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Customer Discrimination in Restaurants: Dining Frequency Matters

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Abstract Using unique survey data collected outside of five Virginia restaurants, and controlling for subjective server productivity, as well as a variety of other factors, we compare the tip earnings of male and female servers. Evidence of customer discrimination is found, but only among those customers who frequent the restaurant the least, revealing that female servers earn comparable tips to male servers when the service quality they produce is about exceptional, but for any lower service quality their tips are smaller. This suggests that female servers are being held to a very high standard, and if this standard is not met, they are treated unfavorably in comparison to male servers who produce the same level of service quality. Additional evidence indicates that it is male customers driving these results.

Keywords Tip · Gender wage gap · Discrimination

JEL Classification J71

Introduction

> "Where people seldom deal with one another, we find that they are somewhat disposed to cheat . . ."
>
> -Adam Smith, Lectures on Jurisprudence

Women earn less than men. For example, in 2009, women who were full time wage and salary workers had median weekly earnings of approximately 80% of

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their male counterparts (Bureau of Labor Statistics 2010). Controlling for differences in human capital and job characteristics narrows but does not completely eliminate this gap (Blau and Kahn 2007). This suggests the presence of gender discrimination in the labor market.[1] There are three principal sources of discrimination—customers/consumers, employers, and co-workers (Becker 1971). Unlike the latter, customer discrimination typically cannot be eliminated by market forces (Kahn 1991).

A considerable amount of empirical research on customer discrimination has focused on professional and collegiate sports environments. This is primarily because for most sports detailed statistics of player performance measuring individual productivity are available, and in many such environments the customer is the sole actor, allowing researchers to attribute any unexplained earnings differentials to customer discrimination.[2] For example, customer racial discrimination has been examined in professional baseball by looking at the market for baseball cards (e.g., Nardinelli and Simon 1990; Andersen and La Croix 1991; McGarrity et al. 1999; Scahill 2005), Hall of Fame and all star voting (e.g., Desser et al. 1999; Hanssen and Andersen 1999), and game attendance (e.g., Hersch 2010); in professional basketball by looking at the market for basketball cards (e.g., Stone and Warren 1999) and Nielsen ratings of locally televised games (e.g., Kanazawa and Funk 2001); in professional football by looking at the market for football cards (e.g., Primm et al. 2010); and, in college basketball by looking at gate revenues (e.g., Brown and Jewell 1994), all with mixed results.

This paper examines customer gender discrimination in a novel setting: restaurant tipping.[3] More specifically, using a unique survey data set collected by the author in two waves outside of five Virginia restaurants, this paper tests for the presence of customer gender discrimination in restaurants by comparing the tip earnings of male and female restaurant servers. Survey respondents (customers) answered questions about the size of the bill and tip, characteristics of the dining experience, and server and own demographics. Server productivity was measured by asking respondents to rate the quality of service they received from their server on a seven-point scale (this measure is addressed in greater detail later in the paper).

Data

Survey Procedure

The survey data used in this study were collected from the same five Richmond, Virginia restaurants, in two waves—Summer 2002 (the "2002 Survey") and Summer

[1] Even if observable characteristics can explain the entire gender wage gap, occupational discrimination might still be present.

[2] Due to the gender specific nature of most professional and collegiate sports, the majority of these studies look at racial discrimination.

[3] Neumark (1996) examines gender discrimination using data on restaurant servers, but focuses on the hiring decision. Our focus is on (tip) earnings. Ayres et al. (2005) use data on taxicab tip earnings to study racial discrimination.

2003 (the "2003 Survey"). We asked approximately twenty-five restaurants for permission to survey their customers, but just six obliged, one of which was a bar. Because collecting survey data from the inebriated is difficult, and their responses are suspect, we decided against collecting data at this establishment. It was too cost prohibitive to collect additional survey data at restaurants outside of the Richmond, Virginia area.

The 2002 Survey was administered on each of a Friday and Saturday evening, from 6 p.m. until roughly 10 p.m., at each restaurant. The 2003 Survey added Thursday as an additional survey day at each restaurant. Bill-paying customers were approached post-meal, as they exited the restaurant, and the same two people, both the author and an assistant, administered the surveys at all five of the restaurants through both waves. In the interest of obtaining more reliable responses, but at the cost of obtaining fewer completed and unambiguous surveys, survey respondents answered the survey privately (via clipboard, with pen attached) and, to further keep their responses anonymous, were asked to fold and place their completed survey in a box located away from the survey administrators. A total of 485 surveys were collected out of 575 attempts during the 2002 Survey, and a total of 501 surveys were collected out of 630 attempts during the 2003 Survey, for a combined response rate of roughly 82%. A description of the restaurants at which the surveys were conducted is provided in Table 1, and copies of the surveys used in each wave are provided in Appendices A and B, respectively.

Survey Content

Question 5 on both surveys asked respondents how much money they tipped their server. Combining this with question 4, which on both surveys asked respondents about the size of their bill, percentage tip was computed. On average, respondents tipped their server 19% of the bill. A bias in tips could exist whereby notoriously discriminatory customers either underreport or over-report tips to appear non-discriminatory to the survey administrators, which could make it more difficult to detect gender differences in the tip earnings of servers. This is unlikely, though, due to the anonymous nature of the survey, and even putting this aside, such a bias would only serve to make our test of gender differences in tip earnings a more stringent one.

Server gender was measured via question 10, which on both surveys asked respondents to record their server's gender. The number of respondents who

Table 1 Description of restaurants surveyed

Restaurant	Appetizers	Salads as meal	Sandwiches	Entrees	Type of rest
R1	$3.50–$10.90	$8.50–$9.95	$6.95–$11.95	$13.95–$24.95	Amer./Seafood
R2	$2.35–$4.95	$6.75–$7.95	$4.25–$7.35	$8.15–$17.95	Italian/Amer.
R3	$3.25–$5.45	$6.25–$7.25	$5.95–$7.25	$6.75–$14.95	BBQ
R4	$2.99–$7.99	$6.99–$8.49	$5.99–$6.49	$8.99–$15.99	BBQ
R5	$4.95–$9.95	$6.25–$7.25	NA	$7.95–$16.95	Greek/Italian

reported being served by a female (70%) was slightly more than double the number who reported being served by a male (30%), and is consistent with national statistics which indicate that roughly two-thirds of America's servers are female (Bureau of Labor Statistics 2010). This disproportionate number of female servers comprising the data set could be due to self-selection of females into being a waitress. If this self-selection arises because there is less gender discrimination in restaurants, versus other work settings, then our ability to detect gender differences in tip earnings is more limited, making our test of such differences a stronger one.

Server productivity was measured on both surveys using question 9, a subjective measure of productivity as determined by the customer. Question 9 asked respondents to rate the service quality provided by their server on a seven-point scale. Table 2, which describes the distribution of these ratings by server gender, reveals that the majority of the wait staff at the five restaurants surveyed provided above average (> 4) service quality. Considering that tips represent a significant portion of a server's earnings (Bureau of Labor Statistics 1980; O'Connor 1971) and that service quality is a significant determinant of tip size (Lynn and McCall 2000), this is not surprising.

The surveys also incorporated a number of filters. On both surveys, part two of question 4 asked survey respondents whether they received help paying the bill and part two of question 5 asked survey respondents if they received help paying the tip. Question 6 on both surveys asked respondents if the tip was automatically added to their bill (automatic service charge). A "yes" response to any of these questions suggests that the customer's tip as recorded on the survey may or may not accurately reflect that customer's tipping behavior. Thus, observations with a "yes", incomplete, or ambiguous response to any of these questions were dropped. The remaining questions on the two surveys measured additional server, customer, and dining experience characteristics.

Comparison of Surveys

The 2002 Survey is essentially a subset of the 2003 Survey. That is, all of the questions asked on the 2002 Survey were asked on the 2003 Survey, with the

Table 2 Distribution of service quality ratings

	Service quality rating						
	1	2	3	4	5	6	7
All Servers (N=495)	2 (0.4%)	6 (1.2%)	12 (2.4%)	34 (6.9%)	121 (24.4%)	180 (36.4%)	140 (28.3%)
Male Servers (N=144)	2 (1.4%)	1 (0.7%)	4 (2.8%)	10 (6.9%)	36 (25.0%)	51 (35.4%)	40 (27.8%)
Female Servers (N=351)	0 (0.0%)	5 (1.4%)	8 (2.3%)	24 (6.8%)	85 (24.2%)	129 (36.8%)	100 (28.5%)

Notes: Survey respondents rated their server's service quality on a scale from 1 ("Poor") to 7 ("Excellent").

exception of the second part of question 19, which asked about the respondent's number of years of postsecondary education, and questions 21–23, which asked what percentage tip the respondent normally leaves in the case of terrible, outstanding, and standard service, respectively. We simply did not deem these questions critical in 2003.

Several questions included on the 2003 Survey did not appear on the 2002 Survey: whether or not the respondent left their tip on either their ATM or credit card (second part of question 7); questions about server race (second part of question 10), server beauty (question 11), and server weight (question 12); whether or not any of the respondent's close friends or family have ever been employed as a waiter or waitress (second part of question 14); and, questions about customer race (question 17) and customer beauty (question 23). We added these questions to the 2003 survey because of our interest in examining additional tipping determinants beyond those we are able to examine using just the 2002 survey data.

Finally, for some of the questions asked on both surveys, there were slight differences regarding response options, or in the wording of the question. First, concerning the customer's method of payment (question 7 on both surveys), the 2003 Survey differentiated between the "ATM Card" and "Credit Card" responses, whereas the 2002 Survey did not. The two methods of payment are different—although both allow for electronic payment of the bill and the tip, the use of an ATM card, unlike the use of a credit card, almost immediately draws funds from the user's checking or savings account. Second, concerning the customer's education level, the 2002 Survey used an open-ended format, asking respondents to record their highest degree obtained (first part of question 19), while the 2003 Survey used a closed-ended format, asking respondents to choose the highest level of education completed from a list of options (question 22). Use of a closed-ended format typically ensures a higher response rate and lowers the likelihood of incomplete and ambiguous responses. Finally, regarding the questions about appetizer, entree, dessert, and alcohol consumption (question 8 on both surveys), the 2002 Survey asked whether anyone *at the survey respondent's table* consumed these items, while the 2003 Survey asked whether anyone *whom the survey respondent paid for* consumed these items. The former question was too broad—what should affect the respondent's tip is whether anyone whom the respondent paid for consumed these items.

Empirical Specification

The empirical specification used in this paper is as follows:

$$T_i = \alpha_o + \alpha_1 M_i + \alpha_2 S_i + \alpha_3 (M_i \text{ x } S_i) + \alpha_4 Y_i + \alpha_j R_{ij} + \alpha_k D_{ik} + \alpha_n X_{in} + \varepsilon_i \quad (1)$$

where i indexes a particular server-customer tip transaction and T is a measure of the server's tip earnings. For robustness purposes, two specifications of tip are considered—natural log of dollar tip and natural log of percentage tip. M is an indicator variable for a male server, S is the customer's seven-point rating of service quality, M x S is an interaction variable between server gender and service quality, Y

is an indicator variable for the 2002 Survey, R is a vector of survey restaurant indicator variables, and D is a vector of survey day indicator variables. The latter fixed effects eliminate any year, restaurant, or day specific heterogeneity that might impact the estimates of α_1 and α_3.

X is a vector of customer, server, and dining characteristics that influence tips and incorporates all of the remaining shared questions on the two surveys, with some exceptions. First, X excludes information about the number of people paid for (question 3, both surveys) and information about whether or not the survey respondent is a dependent of their parents for tax purposes (2002 Survey question 13, 2003 Survey question 15). This information is not considered critical to the analysis and is anyhow likely picked up in the bill size and age variables, respectively. Second, as discussed earlier, regarding whether or not the customer received help paying the bill or the tip (second parts of questions 4 and 5, both surveys) and whether or not the customer paid an automatic service charge (question 6, both surveys), observations for which "yes", ambiguous, or incomplete responses were provided to these questions are dropped from the analysis; thus, such questions are not included in X. Finally, some specifications include customer and server race and beauty variables, which exist only in the 2003 survey. A complete description of the variables used in the analysis and summary statistics are provided, respectively, in Tables 3 and 4.

The α's in Eq. 1 are the coefficients that are estimated, and ε is a random error term. Equation 1 is estimated using ordinary least squares (OLS) and all inference is conducted using heteroskedasticity-robust standard errors.

A potential issue is that the customer's service quality rating and the server's gender might be correlated, which could bias our estimate of the effect of server gender on tip earnings. For example, it could be that customers have a taste for male servers over female servers, and on this basis alone provide higher service quality ratings to the former than to the latter. The effect of this would be to bias downward the effect of server gender on tip earnings. However, a t-test of the difference in average service quality ratings across male and female servers (p=.516, two-tailed), combined with a chi-squared test under the null hypothesis that a server's service quality rating and gender are independent (p=.479), provide comfort. Ideally, service quality would have been measured independently, but this would have required close interactions with each restaurant's servers and management, which unfortunately was not feasible.

Data Cleaning

We began with 986 observations. The data cleaning process consisted of several steps. First, thirteen observations from the 2002 Survey were deleted because the first part of question 4 failed to include the language "NOT INCLUDING TIP". For these observations, we were unable to accurately compute bill size or percentage tip. This left a subtotal of 973 observations. Second, and as already discussed, all observations for which a "yes", incomplete, or ambiguous response was recorded for the bill or tip help questions (second parts of questions 4 and 5, both surveys), or for the automatic service charge question (question 6, both surveys), were deleted. This

Table 3 Description of variables

Variable	Description
% tip	$ tip as percentage of total bill amount
$ tip	$ amount of tip
Bill Size	total bill amount
Bill Size Squared	total bill amount squared
Table Size	number of people at survey respondent's table
Table Size Squared	number of people at survey respondent's table squared
# Checks	number of checks at survey respondent's table
Credit Card	dummy equal to 1 if survey respondent paid with credit or atm card; 0 otherwise
Service Quality	survey respondent's rating of service quality on scale from 1 ("Poor") to 7 ("Excellent")
Male Server	dummy equal to 1 if server male; 0 otherwise
Male Customer	dummy equal to 1 if survey respondent male; 0 otherwise
Customer Age	age of survey respondent
Customer Age Squared	age of survey respondent squared
Married Customer	dummy equal to 1 if survey respondent married; 0 otherwise
Religious Customer	dummy equal to 1 if survey respondent regularly attends religious services; 0 otherwise
Rich Customer	dummy equal to 1 if survey respondent reports income as $52,000+; 0 otherwise
Educated Customer	dummy equal to 1 if survey respondent has a bachelor's or graduate/professional degree; 0 otherwise
Dining Frequency	survey respondent's rating of frequency with which he/she dines at the restaurant, on a scale from 1 ("Least Frequent") to 7 ("Most Frequent")
Former Server	dummy equal to 1 if survey respondent ever employed as server; 0 otherwise
Customer % Tipnorm	survey respondent's belief regarding percentage tip norm
Customer $ Tipnorm	(Customer % Tipnorm) x (Bill Size)
R1	dummy equal to 1 if restaurant surveyed was Restaurant 1; 0 otherwise
R2	dummy equal to 1 if restaurant surveyed was Restaurant 2; 0 otherwise
R3	dummy equal to 1 if restaurant surveyed was Restaurant 3; 0 otherwise
R4	dummy equal to 1 if restaurant surveyed was Restaurant 4; 0 otherwise
R5	dummy equal to 1 if restaurant surveyed was Restaurant 5; 0 otherwise
Thursday	dummy equal to 1 if survey completed on a Thursday; 0 otherwise
Friday	dummy equal to 1 if survey completed on a Friday; 0 otherwise
Saturday	dummy equal to 1 if survey completed on a Saturday; 0 otherwise
Summer 2002	dummy equal to 1 if survey conducted in Summer 2002; 0 otherwise
White Server	dummy equal to 1 if server white; 0 otherwise
White Customer	dummy equal to 1 if customer white; 0 otherwise
Attractive Server	dummy equal to 1 if server received a beauty rating from the customer of 4 or 5 on question 11 of the 2003 Survey; 0 otherwise
Attractive Customer	dummy equal to 1 if customer rated their own beauty as a 4 or 5 on question 23 of the 2003 Survey; 0 otherwise

Table 4 Summary statistics

Variable	N	Mean	Standard Deviation	Min	Max
% tip	495	19.11	5.83	2.94	68.57
$ tip	495	6.33	3.67	1.00	50.00
Bill Size	495	34.85	20.25	3.00	245.00
Bill Size Squared	495	1623.64	3135.16	9.00	60025.00
Table Size	495	2.72	1.21	1.00	12.00
Table Size Squared	495	8.86	10.64	1.00	144.00
# Checks	495	1.13	0.53	1.00	6.00
Credit Card	495	0.67	0.47	–	–
Service Quality	495	5.76	1.12	1.00	7.00
Male Server	495	0.29	0.45	–	–
Male Customer	495	0.68	0.47	–	–
Customer Age	495	45.12	12.11	12.00	90.00
Customer Age Squared	495	2181.99	1125.93	144.00	8100.00
Married Customer	495	0.75	0.43	–	–
Religious Customer	495	0.49	0.50	–	–
Rich Customer	495	0.83	0.38	–	–
Educated Customer	495	0.73	0.44	–	–
Dining Frequency	495	3.35	1.80	1.00	7.00
Former Server	495	0.28	0.45	–	–
Customer % Tipnorm	495	16.72	2.85	10.00	30.00
Customer $ Tipnorm	495	5.82	3.67	0.60	49.00
R1	495	0.20	0.40	–	–
R2	495	0.26	0.44	–	–
R3	495	0.20	0.40	–	–
R4	495	0.18	0.39	–	–
R5	495	0.16	0.37	–	–
Thursday	495	0.15	0.36	–	–
Friday	495	0.42	0.49	–	–
Saturday	495	0.43	0.50	–	–
Summer 2002	495	0.39	0.49	–	–
White Server	295	0.95	0.22	–	–
White Customer	295	0.94	0.25	–	–
Attractive Server	295	0.44	0.50	–	–
Attractive Customer	295	0.34	0.48	–	–

resulted in the removal of an additional 205 observations, leaving a new subtotal of 768 observations. Third, 266 observations in which the respondent provided an incomplete or ambiguous response to a survey question used in the analysis (refer to previous section) were dropped, resulting in a new subtotal of 502 observations. Again, the reason why so many observations were dropped during the cleaning process is because customers completed the survey privately, instead of being asked

the questions face-to-face. This allowed for greater anonymity and, thus, a greater likelihood of obtaining truthful responses, but at the cost of obtaining fewer completed/unambiguous surveys. The final step of the data cleaning exercise consisted of the removal of one outlier in which the respondent tipped zero, and six outliers in which respondents tipped in excess of 100% of the bill. This resulted in the final data set of 495 observations. The removal of the zero tip outlier was necessary due to the natural log specification of the dependent variable. Furthermore, all seven of these outliers represent significant discrete jumps in the data—the minimum and maximum percentage tip in the final data set are, respectively, 2.9% and 68.6%. As a robustness check, however, we also report our results including these outliers.

Results

Looking at Table 5, which reports the results of OLS regressions of log dollar and log percentage tip, columns 5a and 5b reveal jointly insignificant Male Server and Male Server x Service Quality coefficients. Several robustness checks are considered. First, it could be that the customer's reported belief about the tip norm and the server's gender might be correlated, which could bias our estimate of the effect of server gender on tip earnings. For example, perhaps customers have a taste for male servers over female servers and make themselves feel better by reporting a higher tip norm when served by a male and a lower tip norm when served by a female. The effect of this would be to bias downward our estimate of the effect of server gender on tip earnings. Thus, we look at what happens when we exclude the Customer Tipnorm variable from the previous analysis. Our findings, which are not shown in Table 5 due to space considerations, reveal that the Male Server and Male Server x Service Quality coefficients achieve at best only weak joint significance. As a second robustness check, columns 5c and 5d include the seven dropped outliers, but yield jointly insignificant Male Server and Male Server x Service Quality coefficients.[4] Finally, it could be that the race and beauty of the server and the customer confound our results. The 2003 data, which contain information on server and customer race and beauty, allow us to examine this. Our findings, though, which appear in columns 5e and 5f and include server and customer race and beauty indicator variables, reveal jointly insignificant Male Server and Male Server x Service Quality coefficients. Credence, however, is lent to our productivity measure (Service Quality), which is highly significant across most of the above specifications.

Results by Dining Frequency

If gender discrimination is present in the data, an obvious place to look is among those customers for whom it is least costly to discriminate. That is, an obvious place to look is among those customers who rarely, if at all, frequent the restaurant, as such customers have less of an incentive to be concerned about future service

[4] Because of the natural log specification of the dependent variables, the observation for which percent tip equals zero could not be included.

Table 5 The effect of server gender and the interaction of server gender and service quality on tips

	Without Outliers		Whole Sample		2003 Sample	
	5a ln($ tip)	5b ln(% tip)	5c ln($ tip)	5d ln(% tip)	5e ln($ tip)	5f ln(% tip)
Constant	0.864*** (0.168)	2.921*** (0.172)	0.922*** (0.195)	3.029*** (0.299)	1.055*** (0.298)	3.321*** (0.441)
Bill Size	0.024*** (0.002)	-0.008*** (0.001)	0.020*** (0.003)	-0.018*** (0.005)	0.018*** (0.004)	-0.021*** (0.006)
Bill Size Squared	-0.00009*** (0.00001)	0.00003*** (0.00001)	-0.00007*** (0.00002)	0.00008*** (0.00003)	-0.00005** (0.00002)	0.00010*** (0.00003)
Table Size	-0.059 (0.048)	-0.068* (0.037)	-0.0002 (0.0662)	0.094 (0.099)	0.075 (0.094)	0.183 (0.142)
Table Size Squared	0.007 (0.006)	0.006 (0.005)	0.001 (0.008)	-0.011 (0.011)	-0.007 (0.011)	-0.019 (0.015)
# Checks	-0.030 (0.032)	0.032 (0.023)	-0.047 (0.034)	-0.002 (0.035)	-0.073* (0.038)	-0.027 (0.040)
Credit Card	0.011 (0.027)	-0.007 (0.026)	0.019 (0.030)	0.011 (0.036)	0.013 (0.041)	0.023 (0.055)
Service Quality	0.051*** (0.013)	0.056*** (0.014)	0.058*** (0.015)	0.064*** (0.019)	0.037* (0.022)	0.042^ (0.028)
Male Server	0.153 (0.140)	0.239* (0.125)	0.156 (0.143)	0.201 (0.145)	0.023 (0.180)	0.126 (0.193)
Male Server x Service Quality	-0.027 (0.024)	-0.040* (0.021)	-0.028 (0.025)	-0.033 (0.026)	-0.001 (0.033)	-0.019 (0.034)
Male Customer	0.078*** (0.027)	0.068*** (0.027)	0.099*** (0.028)	0.113*** (0.032)	0.134*** (0.036)	0.128*** (0.045)
Customer Age	-0.010* (0.006)	-0.009* (0.005)	-0.012* (0.007)	-0.016^ (0.010)	-0.011 (0.009)	-0.017 (0.014)
Customer Age Squared	0.0001 (0.0001)	0.0001 (0.0001)	0.0001 (0.0001)	0.0001 (0.0001)	0.0001 (0.0001)	0.0002 (0.0002)
Married Customer	-0.019 (0.034)	-0.011 (0.035)	-0.043 (0.042)	-0.036 (0.048)	-0.128* (0.069)	-0.101 (0.082)
Religious Customer	-0.021 (0.022)	-0.032^ (0.021)	-0.021 (0.027)	-0.043 (0.035)	0.002 (0.038)	-0.042 (0.051)
Rich Customer	0.073* (0.042)	0.096** (0.041)	0.094* (0.048)	0.117** (0.057)	0.075 (0.079)	0.064 (0.104)
Educated Customer	-0.001 (0.028)	-0.015 (0.028)	-0.015 (0.032)	-0.024 (0.039)	-0.071^ (0.045)	-0.081 (0.057)
Dining Frequency	0.002 (0.006)	0.008 (0.006)	0.006 (0.007)	0.013* (0.008)	0.005 (0.011)	0.018^ (0.012)
Former Server	0.047* (0.025)	0.047* (0.025)	0.049* (0.027)	0.051* (0.031)	0.053 (0.037)	0.029 (0.052)
Customer % Tipnorm	–	0.009* (0.005)	–	0.011* (0.006)	–	0.007 (0.010)

Customer $ Tipnorm	0.034*** (0.012)	–	0.033*** (0.012)	–	0.031^ (0.019)	–
White Server	–	–	–	–	-0.025 (0.065)	-0.031 (0.084)
White Customer	–	–	–	–	0.022 (0.106)	-0.060 (0.182)
Attractive Server	–	–	–	–	0.062^ (0.040)	0.054 (0.056)
Attractive Customer	–	–	–	–	-0.017 (0.038)	-0.003 (0.053)
R^2	0.779	0.298	0.716	0.282	0.704	0.293
Overall F-statistic	55.90***	5.22***	47.70***	4.46***	40.50***	2.60***
Joint F-statistic (Male Server and Interaction)	0.61	1.82	0.64	0.98	0.11	0.22
N	495	495	501	501	295	295

Notes: All analyses include restaurant, survey day, and survey year fixed effects, but for the 2003 Sample analysis, which excludes the survey year fixed effect. The Overall F-statistic is used to test the overall significance of the model. The Joint F-statistic is used to test the joint significance of the Male Server and Male Server x Service Quality coefficients. White corrected standard errors reported in parentheses. ***, **, *, ^ denote significance at 1%, 5%, 10%, and 15% levels, respectively (two-tailed t-test, unless otherwise specified).

Table 6 Distribution of dining frequency ratings (N=495)

Dining frequency	Frequency
1	95 (19.2%)
2	99 (20.0%)
3	81 (16.4%)
4	70 (14.1%)
5	85 (17.2%)
6	37 (7.5%)
7	28 (5.7%)

Notes: Dining Frequency is the survey respondent's rating of the frequency with which he/she dines at the restaurant, on a scale from 1 ("Least Frequent") to 7 ("Most Frequent").

considerations or their reputation.[5] Dining frequency was measured via questions 11 and 13, respectively, on the two surveys, asking respondents to rate on a scale from one (least frequent) to seven (most frequent) the frequency with which they dine at the restaurant in question (the seven-point scale is an arbitrary index, not the number of visits by the respondent to the restaurant in question). The distribution of these ratings, provided in Table 6, is skewed slightly left, with only approximately 30% of respondents reporting dining frequencies in excess of four.

We stratified the data set by various dining frequencies and dining frequency combinations and within each subsample estimated OLS regressions of log dollar and log percentage tip. The log dollar tip results are reported in Table 7 and the log percentage tip results can be found in Appendix C. By far the strongest and most convincing support exists for the Dining Frequency=1 subsample findings. The Male Server and Male Server x Service Quality coefficients in this subsample achieve individual and joint statistical significance across all of the log dollar tip and log percentage tip specifications and reveal service quality crossover points ranging from 6.6 to 7.0.[6, 7] Thus, male servers earn larger tips than female servers who provide comparable service quality and the discrepancy disappears only at exceptional quality. That is, female servers earn comparable tips to male servers when the service quality they produce is about exceptional, but for any lower service quality their tips are smaller, suggesting that female servers are being held to a very high standard. If this standard is not met, female servers are treated unfavorably in comparison to male servers who produce the same level of service quality. In other words, to achieve equality, female servers have to perform exceptionally well.

To see whether our results vary by the gender of the customer, we estimated OLS regressions of log dollar and log percentage tip that include dummy variables corresponding to each of a male customer and male server (MS_MC), male customer and female server (FS_MC), female customer and male server (MS_FC), and female

[5] In support of this, evidence from the tipping literature indicates that less frequent diners tip less than more frequent diners (see Azar (2007)).

[6] Service quality crossover points were computed by setting the derivative of the regression equation with respect to the Male Server variable equal to zero and solving for Service Quality. These are truly exceptional service quality ratings, as service quality is measured on a seven point scale. Roughly 65% of survey respondents rated service quality as 6 or higher and approximately 28% rated service quality as 7.

[7] Computed at the mean level of service quality in the sample (5.76), the Dining Frequency=1 results in Table 7 and Appendix C reveal, respectively, that male servers earn between 8.7 and 14.6% more than female servers on a dollar tip basis and between 7.5 and 15.4% more than female servers on a percentage tip basis.

Table 7 The effect of server gender and the interaction of server gender and service quality on dollar tips, by dining frequency

	Dependent Variable = ln($ tip)															
	Without Outliers				Exclude Tipnorm				Whole Sample				2003 Sample			
	7a				7b				7c				7d			
	Male Server	Male Server x Service Quality	Joint F-stat	N	Male Server	Male Server x Service Quality	Joint F-stat	N	Male Server	Male Server x Service Quality	Joint F-stat	N	Male Server	Male Server x Service Quality	Joint F-stat	N
Individual DFs																
DF=1	0.539** (0.208)	-0.078** (0.037)	4.66**	95	0.496** (0.202)	-0.071**(0.035)	4.16**	95	0.539**(0.208)	-0.078** (0.037)	4.66**	95	0.947*** (0.311)	-0.139** (0.058)	6.47***	55
DF=2	0.038 (0.269)	-0.011 (0.049)	0.06	99	0.145 (0.271)	-0.029 (0.049)	0.18	99	-0.074 (0.261)	0.009 (0.050)	0.12	100	-0.114 (0.343)	0.030 (0.062)	0.24	58
DF=3	-0.586* (0.324)	0.091^ (0.056)	1.79	81	-0.467^ (0.311)	0.071 (0.054)	1.30	81	-0.502^ (0.336)	0.081 (0.057)	1.14	82	-1.194* (0.652)	0.245*(0.126)	1.93	48
DF=4	0.727** (0.361)	-0.124* (0.065)	2.11^	70	0.770**(0.356)	-0.129* (0.065)	2.64*	70	0.533 (0.368)	-0.093^ (0.063)	1.09	71	-0.430 (1.859)	0.061 (0.295)	0.04	46
DF=5	0.091 (0.390)	-0.016 (0.061)	0.06	85	0.094 (0.388)	-0.017 (0.061)	0.07	85	0.411 (0.513)	-0.085 (0.087)	0.76	86	-0.116 (0.788)	0.013 (0.123)	0.03	56
DF=6	0.016 (0.451)	-0.012 (0.076)	0.21	37	0.167 (0.467)	-0.038 (0.080)	0.25	37	-0.655 (0.647)	0.092 (0.107)	0.87	38	–	–	–	19
DF=7	-1.429* (0.454)	0.128^ (0.059)	9.88**	28	1.048 (1.119)	-0.154 (0.200)	0.47	28	-1.009 (0.804)	0.126(0.099)	0.82	29	–	–	–	13
"Low" DFs																
DF=1,2	0.360* (0.188)	-0.053^ (0.033)	2.37*	194	0.370* (0.193)	-0.054^ (0.033)	2.39*	194	0.279^ (0.188)	-0.041 (0.033)	1.40	195	0.198 (0.314)	-0.019 (0.056)	1.03	113
DF=1,2,3	0.096 (0.188)	-0.011 (0.033)	0.44	275	0.127 (0.187)	-0.016 (0.032)	0.62	275	0.058 (0.186)	-0.005 (0.032)	0.29	277	-0.149 (0.237)	0.040 (0.042)	1.55	161
DF=1,2,3,4	0.130 (0.170)	-0.021 (0.030)	0.31	345	0.149 (0.168)	-0.023 (0.030)	0.49	345	0.127 (0.167)	-0.023 (0.029)	0.30	348	-0.081 (0.201)	0.020 (0.036)	0.32	207
"High" DFs																
DF=6,7	-0.275 (0.313)	0.042 (0.053)	0.41	65	-0.240 (0.387)	0.031 (0.067)	0.33	65	-0.523 (0.359)	0.093^ (0.059)	1.34	67	–	–	–	32
DF=5,6,7	-0.104 (0.228)	0.008 (0.037)	0.61	150	-0.061 (0.230)	0.002 (0.037)	0.45	150	-0.074 (0.280)	0.002 (0.047)	0.51	153	0.128 (0.602)	-0.042 (0.102)	0.66	88
DF=4,5,6,7	0.111 (0.198)	-0.026 (0.032)	0.96	220	0.140 (0.200)	-0.030 (0.033)	0.87	220	0.100 (0.238)	-0.025 (0.040)	0.74	224	0.163 (0.401)	-0.041 (0.067)	0.69	134

Notes: DF denotes dining frequency. Full regression results are available by request from the author. In addition to Male Server and Male Server x Service Quality, each analysis includes the control variables Bill Size, Bill Size Squared, Table Size, Table Size Squared, # Checks, Credit Card, Service Quality, Male Customer, Customer Age, Customer Age Squared, Married Customer, Religious Customer, Rich Customer, Educated Customer, Former Server, Customer $ Tipnorm, as well as restaurant, survey day, and survey year fixed effects, with some exceptions—the Exclude Tipnorm analyses exclude the Customer $ Tipnorm control variable and the 2003 Sample analyses exclude the survey year fixed effect and include the server and customer race and attractiveness controls White Server, White Customer, Attractive Server, and Attractive Customer. The Without Outliers and Whole Sample analyses associated with the DF =1 subsample are identical, since none of the dropped outliers were present in this subsample. Due to small sample size, the DF=7 analyses in columns 7a-7c and the DF=6,7 analysis in column 7d suffered from perfect collinearity, resulting in the control variables R4 and Male Server, respectively, being dropped. The DF=6 and DF=7 analyses in column 7d could not be run due to inadequate sample size. The Joint F-statistic ("Joint F-stat") is used to test the joint significance of the Male Server and Male Server x Service Quality coefficients. White corrected standard errors reported in parentheses. ***, **, *, ^ denote significance at 1%, 5%, 10%, and 15% levels, respectively (two-tailed t-test, unless otherwise specified).

Table 8 Summary of customer and server gender interaction variables (N=495)

Variable	Description	Mean	Standard Deviation
MS_MC	dummy equal to 1 if Male Server=1 and Male Customer=1; 0 otherwise	0.18	0.38
FS_MC	dummy equal to 1 if Male Server=0 and Male Customer=1; 0 otherwise	0.50	0.50
MS_FC	dummy equal to 1 if Male Server=1 and Male Customer=0; 0 otherwise	0.11	0.32
FS_FC	dummy equal to 1 if Male Server=0 and Male Customer=0; 0 otherwise	0.21	0.41

customer and female server (FS_FC) interaction. These variables are summarized in Table 8. The log dollar tip and log percentage tip results are reported for each of the seven individual dining frequency subsamples, respectively, in Table 9 and Appendix D. The MS_MC and MS_MC x Service Quality coefficients (FS_MC suppressed) allow an investigation of male customer-server gender interaction effects and the MS_FC and MS_FC x Service Quality coefficients (FS_FC suppressed) provide information on female customer-server gender interaction effects. The most compelling results appear to be those associated with male customers in the Dining Frequency=1 subsample. The MS_MC and MS_MC x Service Quality coefficients in this subsample achieve individual significance across all of the log dollar tip and log percentage tip specifications and reveal service quality crossover points ranging from 6.6 to 7.3.[8, 9] These findings suggest that our earlier results are being driven by male customers. More specifically, it is male customers who hold female servers to a high service quality standard which, if met, allows them to earn comparable tips to male servers of similar service quality, but if not met, leads to them being treated unfavorably in comparison to male servers who produce the same level of service quality.

Conclusion

This paper tested for the presence of customer gender discrimination in restaurants by comparing the tip earnings of male and female restaurant servers. The data allow for the control of server productivity, as well as a variety of additional server, customer, and dining specific characteristics. Evidence of customer discrimination was found, but only among those customers who frequent the restaurant the least (Dining Frequency=1), revealing that female servers earn comparable tips to male servers when the service quality they produce is about exceptional, but for any lower service quality their tips are smaller, suggesting that female servers are being held to

[8] Computed at the mean level of service quality in the sample (5.76), the Dining Frequency=1 male customer server gender effects in Table 9 and Appendix D reveal, respectively, that male customers tip male servers between 9.3 and 15.8% more than female servers on a dollar tip basis and between 8.5 and 16.0% more than female servers on a percentage tip basis.

[9] Note that the maximum value of service quality is 7.

Table 9 The effect of server gender and the interaction of server gender and service quality on male and female customer dollar tips, by dining frequency

	Dependent Variable = ln($ tip)									
	Without Outliers					Exclude Tipnorm				
	9a					9b				
	FS_MC Suppressed		FS_FC Suppressed			FS_MC Suppressed		FS_FC Suppressed		
	MS_MC	MS_MC x Service Quality	MS_FC	MS_FC x Service Quality	N	MS_MC	MS_MC x Service Quality	MS_FC	MS_FC x Service Quality	N
DF=1	0.617** (0.259)	-0.091*(0.046)	0.323 (0.277)	-0.042 (0.048)	95	0.595** (0.250)	-0.087* (0.044)	0.281 (0.278)	-0.035 (0.049)	95
DF=2	-0.247 (0.266)	0.044 (0.050)	0.183 (0.313)	-0.042 (0.054)	99	-0.301 (0.279)	0.050 (0.052)	0.367 (0.286)	-0.065 (0.050)	99
DF=3	0.831 (0.874)	-0.134 (0.147)	-0.826*** (0.264)	0.121*** (0.045)	81	0.949 (0.847)	-0.154 (0.142)	-0.747*** (0.251)	0.107** (0.044)	81
DF=4	0.900 (0.791)	-0.160 (0.127)	0.588* (0.339)	-0.082 (0.063)	70	1.083 (0.833)	-0.188 (0.135)	0.606* (0.356)	-0.083 (0.067)	70
DF=5	0.007 (0.397)	-0.003 (0.063)	0.632 (1.172)	-0.107 (0.196)	85	0.021 (0.391)	-0.006 (0.061)	0.515 (1.192)	-0.088 (0.198)	85
DF=6	0.143 (0.504)	-0.026 (0.088)	-2.186 (2.431)	0.296 (0.377)	37	0.453 (0.500)	-0.083 (0.083)	-3.622 (2.694)	0.531 (0.409)	37
DF=7	–	–	-1.506^ (0.551)	0.132 (0.067)	28	–	–	1.055 (1.198)	-0.138 (0.220)	28

Table 9 (continued)

	Dependent Variable = ln($ tip)									
	Whole Sample					2003 Sample				
	9c					9d				
	FS_MC Suppressed		FS_FC Suppressed			FS_MC Suppressed		FS_FC Suppressed		
	MS_MC	MS_MC x Service Quality	MS_FC	MS_FC x Service Quality	N	MS_MC	MS_MC x Service Quality	MS_FC	MS_FC x Service Quality	N
DF=1	0.617** (0.259)	-0.091* (0.046)	0.323 (0.277)	-0.042 (0.048)	95	0.832** (0.333)	-0.117** (0.057)	0.594 (0.496)	-0.073 (0.086)	55
DF=2	-0.176 (0.334)	0.027 (0.063)	0.016 (0.290)	-0.007 (0.053)	100	-1.154*** (0.321)	0.223*** (0.057)	0.398 (0.317)	-0.072 (0.055)	58
DF=3	0.910 (0.882)	-0.145 (0.148)	-0.758*** (0.278)	0.113** (0.047)	82	-0.392 (1.047)	0.098 (0.181)	-0.951^ (0.610)	0.189 (0.130)	48
DF=4	1.334 (0.963)	-0.225 (0.154)	0.313 (0.401)	-0.048 (0.068)	71	7.737 (5.265)	-1.364^ (0.873)	-2.745^ (1.642)	0.452* (0.250)	46
DF=5	0.360 (0.507)	-0.083 (0.090)	0.277 (1.191)	-0.044 (0.198)	86	0.310 (0.865)	-0.073 (0.144)	-0.583 (1.754)	0.156 (0.291)	56
DF=6	-0.460 (0.725)	0.072 (0.126)	-4.988* (2.746)	0.709^ (0.446)	38	–	–	–	–	19
DF=7	–	–	-1.477 (1.244)	0.147 (0.141)	29	–	–	–	–	13

Notes: DF denotes dining frequency. MS_MC is a dummy variable equal to one if both the server and the customer are male and equal to zero otherwise. FS_MC is a dummy variable equal to one if the server is female and the customer is male and equal to zero otherwise. MS_FC is a dummy variable equal to one if the server is male and the customer is female and equal to zero otherwise. FS_FC is a dummy variable equal to one if both the server and the customer are female and equal to zero otherwise. Full regression results are available by request from the author. In addition to MS_MC and MS_MC x Service Quality [MS_FC and MS_FC x Service Quality], each analysis includes the control variables Bill Size, Bill Size Squared, Table Size, Table Size Squared, # Checks, Credit Card, Service Quality, MS_FC [MS_MC], FS_FC [FS_MC], Customer Age, Customer Age Squared, Married Customer, Religious Customer, Rich Customer, Educated Customer, Former Server, Customer $ Tipnorm, as well as restaurant, survey day, and survey year fixed effects, with some exceptions—the Exclude Tipnorm analyses exclude the Customer $ Tipnorm control variable and the 2003 Sample analyses exclude the survey year fixed effect and include the server and customer race and attractiveness controls White Server, White Customer, Attractive Server, and Attractive Customer. The Without Outliers and Whole Sample analyses associated with the DF=1 subsample are identical, since none of the dropped outliers were present in this subsample. Due to small sample size, the DF=7 analyses in columns 9a-9c suffered from perfect collinearity, resulting in the control variables MS_MC and R4 being dropped from the MS_MC/MS_MC x Service Quality analyses and the control variable R4 being dropped from the MS_FC/MS_FC x Service Quality analyses. The DF=6 and DF=7 analyses in column 9d could not be run due to inadequate sample size. White corrected standard errors reported in parentheses. ***, **, *, ^ denote significance at 1%, 5%, 10%, and 15% levels, respectively (two-tailed t-test).

a very high standard, and if this standard is not met, they are treated unfavorably in comparison to male servers who produce the same level of service quality. Additional evidence suggests that it is male customers driving these results.

Regarding why evidence of discrimination is found only among customers who frequent the restaurant the least, one possible reason provided earlier is that these customers have less of an incentive to be concerned about future service considerations or their reputation, thus decreasing the cost of engaging in discriminating behavior. Another possibility is that restaurants might differentiate on the characteristics of their servers in order to attract certain groups of clientele and gain market power, similar to the story told in Myers (2008) regarding local television news.[10] Frequent customers likely are aware of the characteristics of the restaurant's servers and choose to return to the restaurant either because they have no taste for discrimination or because they have a taste for the types of servers whom the restaurant hires. Customers who report Dining Frequency=1, on the other hand, are likely not aware of the characteristics of the restaurant's servers, either because they rarely frequent the restaurant or because they are first-time customers. As to our finding that it is male customers who discriminate, this result is somewhat unique. Because of data limitations, very few studies are able to examine, in addition to the characteristics of those being discriminated against, the characteristics of those doing the discriminating.[11]

Finally, it should be noted that similar to any occupation or group specific study, the results of this study are based on a limited amount of data collected from a limited number of restaurants, in a certain geographic region of the United States. To have undertaken a more comprehensive analysis to include a greater number of restaurants, in a greater number of regions of the United States, would have been cost prohibitive. However, it is only through continued research involving a mix of occupations, geographies, and time periods that we will be able to better understand gender differences in earnings.

[10] Evidence that employers try to match employee and customer demographics abounds - see, for instance, Borjas (1982), Neumark (1996), Holzer and Ihlanfeldt (1998), Holzer (1999), and Moss and Tilly (2001). However, in a recent large-scale study using data from more than 800 retail stores, Leonard et al. (2010) find that there is little payoff to this sort of matching (as measured by sales) except when the customers do not speak English.

[11] One such study is Antonovics et al. (2005), which examines discrimination in the game show *The Weakest Link* and finds that in the early rounds of the game women appear to discriminate against men.

Appendix A—The 2002 Survey

THIS SHORT SURVEY IS FOR A Ph.D. DISSERTATION. THE INFORMATION YOU PROVIDE IS ANONYMOUS. THANK YOU FOR BOTH YOUR TIME AND COOPERATION.

1. How many people were at your table?_____

2. How many checks did your table have?_____

3. How many people, **including yourself**, did you pay for?_____

4. What was the total bill for the people, **including yourself**, who you paid for (**NOT INCLUDING TIP**)?_____

   Are any of the people you paid for going to give you money toward this amount *(circle one)*?

   Yes No

5. How much money, **in dollars and cents**, did you tip the server?_____

   Of the people you paid for, did anyone **other than you** leave a tip *(circle one)*?

   Yes No

6. Was the tip automatically added to your bill? *(circle one)*

   Yes No

   If you answered yes, what was the percent tip automatically added?_____

7. How did you pay for your bill? *(circle your response)*

   Cash Credit Card/ATM Card Check Other:_____

8. Did anyone at your table have:

Appetizers? (includes soups, salads) *(circle your response)*	**Yes No**
Entrees? *(circle your response)*	**Yes No**
Desserts? *(circle your response)*	**Yes No**
Alcohol? *(circle your response)*	**Yes No**

9. On a scale from 1 to 7, how would you rate the service you received from your waiter/waitress? *(circle your response)*

Poor						**Excellent**
1	**2**	**3**	**4**	**5**	**6**	**7**

10. What was your server's sex? **Male Female**

TURN OVER!! →

11. On a scale from 1 to 7, how would you rate the frequency with which you dine at this particular restaurant? *(circle your response)*

Least Frequent						**Most Frequent**
1	**2**	**3**	**4**	**5**	**6**	**7**

12. Have you ever been employed as a waiter or waitress? *(circle your response)* **Yes** **No**

13. For tax purposes, are you a dependent of your parents? *(circle your response)* **Yes** **No**

14. What is your sex? *(circle your response)* **Male** **Female**

15. What is your age?_____

16. What is your marital status? *(circle your response)*

Single **Married** **Divorced/Separated** **Widowed**

17. Do you regularly attend religious services? *(circle your response)* **Yes** **No**

18. What was your family's (all of the people in your household) approximate total income last year? *(circle your response)*

Less than $18,000
$18,000 - $33,000
$33,000 - $52,000
$52,000 - $82,000
More than $82,000

19. What is the highest degree you have obtained?_____

How many years of post-secondary (beyond high school) education have you completed?_____

20. What do you think the norm is regarding percent tip in a restaurant?_____

21. If you receive **terrible** service, what percent tip do you normally leave?_____

22. If you receive **outstanding** service, what percent tip do you normally leave?_____

23. If you receive **standard** service, what percent tip do you normally leave?_____

THANK YOU!! PLEASE FOLD AND PLACE IN BOX

Appendix B—The 2003 Survey

THIS SHORT SURVEY IS FOR A Ph.D. DISSERTATION. THE INFORMATION YOU PROVIDE IS ANONYMOUS. THANK YOU FOR BOTH YOUR TIME AND COOPERATION.

1. How many people were at your table?_____

2. How many checks did your table have?_____

3. How many people, **including yourself**, did you pay for?_____

4. What was the total bill for the people, **including yourself**, who you paid for (**NOT INCLUDING TIP**)?_____

   Are any of the people you paid for going to give you money toward this amount *(circle your response)*?

   Yes No

5. How much money, **in dollars and cents**, did you tip the server?_____

   Of the people you paid for, did anyone **other than you** leave a tip *(circle your response)*?

   Yes No

6. Was the tip automatically added to your bill? *(circle your response)*

   Yes No

   If you answered yes, what was the percent tip automatically added?_____

7. How did you pay for your bill? *(circle your response)*

   Cash Credit Card ATM Card Check Other:_____

   If you paid by either credit or ATM card, did you leave your tip on the card? *(circle one)* **Yes No**

8. Did anyone whom you paid for, **including yourself**, have:

Appetizers? (includes soups, salads) *(circle your response)*	**Yes No**
Entrees? *(circle your response)*	**Yes No**
Desserts? *(circle your response)*	**Yes No**
Alcohol? *(circle your response)*	**Yes No**

9. On a scale from 1 to 7, how would you rate the service you received from your waiter/waitress? *(circle your response)*

Poor						Excellent
1	2	3	4	5	6	7

10. What was your server's sex? (*circle your response)* **Male Female**

    To the best of your knowledge, your server was: *(circle your response)* **White Black Other**

11. On a scale from 1 to 5, how would you rate your server's attractiveness? *(circle your response)*

Homely	Below Average	Average	Above Average	Strikingly Handsome/Beautiful
1	2	3	4	5

TURN OVER→ TURN OVER→

12. On a scale from 1 to 5, how would you rate your server's weight? *(circle your response)*

Severely Underweight	Underweight	Average	Overweight	Severely Overweight
1	2	3	4	5

13. On a scale from 1 to 7, how would you rate the frequency with which you dine at this particular restaurant? *(circle your response)*

Least Frequent						Most Frequent
1	2	3	4	5	6	7

14. Have you ever been employed as a waiter or waitress? *(circle your response)* **Yes** **No**

Have any of your close friends or family ever been employed as a waiter or waitress? *(circle your response)*

Yes **No**

15. For tax purposes, are you a dependent of your parents? *(circle your response)* **Yes** **No**

16. What is your sex? *(circle your response)* **Male** **Female**

17. Which of the following categories best describes you? *(check appropriate box)*

☐**Black/African-American** ☐**White/Caucasian** ☐**Asian-American/Oriental** ☐**Middle Eastern**

☐**Hispanic-Black/Spanish-Speaking Black** ☐**Hispanic-White/Spanish-Speaking White**

☐**Native American/American Indian** ☐**Other (Please Specify):_____**

18. What is your age?_____

19. What is your marital status? *(circle your response)*

Single **Married** **Divorced/Separated** **Widowed**

20. Do you regularly attend religious services? *(circle your response)* **Yes** **No**

21. What was your family's (all of the people in your household) approximate total income last year? *(circle your response)*

Less Than $18,000 **$18,000 - $33,000** **$33,000 - $52,000** **$52,000 - $82,000**
More Than $82,000

22. What is the highest level of education that you have completed? *(circle your response)*

Some High School **Completed High School** **Some College** **Bachelor's Degree**

Graduate/Professional Degree **Other (Please Specify):_____**

23. On a scale from 1 to 5, how would you rate your attractiveness? *(circle your response)*

Homely	Below Average	Average	Above Average	Strikingly Handsome/Beautiful
1	2	3	4	5

24. What do you think the norm is regarding percent tip in a restaurant? *(do not give a range)*_____

THANK YOU!! PLEASE FOLD AND PLACE IN BOX

Appendix C

The effect of server gender and the interaction of server gender and service quality on percent tips, by dining frequency

	Dependent Variable = ln(% tip)															
	Without Outliers				Exclude Tipnorm				Whole Sample				2003 Sample			
	C1				C2				C3				C4			
	Male Server	Male Server x Service Quality	Joint F-stat	N	Male Server	Male Server x Service Quality	Joint F-stat	N	Male Server	Male Server x Service Quality	Joint F-stat	N	Male Server	Male Server x Service Quality	Joint F-stat	N
Individual DFs																
DF=1	0.571** (0.230)	-0.086** (0.040)	4.12**	95	0.536** (0.217)	-0.080** (0.038)	3.94**	95	0.571** (0.230)	-0.086** (0.040)	4.12**	95	0.862** (0.338)	-0.123* (0.060)	4.31**	55
DF=2	0.079 (0.268)	-0.021 (0.048)	0.23	99	0.159 (0.267)	-0.034 (0.048)	0.29	99	-0.149 (0.292)	0.019 (0.057)	0.34	100	-0.447 (0.378)	0.089 (0.070)	0.82	58
DF=3	-0.461* (0.234)	0.073* (0.041)	1.95	81	-0.394* (0.228)	0.061^ (0.038)	1.49	81	-0.247 (0.350)	0.051 (0.053)	0.59	82	-0.232 (1.010)	0.099 (0.171)	1.07	48
DF=4	0.985*** (0.344)	-0.165** (0.063)	4.60**	70	1.003*** (0.334)	-0.167*** (0.062)	5.46***	70	0.790* (0.422)	-0.128* (0.070)	1.75	71	0.441 (2.456)	-0.060 (0.387)	0.04	46
DF=5	0.009 (0.390)	-0.012 (0.062)	0.48	85	0.004 (0.380)	-0.011 (0.060)	0.49	85	0.366 (0.522)	-0.088 (0.092)	1.22	86	-0.464 (0.772)	0.053 (0.127)	0.62	56
DF=6	0.010 (0.352)	-0.013 (0.059)	0.63	37	0.044 (0.419)	-0.017 (0.075)	0.36	37	-0.927 (0.802)	0.131 (0.128)	1.03	38	–	–	–	19
DF=7	0.918 (2.231)	-0.107 (0.273)	0.08	28	1.415 (0.910)	-0.159 (0.158)	1.70	28	2.076 (2.056)	-0.185 (0.260)	1.23	29	–	–	–	13
“Low” DFs																
DF=1,2	0.399** (0.188)	-0.062* (0.032)	2.43*	194	0.405** (0.191)	-0.063* (0.033)	2.47*	194	0.239 (0.214)	-0.039 (0.037)	0.63	195	-0.051 (0.358)	0.023 (0.064)	0.54	113
DF=1,2,3	0.245 (0.175)	-0.037 (0.030)	1.32	275	0.260^ (0.174)	-0.039 (0.030)	1.49	275	0.139 (0.185)	-0.017 (0.032)	0.50	277	-0.119 (0.266)	0.036 (0.046)	0.91	161
DF=1,2,3,4	0.280* (0.155)	-0.044^ (0.027)	1.95^	345	0.287* (0.153)	-0.045* (0.027)	2.17^	345	0.264^ (0.166)	-0.042 (0.029)	1.31	348	0.083 (0.223)	-0.005 (0.040)	0.31	207

"High" DFs															
DF=6,7	0.011 (0.247)	-0.010 (0.045)	0.18	65	-0.122 (0.317)	0.011 (0.057)	0.25	65	-0.541 (0.473)	0.107 (0.082)	0.96	67	–	–	–	32
DF=5,6,7	-0.026 (0.221)	-0.010 (0.036)	1.23	150	-0.029 (0.215)	-0.008 (0.035)	1.05	150	-0.118 (0.318)	0.009 (0.056)	0.55	153	-0.147 (0.668)	-0.008 (0.113)	1.25	88
DF=4,5,6,7	0.194 (0.187)	-0.041 (0.031)	1.74	220	0.217 (0.189)	-0.043 (0.031)	1.50	220	0.079 (0.271)	-0.022 (0.048)	0.41	224	0.153 (0.494)	-0.048 (0.083)	1.07	134

Notes: DF denotes dining frequency. Full regression results are available by request from the author. In addition to Male Server and Male Server x Service Quality, each analysis includes the control variables Bill Size, Bill Size Squared, Table Size, Table Size Squared, # Checks, Credit Card, Service Quality, Male Customer, Customer Age, Customer Age Squared, Married Customer, Religious Customer, Rich Customer, Educated Customer, Former Server, Customer % Tipnorm, as well as restaurant, survey day, and survey year fixed effects, with some exceptions—the Exclude Tipnorm analyses exclude the Customer % Tipnorm control variable and the 2003 Sample analyses exclude the survey year fixed effect and include the server and customer race and attractiveness controls White Server, White Customer, Attractive Server, and Attractive Customer. The Without Outliers and Whole Sample analyses associated with the DF=1 subsample are identical, since none of the dropped outliers were present in this subsample. Due to small sample size, the DF=7 analyses in columns C1-C3 and the DF=6,7 analysis in column C4 suffered from perfect collinearity, resulting in the control variables R4 and Male Server, respectively, being dropped. The DF=6 and DF=7 analyses in column C4 could not be run due to inadequate sample size. The Joint F-statistic ("Joint F-stat") is used to test the joint significance of the Male Server and Male Server x Service Quality coefficients. White corrected standard errors reported in parentheses. ***, **, *, ^ denote significance at 1%, 5%, 10%, and 15% levels, respectively (two-tailed t-test, unless otherwise specified).

Appendix D

The effect of server gender and the interaction of server gender and service quality on male and female customer percent tips, by dining frequency

	Dependent Variable = ln(% tip)									
	Without Outliers					Exclude Tipnorm				
	D1					D2				
	FS_MC Suppressed		FS_FC Suppressed			FS_MC Suppressed		FS_FC Suppressed		
	MS_MC	MS_MC x Service Quality	MS_FC	MS_FC x Service Quality	N	MS_MC	MS_MC x Service Quality	MS_FC	MS_FC x Service Quality	N
DF=1	0.710** (0.310)	-0.108* (0.055)	0.268 (0.280)	-0.035 (0.048)	95	0.696** (0.300)	-0.106** (0.053)	0.242 (0.275)	-0.031 (0.048)	95
DF=2	-0.291 (0.257)	0.047 (0.048)	0.270 (0.322)	-0.056 (0.052)	99	-0.313 (0.270)	0.050 (0.050)	0.386 (0.282)	-0.070 (0.049)	99
DF=3	0.156 (0.705)	-0.018 (0.118)	-0.521** (0.215)	0.065* (0.035)	81	0.187 (0.704)	-0.024 (0.117)	-0.485** (0.207)	0.056* (0.033)	81
DF=4	1.321^ (0.803)	-0.224* (0.130)	0.801** (0.338)	-0.116* (0.063)	70	1.354^ (0.831)	-0.229* (0.134)	0.814** (0.328)	-0.117* (0.063)	70
DF=5	0.014 (0.388)	-0.015 (0.062)	-0.104 (1.035)	0.013 (0.174)	85	-0.008 (0.372)	-0.011 (0.059)	0.007 (1.042)	-0.006 (0.174)	85
DF=6	0.119 (0.354)	-0.031 (0.060)	-1.565 (2.100)	0.229 (0.317)	37	0.227 (0.370)	-0.051 (0.063)	-2.411 (2.343)	0.373 (0.355)	37
DF=7	–	–	0.833 (3.035)	-0.102 (0.351)	28	–	–	1.415 (1.041)	-0.158 (0.185)	28

	Dependent Variable = ln(% tip)									
	Whole Sample					2003 Sample				
	D3					D4				
	FS_MC Suppressed		FS_FC Suppressed			FS_MC Suppressed		FS_FC Suppressed		
	MS_MC	MS_MC x Service Quality	MS_FC	MS_FC x Service Quality	N	MS_MC	MS_MC x Service Quality	MS_FC	MS_FC x Service Quality	N
DF=1	0.710** (0.310)	-0.108*(0.055)	0.268 (0.280)	-0.035 (0.048)	95	0.759** (0.353)	-0.104* (0.057)	0.470 (0.546)	-0.049 (0.095)	55
DF=2	-0.140 (0.426)	0.011 (0.082)	-0.056 (0.323)	0.013 (0.060)	100	-1.358*** (0.415)	0.259*** (0.074)	0.112 (0.353)	-0.022 (0.059)	58
DF=3	0.359 (0.844)	-0.040 (0.138)	-0.335 (0.337)	0.049 (0.051)	82	1.122 (1.783)	-0.138 (0.300)	-0.431 (0.862)	0.192 (0.136)	48
DF=4	2.295^ (1.417)	-0.369^ (0.226)	0.418 (0.519)	-0.065 (0.085)	71	12.265^ (7.339)	-2.109^ (1.230)	-2.701 (2.497)	0.455 (0.384)	46
DF=5	0.432 (0.521)	-0.108 (0.095)	-0.717 (1.074)	0.119 (0.181)	86	0.184 (0.867)	-0.070 (0.151)	-2.274 (1.802)	0.425 (0.303)	56
DF=6	-0.738 (0.781)	0.110 (0.128)	-4.575 (4.007)	0.645 (0.639)	38	–	–	–	–	19
DF=7	–	–	1.504 (2.750)	-0.147 (0.314)	29	–	–	–	–	13

Notes: DF denotes dining frequency. MS_MC is a dummy variable equal to one if both the server and the customer are male and equal to zero otherwise. FS_MC is a dummy variable equal to one if the server is female and the customer is male and equal to zero otherwise. MS_FC is a dummy variable equal to one if the server is male and the customer is female and equal to zero otherwise. FS_FC is a dummy variable equal to one if both the server and the customer are female and equal to zero otherwise. Full regression results are available by request from the author. In addition to MS_MC and MS_MC x Service Quality [MS_FC and MS_FC x Service Quality], each analysis includes the control variables Bill Size, Bill Size Squared, Table Size, Table Size Squared, # Checks, Credit Card, Service Quality, MS_FC [MS_MC], FS_FC [FS_MC], Customer Age, Customer Age Squared, Married Customer, Religious Customer, Rich Customer, Educated Customer, Former Server, Customer % Tipnorm, as well as restaurant, survey day, and survey year fixed effects, with some exceptions - the Exclude Tipnorm analyses exclude the Customer % Tipnorm control variable and the 2003 Sample analyses exclude the survey year fixed effect and include the server and customer race and attractiveness controls White Server, White Customer, Attractive Server, and Attractive Customer. The Without Outliers and Whole Sample analyses associated with the DF=1 subsample are identical, since none of the dropped outliers were present in this subsample. Due to small sample size, the DF=7 analyses in columns D1-D3 suffered from perfect collinearity, resulting in the control variables MS_MC and R4 being dropped from the MS_MC/MS_MC x Service Quality analyses and the control variable R4 being dropped from the MS_FC/MS_FC x Service Quality analyses. The DF=6 and DF=7 analyses in column D4 could not be run due to inadequate sample size. White corrected standard errors reported in parentheses. ***, **, *, ^ denote significance at 1%, 5%, 10%, and 15% levels, respectively (two-tailed t-test).

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