

Restaurant Tips and Service Quality:

A Tenuous Relationship

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ABSTRACT

Restaurant owners and managers frequently use tips to: 1) motivate servers to deliver good service, 2) measure server performance, and 3) identify dissatisfied customers. All of these uses of tips assume that consumers reward better service with larger tips. That assumption was tested in a meta-analysis of 8 published and 6 unpublished studies involving 2,645 dining parties at 21 different restaurants. Consistent with restaurant managers' assumptions, there was a positive and statistically significant relationship between tips and service evaluations. However, that relationship was weak in the sense that differences between service levels in the average tip were small while differences within service levels in the tips left by different dining parties were large. These findings mean that while tips are a reward for service, they are not a good way to motivate servers, measure server performance, or identify dissatisfied customers.

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“By eliminating tipping, it (a service charge system) would take away all incentive to put out that effort at providing good service.”

- *Bernard Schreiner, Owner of Schreiner's Restaurants in Fond du Lac, Wisconsin*¹

“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 announcing a server contest at Guadalajara Restaurant in Houston, Texas*

“...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.”

- *Thad Eure Jr., Owner of the Angus Barn Restaurant in Raleigh, North Carolina*²

As the preceding quotations illustrate, restaurant owners and managers use tips to: 1) motivate servers to deliver good service, 2) measure server performance, and 3) identify dissatisfied customers. All of these uses of tips assume that consumers reward better service with larger tips. Supporting this assumption are psychologists' theories about the need for equity in interpersonal relationships and consumers' self-reports about their tipping behaviors.

Psychologists tell us that people are socialized to feel anxiety or distress when their relationships with others are inequitable.³ 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, people strive to maintain a balance between the benefits delivered and received in their relationships. This theory is relevant to tipping, because restaurant customers get service and give tips in relationships with servers.

To keep those relationships equitable, customers must give bigger tips when they get better service.⁴ Psychological theory assures us that customers will do this because equity is important to people.

Reinforcing 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 waitstaff had to do with the quality of service received. No other explanation received anywhere near this level of endorsement.⁵

Despite the aforementioned reasons for believing that customer's 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.⁶ 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 behaviors. Second, researchers have demonstrated that people are poor at identifying the causes of their own behavior.⁷ This means that consumers' reports that they tip as a reward for good service must be regarded with skepticism. Finally, people feel strong social pressure to tip 15 to 20 percent of the bill size.⁸ This social pressure may keep consumers from leaving small tips even when dissatisfied with the service.

Several researchers 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 appeared in academic journals that are rarely read by hospitality managers. The present article brings all this research together in a meta-analysis of the service-tipping relationship with the purpose of informing restaurant managers about the true nature of that relationship.⁹ 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.

METHOD

An exhaustive search uncovered 8 published and 6 unpublished studies that have examined the relationship between tipping and evaluations of the service or dining experience.¹⁰ These 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 – a correlation coefficient "r" that reflects the size of the observed tipping-service relationship and a z - score that reflects the statistical significance of the relationship. The resulting 24 correlation coefficients and 24 z - scores were then analyzed using meta-analytic formulas and procedures advocated in books by Brian Mullen and Robert Rosenthal.¹¹ A more detailed description of the methods employed in this meta-analysis is presented in Exhibit 1 and a more detailed description of the studies included in the meta-analysis is presented in Exhibit 2.

RESULTS

A graphic depiction and a statistical summary of the 24 tests of the tipping-service relationship in this meta-analysis are presented in Exhibit 3. The significance levels of these tests combined to produce an overall z - score of 5.82. The probability of getting a z - score this large by chance alone (if there were no true positive relationship) is less than 1 in 10,000! Thus, the data indicate that tip sizes do increase 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 it indicates that the tips in these studies were only weakly related to evaluations of the service or dining experience.

Correlation coefficients may not be very meaningful to restaurant managers unfamiliar with statistics, so Exhibits 4 and 5 depict the tipping-service relationship in other ways. Exhibit 4 displays the median, minimum and maximum tip percentages left for different levels of rated service at five selected restaurants. Exhibit 5 plots the tip percentages and service ratings of 98 dining parties at one of the restaurants. The tipping-service relationships depicted in these exhibits 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 5 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 and by less than 1 percent of the bill in two of those studies. Readers will also notice that the range in tips at each level of rated service is quite large. Consumers leave tips of 5 percent or less, as well as tips of 20 percent or more, at every level of service. These two observations should make it clear that the tipping-service relationship is best described as weak.

SUMMARY AND IMPLICATIONS

In summary, the relationship between tips and evaluations of the service or dining experience was assessed in a meta-analysis of 8 published and 6 unpublished studies involving 2,645 dining parties at 21 different restaurants. Consistent with restaurant managers' assumptions, psychologists' theories, and consumers' self-reports, there was a positive and statistically significant relationship between tips and service evaluations. However, that 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. The implications of these findings for restaurant managers' use of tips to motivate servers, measure server performance and identify dissatisfied customers are discussed in the paragraphs below.

Motivating Servers

Most restaurant managers rely upon tips as the primary 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.¹² However, the weak relationship between tips and service evaluations in this meta-analysis raises serious concerns about the efficiency of using tips as incentives.

According to Jacob Cohen, 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.”¹³ 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 can see the effects of delivering good or bad 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.¹⁴ Another survey of waiters and waitresses from 12 different restaurants found that only 50 percent thought that servers who routinely received larger than average tips did so because they provide good service.¹⁵ 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.

If, as the results of this study suggest, tips provide only a modest incentive to deliver good service, then managers need to supplement customer tipping with other means of evaluating and rewarding server effort. Managers should personally observe their servers’ work, hire mystery diners to evaluate servers, and/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, and/or other incentives to reward those servers who receive the best evaluations.

Measuring Server Ability And Performance

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 use of tips may not be appropriate. It is possible that tips and service levels are more strongly related when averaged and compared across servers than when taken separately and compared across dining parties as was done in this meta-analysis.¹⁶ Therefore, 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. Nevertheless, the results of this meta-analysis do mean that managers cannot safely assume that tip averages are a good measure of server ability and performance. Reinforcing this cautionary note are the results of a study that found the self-rated service abilities of 47 waiter and waitresses from one restaurant were only weakly related to their charge tip averages (correlation = .27).¹⁷ Given the weak relationship between tips and service in that study and in the present meta-analysis, restaurant managers should use other means of measuring servers' abilities and performances.

Identifying Dissatisfied Customers

Many managers, like Thad Eure Jr. who is quoted at the beginning of this article, believe small tips are a good indication that customers are dissatisfied and need to be placated. However, the research reviewed in this article suggests otherwise. Consumers who rated the service as excellent sometimes left tips of 0 to 5 percent, so small tips do not always mean that the tipper was dissatisfied with service. Furthermore, consumers who rated the service as poor sometimes left tips of 20-25 percent, so not everyone who is dissatisfied with the service leaves small tips. In general, the weak relationship between tips and service evaluations means that tips are a poor indicator of customer satisfaction or dissatisfaction. Restaurant managers need to observe their

customers, and train their servers to read customers' non-verbal cues, in order to identify dissatisfied customers whose problems need to be addressed.

Conclusion

In conclusion, tips are positively related to service, but the relationship is weak. This means 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 these tasks.

FOOTNOTES

- ¹ Quote from: "Waitstaff Compensation: Tips vs. Service Charges," Current Issues Report (Washington, DC: National Restaurant Association, June 1988), p.7.
- ² Quote from: Thad Eure, "Fixed Service Charges? - No," Restaurants USA, Vol. 7, No. 2 (February 1987), p. 25.
- ³ See: J.S. Adams, "Inequality in social exchange," In L. Berkowitz (Ed.), Advances in Experimental Social Psychology, Vol. 2. (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.
- ⁴ 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.
- ⁵ See: Tibbett L. Speer, "The Give and Take of Tipping," American Demographics, (February 1997), pp. 51-5. Also see: Susan Adelman, "How Your Customers Decide What to Tip," NRA News, (June/July 1985), pp. 43-44.
- ⁶ 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.
- ⁷ See: David G. Myers, Social Psychology (New York: McGraw-Hill, 1990), pp. 103-106.
- ⁸ See: Michael Lynn and Andrea Grassman, "Restaurant Tipping: An Examination of Three Rational Explanations," Journal of Economic Psychology, Vol. 11 (June 1990), pp. 169-181.

⁹ 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.

¹⁰ These studies are from: 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; and Mustafa Olia, "Restaurant Tipping," (unpublished paper, St. Cloud State University, 1991).

- ¹¹ See: Brian Mullen, Advanced Basic Meta-Analysis, (Hillsdale, NJ: Lawrence Erlbaum Associates, 1989); Robert Rosenthal, Meta-Analytic Procedures for Social Research, (Newbury Park, CA: Sage Publications, 1991); and 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.
- ¹² See: "Waitstaff Compensation...", pp. 1-7; Thad Eure, p. 25.
- ¹³ See: Jacob Cohen, "A Power Primer," Psychological Bulletin, Vol. 112 (1992), pp. 155-159.
- ¹⁴ See: Boas Shamir, "A Note of Tipping and Employee Perceptions and Attitudes," Journal of Occupational Psychology, Vol. 56 (1983), pp. 255-259.
- ¹⁵ See: Mary Harris, " Waiters, Customers and Service: Some Tips about Tipping," Journal of Applied Social Psychology, Vol. 25 (1995), pp. 725-744.
- ¹⁶ See: Cheri Ostroff, "Comparing Correlations Based on Individual-Level and Aggregated Data," Journal of Applied Psychology, Vol. 78 (1993), pp. 569-582.
- ¹⁷ See: 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 3. Frequency distribution and statistical summary
of 24 correlations between bill-adjusted tip sizes and evaluations
of the service or dining experience.

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

Mean $r = .11$

Combined $Z = 5.82, p < .0001$

Total Sample Size = 2,645

EXHIBIT 1. Description of the Meta-Analytic Method

Identification of Studies

An attempt was made to identify published and unpublished studies of restaurant tipping that used dining parties as the units of analysis in a between subjects examination of the relationship between tip size and evaluations of the service. Studies falling within this domain were identified in several ways. First, computerized searches of ABI Inform, ERIC, Dissertation Abstracts, Psych Abstracts and the Cornell Hospitality Database were conducted. Second, the references of the already identified studies were examined for citations of prior studies. Finally, the authors of published studies were contacted and asked for any additional studies they had conducted. A total of 14 studies (8 published and 6 unpublished) were identified and retained for analysis in this review. Two additional studies were identified but excluded from the review. One unpublished study was excluded because we had serious questions about the authenticity of the student-collected data. A second unpublished data set was excluded because it is being prepared for separate publication elsewhere and the authors did not want to jeopardize the publication of that data by including it in this review.

Unit of Analysis

Meta-analysts usually use studies as their units of analysis. However, restaurants are a more appropriate unit of analysis for this meta-analysis, because customer expectations of service vary across restaurants and this makes cross-restaurant comparisons of service ratings less meaningful than within-restaurant comparisons. In addition, consumers' tipping propensities vary across restaurants and this makes between-restaurant tests of the service-tipping relationship less sensitive than within-restaurant tests. Furthermore, the social function of tipping as an incentive/reward for service depends on the within-restaurant relationship between tip size and service evaluations more than on their between-restaurant relationship. For all of these reasons, restaurants were selected as the unit of analysis in this review, meaning that separate effects were obtained from each restaurant in each study being reviewed. The effects from different

restaurants were independent in the sense that they were based on different subjects or dining parties, so they meet the requirements of the fixed-effects, meta-analytic, significance tests reported below.

Re-Analysis of Study Level Data

We were able to obtain the raw data from 7 of 8 published studies and 2 of 6 unpublished studies by contacting the authors of published research articles on tipping. This data was re-analyzed in order to maximize the comparability of analyses and effects across studies as well as to provide tests of relationships that were not reported by the original investigators. In these re-analyses, tips as a percentage of bill size were used as the dependent measure. For studies with data from multiple restaurants, separate analyses were conducted on the data from each restaurant.

Effects and Statistics

The primary effect examined in this meta-analysis was the relationship between tip sizes (percent tips or bill-adjusted residual tips) and service evaluations. Tests of this relationship were obtained from each study in the review. In most cases, zero-order correlations were obtained. However, in a few cases where the zero-order correlations were not available, partial-correlations between tip sizes and service evaluations that statistically controlled for one or more other variables were obtained and used in the analyses of this relationship.

Separate tests of the tipping-service relationships were obtained for each restaurant in each of the relevant studies. The only exception was a study by Crusco and Wetzel (1984) that combined data from two restaurants -- only one test of the service-tipping relationship could be obtained from this study. In cases where evaluations of multiple dimensions of service were obtained from each subject, an average of the different service ratings was calculated and used in tests of the effects involving service evaluations.

For each restaurant-level test of a relationship in the meta-analysis, we calculated two statistics – a correlation coefficient r that reflects the size of the effect and a z -score that reflects

the statistical significance of the effect. The information used in these calculations came from our re-analyses or (if the raw data was not available) from the original reports of the studies. The effect sizes and z-scores from each of the restaurants in each study being reviewed were weighted equally in the meta-analysis.