Restaurant Tipping: An Examination of Three 'Rational' Explanations

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Tipping is a world-wide custom involving billions of dollars. The voluntary nature of tipping raises questions about why people tip. From a rational-choice perspective, tipping makes sense only if desired outcomes are contingent on how much is tipped. Three possibilities are that people tip in order to buy social approval, equitable relationships and/or future service. Hypotheses derived from these potential explanations for tipping were tested in a study in which restaurant customers were interviewed (as they left the restaurant) about their dining experience and tipping behavior. Tipping was related to bill size, patronage frequency, service ratings and the interaction of bill size with patronage frequency. Tipping was not related to group size, number of courses, alcohol consumption, food ratings or the interaction of patronage frequency with service ratings. These results are consistent with the use of tips to buy social approval and equitable relationships but not with the use of tips to buy future service.

The practice of paying gratuities for services is a world-wide custom involving such varied professions as bartenders, bellboys, bootblacks, cab drivers, chambermaids, checkroom attendants, doormen, hair stylists, musicians, parking attendants, porters, and restaurant servers (Post 1984). There are no reliable estimates of the amount tipped each year, but the IRS does require waiters and waitresses to claim tips totaling 8 percent of their sales (New Tipping Rules... 1983). Applying this conservative rate to the 62 billion dollars that Americans spent dining out at full-service restaurants in

1986 provides an estimate of almost 5 billion dollars tipped to restaurant servers in the United States alone. World-wide figures for tipping across all professionals are obviously much larger than this.

This multi-billion dollar exchange is interesting because it differs from other economic transactions. In most economic exchanges, the price of a good or service is identified by the seller and this amount must be paid in order to obtain the commodity. However, gratuities are paid at the discretion of consumers after they have already received the services they are paying for. This voluntary aspect of tipping raises questions about why rational people leave tips and about what factors determine how much they tip.

From a rational-choice perspective, tipping makes sense only if desired outcomes are contingent on how much is tipped. Since tips are paid after current service has already been rendered, this service is clearly not contingent on tipping behavior and is not the desired outcome being purchased with tips. However, social approval, equitable relationships and future service are all desirable outcomes that may be contingent on tipping. Thus, tipping may be explained as a rational attempt to obtain these outcomes. Each of these potential explanations for tipping is discussed further below.

Buying Social Approval with Tips

Tipping is a customary behavior guided by social norms about who to tip and how much to tip them. For example, in the US it is customary to tip restaurant waiters and waitresses 15 percent of the bill size (Post 1984). Compliance with social norms such as this is generally motivated by a desire for social approval and/or a fear of social disapproval (Deutsch and Gerand 1955; Pedersen et al. 1986). Thus, people may leave tips in order to buy social approval. Consistent with this explanation for tipping, Crespi (1947) found that 34 percent of the tipping public he surveyed thought that fear of disapproval was the main reason that most people tip. However, people do not always know why they do things (Nisbett and Wilson 1977) so these self-reports may be inaccurate.

If people tip in order to acquire social approval or to avoid social disapproval, then restaurant patrons should generally tip in accordance with the 15% norm. In addition, customers should tip more the more often they dine at the restaurant, because familiarity and expected future interaction should increase the value of the server's social approval. There is evidence consistent with the first of these expectations - several studies have found that tip amounts are positively related to bill size (Freeman et al. 1975; Lynn and Latane 1984; Lynn 1988). However, no published study has investigated the effects of patronage frequency on tipping.

Buying Equitable Relationships with Tips

Tips and services are resources that customers and servers respectively give to one another in social exchange relationships. According to equity theory (Adams 1965; Walster et al. 1973), society socializes people to feel anxiety or distress when in inequitable exchange relationships. There are a number of different formulas specifying what is meant by equity. However, when only positive resources are being exchanged, the following formula proposed by Adams (1965) is adequate:

$$\frac{O_A}{I_A} = \frac{O_B}{I_B}$$

In this formula, O_A and O_B refer to person A's and person B's outcomes from the exchange while I_A and I_B refer to A's and B's inputs to the exchange. Relationships are said to be equitable when both participants' outcomes relative to inputs are equal.

Services are inputs for servers (I_A) and outcomes for customers (O_B) while tips are outcomes for servers (O_A) and inputs for customers (I_B). Thus, equity theory suggests that the higher the quantity or the quality of services (I_A andO_B) the larger the tips (O_A and I_B) necessary to maintain an equitable relationship. Since inequitable relationships are distressing, restaurant customers should attempt to maintain equity by tipping in proportion to services received.

If tipping is an attempt to buy peace-of-mind by maintaining equitable relationships with servers, then tips should be positively related to the quantity or the quality of service. Inconsistent with this expectation, research on the relationship between service and restaurant tipping has generally produced null results (May 1978; Crusco and Wetzel 1984; Lynn and Latane 1984; Lynn 1988). However, many of these failures to find a relationship between services and tipping may be due to poor operationalizations of service quantity or quality. For example, Lynn (1988) Lynn and Latane (1984) and May (1978) all examined the relationship between tipping and servers' or uninvolved observers' evaluations of service. These evaluations may not have corresponded to the customers' evaluations because different people may have different expectations and standards for service and because perceptions of events vary with people's relationships to those events (cf. Hastorf and Cantril 1954; Nisbett et al. 1973). Crusco and Wetzel (1984) and Lynn and Latane (1984) did examine the relationship between tipping and customers' own evaluations of their service, but Crusco and Wetzel confounded customer ratings of the service, the dining experience and the atmosphere by averaging these ratings into a single index. More research is needed to assess the relationships between tipping and customers' own perceptions of specific aspects of service.

Buying Future Service with Tips

A tipper's relationship with a particular server or restaurant is often a single unrepeated event. However, sometimes a customer regularly patronizes an establishment where his or her tipping behavior becomes known. In this latter case, it is rational for the customer to tip in proportion to services received because making tips contingent on service will ensure good future service from servers who are aware of the contingency and who want to make more money. Thus, for regular patrons of a restaurant, tipping may be an attempt to buy future service. This reasoning is similar to that underlying the tit-for-tat strategy in iterated prisoner's dilemma games (Axelrod 1984) and it suggests that the relationship between service and tipping should be stronger for regular than for non-regular customers.

Unfortunately, the interaction of service and patronage frequency on tipping has not yet been investigated.

The Present Study

In the study reported below, restaurant customers were interviewed (as they left the restaurant) about their dining experience and tipping behavior. This study goes beyond existing research by examining:

(1) the relationship between tipping and patronage frequency,

(2) the relationship between tipping and customer's own evaluations of specific aspects of service, and

(3) the interaction of service and patronage frequency on tipping.

The examination of these relationships provides an assessment of the three 'rational' explanations for tipping outlined above. If people tip in order to buy social approval, then (hypothesis 1) tipping should be positively related to patronage frequency. If people tip in order to buy equitable relationships and the resulting peace-of-mind, then (hypothesis 2) tipping should be positively related to service quality. If people tip in order to ensure good future service, then (hypothesis 3) patronage frequency and service quality should interact - i.e., the positive relationship between tipping and service quality should be stronger for regular than for non-regular customers.

Method

Data Source

The data for this study was collected at a Red Lobster restaurant in a Midwestern college town of approximately 60,000 people. A waitress at the restaurant collected the data for this study by

dressing in street clothes and interviewing customers as they left the restaurant. One hundred and six interviews were completed on four Thursday evenings during March and April of 1988.

Variables

The restaurant's customers were asked the following questions:

(1) How many were in your party?

(2) What did your party order? Appetizers (Y/N)? Entrees (Y/N)? Desserts (Y/N)? Alcohol (Y/N)? [Responses to the first 3 subquestions were used to calculate the number of courses ordered.]

(3) Given a 5-point scale with 1 being poor and 5 being excellent, how would you rate your food on: appearance, taste, and price? [Subjects rated each aspect of the food and the three ratings were averaged to form an index of satisfaction with the food.]

(4) Given a 5-point scale with 1 being poor and 5 being excellent, how would you rate the service you received on: promptness, friendliness, and attentiveness? [Again, subjects rated all three aspects of service and these ratings are averaged to form an index of customer satisfaction with the service.]

(5) How many times a year do you come to Red Lobster? [In order to avoid problems with outliers, responses were divided into two groups as equal in size as possible without having different observations with the same value assigned to different categories. Customers who visited Red Lobster four times or less per year were placed in the low number of visits category while customers who visited the restaurant five or more times per year were placed in the high number of visits category.]

(6) How much was your bill? [Since many responses were approximations, all bill amounts were rounded to the nearest dollar amount.]

(7) How much did you tip your server? [All tip amounts were rounded to the nearest multiple of 10 cents.]

Procedure

The interviewer questioned customers in the lobby immediately after they had paid their bills at a central cash register. She approached every paying customer except those who paid and left while she was busy with others. Upon approaching a customer, the interviewer identified herself as a psychology student at the local university and asked the customers if they would mind answering seven questions for a class project on restaurant behavior. When two or more paying customers were obviously from the same table, they were interviewed together and provided only one set of observations. A total of 106 interviews were completed with no customers declining to be questioned. However, some people failed to answer specific questions or answered them in unusable ways. Thus, the number of observations for some variables was slightly smaller than one hundred and six (see table 1).

Results and Discussion

Descriptive Statistics

Descriptive statistics for the variables in this study are presented in table 1. Of particular interest is the mean tip amount. One concern about the present methodology is that respondents might have lied about how much they tipped their servers - i.e., they may have inflated their actual tip amounts in order to appear more generous than they were. However, the waitress who interviewed customers recorded her own week night tips for several months and the mean tip amount she received was virtually identical to the mean tip amount in this study ($3.60 vs $3.58; $t(278) = 0.04$, n.s.). This suggests that respondents did not overestimate their tips and that they were generally honest about how much

they tipped.[1] [One respondent did appear to lie about how much he tipped, so the veracity of his claim was checked immediately after this interview and his inaccurate claim was corrected.]

Table 1
Means, standard deviations, and sample sizes for each variable.

Variables	*X*	*SD*	*n*
Group size	2.65	1.28	106
No. of courses	1.79	0.70	106
Alcohol			
(no = 0, yes = 1)	0.46	0.50	106
Food index	4.44	0.56	106
– Appearance	4.66	0.53	106
– Taste	4.66	0.57	106
– Price	4.00	1.04	106
Service index	4.67	0.50	106
– Promptness	4.58	0.73	106
– Friendliness	4.84	0.37	106
– Attentiveness	4.58	0.72	106
No. of visits			
(before categorization)	7.50	13.46	105
Bill size	$33.05	19.61	105
Tip amount	$3.58	2.30	103

Tip Amount and Bill Size

If people generally comply with the social norm of tipping 15% of bill size, then tip amount should be positively related to bill size. Consistent with this expectation, a regression of tip amount on bill size produced a significant linear trend ($F(1,101) = 99.5$, $p < 0.0001$) which accounted for 50% of the variance in tip amount. The addition of a quadratic term did not reliably enhance the prediction of tip amount ($F(1,100) = 0.04$, n.s.). However, the best fitting linear equation - tip amount = $0.71 + 0.08 bill size - had a smaller slope than that called for by the 15% norm, suggesting that people comply with the spirit of the norm more than with its letter.

[1] A reviewer also expressed concern about the possibility of interviewer bias. Since only one interviewer was used, it was not possible to test for interviewer effects. However, one would expect general impression management demands to be stronger than any interviewer expectancy effects in this situation because there is a strong social norm about tipping and because generosity is a socially desirable trait. Since the customers did not inflate their tip reports in order to appear generous, it seems doubtful that they would bias those reports to support some implicit, non-obvious interviewer expectations.

If compliance with the 15% norm is motivated by a desire for social approval or a fear of social disapproval, then regular customers should comply with this norm more than do non-regular customers. This is true because regular customers should value their server's social approval more than should non-regular customers who do not expect to see the server again. Consistent with this (post hoc) reasoning, a regression of tip amount on bill size, frequency of patronage and their interaction produced a significant interaction term ($F(1,98) = 20.49$, p -C 0.0001). For customers who visited the restaurant less than five times a year, bill size accounted for only 33% of the variance in tip amount (tip amount = $1.45 + 0.05 bill size). For customers who visited the restaurant five or more times a year, bill size accounted for 70% of the variance in tip amount (tip amount = - 54 + 0.12 bill size). Of course, an alternative explanation for this interaction is that the regular customers may have been more familiar with the 15% tipping norm than were the non-regular customers. This possibility should be tested in future research.

Most tipping researchers have controlled for the effects of bill size on tip amount by using percent tip as their dependent measure. However, the use of ratio variables like percent tip can be problematic (Firebaugh and Gibbs 1985; Long 1980). If the relationship between tip amount and bill size has a non-zero intercept, the use of percent tip as a d.v. can produce spurious results (cf. Lynn 1988; Lynn and Bond 1988). The relationship between tip amount and bill size in this study had a 71 cent intercept that was significantly different from zero ($t(lO1) = 2.16$, p -C 0.04). This meant that the use of percent tip as a d.v. might produce spurious results. In order to avoid this problem, subsequent analyses statistically controlled for the effects of bill size using multiple regression techniques (Cohen and Cohen 1975).

Tipping, Service Quality and Patronage Frequency

The relationships of tipping with service quality, patronage frequency and their interaction provide tests of three rational explanations for tipping as outlined in the introduction. These relationships were examined in a hierarchical regression of tip amount on bill size, patronage frequency,

the interaction of bill size with patronage frequency, the service rating index, and the interaction of patronage frequency with the service rating index. This analysis produced significant effects for everything but the patronage frequency by service index interaction.

Customers who visited the restaurant 5 or more times per year left a larger tip (after controlling bill size) than did customers who visited the restaurant fewer than 5 times per year (*spr* = 0.18; F(1,96) = 9.49, p < 0.003). This result is consistent with the idea that people tip in order to obtain social approval from servers, because regular customers should value their server's social approval more than should non-regular customers. However, another possibility is that the regular customers liked the restaurant's food and/or service better than did the non-regular customers and thus tipped more for this reason. In order to assess this possibility, tip amount was regressed on patronage frequency while statistically controlling for bill size, group size, number of courses, alcohol consumption, food rating index and service rating index. The effects of patronage frequency remained significant even after partialing out all of these potential confounds (*spr* = 0.19; F&94) = 8.07, p < 0.006), so regular customers do not appear to have tipped more than non-regular customers because they perceived the food or service to be better than did the non-regular customers.

People also tipped more (after controlling for bill size, patronage frequency and their interaction) the more favorably they evaluated their service (spr = 0.23; F(1,96) = 15.32, p < 0.0002). The three service ratings that were averaged in the service index were positively correlated (0.50 < all TS < 0.55) and produced similar results when analyzed separately. People tipped more (after controlling for bill size, patronage frequency and their interaction) the more favorably they evaluated their server on promptness (spr = 0.16; F(1,97) = 6.97, p -< 0.01), friendliness (spr = 0.20; F(1,97) = 10.62, p < 0.002), and attentiveness (spr = 0.22; F&97) = 13.78, p < 0.0003). These results are consistent with the idea that tipping is an attempt to avoid psychological distress by maintaining equitable relationships with servers. However, it is possible that the relationship between service and tipping was due to customer's mood or

to some other confounding variable that had similar effects on both tipping and service evaluations. In order to rule out as many potential confounds as possible, tip amount was regressed on the service rating index while statistically controlling for group size, number of courses, alcohol consumption, and food rating index as well as bill size, patronage frequency and their interaction. The relationship between tip amount and the service rating index remained significant even after partialing out all of these potential confounds (.spr = 0.22; $F(1,93) = 14.21$, $p < 0.0003$).

The relationship between tip amount and service discussed above did vary with patronage frequency (interaction $F(1,96) = 0.48$, n.s.). Tip amount was reliably related (after controlling for bill size) to the service ratings of both regular (spr = 0.24; $F(1,41) = 9.85$, $p < 0.004$) and non-regular (spr = 0.24; F&55) = 5.28, $p < 0.33$) customers. This result is inconsistent with the hypothesis that regular customers would tip more equitably than others in order to motivate servers to provide future service.

Tipping and Other Variables

In addition to testing the three rational explanations for tipping discussed in the introduction, this study provided an opportunity to examine the relationships between tipping and several other variables. Accordingly, tip amount was simultaneously regressed on group size, number of courses, alcohol consumption and the food rating index along with bill size, patronage frequency, service index, and the interaction of bill size with patronage frequency. None of the four new variables significantly predicted unique variance in tip amount.[2]

First, tipping was unrelated to group size in this study (spr = - 0.06; $F(1,93) = 0.90$, n.s.). This result is inconsistent with three studies that have found an inverse relationship between percent tip and group size (Freeman et al. 1975; Lynn and Latane 1984: study 1; May 1978) but is consistent with several

[2] Similar results were obtained in analyses that controlled only for bill size. Tip amount (after controlling for bill size) was unrelated to group size (spr = -0.03, $F(1,100) = 0.23$, n.s.), number of courses (spr = -0.01; F(1,100) = 0.02, n.s.), alcohol consumption (spr = 0.05; $F(1,100) = 0.43$, n.s.), or the food rating index (spr = 0.10; F(1,lOO) = 2.20, n.s.).

other studies failing to replicate this group size effect on tipping (Crusco and Wetzel 1984; Cunningham 1979; Lynn 1988; Lynn and Latane 1984: study 2). Recently, Lynn and Bond (1988) demonstrated that at least one (and possibly two) of the literature's three inverse relationships between tipping and group size were spurious results stemming from the use of the ratio variable percent tip. Thus, this study joins the bulk of the evidence suggesting that tipping is not meaningfully related to the size of the dining party.

Second, tipping was unrelated to the number of courses ordered in this study (spr = -0.02; $F(1,93) = 0.11$, n.s.). Since the number of courses is a measure of the server's effort, this null result appears to suggest that tipping is unrelated to service quantity. However, the 15% tipping norm requires people to tip more the larger their bills precisely because larger bills generally represent more courses and more work. Consistent with this reasoning, the number of courses was positively correlated with both bill size ($r = 0.31$, $p < 0.002$) and tip amount ($r = 0.20$, $p < 0.05$). Thus, more courses are already compensated for by the larger tips that accompany larger bills and there is no reason for people who order more courses to leave larger residual tips (i.e., tip amounts after controlling for bill size).

Third, tipping was unrelated to alcohol consumption in this study (spr = - 0.04; $F(1,93) = 0.35$, n.s.). This result is consistent with three other studies that found tipping to be unrelated to alcohol consumption (Crusco and Wetzel 1984; Cunningham 1979; Freeman et al. 1975). However, those three earlier studies all used percent tip as a d.v. and Lynn (1988) found that this ratio variable spuriously hid a meaningful positive relationship between tipping and alcohol consumption in a study he conducted. Thus, this study is the first using appropriate multiple regression analyses of non-ratio variables to fail to replicate Lynn's (1988) relationship between alcohol consumption and tipping. Unfortunately, no convincing explanation for this failure to replicate is apparent.

Finally, tipping was unrelated to customer's evaluations of the food in this study (spr = -0.04; F&93) = 0.42, n.s.). The three food ratings that were averaged in the food rating index were positively

correlated (0.27 < all r's < 0.72) and produced similar results when analyzed separately. Tip amount (after controlling for all the i.v.s. as in the text) was unrelated to customers' evaluations of the food's appearance (spr = -0.05; F(1,93) = 0.83, n.s.), taste (spr = -0.06; F(1,93) = 0.91, n.s.), and price (spr = 0.00; F&93) = 0.01, n.s.). These results replicate a similar finding by Lynn and Latane (1984). There is also congruence between this result and two studies that found no relationship between tipping and customer's evaluations of the restaurant's atmosphere (Crusco and Wetzel 1984; Lynn and Latane 1984). These results suggest that tipping is not related to general evaluations of the dining experience even though it is related to evaluations of service.

Conclusion

This study found that tipping was positively related to both patronage frequency and perceived service quality, but was not related to their interaction. These results are consistent with the possibility that the customers tipped in order to buy social approval and equitable relationships, and are inconsistent with the idea that the regular customers tipped in order to buy future service. Of course, only one restaurant was studied, so it is not clear to what extent these results and conclusions will generalize to other establishments. One direction for future research is to examine the correlates of tipping at different restaurants. Any systematic differences between establishments (or their absence) might provide additional insight into the psychological processes underlying tipping.

The correlational nature of the data in this study means that other explanations for its results are possible. However, some of the more obvious possibilities were ruled out through additional analyses. First, patronage frequency was positively related to tipping even after statistically controlling for the customer's ratings of the food and service, so the regular customer's did not tip more merely because they perceived the food and service more positively than did the non-regular customers. Second, the service rating index was positively related to tipping even after statistically controlling for the food rating index, so the service-tipping relationship is not attributable to mood or some other third

variable that may have affected both tips and general evaluations of the dining experience. Finally, patronage frequency and the service rating index both produced significant main effects, so the failure to find a patronage frequency x service interaction is not attributable to weak measures of either variable. Other alternative explanations for these results are still possible and future research should identify and test them, but these results provide at least an initial, provisional assessment of the psychology of restaurant tipping.

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