

# Restaurant Tipping and Service Quality

## A Tenuous Relationship

by Michael Lynn

Conventional wisdom suggests that table servers can judge how well they're doing by the size of their tips. As it turns out, however, that may not be true.

**T**ipping is nearly ubiquitous in the U.S. restaurant industry. As a result, many restaurant managers give the custom little thought. However, others see it as a useful management tool. Consider the following quotations:

- "By eliminating tipping, it [a service-charge system] would take away all incentive to put out that effort at providing good service." —*Bernard Schreiner, who owned Schreiner's Restaurants, in Fond du Lac, Wisconsin*<sup>1</sup>

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<sup>1</sup>Quoted in: "Waitstaff Compensation: Tips vs. Service Charges," *Current Issues Report* (Washington, DC: National Restaurant Association, June 1988), p. 7.

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- "This program will be monitored by your charge tip averages. Tip averages are the most effective way to measure a server's capabilities and progress within the restaurant."

—Internal document that announced a servers' contest at Houston's Guadalajara Restaurant

- "I want to know when someone gets a small tip because the customer is telling us that he didn't get good service and we can then remedy the situation."—*The late Thad Eure, Jr., who was proprietor of Raleigh's Angus Barn*<sup>2</sup>

As the above quotations illustrate, some restaurateurs rely on tips to (1) motivate servers to deliver good service, (2) measure server performance, and (3) identify dissatisfied customers. All of those uses of tips assume that service quality has a large effect on the size of tips that consumers leave. This article examines and challenges that assumption.

The notion that tips are given in response to service quality finds support in psychologists' theories about the need for equity in interpersonal relationships and in consumers' self-reports about their tipping behavior. Some psychologists, for instance, tell us that people are socialized to feel anxiety or distress when their relationships with others are inequitable.<sup>3</sup> A relationship is inequitable when the benefits one person receives from the relationship are not proportionate to the benefits he or she delivers to the relationship partner. Since inequitable relationships are distressing, the theory goes, people strive to maintain a balance between the benefits delivered and received in their rela-

tionships. This theory is relevant to tipping, because restaurant customers get service and give tips in relationships with servers. To keep those relationships equitable, customers should give bigger tips when they get better service.<sup>4</sup>

Reinforcing the psychological theory are consumers' self-reports. When asked why they leave tips, consumers most often reply that they tip to reward workers for services rendered. For example, a recent national survey found that 54.5 percent of respondents reported that the *best* explanation for why they do or do not tip restaurant table servers had to do with the quality of service received. No other explanation received anywhere near this level of endorsement.<sup>5</sup>

Despite the aforementioned reasons for believing that customers reward better service with larger tips, there are also good reasons for questioning this belief. First, researchers have found that equity motivations are weak in traditional economic relationships between buyers and sellers.<sup>6</sup> Tipping is an economic payment that occurs in the context of a commercial exchange, so it is possible that equity concerns affect tipping less than they do purely social actions. Second, researchers have demonstrated that people are poor at identifying

the causes of their own actions.<sup>7</sup> Thus, one should regard with skepticism consumers' reports that they tip as a reward for good service. Finally, people feel strong social pressure to tip 15 to 20 percent of the bill size.<sup>8</sup> Such social pressure may prevent consumers from leaving a small tip even when they are dissatisfied with the service.

### Testing the Relationship

Several researchers (including this author) have tested the different expectations outlined above by empirically examining the relationship between tip sizes and evaluations of the service or dining experience. However, many of these studies are unpublished, and those studies that have been published (including an earlier version of this one) appeared in academic journals that are rarely read by restaurant managers. This article summarizes extant research in a meta-analysis of the service-tipping relationship with the purpose of informing restaurant managers about the actual nature of that relationship.<sup>9</sup> Meta-analysis is a way of statistically combining and comparing the results of different studies. By statistically testing data from many tipping studies, this meta-analysis permits stronger and more generalizable conclusions about the nature of the relationship between tip size and service quality than can be obtained from any of the individual studies alone.

A thorough search uncovered eight published and six unpublished studies that have examined the relationship between tipping and evalu-

<sup>2</sup>Thad Eure, Jr., "Fixed Service Charges? — No," *Restaurants USA*, Vol. 7, No. 2 (February 1987), p. 25.

<sup>3</sup>See: J.S. Adams, "Inequality in Social Exchange," in *Advances in Experimental Social Psychology*, Vol. 2., ed. L. Berkowitz (New York: Academic Press, 1965); and Elaine Walster, Ellen Berscheid, and G. William Walster, "New Directions in Equity Research," *Journal of Personality and Social Psychology*, Vol. 25 (1973), pp. 151–176.

<sup>4</sup>See: Melvin L. Snyder, "The Inverse Relationship between Restaurant Party Size and Tip Percentage: Diffusion or Equity?," *Personality and Social Psychology Bulletin*, Vol. 2 (Summer 1976), p. 308; and Michael Lynn and Andrea Grassman, "Restaurant Tipping: An Examination of Three Rational Explanations," *Journal of Economic Psychology*, Vol. 11 (June 1990), pp. 169–181.

<sup>5</sup>Tibbett L. Speer, "The Give and Take of Tipping," *American Demographics*, February 1997, pp. 51–55. Also see: Susan Adelman, "How Your Customers Decide What to Tip," *NRA News*, June–July 1985, pp. 43–44.

<sup>6</sup>For example, see: Richard L. Oliver and John E. Swan, "Consumer Perceptions of Interpersonal Equity and Satisfaction in Transactions: A Field Survey Approach," *Journal of Marketing*, Vol. 53 (1989), pp. 21–35.

<sup>7</sup>For example, see: David G. Myers, *Social Psychology* (New York: McGraw-Hill, 1990), pp. 103–106.

<sup>8</sup>Lynn and Grassman, *op. cit.*

<sup>9</sup>A previous version of this meta-analysis appeared in: Michael Lynn and Michael McCall, "Gratitude and Gratitude: A Meta-Analysis of Research on the Service-Tipping Relationship," *Journal of Socio-Economics*, Vol. 29, No. 2 (June 2000), pp. 203–214.

## Exhibit 1

### Fourteen tipping studies

The studies constituting the basis for the meta-analysis described in the accompanying article are listed below.

- Charly Baune, "The Economics of Tipping at Waldo's Pizza" (unpublished paper, St. Cloud State University, 1992).
- Orn Bodvarsson and William Gibson, "Gratuities and Customer Appraisal of Service: Evidence from Minnesota Restaurants," *Journal of Socio-Economics*, Vol. 23, No. 3 (1994), pp. 287–302.
- April H. Crusco and Christopher G. Wetzel, "The Midas Touch: The Effects of Interpersonal Touch on Restaurant Tipping," *Personality and Social Psychology Bulletin*, Vol. 10 (December 1984), pp. 512–517.
- Kevin Kilkelly, "An Economic Study on Restaurant Tipping," (unpublished paper, St. Cloud State University, 1992).
- Michael Lynn, "The Effects of Alcohol Consumption on Restaurant Tipping," *Personality and Social Psychology Bulletin*, Vol. 14 (March 1988), pp. 87–91.
- Michael Lynn and Andrea Grassman, "Restaurant Tipping: An Examination of Three Rational Explanations," *Journal of Economic Psychology*, Vol. 11 (June 1988), pp. 169–181.
- Michael Lynn and Jeffrey Graves, "Tipping: An Incentive/Reward for Service?," *Hospitality Research Journal*, Vol. 20, No. 1 (January 1996), pp. 1–14.
- Michael Lynn and Bibb Latane, "The Psychology of Restaurant Tipping," *Journal of Applied Social Psychology*, Vol. 14 (November/December 1984), pp. 551–563.
- Michael Lynn and Gabriella Petrick, "Tipping at Coyote Loco" (unpublished data set, Cornell University, 1996).
- Michael Lynn and Paul Strong, "Tipping at Anti Pasto" (unpublished data set, University of Houston, 1992).
- Joanne M. May, "Tip or Treat: A Study of Factors Affecting Tipping Behavior" (unpublished master's thesis, Loyola University, 1978).
- Connie Mok and Sebastian Hansen, "A Study of Factors Affecting Tip Size in Restaurants," *Journal of Foodservice Marketing*, Vol. 3, No. 3/4 (1999), pp. 49–64.
- Mustafa Olia, "Restaurant Tipping" (unpublished paper, St. Cloud State University, 1991).

ations of the service or dining experience that preceded the tip. Those studies are listed in Exhibit 1. The studies, which involved 2,645 dining parties at 21 different restaurants, provided 24 independent tests of the tipping–service relationship. The results of each of those tests were used to calculate two statistics—namely, a correlation coefficient,  $r$ , that reflects the size of the observed tipping–service relationship, and a z-score, which reflects the statistical significance of the relationship. I then analyzed the resulting 24 correlation coefficients and 24 z-scores using meta-analytic formulas and procedures advocated in books by Brian Mullen and Robert

Rosenthal.<sup>10</sup> A more detailed description of the methods employed in this meta-analysis can be found in a previous version of this study published in the *Journal of Socio-Economics*.<sup>11</sup> A more detailed description of the studies included in the meta-analysis is presented in Exhibit 2.

### Tenuous Correlation

A graphic depiction of the 24 correlations between tip sizes and service evaluations in this meta-analysis is presented in Exhibit 3 (overleaf). The significance test associated with those correlations combined to produce an overall z-score of 5.82. The probability of getting a z-score this large by chance alone (i.e., if there were no positive relationship) is less than 1 in 10,000. Thus, the data indicate that tip sizes do increase somewhat with ratings of the service or dining experience. However, the correlation between tips and evaluations of the service or dining experience had a mean of only .11. Since the absolute value of a correlation can range from 0 to 1, an average correlation of .11 is quite small and indicates that tips in these studies were only weakly related to evaluations of the service or dining experience.

Realizing that correlation coefficients may not be meaningful to restaurant managers unfamiliar with statistics, I present other depictions of the tipping–service relationship in Exhibits 4 and 5. Exhibit 4 displays the median-, minimum-, and maximum-tip percentages left for different levels of rated service at

<sup>10</sup>Brian Mullen, *Advanced Basic Meta-Analysis*, (Hillsdale, NJ: Lawrence Erlbaum Associates, 1989); and Robert Rosenthal, *Meta-Analytic Procedures for Social Research*, (Newbury Park, CA: Sage Publications, 1991). See also: Michael Lynn and Brian Mullen, "The Quantitative Integration of Research: An Introduction to Meta-Analysis," *Journal of Hospitality and Tourism Research*, Vol. 21, No. 3 (1997), pp. 121–139.

<sup>11</sup>Lynn and McCall, 2000.

**Exhibit 2**  
*Descriptive summary of tipping-service studies*

Study and source	Data available?	Method	Type of service evaluation	Restaurant name <sup>1</sup>	Restaurant location	Sample size	Correlation coefficient <sup>2</sup>	Z-score
Baune (1992); unpublished	No	Exit interviews	Customer rating of service	Waldo's Pizza	St Cloud, MN	94	.23	2.18
Bodvarsson and Gibson (1994); journal	Yes	Exit interviews	Customer rating of service	Embers	St. Paul, MN	98	.23	2.23
				Chi-Chi's	St. Paul, MN	99	.06	0.55
				Baker's Square	St. Cloud, MN	100	.23	2.31
				Alvies <sup>a</sup>	St. Cloud, MN	100	-.02	-0.18
				Red Lobster <sup>b</sup>	St. Cloud, MN	100	.22	2.16
				Pirate's Cove	St. Cloud, MN	100	-.14	-1.41
Persian	St. Cloud, MN	100	.10	0.94				
Crusco and Wetzel (1984); journal	No	Server records and customer survey	Customer rating of dining experience	Unknown	Oxford, MS	114	.13	1.38
Kilkelly (1992); unpublished	No	Exit interviews	Customer rating of service	Perkins	Sauk Rapids, MN	100	.12	1.18
Lynn (1988); journal	Yes	Server records	Noncustomer rating of service	Mother's	Columbus, OH	207	.10	1.38
Lynn and Grassman (1990); journal	Yes	Exit interviews	Customer rating of service	Red Lobster <sup>c</sup>	Columbia, MO	103	.33	3.35
Lynn and Graves (1996: Study 1); journal	Yes	Exit interviews	Customer rating of service	Bennigan's	Houston, TX	106	.16	1.59
					Olive Garden	Houston, TX	67	.29
Lynn and Graves (1996: Study 2); journal	Yes	Server records	Customer rating of dining experience	Red Lobster <sup>c</sup>	Columbia, MO	174	.22	2.86
Lynn and Latane (1984: Study 1); journal	Yes	Exit interviews	Customer rating of service	IHOP	Columbus, OH	169	.12	1.50
Lynn and Petrick (1996); unpublished	Yes	Restaurant records and customer survey	Customer rating of service	Coyote Loco	Ithaca, NY	130	.09	1.03
Lynn and Strong (1992); unpublished	Yes	Server records	Noncustomer rating of service	Anti Pasto	Houston, TX	202	.01	0.14
May (1978); thesis	No	Server, restaurant, and observer records	Noncustomer rating of service	Unknown	Chicago, IL	184	.01	0.13
Mok and Hansen (1999); journal	Yes	Exit interviews	Customer rating of service	Chili's	Houston, TX	98	.33	3.30
Olia (1991); unpublished	No	Exit interviews	Customer rating of dining experience	Alvies <sup>a</sup>	St. Cloud, MN	50	-.06	-0.39
				La Casita	St. Cloud, MN	50	-.19	-1.29
				Red Lobster <sup>b</sup>	St. Cloud, MN	50	-.01	-0.03
				Ember's	St. Cloud, MN	50	.18	1.18

<sup>1</sup> Restaurants with a common superscript (a, b, or c) are the same restaurant.

<sup>2</sup> Correlations between bill-adjusted tips and evaluations of the service or dining experience.

### Exhibit 3

#### Twenty-four correlations between tip sizes and service evaluation in this meta-analysis (by size)

					.18
				.16	.29
			.13	.23	
	.09	.12	.23		
	-.06	.06	.12	.23	
-.19	-.02	.01	.10	.22	.33
-.14	-.01	.01	.10	.22	.33

Note: This graph shows that, when sorted by size, the frequency of tipping-service correlations forms a roughly bell-shaped curve centered around values of .10 to .19. Note that all of the values are relatively small, given that correlations can range from -1.0 to 1.0.

five selected restaurants. Exhibit 5 plots the tip percentages and service ratings of 98 dining parties at one of the restaurants. I chose these particular studies in part because the tipping-service relationships from those studies are among the strongest in the literature. Nevertheless, readers will notice that the average (or median) tip increases only slightly as service ratings increase. Increasing service ratings from 3 to 5 (on a five-point scale) raises the median tip by less than 3 percent of the bill in all four of the studies where sample sizes make this comparison meaningful. In two of four studies, the increase is less than 1 percent of the bill as the service rating goes from middling (3) to superior (5). Readers will also notice that the range in tips at each level of rated service is quite large. The studies found that consumers leave tips of 5 percent (or less) and tips of 20 percent (or more) at any given level of service. Since these are the strongest relationships that have been documented, the tipping-service relationship can only be described as weak.

#### What's a Manager to Do?

The good news in this analysis is that—consistent with restaurant managers' assumptions, psychologists' theories, and consumers' self-reports—the studies showed a positive and statistically significant relationship between tips and service evaluations. The unsettling news is that the relationship was weak in the sense that differences between service levels in the average (or median) tip were small while differences within service levels in the tips left by different dining parties were large. Those findings have disheartening implications for restaurant managers who seek to use tips to motivate servers, measure server performance, or identify dissatisfied customers.

**Motivating servers.** I think it's fair to say that most restaurant managers rely on tips as an incentive for servers to deliver good service. In fact, one of managers' most common objections to replacing voluntary tips with automatic service charges is that it would entail the loss of this incentive—as emphasized by one of the quotations presented at the beginning of this article.<sup>12</sup> However, the weak relationship between tips and service evaluations in this meta-analysis raises serious concerns about the efficacy of using tips as incentives.

Even though tip levels generally did increase with service evaluations, that increase was so small relative to the range of tips that in practice restaurant servers would be hard pressed to notice it. In other words, most servers won't be able to detect improved tips as a consequence of excellent service. I base this conclusion on the work of Jacob Cohen, who suggested that the correlation between two variables has to have a value of .30 or larger to "be visible to the naked eye of a careful observer."<sup>13</sup> All but two of the correlations between tips and service evaluations in this meta-analysis were smaller than this .30 value. Thus, it is doubtful that servers would see the effects of spending the extra effort to deliver good service on their tip incomes. Consistent with this argument, a survey of the tipped employees in a five-star hotel found that 47 percent saw no relationship between the quality of their service and their earnings.<sup>14</sup> Another survey of waiters and waitresses from 12 different restaurants

<sup>12</sup>National Restaurant Association, June 1988, *op. cit.*; and Thad Eure, Jr., *op. cit.*

<sup>13</sup>Jacob Cohen, "A Power Primer," *Psychological Bulletin*, Vol. 112 (1992), pp. 155-159.

<sup>14</sup>Boas Shamir, "A Note of Tipping and Employee Perceptions and Attitudes," *Journal of Occupational Psychology*, Vol. 56 (1983), pp. 255-259.

**Exhibit 4**

*Median, minimum, and maximum tips at each level of customer-service rating for selected restaurants*

Service rating (scored from 1 to 5)	IHOP <sup>a</sup> (Lynn & Latane, 1984) <i>r</i> = .12	Bennigan's <sup>b</sup> (Lynn & Graves, 1996) <i>r</i> = .16 <sup>c</sup>	Olive Garden <sup>b</sup> (Lynn & Graves, 1996) <i>r</i> = .29 <sup>c</sup>	Red Lobster <sup>b</sup> (Lynn & Grassman, 1990) <i>r</i> = .33 <sup>c</sup>	Chili's <sup>b</sup> (Mok & Hansen, 1999) <i>r</i> = .33 <sup>c</sup>
<b>1 "Poor"</b>	<i>n</i> = 6	<i>n</i> = 6	<i>n</i> = 0	<i>n</i> = 0	<i>n</i> = 1
Median tip	10.3%	13.8%	—	—	0
Tip range	0 to 25%	5 to 25%	—	—	—
<b>2 "Below average"</b>	<i>n</i> = 13	<i>n</i> = 9	<i>n</i> = 0	<i>n</i> = 0	<i>n</i> = 2
Median tip	14.3%	13.3%	—	—	18.9%
Tip range	0 to 20%	0 to 20%	—	—	18 to 20%
<b>3 "Average"</b>	<i>n</i> = 21	<i>n</i> = 14	<i>n</i> = 9	<i>n</i> = 3	<i>n</i> = 18
Median tip	13.1%	15.0%	14.2%	0	13.9%
Tip range	0 to 48%	7 to 22%	10 to 18%	0 to 8%	5 to 20%
<b>4 "Above average"</b>	<i>n</i> = 78	<i>n</i> = 32	<i>n</i> = 18	<i>n</i> = 23	<i>n</i> = 39
Median tip	15.1%	13.3%	14.2%	9.5%	15.8%
Tip range	0 to 43%	0 to 43%	0 to 18%	3 to 20%	4 to 42%
<b>5 "Excellent"</b>	<i>n</i> = 51	<i>n</i> = 45	<i>n</i> = 40	<i>n</i> = 77	<i>n</i> = 38
Median tip	14.0%	15.2%	16.3%	10.9%	16.4%
Tip range	0 to 57%	5 to 32%	10 to 33%	3 to 25%	8 to 37%

Here's an example of how to read the table above:

In the 1984 Lynn and Latane study (second column), six respondents gave the IHOP a poor service rating (score = 1). Nevertheless, their median tip was 10.3 percent of their bill. While some customers stiffed the server, others tipped as high as 25 percent.

<sup>a</sup> Originally scored using a 10-point scale, IHOP's service ratings were converted to a 5-point scale for this table. The scale ranged from 1 = poor service to 5 = excellent service.

<sup>b</sup> Service was rated on several dimensions and the average of all the ratings was rounded to the nearest whole number, 1 to 5.

<sup>c</sup> The "*r*" value represents the correlation between percentage of tip and service ratings at each individual restaurant. The value of *r* may vary from 0 to 1. Thus, *r* values of .1, for instance, show only a weak correlation.

found that only 50 percent thought that servers who routinely received larger-than-average tips did so because they provided good service.<sup>15</sup> This inability of servers to see the relationship between tips and service is important because tips will not motivate servers to deliver good service if the servers do not believe that better service results in larger tips.

Given that the meta-analysis suggests that tips provide only a modest incentive to deliver good service, managers should consider supplementing customer tips with

other means of evaluating and rewarding server effort. Managers should personally observe their servers' work, hire mystery diners to evaluate servers, or ask customers to evaluate servers on comment cards or in post-dining interviews. Furthermore, managers should use monetary bonuses, work schedules, station sizes, preparation and clean-up assignments, or other incentives to reward those servers who receive the best evaluations.<sup>16</sup>

<sup>16</sup>Customer evaluations can themselves be problematic. One study, for instance, found that customers focus most on outstandingly good or poor performance and barely notice merely good service. See: Kate Walsh, "A Service Conundrum: Can Outstanding Service Be Too Good?" *Cornell Hotel and Restaurant Administration Quarterly*, Vol. 41, No. 5 (October 2000), pp. 40-50.

<sup>15</sup>Mary Harris, "Waiters, Customers, and Service: Some Tips about Tipping," *Journal of Applied Social Psychology*, Vol. 25 (1995), pp. 725-744.

**Measuring servers.** Many restaurant managers already reward their better servers with larger stations, more desirable work schedules, and other perks. However, some of those managers use tip averages to help identify their best performers. The weak relationship between tips and service uncovered in this meta-analysis suggests that such a use of tip records may not be appropriate. The results of this meta-analysis do not provide definitive conclusions about the validity of using servers' tip averages as a way of separating good from bad servers, because tips and service levels can be more strongly related when averaged and compared across servers than when taken separately

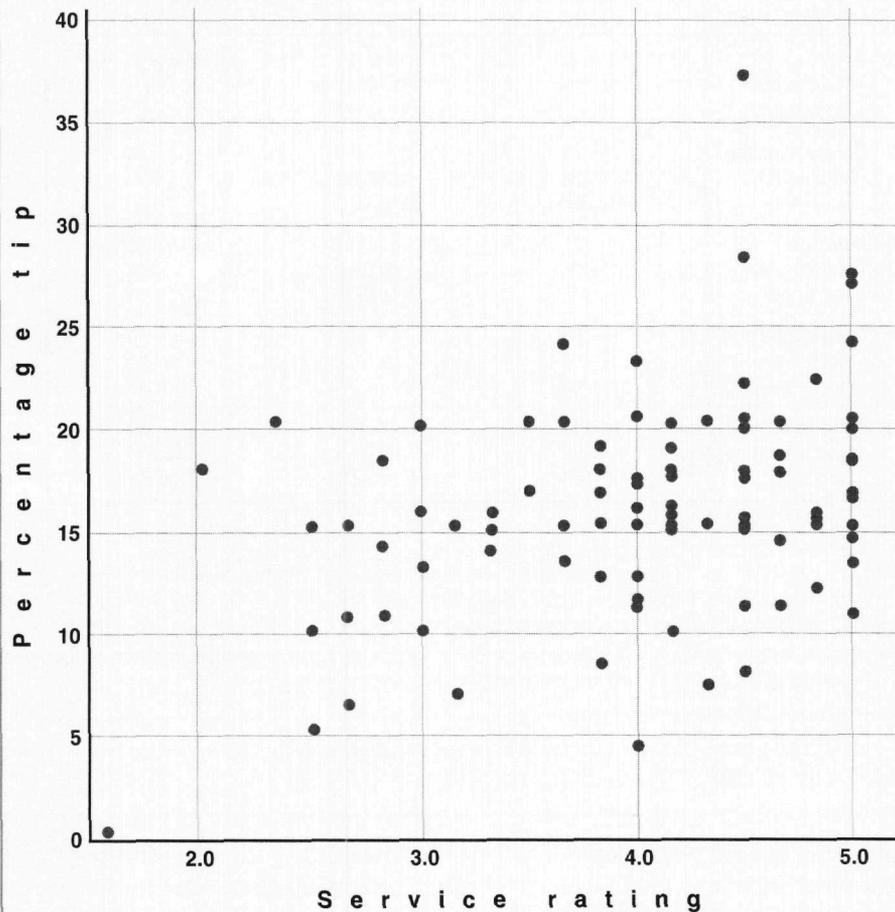
and compared across dining parties as was done in this study.<sup>17</sup> Nevertheless, these results do mean that managers cannot safely assume that tip averages are a good measure of a server's ability or performance. Reinforcing this cautionary note are the results of a study that found the self-rated service abilities of 47 waiters and waitresses from one restaurant were only weakly related to their tip averages (correlation = .27).<sup>18</sup> Given the weak relationship between tips and service in that study and in the present meta-analysis, I suggest that restaurant managers use other means of measuring servers' abilities and performances.

**Customer triage.** Many managers believe that small tips are an indication that customers are dissatisfied and that they need to be placated. However, the research reviewed in this article suggests otherwise. Consumers who rated the service as excellent sometimes left tips of 5 percent or less, so one cannot conclude that small tips always mean that the customer was dissatisfied with the service. Furthermore, consumers who rated the service as poor sometimes left tips of 20 percent or more—so not everyone who is dissatisfied with the service leaves a small tip. In general, the weak relationship between tips and service evaluations means that tips are a poor indicator of customer satisfaction

<sup>17</sup>Cheri Ostroff, "Comparing Correlations Based on Individual-level and Aggregated Data," *Journal of Applied Psychology*, Vol. 78 (1993), pp. 569–582.

<sup>18</sup>Michael Lynn and Tony Simons, "Predictors of Male and Female Servers' Average Tip Earnings," *Journal of Applied Social Psychology*, Vol. 30 (2000), pp. 241–252.

**Exhibit 5**  
*Scatter plot of tip percentage against service evaluations*



Each point on the graph shows a given party's service evaluation and percentage tip at a Chili's restaurant ( $N = 98$ ). The plot shows the absence of a strong relationship between tip percentage and service evaluation. (Correlation  $r = .33$ ).

Source of data: Connie Mok and Sebastian Hansen, "A Study of Factors Affecting Tip Size in Restaurants," *Journal of Foodservice Marketing*, Vol. 3, No. 3/4 (1999), pp. 49–64.

or dissatisfaction. To better identify dissatisfied customers whose problems need to be addressed, restaurant managers need to observe their customers and train their servers to read customers' nonverbal cues.

This study confirmed that tips are positively related to service, as most people believe, but that the

relationship is so weak as to be meaningless. This suggests that while tips are a reward for service, they are not a good way to motivate servers, measure server performance, or identify dissatisfied customers. Restaurant managers need to find and use other means of accomplishing those tasks. CQ