

Unit-Level Voluntary Turnover Rates and Customer Service Quality:  
Implications of Group Cohesiveness, Newcomer Concentration, and Size

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Abstract

Despite substantial growth in the service industry and emerging work on turnover consequences, little research examines how unit-level turnover rates affect essential customer-related outcomes. The authors propose an operational disruption framework to explain why voluntary turnover impairs customers' service quality perceptions. Based on a sample of 75 work units and data from 5,631 employee surveys, 59,602 customer surveys, and organizational records, results indicate that unit-level voluntary turnover rates are negatively related to service quality perceptions. The authors also examine potential boundary conditions related to the disruption framework. Of three moderators studied (group cohesiveness, group size, and newcomer concentration), results show that turnover's negative effects on service quality are more pronounced in larger units and in those with a greater concentration of newcomers.

**KEYWORDS:** turnover, customer service, group cohesiveness, newcomers, tenure, group size

### Unit-Level Voluntary Turnover Rates and Customer Service Quality:

#### Implications of Group Cohesiveness, Newcomer Concentration, and Size

Scholars typically contend that voluntary employee turnover has negative organizational consequences such as high replacement costs, diminished productivity, lower employee morale, disrupted operations, and poor service delivery (e.g., Dalton & Todor, 1979; Griffeth & Hom, 1995; Mobley, 1982; Staw, 1980). Whether service delivery is actually impaired by employee turnover is largely unstudied, even though services virtually dominate the U.S. economy (approximately 84% of U.S. workers hold service-providing rather than goods-producing jobs; U.S. Department of Labor, 2007). Clearly, company success and survival in the massive service industry has considerable implications for the U.S. economy and millions of employees. Consequently, researchers and practitioners should benefit from understanding what enhances and constrains organizational performance in this domain. Turnover may be a cornerstone of such understanding, as it is prevalent in the service industry, affects fundamental aspects of the employee-customer interface, and can be influenced by a variety of management practices.

We develop an operational disruption framework to explain how unit-level voluntary turnover rates (i.e., the proportion of unit employees that quit) affect external customers' perceptions of service quality (i.e., customers' evaluations of the extent to which service providers are responsive and courteous throughout the process of service delivery; Schneider & White, 2004). These and related customer perceptions are known antecedents of customer retention, sales volume, and profitability (see Dean, 2004 for a review), and are thus of crucial importance for organizations. To enhance our understanding of the theoretical and practical implications of turnover rate main effects on customer perceptions, we also focus on relevant boundary conditions by testing whether group cohesiveness, newcomer concentration, and work

unit size serve as moderators. The level of analysis in this study is the work unit, defined as a “set of individuals possessing an infrastructure operating within an organization, such as a workgroup, a department, or a division” (Rentsch & Steel, 2003, p. 186).

### Theory and Hypotheses

#### *Voluntary Turnover Rates and Service Quality Perceptions*

We contend that voluntary turnover hampers customers’ service quality perceptions because it creates *operational disruption* within the work unit (Staw, 1980; Watrous, Huffman, & Pritchard, 2006). Turnover initiates disruption by depleting firm-specific knowledge and experience from the unit, as leavers are replaced with individuals who lack the knowledge of work processes that is necessary to satisfy loyal guests (Batt, 2002; Kacmar, Andrews, Van Rooy, Steilberg, & Cerrone, 2006; Koys, 2001). While these replacements learn their roles and work towards proficiency, customers receive service from less knowledgeable and experienced staff. Moreover, turnover burdens remaining employees with activities that divert attention away from high-quality service provision (Shaw, Duffy, Johnson, & Lockhart, 2005). Incumbents must divide time between serving customers and training or socializing new employees (Shaw, Gupta, & Delery, 2005; Staw, 1980). These socialization and development activities are both prerequisite to performance (Kozlowski & Bell, 2003; Saks, Uggerslev, & Fassina, 2007; Tuckman, 1965) and present whenever a new employee enters the organization (Van Maanen & Schein, 1979).

Despite these conceptual arguments for operational disruption, empirical work yields little direct evidence of a turnover rate effect on customer perceptions. McElroy, Morrow, and Rude (2001) studied voluntary turnover rates and customer perceptions in a sample of 31 financial services business units. Multivariate analyses revealed no relationship between

voluntary turnover and customer satisfaction. Koys (2001) examined total turnover rates and customer satisfaction in a sample of 24 restaurants and found no support for a turnover-customer satisfaction link. Importantly, both studies suffered from low statistical power (given a targeted effect size of .30, statistical power was just .39 in McElroy et al. and .31 in Koys), which constrained the ability to find any existing effects. Alternatively, it may be that certain contextual factors (e.g., low task interdependence or superior turnover management practices) restricted the influence of unit-level turnover in the two studies. Although direct empirical support is lacking, indirect support was provided by Kacmar et al. (2006), who found that turnover rates were positively related to fast food customers' elapsed wait time, which subsequently had a negative association with sales and profits. This finding shows that turnover impacts efficiency-based elements of customer service, and suggests that customer perceptions may play an intervening role in explaining service firm success.

Despite a lack of empirical support in two small-sample studies (Koys, 2001; McElroy et al., 2001), conceptual arguments (Staw, 1980) and indirect evidence (Kacmar et al., 2006) support the notion that turnover disrupts unit-level service performance. Turnover depletes existing stocks of knowledge and experience, and causes unit members to allocate their time differently. Consequently, customers should experience substandard service, and react accordingly, when turnover is high.

*Hypothesis 1: Voluntary turnover rates will be negatively related to unit-level customer perceptions of service quality.*

#### *Moderators of Voluntary Turnover Effects on Customer Perceptions*

To address boundary conditions of the turnover-service quality relationship, and of the operational disruption rationale, we examine three potential unit-level moderators. Investigating

contextual characteristics helps explain why some units may outperform others when faced with high turnover, and is consistent with the general notion that studying context is critical to understanding turnover (Schwab, 1991; Trevor, 2001). In this study, we examine the potential moderating effects of group cohesiveness, group size, and newcomer concentration.

*Group cohesiveness.* Group cohesiveness is defined as group members': (a) shared commitment to the group's task (Goodman, Ravlin, & Schminke, 1987; Gross & Martin, 1952), and (b) shared attraction and mutual liking for one another (Evans & Jarvis, 1980). Given increasing changes in group membership caused by higher turnover rates, group cohesiveness should offset operational disruption because of more plentiful resources that support and maintain group functioning. Specifically, members of high cohesiveness units tend to exhibit more prosocial behaviors, experience more positive mood states, and have a strong sense of social identity (George & Bettenhausen, 1990; Kidwell, Mossholder, & Bennett, 1997). Thus, cohesiveness affords units with resources that they can draw upon to buffer against the disruptive effects of turnover, such that members can rely upon one another to follow through on commitments and engage in the behaviors that are necessary to provide the critical service tasks that customers expect. As turnover increases in high cohesiveness units, customers should still receive reasonably high quality service as employees pull together to accomplish the group's goals. On the other hand, for low cohesiveness groups, the general lack of shared commitment to group tasks and low interpersonal attraction to group members yields fewer available resources for managing the disruptive effects of turnover, as the negative mood states and weak group identity limits the degree to which group members help each other (Kidwell et al., 1997). Consequently, as turnover increases in low cohesiveness units, service failures should increase, which would erode customers' perceptions of service quality.

*Hypothesis 2: The negative relationship between voluntary turnover rates and customer perceptions of service quality will be of greater magnitude when group cohesiveness is low.*

*Newcomer concentration.* Our second unit-level moderator is newcomer concentration, which we define as the degree to which very recent hires (90 days or less) comprise the work unit. We contend that a larger proportion of newcomers at a certain point in time will leave units ill-equipped to defuse the disruptive effects of subsequent turnover. The operational disruption main effect argument was that, because socialization occurs whenever a new employee enters the organization (Van Maanen & Schein, 1979), turnover (and subsequent replacement of leavers) will disrupt customer service because it will necessitate shifting employee efforts from customer service to new employee socialization. Because socialization demands will tend to fall to employees with at least some experience (Ostroff & Kozlowski, 1992), high newcomer concentration necessarily means that a smaller proportion of the unit is equipped with the experience to handle the socialization demands brought on by turnover. Thus, under high newcomer concentration, units have depleted resources with which to manage the disruption. This could result in further redirecting of seasoned employees, and their knowledge of work processes that enhance customer satisfaction (e.g., Batt, 2002), toward socialization activities and away from actual customer interactions. Alternatively, high newcomer concentration could lead to the extension of socialization demands to relatively new employees, who will be less adept both at socialization itself and at balancing socialization and customer service roles. In either case, turnover should be more disruptive to customer service in units where newcomer concentration (*net of the turnover rate itself*) is high, as these units should be less well prepared to handle the socialization demands brought on by increased turnover.

*Hypothesis 3: The negative relationship between voluntary turnover rates and customer perceptions of service quality will be of greater magnitude when newcomer concentration is high.*

*Work unit size.* Researchers often control for the number of employees in unit-level or organization-level studies, yet size may have more substantive meaning as a moderator of voluntary turnover rate effects. Plausibly, larger groups may buffer turnover-induced disruption, as they offer an increased labor supply and greater resources (Green, Anderson, & Shivers, 1996; Kozlowski & Bell, 2003), meaning that any single departure would be less likely to impact the operations of a large unit. However, in the context of studying turnover *rates*, as we do here, equivalent amounts of turnover (e.g., losing 25% of the work unit) may create greater challenges for larger units. Group size is associated with numerous process inefficiencies, including coordination and motivation losses, less social interaction and participation among members, lower quality relationships between supervisors and subordinates, lower satisfaction and commitment, lower collectivism, and higher absenteeism (Colquitt, Noe, & Jackson, 2002; Green et al., 1996; Hare, 1981; Kozlowski & Bell, 2003; LePine & Van Dyne, 1998; Markham, Dansereau, & Alutto, 1982). These process inefficiencies appear likely to inhibit the ability to manage the competing socialization and customer service demands brought on by turnover. That is, turnover's operational disruption necessitates socializing new employees and allocating employee (and supervisor) time between this socialization and actual customer service; group size correlates may render larger units less well-equipped to efficiently handle this process.

*Hypothesis 4: The negative relationship between voluntary turnover rates and customer perceptions of service quality will be of greater magnitude when work unit size is high.*

## Method

### *Sample and Procedure*

Our sample consists of 75 work units within a large leisure and hospitality organization. This sector's turnover rates are among the highest of any industry classification. Annual quit rates and total separation rates in leisure and hospitality average approximately 50% and 75%, respectively (U.S. Department of Labor, 2007), suggesting a suitable setting for examining turnover and service quality perceptions. The organization that we study operates a major brand of hotels and casinos throughout the United States. Line employees deliver gaming and entertainment services through their work in one of four customer-facing work units: (1) beverage service (employees take and deliver beverage orders for customers); (2) cashiers (employees process transactions such as exchanging coins or casino chips for cash); (3) slot machine service (employees circulate through the casino floor to instruct customers on slot machine operating procedures/rules and help process large wins); and (4) customer rewards (employees administer a loyalty program by providing customers with various complementary benefits and rewards based on their playing habits, processing membership card applications, and answering questions).

Our operational disruption framework assumes some level of interdependence among employees within units. The units studied here indeed possess many of the group-like characteristics outlined by Cohen and Bailey (1997): (a) a collection of individuals with interdependent tasks (unit members must work together to meet customer needs as they visit different areas of the casino); (b) who share responsibility for outcomes (unit members receive bonuses based on unit-level service quality scores); (c) who are an intact social entity that is embedded within a larger system (unit members interact socially to handle customer requests,

units are embedded within properties); and (d) who manage boundary-spanning relationships (unit members serve customers who spend a large amount of time, entire days or weekends, engaging with multiple service-providing employees from various units within the property).

Data were collected and matched across three different sources. Company records contained each unit's size and annual voluntary turnover rate for the calendar year 2003. Employees ( $N = 5,631$ ) provided group cohesiveness data as part of an annual employee opinion survey administered in the fourth quarter (October to December) of 2002 (overall response = 88.9%). Customers ( $N = 59,602$ ) provided unit-specific service quality perceptions as part of a customer satisfaction survey administered by mail in the fourth quarter of 2003. The customer response rate was 27.6%, which is comparable to customer response rates in previous unit-level studies (e.g., 11% in Schmit & Allscheid, 1995, and 22% in Schneider & Bowen, 1985). We aggregated employee and customer data to the work unit level and matched it with the voluntary turnover rate data for each unit. The four units (beverage, cashier, slot service, customer rewards) operated at each of 19 different locations, resulting in a potential sample of 76 work units. Complete data were available for all units except beverage at one location because the organization outsourced its management and operation to a third party vendor. Thus, the final sample size was 75 work units.

### *Measures*

*Customer perceptions of service quality.* Customers provided unit-specific service quality perceptions as part of a larger, company-sponsored customer satisfaction survey administered in the fourth quarter of 2003. The questionnaire asked participants to consider their experiences with members of the four units studied here (i.e., beverage, cashier, slot service, and customer rewards) during their most recent visit, and to answer two items for each unit: "How friendly and

helpful were the staff?” and “How would you rate the waiting times?” Above, we defined customers’ service quality perceptions as customers’ subjective evaluations of the extent to which service providers are courteous and responsive (Schneider & White, 2004), which is consistent with these two items. Response options included *failure* (1), *poor* (2), *fair* (3), *good* (4), and *excellent* (5). An option was also available for instances where the customer did not interact with a given unit (*did not use*), which was coded as missing data. Coefficient alphas for the two-item measure in the beverage, cashier, slot service, and customer rewards departments were .91, .86, .87, and .82, respectively. Responses were aggregated to the unit level by averaging the individual-level responses for each unit.

*Voluntary turnover rates.* Voluntary turnover rates for each unit were computed from company records for the calendar year 2003 and reflect the unit’s number of departures during the year that were initiated by employees, divided by the number of active employees in the work unit at the beginning of the year. Managers coded whether the employee departures were voluntary using a company-wide set of termination codes and definitions. Involuntary terminations and uncontrollable departures (retirement, layoffs, medical conditions, death, deportation) were not included in the voluntary turnover rate calculation.

*Group cohesiveness.* Group cohesiveness was measured using a four-item scale that was part of a larger, company-sponsored employee opinion survey administered in the fourth quarter of 2002. Consistent with measurement recommendations (Kidwell et al., 1997; Mudrack, 1989), and similar to previous group cohesiveness research (George & Bettenhausen, 1990; O’Reilly & Caldwell, 1985; Podsakoff & MacKenzie, 1994), the items address both task and interpersonal dimensions of cohesiveness. The items were, “In my department, my co-workers and I work very well together to deliver excellent customer service”, “My co-workers follow through on their

commitments”, “My co-workers and I can work through differences in opinion without hurting feelings or starting arguments”, and “Overall, I enjoy working with my co-workers.” The anchors for each item ranged from *strongly disagree* (1) to *strongly agree* (5). Coefficient alpha was .82. Individual responses were aggregated to the unit level by averaging the individual-level responses within each unit.

*Newcomer concentration.* Also as part of the employee survey (administered during the fourth quarter of 2002), respondents indicated their total tenure by selecting one of five unequally spaced tenure categories, the lowest of which was “less than 90 days.” We considered employees who had less than 90 days of service as “newcomers”, and then within each unit, divided the number of newcomers by the total number of unit employees to indicate “newcomer concentration” (i.e., the proportion of unit employees who were newcomers). This measure is designed to capture the amount of acute inexperience that we argued would constrain the unit’s ability to absorb the disruption associated with voluntary turnover rates.

*Work unit size.* The total number of active customer-facing employees in each of our 75 units on January 1, 2003 served as the measure of work unit size (mean = 55, minimum = 8; maximum = 162). In comparison, the turnover rate studies most relevant to our research were characterized by 24 units with a mean size of 28 employees (Koys, 2001) and 31 units with a mean size of 165 employees (McElroy et al., 2001).

*Property size.* The total number of active employees at each property in the fourth quarter of 2002 was used to indicate property size. Paralleling Kacmar et al. (2006), this measure likely also at least partially controls for property revenues.

*Occupation.* Three dummy variables were created to account for the four different customer-facing units: *beverage* (the omitted category in the multivariate analyses), *cashier*, *slot*

*service, or customer rewards.* The organization routinely coded these unit names when collecting the data included here (e.g., turnover rates, customer data, employee data). Occupational controls ensure that any observed effects are not in fact occupation-related effects on both turnover rates and customer service perceptions.

*Unit supervision.* Given that the quality of supervision within work units may relate to both turnover rates and customers' perceptions of service quality, we included a control variable based on 14 employee survey items that tapped various supervisory quality dimensions (e.g., "My supervisor keeps me up to date with the latest information I need to know", "My supervisor is a great boss", "My supervisor follows through on his or her promises and commitments"). Coefficient alpha was .97.

*Unemployment rate.* Alternative job opportunities in the local labor market may relate to both employees' tendencies to quit and customer tendencies by proxying local economic health. Consequently, we controlled for the 2003 unemployment rate for each property's relevant metropolitan or micropolitan statistical area using data from the Bureau of Labor Statistics (U.S. Department of Labor, 2007).

#### *Aggregation Statistics and Data Analysis*

We computed ICC(1) and ICC(2) to justify unit-level aggregation for group cohesiveness and service quality perceptions. ICC(1) indicates the amount of variance explained by unit membership, whereas ICC(2) indexes group-mean reliability (Bliese, 2000). For group cohesiveness, ICC(1) was .04 and ICC(2) was .76. For the service quality measure, ICC(1) in the beverage, cashier, slot service, and customer rewards departments were .02, .04, .05, and .02, respectively, while ICC(2) estimates were .93, .97, .97, and .93. ICC(1) values reveal non-zero group-level variance, and although low, such values are fairly typical of real-world data

(LeBreton & Senter, 2008). ICC(2) values suggest moderate to high group-mean reliability (Bliese, 2000). Because we argue that it is a shared construct, we also computed  $r_{wg}$  to index the within-group agreement for the group cohesiveness measure. Across units, the mean  $r_{wg}$  estimate was .81 ( $Min = .57$ ,  $Max = .98$ ), indicating reasonable within-group agreement.

The factor structure of the group cohesiveness and unit supervision scales was evaluated using exploratory factor analysis (principal axis factoring, promax rotation) with the relevant survey items. We retained factors with an eigenvalue greater than 1.0 and items with factor loadings above .60 and no cross-loadings above .20. All four cohesiveness items met these criteria and loaded on a single factor. We retained 14 of 26 unit supervision items using these criteria. Although the 14 supervision items loaded on two separate factors, the correlation between the two scale scores was .82. Given multicollinearity and construct redundancy concerns, we averaged the two scales to create the unit supervision control variable.

The hierarchical nesting of the 75 units within 19 properties suggests that ordinary least squares regression could be problematic because of dependent observations. Using the unit-level customer service quality data, we calculated an ICC(1) value of .29, which provides evidence of such non-independence due to property nesting. Consequently, hierarchical linear modeling (HLM) was our statistical analysis method (also referred to as *random coefficient modeling*). HLM is more appropriate than ordinary least squares regression for such multilevel data (Bliese & Ployhart, 2002; Hofmann, Griffin, & Gavin, 2000; Kozlowski & Klein, 2000). The level 2 variables in our models include property size and unemployment rate (as they are tied to the 19 property locations); all other variables reside at level 1 (as they are tied to the 75 work units).

## Results

Table 1 contains the means, standard deviations, and intercorrelations among study variables. The occupation-based correlations indicate that the lowest perceptions of customer service quality and the highest voluntary turnover rates are associated with the beverage-supplying units, which is the omitted occupational category in our analyses. Table 2 presents the results of multivariate tests. Model 1 contains the control and moderator variables, and illustrates that the cashier, customer rewards, and slot service units predict higher customer service quality perceptions than in the beverage units. Net these occupation-specific effects, and supporting Hypothesis 1, Model 2 reveals a statistically significant relationship in which increased voluntary turnover rates correspond to lower service quality perceptions. In terms of standard deviation changes, Model 2 reveals that a one standard deviation increase in voluntary turnover rates predicts decrements in customer service quality perceptions of .029 (.14 of a standard deviation).

Tests of hypothesized interactions are presented in Model 3 of Table 2. We found no support for Hypothesis 2, as the effects of voluntary turnover rate were not dependent on group cohesiveness. However, Hypothesis 3 was supported, as voluntary turnover rate's negative relationship with customer service quality was more pronounced in units with higher proportions of newcomers. The voluntary turnover rate coefficient is -.18 when newcomer concentration is low (i.e., at one standard deviation below the mean, or when newcomers represent 7% of the unit's personnel), but grows to -.36 when newcomer concentration is high (i.e., at one standard deviation above the mean, or when newcomers represent 33% of the unit). A one standard deviation increase in voluntary turnover rate corresponds to a .17 standard deviation decrement in customer service quality perceptions at low newcomer concentration, but a .33 standard deviation decrement at high newcomer concentration (see Figure 1, top).

We also found support for Hypothesis 4, as Model 3 indicates that the negative relationship between voluntary turnover rate and customer service quality perceptions was of greater magnitude when the work unit was larger. The voluntary turnover rate coefficient is  $-.29$  when unit size is high (at about 93 employees), but is just  $.02$  when unit size is low (at about 16 employees). A one standard deviation increase in voluntary turnover rate corresponds to a  $.27$  standard deviation decrement in customer service quality perceptions in large units, but only a  $.02$  standard deviation change in small units (see Figure 1, bottom). These results suggest that smaller work units insulate against voluntary turnover's detrimental effects.

### Discussion

Deeper theoretical treatments of the turnover construct as a predictor in a unit-level context can help explain why and how turnover influences organizational effectiveness. Given its exponential growth and central role in the current economy, we focused on the service industry with the goal of examining whether and under what conditions turnover rates affect customer perceptions of service quality. Our results provide new evidence of turnover's liability in customer service settings and indicate that previously unstudied contextual factors qualify these effects.

### *Implications for Theory and Research*

The operational disruption framework presented here suggests that turnover impairs organizational performance because it depletes knowledge and redirects members' attention away from service provision. Experienced unit members must divide attention between core service tasks and socialization and training of new members, while novices spend time learning the job and gaining experience. This study lends empirical support to the notion that work units will struggle to meet customer expectations in the face of such turnover-induced disruption. We

extended this perspective by testing several boundary conditions that could help clarify how turnover rates manifest in less favorable customer service perceptions. We found that voluntary turnover was more detrimental to service quality in larger work units, perhaps because larger units are subject to greater likelihood of process inefficiencies (e.g., coordination and motivation losses). While size moderated voluntary turnover effects, it also had a negative main effect on customer service perceptions. Indeed, an alternative interpretation of the interaction suggests that the negative effect of size is considerably stronger in high turnover units. Work unit size merits additional theoretical and empirical evaluation in future research, as the average work unit in this study was considerably larger than most teams or groups in the relevant group process research upon which we drew. Thus, although we found that larger groups were less equipped to manage turnover, research should address whether these effects generalize to other types of units and across other ranges of group size.

We also found that higher newcomer concentration was associated with more detrimental voluntary turnover rate effects. This supports the notion that operational disruption associated with voluntary turnover is exacerbated when higher proportions of the work unit require training and socialization, as these activities may demand more time and attention of seasoned coworkers, thus reducing their ability to serve customers. Hence, greater concentrations of experienced employees appear to buffer against turnover rate effects. To identify which higher-tenure groups best provide this insulating effect, we ran additional moderator tests of alternative tenure distributions using tenure categories from the employee survey (i.e., 91 days to 1 year, 1 to 5 years, more than 5 years). Results show that the negative relationship between voluntary turnover rates and customer service perceptions is considerably weaker when there is a larger proportion of employees with between 91 days and 1 year of tenure. Consequently, relative to

other tenure levels, units with a higher concentration of employees with between 91 days and one year of service may be best suited to socialize, train, and assist new hires and minimize voluntary turnover's disruption. Overall, focusing on unit tenure moderation suggests that although many studies have addressed "who leaves" as a critical issue in turnover research, it may be equally valuable to study "who stays."

We found no evidence that group cohesiveness buffers the negative effects of voluntary turnover on service quality perceptions. Although such thinking is consistent with the operational disruption perspective, elements of our sample and design may have contributed to a lack of empirical support. Cohesiveness may have changed in the year between its measure and the measure of service quality perceptions. Additionally, the average size of the units is considerably larger than most studies in which the cohesiveness construct was developed, suggesting that it may not carry the same meaning when applied to larger collectives. Finally, although we maintain that enough interdependence was present to characterize our units as groups (and unit-level aggregation indices were supportive of such), a low ceiling on interdependency may have constrained any potential group cohesiveness buffering of turnover effects. Future research is needed using smaller and more highly interdependent groups.

### *Implications for Practice*

Our findings may have value for managers in the service industry. The results provide empirical support for the notion that voluntary turnover impairs service quality perceptions. Aside from typical cost containment arguments, our results provide data-based evidence that links voluntary turnover with a leading indicator of customer retention, revenue growth, and profitability. These effects depended on unit size and newcomer concentration, indicating that turnover may not be universally damaging; the structure and composition of the work unit

matters when assessing whether and how turnover will ultimately affect customers' perceptions. Managers might shelter customers from the potentially damaging effects of turnover by creating smaller work units when feasible, accelerating socialization and development activities among newcomers, or developing other strategies to overcome the process inefficiencies associated with larger groups and to reduce the time-to-proficiency among new hires. Given our findings that the unit's tenure distribution partially determines the magnitude of turnover's detrimental effect, engaging in hiring, promotion, and transfer patterns so as to avoid large proportions of newcomers may be helpful.

### *Limitations*

Although the setting for this study provides a suitable context for studying turnover rates and customer service perceptions, the units studied here were larger and its members perhaps less interdependent than those found in other work environments. Studying turnover rate effects in customer service units characterized by different sizes, greater interdependence across employees, and more complex occupations than in our sample would be instructive. Further, we studied company-designated work units (e.g., beverage servers at a particular location), but socially-driven classifications also merit attention in future research (e.g., "peer referent groups", Bamberger & Biron, 2007). While the temporal positioning of measures in this study matches our theory, multiwave designs would help to tease apart potential reciprocal causation. Finally, although customer perceptions are a critical antecedent of customer behaviors, such as return to the establishment, research that assesses multiple customer outcomes in the same study would be valuable.

*Conclusion*

The service industry dominates the U.S. economy, yet is replete with high turnover. Our findings indicate that voluntary turnover leads to impaired customer perceptions of service quality and that turnover consequences cannot be understood without ample consideration of context. Turnover effects varied according to unit size and newcomer concentration such that turnover was more problematic for large units and for those with a greater concentration of novice employees. Focusing on context appears to offer numerous opportunities for future studies of turnover consequences.

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Table 1

*Means, Standard Deviations, and Intercorrelations*

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11
1. Customer service quality	4.15	.21											
2. Voluntary turnover rate	.26	.19	-.31										
3. Group cohesiveness	4.14	.20	.23	-.02									
4. Unit size	54.56	38.22	-.37	-.34	-.15								
5. Newcomer concentration	.20	.13	-.10	.33	.18	-.17							
6. Unit supervision	4.17	.25	-.07	.02	.37	-.05	.11						
7. Property size	1541.59	733.33	.14	-.29	.12	.35	-.23	-.04					
8. Unemployment rate	5.51	.71	-.04	-.07	.05	.27	.07	.03	.05				
9. Beverage	.24	.43	-.54	.42	-.08	-.17	.00	-.04	-.08	.00			
10. Cashier	.25	.44	.12	-.10	-.20	.28	-.02	-.27	.03	.00	-.33		
11. Customer rewards	.25	.44	.56	-.01	.31	-.52	.26	.13	.03	.00	-.33	-.34	
12. Slot service	.25	.44	-.14	-.31	-.03	.41	-.24	.18	.03	.00	-.33	-.34	-.34

*Note.*  $N = 75$ . Correlations with absolute values greater than .23 are statistically significant at the .05 level.

Table 2

*Hierarchical Linear Modeling Regressions Predicting Customer Service Quality Perceptions*

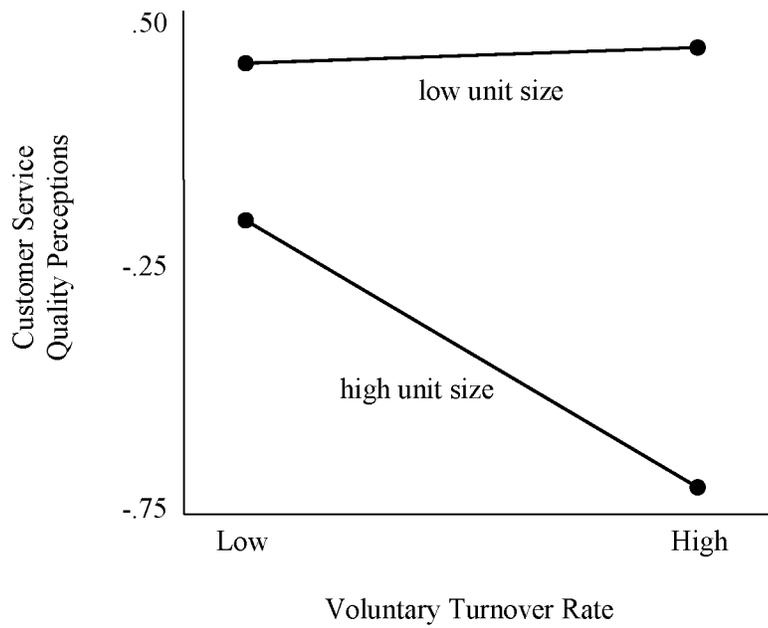
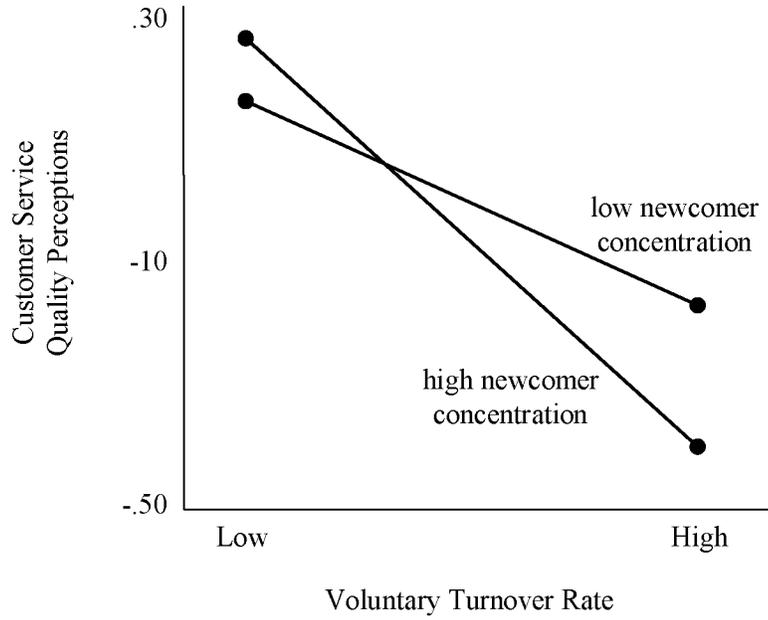
Predictors	Model 1	Model 2	Model 3
Constant	3.83*** (.35)	3.93*** (.34)	3.94*** (.49)
Property size	.05 (.04)	.05 (.04)	.05 (.04)
Unemployment rate	.01 (.04)	.01 (.04)	.01 (.04)
Cashier	.29*** (.03)	.27*** (.03)	.27*** (.03)
Customer rewards	.37*** (.03)	.34*** (.03)	.32*** (.03)
Slot service	.20*** (.03)	.18*** (.03)	.17*** (.03)
Unit supervision	.01 (.05)	.01 (.04)	-.01 (.05)
Group cohesiveness	.01 (.05)	.00 (.05)	.01 (.08)
Unit size	-.17 (.05)	-.20*** (.05)	-.13* (.06)
Newcomer concentration	-.14 (.10)	-.09 (.10)	.12 (.15)
Voluntary turnover rate		-.15** (.06)	.46 (1.25)
Voluntary turnover × group cohesiveness			-.09 (.29)
Voluntary turnover × unit size			-.41* (.24)
Voluntary turnover × newcomer concentration			-.68* (.38)
$R^2$	.61	.64	.65
Observations	75	75	75

*Note.* Standard errors in parentheses. Prior to analysis, property size and unit size were divided by 1000 and 100, respectively, to aid in coefficient interpretation.  $R^2$  values are from random effects generalized least squares models that parallel the models above.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

FIGURE 1

Turnover Rate Effects Moderated by Unit Size and Newcomer Concentration



Note: Both y-axes are in standard deviation units.