-

tion are prominent in the psychological research literature: the structural equation modeling (SEM) approach (James & Brett, 1984) and the Baron and Kenny (1986) approach (which was updated by Kenny, Kashy, and Bolger [1998]). Although these approaches have many similarities, James et al. (2004) identified some important differences. Below, we briefly describe the basics of the two approaches, highlight some important differences, and present the logic for our use of SEM in the present research.

The Baron and Kenny approach to testing for mediation has four requirements: (1) the initial variable should be correlated with the outcome variable, (2) the initial variable should be correlated with the mediator, (3) the mediator should be related to the outcome variable when the initial variable is controlled for, and (4) the effect of the initial variable on the outcome once the mediator is taken into account should reduce to nonsignificance if there is complete mediation. If the fourth step is not met, there is partial mediation. This approach is generally tested using hierarchical regression analysis.

Structural equation modeling, on the other hand, is a confirmatory approach in which the model being tested represents the hypothesized relationships among an initial variable, a mediator, and an outcome variable, and those relationships are tested simultaneously. To support either full or partial mediation, all parameter estimates in the hypothesized model should be significant, and for full mediation, the model should also acceptably capture the observed correlation matrix, per goodness-of-fit tests (James et al., 2004).

Although the two approaches have many similarities, they also have important differences. One difference involves the presumed baseline model. James et al. (2004) pointed out that the baseline model for the Baron and Kenny approach is a partial mediation model. They argued such a baseline is not appropriate when one is testing for complete mediation. More specifically, the third step in the Baron and Kenny approach requires that the mediator be significantly related to the outcome variable in the presence of the initial variable, a configuration consistent with partial mediation, but not with full mediation. If full mediation is hypothesized, then a direct relationship between the initial variable and the outcome variable is not expected, and so it is only necessary to show that the path between the mediator and the outcome is significant. In essence, James et al. argued that it is not necessary to control for the effects of the initial variable. Therefore, according to SEM, if complete mediation is hypothesized, then a model should be tested

with a path from the initial variable to the mediator and a path from the mediator to the outcome variable, but not with one from the initial variable to the outcome variable. However, if one is testing for partial mediation, a direct path is added from the initial variable to the outcome variable, a step that makes the parameters estimated in the SEM approach and the Baron and Kenny approach comparable (James et al., 2004).

A second difference between structural equation modeling and Baron and Kenny's approach is that step 1 in the latter does not appear in SEM (James et al., 2004). In fact, a number of scholars have questioned whether it is necessary to provide evidence for the first step to establish mediation (Collins, Graham, & Flaherty, 1998; MacKinnon, 2000; MacKinnon, Krull, & Lockwood, 2000; Shrout & Bolger, 2002). Kenny, Kashy, and Bolger recently clarified the Baron and Kenny approach, noting this: "Step 1 is not required . . . the essential steps in establishing mediation are Steps 2 and 3" (1998: 260). Shrout and Bolger, in their discussion of proximal versus distal mediation processes (2002: 429), provide the reasoning most relevant to why our study did not require the first step for establishing mediation. This reasoning is as follows: In the case of a proximal effect, the outcome is hypothesized to occur temporally close to the initial variable, and the effect size is likely to be medium or large, as might be the case in a laboratory experimental design. In such cases, it is reasonable to expect the available statistical power to be adequate to detect a direct bivariate relationship between X and Y. When distal effects are hypothesized, however, there may not be enough power to detect a simple bivariate relationship between X and Y, but a mediated relationship may be detectable because increased power is available from the more proximal effects present in the mediated model. As Shrout and Bolger noted, "Because the test of the $X \rightarrow Y$ association may be more powerful when mediation is taken into account, it seems unwise to defer considering mediation until the bivariate association between X and Y is established" (2002: 429). In the current study, the mediated relationships under examination were consistent with Shrout and Bolger's (2002) description of distal effects, limiting the likelihood that significant bivariate relationships would be found.

Drawing on our review of the literature, recommendations by James and his colleagues (2004), and Shrout and Bolger's (2002) logic with regard to expected proximal and distal effects, we utilized the SEM approach for testing the mediation model shown in Figure 1. This decision was primarily based on the inappropriateness of the Baron and

Kenny approach for testing full mediation, but also on recent research by MacKinnon, Lockwood, Hoffman, West, and Sheets (2002); those authors noted that a simultaneous test of the significance of both the path from an initial variable to a mediator and the path from the mediator to an outcome (the test SEM applies) provides, relative to other approaches (such as Baron and Kenny's steps), the best balance of type I error rates and statistical power. Following the SEM approach, we tested a single model that included the hypothesized mediated and partially mediated paths. For each hypothesis, we compared the proposed relationship, either partial mediation or full mediation, with the alternative model and examined the change in chi-square value to determine which was the best-fitting model. We then examined fit for the overall model and, subsequently, the specific paths within that model. Because our department-level sample was relatively small, we conducted a path analysis with the manifest variables.

Bootstrap analyses. Many researchers (e.g., MacKinnon et al., 2002) also recommend an additional step in mediation analyses; this step, a test of the significance of the mediated effect, is similar to the Sobel (1982) test recommended by Baron and Kenny (1986). MacKinnon, Lockwood, and Williams (2004) and Shrout and Bolger (2002) noted that the Sobel test and its variants rest on the assumption that the mediated effect is normally distributed in the population, when in fact it will tend to have a positive skew, and thus these tests are only appropriate for large samples. Therefore, they proposed the use of bootstrap analyses (Efron & Tibshirani, 1993) when testing for mediation in small samples (of, for instance, between 20 and 80 [Shrout & Bolger, 2002]).

The Shrout and Bolger (2002) application of the bootstrap technique involves two basic steps. The first step involves creating a bootstrap sample of N size by randomly sampling from the original data set, with replacement. In the current study, 1 department was selected from the 56, added to the bootstrap sample, and replaced. Then, another selection from the original sample of 56 was made, added to the bootstrap sample, and replaced, again and again until a new bootstrap sample of 56 departments was created. The second step in the analysis is to estimate the mediated effect in this bootstrap sample. These two steps are then repeated a large number of times; we followed the example of Shrout and Bolger by creating 1,000 bootstrap samples and thus 1,000 estimates of the mediated effect. To test the significance of the mediated effect, we calculated the percentage of estimates that were at or below zero in the distribution and compared

this with an alpha of .05, a value that was consistent with a one-tailed test of significance for a directional hypothesis. Using EQS software (Bentler, 1995), we conducted this bootstrap procedure three times, once for each of the three mediated effects proposed in our model.

Aggregation statistics. We calculated various indicators of within-department homogeneity to substantiate aggregation of data and thus achieve department-level scores. We calculated interrater agreement and reliability (r_{wg} and ICC[1]) values for service leadership and service climate using the split-sample data for departments with six or more employees. For service leadership, the average r_{wg} was .63, the median r_{wg} was .75, and the ICC(1) was .18. For service climate, the average r_{wg} was .77, the median r_{wg} was .88, and the ICC(1) was .21. In both cases, the distribution of the r_{wg} values had a negative skew, indicating that the largest proportion of cases had high levels of agreement. The analyses of variance (ANOVAs) on which the ICC(1) values were based all indicated that the department effect was significant ($p = .001$). In addition, with minimum values of .18, the analyses revealed that the department effect was also practically significant. Overall, these analyses provided adequate justification for aggregation in our sample.

Although the statistics were encouraging, we were concerned about the impact of including departments with lower levels of agreement, so we compared results for the full sample with those for the sample without the departments with the lowest levels of agreement. Specifically, we used an r_{wg} cutoff of .50 and examined the correlation matrices with groups with low agreement on service leadership and those with low agreement on service climate eliminated. This comparison revealed essentially no difference in the results; therefore, we only report the results of all analyses for the full sample.

RESULTS

Table 1 presents means, standard deviations, correlations among the variables, and alpha reliabilities for the measures. It can be seen that the significant correlations in the matrix are between the variables most proximal to each other in the hypothesized model. Thus, service leadership significantly relates to service climate ($r = .40, p < .01$); service climate, to customer-focused OCB ($r = .29, p < .05$); customer-focused OCB, to customer satisfaction ($r = .28, p < .05$); and customer satisfaction, to sales ($r = .23, p < .05$), in seemingly mediated fashion. What is not clear in Table 1 is the degree to

which there is full or partial mediation among the variables of interest; for that insight, we turn to the path analysis results.

Model Comparisons and Overall Model Fit

We first compared the model shown in Figure 1 (which we will refer to as model 1) with that same model without the path from unit service leadership behavior to unit customer-focused OCB (model 2). Thus, we were comparing the hypothesized partially mediated relationship (model 1) to an alternative fully mediated relationship (model 2) for these first three variables. These models were not significantly different ($\Delta\chi^2[1] = .25, p = .62$), indicating that the addition of this path for partial mediation did not add significantly to the model. Therefore, we retained model 2, the fully mediated and most parsimonious version, as the preferable model. Next we compared model 2 to a model without the path from unit service climate to unit customer satisfaction (model 3). Once again, this comparison involved the hypothesized partially mediated relationship and an alternative fully mediated version, this time for the middle three variables in the model. The models were not significantly different ($\Delta\chi^2[1] = .00, p = 1.00$), and therefore we retained model 3, reflecting a fully mediated relationship, as the more parsimonious and therefore, preferable model. Our final model comparison was between model 3 and a model with a path from unit customer-focused OCB to unit sales (model 4). In this case, the hypothesized relationship for the final three variables was full mediation, and this was compared with an alternative relationship of partial mediation. These two models were not significantly different ($\Delta\chi^2[1] = .03, p = .87$). Therefore, we accepted model 3, the hypothesized fully mediated relationship, as the

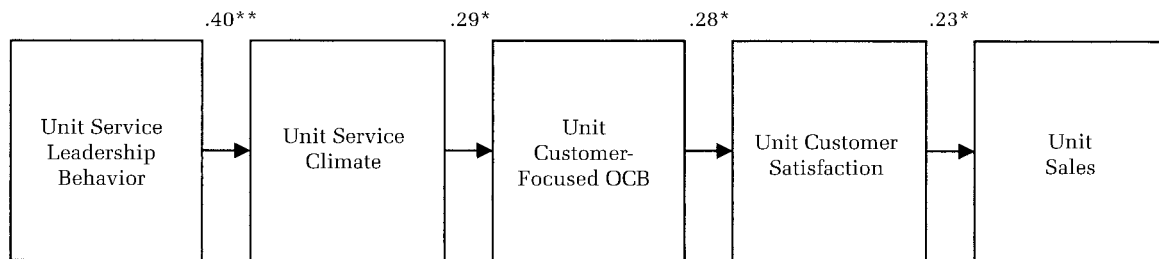
final model. This model fitted the data well ($\chi^2[6] = 4.57, p = .60$; CFI = 1.00, SRMR = .07, RMSEA = .00, AGFI = .92), providing overall support for the revised model. Figure 2 shows this model, with path coefficients.

Tests of Hypotheses

Hypothesis 1, which states that service climate partially mediates the relationship between service leadership and OCB, received moderate support. As shown in Figure 2, two of the hypothesized paths were significant. There was a significant relationship between service leadership and service climate ($\beta = .40, p < .01$), as well as a significant relationship between service climate and customer-focused OCB ($\beta = .29, p < .05$). However, because the path from service leadership to OCB did not significantly add to the model (as described in the previous section), full mediation, rather than partial mediation, was indicated. A side note of interest is that the conventional assertion of a significant bivariate relationship between service leadership and OCB was not supported ($r = .18, p > .05$), which was somewhat surprising given the consistently significant relationship previously found between leadership and OCB; we will discuss this finding in some detail later.

Hypothesis 2, which was that OCB partially mediates the relationship between climate and customer satisfaction, also received moderate support. As shown in Figure 2, the coefficient for the path between service climate and OCB was significant ($\beta = .29, p < .05$), as was the coefficient for the OCB-to-customer-satisfaction path ($\beta = .28, p < .05$). As stated above, the model comparisons indicated that the direct path from service climate to customer satisfaction did not add to the model, and therefore the relationship between service climate

FIGURE 2
Estimated Path Coefficients for the Revised Model (Hypotheses 1, 2, and 3)^a



^aFit indexes were: CFI = 1.0, SRMR = .07, and RMSEA = .00.
 * $p < .05$
 ** $p < .01$
 One-tailed tests.

and customer satisfaction appeared to be fully, rather than partially, mediated by customer-focused OCB. Once again, the data did not support the traditional first step in mediation, as there was not a significant correlation between service climate and customer satisfaction ($r = .08$; $p > .05$).

Finally, Hypothesis 3, which states that customer satisfaction fully mediates the relationship between OCB and sales, received full support. As Figure 2 shows, the path from OCB to customer satisfaction was significant ($\beta = .28$, $p < .05$), and the path from customer satisfaction to sales was also significant ($\beta = .23$, $p < .05$). The model comparisons revealed that the direct path from OCB to sales did not add significantly to the model, implying full mediation. Once again, the traditional first step in mediation was not supported, as the correlation between OCB and sales was not significant ($r = .08$; $p > .05$), supporting our contention that this is a distal, rather than proximal, link.

Bootstrap Analyses

As described above, to provide a more rigorous test of whether the mediated effects found in the model were statistically significant, we conducted bootstrap analyses, as suggested by Shrout and Bolger (2002). The first analysis tested the effect of service leadership on customer-focused OCB through the mediator of service climate. Across the bootstrap samples, the values for the mediated effect ranged from $-.09$ to $.56$, and the mean value was $.16$. Only 12 of the 1,000 samples had a value less than zero, indicating that the mediated effect revealed earlier was significant ($p = .01$). We next tested the effect of service climate on customer satisfaction through the mediator of customer-focused OCB. The mediated effect in the bootstrap samples ranged from $-.08$ to $.57$, and the mean value was $.14$. Of the 1,000 bootstrap samples, 23 had values less than zero, indicating the mediated effect reported earlier was significant ($p = .02$). Finally, we tested the effect of customer-focused OCB on sales as mediated through customer satisfaction. The mediated effect across the bootstrap samples ranged from $-.08$ to $.36$, and the mean value was $.07$. Of the 1,000 bootstrap samples, 78 had a value less than zero, indicating the mediated effect reported earlier was of marginal significance ($p = .08$).

DISCUSSION

All hypothesized direct links between the variables in the model proved significant: service leadership was significantly related to service climate;

service climate, to OCB; OCB, to customer satisfaction; and customer satisfaction, to sales. However, while interesting for several reasons, the significant links do not mean that the formal mediational hypotheses presented earlier in Figure 1 received support. Hypothesis 1 suggested partial mediation, but the results were consistent with full mediation; in this sample, leadership yielded OCB apparently only through climate. Hypothesis 2 also received only partial support; in this sample, OCB fully (not partially) mediated the relationship between service climate and customer satisfaction. Finally, Hypothesis 3 received general support; customer satisfaction fully mediated the relationship between OCB and sales. However, the strength of the mediated effect did not meet traditional significance levels.

Hypotheses Compared to Results

Finding two instances of full mediation, one occurring as hypothesized (Hypothesis 3), and the other occurring when partial mediation had been hypothesized (Hypothesis 1), deserves discussion. For example, despite the seemingly robust findings in the literature on the relationship between leadership and OCB (Podsakoff et al., 2000), in the present case, that relationship did not appear between a measure of service leadership and a measure of customer-focused OCB. The failure of the expected relationship to emerge may have to do with previous studies' focus on (1) transformational and transactional leadership, and (2) the altruism and conscientiousness dimensions of OCB (Podsakoff et al., 2000). Although we did not collect data from responses on a transactional or transformational leadership scale, we conducted a post hoc analysis to explore the relationship between the service leadership scale and the other two dimensions of OCB as rated by managers. We found that service leadership was significantly correlated with altruism ($r = .40$, $p < .05$) and with conscientiousness ($r = .27$, $p < .05$), but as shown in Table 1, the correlation with customer-focused OCB was not significant ($r = .18$, $p > .05$). On the other hand, while customer-focused OCB was significantly related to customer satisfaction, neither of the other two OCB indicators was. These results suggest that the type or facet of OCB assessed and the kind of leadership assessed might be "boundary conditions" for the relationship between leadership and OCB and also for the relationship between OCB and its consequences.

The support we found for Hypothesis 3, stating that customer satisfaction fully mediates the relationship between OCB and sales, clearly suggests

that sales are not proximal with regard to employee OCB vis à vis customers. In some sense, the relationship between OCB and sales is the most distal of the three hypothesized mediated relationships described in this study, and is the one that is perhaps the most susceptible to “competing causes” or “random factors,” as described by Shrout and Bolger (2002: 429). By “most distal” we mean that, as both our conceptualization and our measurement were at the unit (department) level of analysis, the relationships only emerge with the cumulation over time of organizational citizenship behavior leading to customer satisfaction and then customer satisfaction resulting in sales. Thus, although an individual employee’s display of OCB to a customer may yield a proximal sale, the issues at the unit level (OCB having cumulative effects and sales being indexed periodically, not immediately) make the relationship from OCB to sales especially distal.

People like us, those who conduct quantitative research using surveys, and one-time surveys at that, do not often entertain questions about the proximal-distal causation continuum. But in the more qualitative worlds of, for example, organizational culture and organizational change, the issues have been clearly explicated. As just one example, consider the work of Aldrich (1999) and Schein (1992), who showed how organizations evolve and change over time, making a founder’s early behavior the proximal cause of early organizational success but also a long-term, distal cause of organizational decline.

Contributions of the Study

A contribution of the present study to research on the climate–customer satisfaction link was our inclusion of customer-focused OCB, which apparently mediates that link. A substantial literature now exists on the climate–customer satisfaction link (Schneider & White, 2004), yet missing from that literature is some explanation for how climate results in customer satisfaction. Our model includes one necessary behavioral link in the form of OCB directed at customers. Furthermore, this link occurs at the unit level, which is consistent with recent research on OCB showing that it is citizenship behavior in a unit as a whole—here, behavior reported by department managers—that impacts organizational outcomes (Koys, 2001; Podsakoff & MacKenzie, 1997). This is not to say that service climate only affects OCB, nor is it to say that OCB is the only type of employee behavior that affects customer satisfaction; OCB is simply the mediator

we studied here. Research that looks at others is clearly needed.

Perhaps the major empirical contribution of the present effort is the simultaneous test we accomplished on the full model. Although a number of the bivariate links have been studied in prior research, they have generally been considered in a piecemeal, fragmented manner, with few efforts to theoretically describe and then test a general model with intermediate links occurring in a single piece of research. The closest research to that presented here is Heskett and colleagues’ (1997) work testing the service-profit chain. Tests of various components or links in that model have revealed mixed validity for it. For example, Loveman (1998) presented both a mediational test of the service-profit chain and an unmediated test of the employee loyalty–customer satisfaction link and found support for the former but not the latter. Gelade and Young (2005) did not find much support for customer satisfaction as a mediator of the climate-sales relationship for bank branches in the United Kingdom but did show that employee perceptions of climate (and reports of commitment) were related to customer satisfaction and sales. A simultaneous test of the service profit chain on a small sample of U.K. supermarkets (Silvestro & Cross, 2000) failed to support the idea that customer satisfaction and loyalty were the result of employee satisfaction and loyalty. That study hinted at evidence of a negative relationship between employee satisfaction and the service quality experienced by customers; our study partially replicates that evidence, with Table 1 showing a (nonsignificant) negative relationship between service climate and sales.

Obviously more research is required to untangle when and under what circumstances the relationships in these extended-links models will appear. As in past research, the emphasis in the present work is on the robustness of some of these findings. However, there has been little conceptualization and few studies of the boundary conditions surrounding the various relationships shown in our model. For instance, when customer contact and service intangibility are both high, it may be that service climate and/or customer-focused OCB are more critical for customer satisfaction than when the reverse is true (Dietz, Pugh, & Wiley, 2004; Schneider & White, 2004). In addition to macro factors that could operate as boundary conditions for the relationships studied, additional variables could have direct effects on the variables in our model as well. For instance, a potential antecedent of leadership behavior surely is leader personality, and service climate is not the only antecedent of unit-level OCB; for example, justice climate has

also been proposed as an antecedent (Colquitt, Noe, & Jackson, 2002; Ehrhart, 2004). Further, citizenship behavior directed toward customers is not the only behavior likely to flow from a service climate. Customer satisfaction is a function of numerous issues like price, product availability, the physical environment of a service delivery system, and so forth (Lovelock & Wirtz, 2004). Customer satisfaction is, moreover, not the only cause of sales, as conceptually distinct constructs such as customer loyalty may in fact be additional mediators of this proposed link (Dube & Shoemaker, 2000; Hallowell, 1996; Liao & Chuang, 2004). While we would have preferred to study all of these issues simultaneously, doing so was not feasible, so we focused on a set of variables that would seem to be central to the larger systems framework of which they are a part. Future research should certainly expand the framework we studied here.

A final contribution of this study is a methodological one. Our review of the latest literature on testing for mediation yielded considerable insight into what one must consider vis-à-vis testing mediation hypotheses. For example, we showed that the current orthodoxy of requiring a significant relationship between the independent and dependent variable before moving forward with mediation analyses has been repeatedly questioned by quantitative researchers, including Kenny himself (Kenny et al., 1998), and yet psychology and management researchers continue to repeat it. Indeed, although finding such a relationship may be a preferable initial step when the hypothesis is for partial mediation and when proximal effects are expected, when these conditions do not exist and full mediation is expected, the original Baron and Kenny (1986) methodology is not appropriate. Researchers should provide a theoretical case for why a direct, bivariate relationship between X and Y should or should not be expected and then conduct their analyses accordingly.

Limitations of the Study

Limitations of the present study begin with the fact that the data used for testing the model were cross-sectional. In cross-sectional models, causality is not clear and here, given the close interaction between service providers and customers, causation might be reciprocal (Schneider et al., 1998). For example, customer satisfaction may influence service climate, or sales might influence leadership behavior. Given the unavoidable pitfalls of cross-sectional data, future research with longitudinal designs (e.g., Koys, 2001; Schneider et al., 1998) may be particularly useful for examining such re-

ciprocal effects. Note our choice of the word “reciprocal,” which implies that it is likely in real systems, such as the supermarket departments studied here, that causation is not unidirectional (Schneider et al., 1998; Schneider, Hanges, Smith, & Salvaggio, 2003). Of course, one approach to unlocking these causality issues would be to conduct field experiments over time. It is clear to us that short-term laboratory experiments are not the way to proceed because it takes time for the relationship between leaders and employees and employees and customers to emerge in real settings, and such settings are clearly the locale of choice.

A second issue, one that is both a limitation and, we think, a strength, is our use of one company as the source of the sample. This is a strength because the issues raised in the survey were well understood across the sample of respondents (that is, the surveys were extensively pilot-tested) and because the service was relatively uniform across the units studied. Use of a single company is a liability because potential restriction of range in the sample could actually yield relationships that appear weaker than they might be in a more diverse sample. In this same vein, our use of a standardized data set for both customer satisfaction and sales in the departments studied may also provide a conservative estimate of the relationship likely across different kinds of services.

Another potential weakness of our research is the general absence of data with regard to larger environmental effects on the relationships studied here. For instance, we had no data on the socioeconomic of the geographical area in which the stores were located. With regard to potential store effects, we had data on whether a store was newer and modern-looking (with, for instance, excellent lighting, wide aisles, and a boutique look in the various departments) or an older, more traditional store, and this difference revealed no significant effects on the data. In addition, we did a post hoc test of the degree to which the variability in the two aggregated scales (service leadership and service climate) was more likely a department or a store effect. To do so, we segmented the variance into department and store components and used that information to calculate department and store ICC(1) values. For service leadership, the ICC(1) value for departments was .18, and for stores, it was .02; for service climate, the ICC(1) value for departments was .21, and for stores, it was .03. These results indicate that the departments and not the larger store had the greater impact on our data and that the department level of analysis was appropriate.

Management Implications

Organizations interested in improving customer satisfaction and sales will be interested in these findings for several reasons. First, the findings reveal that a specific kind of leadership, service leadership, is an aid in developing the kind of service climate in which employee OCB toward customers is more likely. These results say that practically speaking, managers in positions like those of the department managers studied here must behave in ways that make it clear to followers that service quality is important. They must model service for employees, they must set goals for customer satisfaction, they must plan for making service happen, and they must ensure that employees have the assistance, tools, and resources necessary to deliver service quality. Specifically with regard to modeling, research by Hui, Lam, and Schaubroeck (2001) showed that the implementation of a new organizational quality initiative was improved by using as facilitators employees who were already known to be good organizational citizens. This practice resulted in greater customer satisfaction and greater employee conformance to the new initiative.

Does every organization have to create a service climate and have customer-focused OCB to achieve customer satisfaction? Clearly not. There are many routes to success in organizations, service quality being only one. However, in settings where customers directly encounter organizational climate, a service climate can offer a profitable competitive edge (Gelade & Young, 2005). In the calculus of organization design, then, degree of customer contact must be a variable to consider in decisions about the strategic climate of interest. There is also some evidence that when service delivery is not only high in customer contact, but also requires cooperation among employees, the relationships we reported here are stronger (Gittell, 2002). In other words, while the findings regarding service climate, OCB, and customer satisfaction appear quite robust, managers still must take into account their specific context and make decisions about where to focus their efforts.

Consulting firms have recently inundated managers with the idea that employee "engagement" is the key to all of what ails companies. This may very well be true, but for the most part engagement has been measured by relabeling existing employee opinion data as engagement (Buckingham & Coffman, 1999). Engagement, however, connotes more than satisfaction or opinion; engagement also connotes motivated behavior (Kahn, 1990). Our thinking is that a key element of engagement must be OCB and that what companies want is for employ-

ees to display strategic engagement. That is, companies should seek employee display of motivated behavior in pursuit of important organizational outcomes—like the customer-focused OCB studied here (Macey & Schneider, in press). The caution to practicing managers is to require consultants to demonstrate how their measurement of "engagement" differs from existing employee job satisfaction or opinion surveys and then get them to show what the likely antecedents and consequences of engagement are.

In conclusion, the mediated model we tested and to some extent validated should caution management to be aware that even the best-intentioned changes are not likely to have the immediate hoped-for consequences. Our experience in companies is that the immediate effect is the only effect managers attend to, and when no immediate effect is evident, a change effort is abandoned. But real organizations are short on immediate effects; management must be encouraged to patiently wait for them to emerge. Managers must be encouraged to be patient because moving customer satisfaction through organizational design has a potential competitive advantage (Zeithaml, 2000). That is, in contrast to changes in price or product offerings, changes in organizational design are difficult to imitate—precisely because one must be patient to achieve them.

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