

Why Are We More Likely to Tip Some Service Occupations than Others?

Theory, Evidence, and Implications

Michael Lynn<sup>a</sup>

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<sup>a</sup> Address correspondence regarding this paper to: Mike Lynn, 552 Statler Hall, School of Hotel Administration, Cornell University, Ithaca, NY 1483-6902, U.S.A., (607) 255-8271, WML3@cornell.edu.

### Abstract

Ideas about why consumers tip some service occupations more often than others are tested using occupation scores derived from online ratings of 122 service occupations. Results indicate that U.S. consumers are more likely to tip occupations for which (i) workers' performances can be more easily evaluated by consumers than by managers, (ii) workers provide customized service, (iii) workers' income, skill and needed judgment are low, and (iv) workers are less happy than customers during the service encounter. Occupations with greater frequency of customer patronage and/or greater likelihood of encountering the same service provider on multiple service occasions are not more likely than other occupations to be tipped. These findings support some and disconfirm other expectations derived from a theory that occupational differences in tipping are attributable to occupation characteristics that more strongly/consistently evoke motives for tipping. They also identify types of services for which counter-normative tipping policies are more or less likely to be successful and suggest sources of resistance that must be overcome if those policies are to succeed.

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## Why Are We More Likely to Tip Some Service Occupations than Others?

### Theory, Evidence, and Implications

#### **1. Introduction**

Service workers around the world often receive voluntary gifts of money (called “tips”) from their customers. Individually, these payments vary in size from small change to fifty percent of the bill or more (see Lynn et. al., 2012; Lynn and Thomas-Haysbert, 2003). Collectively, they amount to a substantial sum, with tips to restaurant servers in the United States alone estimated to be nearly \$47 billion a year (Azar, 2011). However, not all service occupations are equally likely to be given tips. For example, U.S. consumers rarely if ever tip car mechanics or lawyers, only sometimes tip masseuses and hotel maids, often tip bartenders and taxicab drivers, and almost always tip pizza delivery drivers and restaurant waiters (Azar, 2005a; Lynn, 2004, 2015b). What differentiates these services? Why are some service occupations more frequently tipped than others? This paper elaborates upon and empirically tests a recent theoretical answer to these questions.

#### **2. Literature Review**

Recently, Lynn (2015a) has theorized that tipping is more common and normative for some service occupations than others because the characteristics of some services more strongly and consistently evoke the motives that underlie tipping. Existing research suggests that tipping is motivated by desires to buy future service, help servers, reward service, and gain or keep social esteem and that it is constrained by a dislike of the power and status inequalities it fosters (Lynn, 2006, 2015a, 2015b). Thus, if Lynn’s theory is correct, tipping should be more common for service occupations whose characteristics

promote one or more of these pro-tipping motives and should be less common for service occupations whose characteristics promote egalitarian motives. These ideas are elaborated upon and used to develop specific hypotheses below.

### *2.1. Future Service Motives*

Scholars have identified two strategies by which tippers may attempt to improve future service – (i) tip contingent on service quality so familiar servers have an incentive to deliver good service (Azar and Tobol, 2008; Ben-Zion and Karni, 1977; Lynn and Grassman, 1990), or (ii) tip generously regardless of service quality so familiar servers feel an obligation to reciprocate with good service (Bodvarsson and Gibson, 1994; Frank, 1987; Sisk and Gallick, 1985). In order to differentiate between the future service motives underlying these two different strategies, they will be referred to as “efficient incentive” and “bribery” motives respectively. Both strategies for improving future service require that the customer has repeated interactions with the service provider and that the service provider remembers their customers’ past tipping behavior (Lynn, 2015b; Saunders and Lynn, 2010). These requirements suggest that both types of future service motives for tipping should be stronger the more frequently the customer uses a particular service and the more likely he/she is to encounter the same service worker on different service occasions. Thus, applying Lynn’s (2015a) explanation for occupational differences in receipt of tips to future service motives for tipping leads to the following hypotheses –

H1: The likelihood of an occupation being tipped will be greater the more frequently customers use the services provided by that occupation.

H2: The likelihood of an occupation being tipped will be greater the more frequently the occupation's regular customers encounter the same service worker on repeated service occasions.

The strategy of improving future service by tipping contingent on service quality assumes that customers can evaluate and reward service more efficiently than can managerial supervisors, otherwise consumers would leave the task of monitoring and rewarding server performance to firms as they do in most other retail settings (Azar, 2004, 2005a; Jacob and Page, 1980; Conlin, Lynn and O'Donoghue, 2003). Arguably customers have a greater advantage over managers in evaluating services that are more customized, more personal/social and less professional/technical (Azar, 2005a; Jacob and Page, 1980; Kwornik, Lynn and Ross, 2009), so consumers should be particularly motivated to provide incentives by monitoring and rewarding server performance for these types of services. Thus, applying Lynn's explanation for occupational differences in receipt of tips to the efficient incentive motive for tipping leads to the following hypotheses –

H3: The likelihood of an occupation being tipped will increase with the extent to which its customers can evaluate service worker performance more easily than can its managerial supervisors,

H4: The likelihood of an occupation being tipped will be indirectly increased (through customer advantage in evaluating the service) by the extent to which its services are customized,

H5: The likelihood of an occupation being tipped will be indirectly increased (through customer advantage in evaluating the service) by the typical amount of social interaction (i.e., more face-to-face contact time) between the occupation's customers and service workers, and

H6: The likelihood of an occupation being tipped will be indirectly decreased (through customer advantage in evaluating the service) by the level of professional/technical skill and judgment exercised by the occupation's service workers.

## *2.2. Altruistic Motives*

Research across many disciplines has found that empathy and altruism are greater the greater the recipients' attractiveness, familiarity, closeness and need (Berkowitz 1972; Branas-Garza, 2006; Branas-Garza et. al., 2010; Cialdini et. al., 1997; Engel, 2011; Pettigrew et. al., 2011; Preston and deWaal, 2002). Attractiveness and familiarity increase with frequency of contact/interaction (Moreland and Zajonc, 1982), perceived closeness increases with touch (Argyle, 1988; Suvilehto, Glerean, Dunbar, Hari, and Nummenma, 2015), and perceived need decreases with income and status (Taormina and Messick, 1983). This suggests that altruistic motives for tipping will be stronger for occupations involving more frequent, prolonged, and intimate server-customer interactions, more server touching of their customers, and lower server incomes and status relative to those of the customer. Thus, applying Lynn's explanation for occupational differences in receipt of tips to altruistic motives for tipping reinforces Hypotheses 1, and 2 above and leads to the following new hypotheses –

H7: The likelihood of an occupation being tipped will increase with the typical amount of social interaction (i.e., more face-to-face contact time) between the occupation's customers and service workers,

H8: The likelihood of an occupation being tipped will increase with the extent to which its service workers touch their customers,

H9: The likelihood of an occupation being tipped will decrease as the income of its workers increases relative to that of their customers.

### *2.3. Reward Motives*

Rewarding better service with larger tips is seen by traditional economists as a strategic way of improving future service for repeat customers as discussed in Section 2.1. However, psychologists and behavioral economists see it as a goal or motive in its own right -- in other words, people are seen as deriving utility from reciprocating and maintaining equitable relationships with others (Lynn, 2015b; Lynn and Grassman, 1990). People desire equity in all their relationships, but they do not directly reward all the people who serve them because that function is often assumed by the firms from which they purchase services. When supervisors can readily monitor and reward server performance, service workers are presumably adequately compensated for their efforts and no additional rewards are needed to maintain equity. However, supervisors cannot easily monitor and reward the quality of servers' social interactions with customers or servers' efforts to meet the idiosyncratic needs of different customers. Thus, reward motivations for tipping are very similar to the incentive motivation for tipping discussed previously and applying Lynn's explanation for occupational differences in receipt of tips

to the former motives reinforces Hypotheses 3 thru 6. However, reward motives differ from incentive motives in that the former do not imply Hypotheses 1 and 2.

#### *2.4. Esteem Motives*

Lynn (2015a) conceptualized esteem motives very broadly to include desires for approval, liking and status as well as desires to avoid disapproval, dislike and envy. All these desires should increase with the strength (attractiveness, power, and/or status) and immediacy (physical closeness, familiarity, and/or similarity) of the people whose esteem is being sought (Latane, 1980; Pettigrew et. al., 2011). In addition, desires to avoid negative social outcomes should increase with the likelihood of those outcomes in the absence of avoidance behavior. Since service workers' opinions of, and attitudes toward, their customers are likely to be affected by those customers' tipping, the above considerations suggest that esteem motives for tipping should be stronger the more familiar and likeable the service worker is to the customer, the higher the service worker's own social status, and/or the more likely the service worker is to envy his/her customers. The latter condition is a function of the disparity in hedonic experience of servers and their customers (Foster, 1972). Thus, applying Lynn's explanation for occupational differences in receipt of tips to esteem motives for tipping reinforces Hypotheses 1, 2, and 7 and leads to the following new hypotheses –

H10: The likelihood of an occupation being tipped will increase with the extent to which its service workers are less happy than their customers during the service encounter, and

H11: The likelihood of an occupation being tipped will increase with the occupation's status (worker income, skill and judgment).



Service workers are not the only people whose opinions of customers may be affected by tipping. In many but not all cases, tipping takes place in public and is visible to others who may form impressions of service patrons based in part on their observations of the patron's tipping. This suggests that esteem motives for tipping will be stronger the greater the visibility of the server-customer interaction to others. Thus, applying Lynn's explanation for occupational differences in receipt of tips to esteem motives for tipping also leads to the following hypothesis –

H12: The likelihood of an occupation being tipped will increase with the visibility to others of the typical interaction between that occupation's service workers and their customers.

### *2.5. Egalitarian Motives*

Writers in and out of academia have argued that tipping demeans tip recipients by giving consumers undo power over servers and/or communicating distrust of servers' work ethic and some have theorized that a dislike of these power and status implications may constrain tipping (Hemenway, 1980; Lynn, 2015a; Lynn et. al., 1993; Seagrave, 1998; Scott, 1916; Shamir, 1984). Such egalitarian motives for not tipping may result in personal policies to never tip, but more likely merely sensitize people to service workers' potential offense at being offered tips. Tips represent income to service workers and more income is generally preferred to less income, so most service workers should be happy to receive tips. However, service workers in occupations requiring greater skill and judgment on the part of workers and paying larger salaries or wages have more status to lose and less to gain by accepting tips than do workers in lower status service occupations, so the former service workers may not welcome tips. This reasoning

suggests that egalitarian motives for not tipping may be stronger the higher the occupational status of the service worker. Thus, applying Lynn's explanation for occupational differences in receipt of tips to egalitarian motives for not tipping reinforces Hypothesis 9.

### *2.7. Existing Research*

Very little research has examined occupational differences in the receipt of tips. However, one published article (Azar, 2005a) and one unpublished dissertation (Starbuck, 2009) have tested relationships very close to those described in Hypotheses 3, 5 and 9. Specifically, Azar found that occupational likelihood of receiving tips decreased with worker income (consistent with H9) and increased with customers' feelings of closeness to the worker (somewhat consistent with H7), but were unrelated to customers' ability to evaluate service quality (contrary to H3) and to customers' incomes. Starbuck found that occupational likelihood of receiving tips decreased with occupational status (consistent with H9) and increased with the amount of face-to-face contact between server and customer (consistent with H7). However these studies involved small numbers of occupations ( $n's < 38$ ), occupational characteristics used as predictors ( $n's < 5$ ), and judges' ratings of those predictors ( $n's < 7$ ), so their findings may suffer from poor generalizability, lack of power, measurement unreliability, and/or omitted variable bias. More research is needed to replicate these findings using larger samples of occupations, judges, and predictors as well as to test the other untested hypotheses.

### **3. Method**

#### *3.1. Overview*

A large, heterogeneous sample of U.S. adults rated a sample of 122 different service occupations on thirteen variables - including the likelihood of tipping service providers in those occupations. The mean ratings of each variable by occupation were calculated and either used as occupational scores on those variables or averaged with one another to form occupational scores on broader indices. The resulting occupational scores were then analyzed to identify the characteristics of service occupations that predict the likelihood that a service occupation receives tips.

#### *3.2. Sample of Raters*

One-thousand, one-hundred, eighty-three Amazon Mechanical Turk (MTurk) workers residing in the United States were each paid less than a dollar to rate 122 different service occupations on a single variable. MTurk is a marketplace for online labor run by AMAZON. People with tasks they need performed describe those tasks along with a promised payment for completion of the task on MTurk and people looking for online work complete the task in exchange for the promised payment. This marketplace has become a popular place for academicians to find people to complete online studies in exchange for relatively small amounts of money. Although not representative of their respective national populations, MTurk workers are more demographically diverse than typical convenience samples (Berinsky et. al., 2012) and are more attentive and responsive to instructions than are traditional college student samples (Hauser and Schwarz, 2015). They have been used to successfully replicate

numerous research findings from more traditional samples and are generally regarded as a good source of high quality data (Paolacci and Chandler, 2014).

### *3.2. Sample of Service Occupations*

A sample of 122 commonly encountered service occupations was constructed to reflect the diversity of the population of such occupations. Consumer service occupations with widely varying likelihoods of being tipped were identified from academic studies of tipping (e.g., Azar, 2005a; Starbuck, 2009), popular books on tipping (e.g., Star, 1988; Schein, Jablonski and Wolfhart, 1984), a compensation consulting company's list of consumer service occupations (Payscale, 2009), and brainstorming. An attempt was made to insure that the list of service occupations contained reasonably common service occupations familiar to most consumers, named those occupations in natural language terms, and avoided duplicate listings of essentially the same occupations.<sup>1</sup> The resulting list of service occupations is not a random sample of the population of such occupations – such a random sample is not possible because there is no comprehensive and clearly defined frame of the population from which to draw a random sample. However, the sample was large and diverse enough to cover nearly the full range of occupation scores examined in this study (see Table 2). Certainly, the sample of service occupations in this

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<sup>1</sup> The occupation of busboy was inadvertently listed twice (as “busboy/girl” and “restaurant busboy”), so subjects made 123 evaluations. This repeated rating of busboys allowed an assessment of evaluation reliability. Reliability at the level of individual judges was only moderate – correlations between the repeated ratings of busboys ranged from .474 to .801 across the 13 variables being rated with a mean of .651 and a standard deviation of .086. However, when the repeated ratings on each variable were averaged across judges and those averages compared with one another, they were very consistent. The absolute differences between the averages of the repeated ratings ranged from .000 to .117 across the 13 variables being rated with a mean of .060 and a standard deviation of .036. None of the differences between the averages of the repeated ratings were statistically significant at the .05 level. Rather than include two observations for the occupation busboy, and rather than choosing one set of ratings for this occupation over another (thereby throwing away data and opening up concerns about cherry-picking data), the averages of the repeat ratings of this occupation were themselves averaged to get a single rating on each variable for the occupation of “busboy” and those ratings were used in subsequent analyses.

study is diverse enough to test the hypotheses derived from Lynn's (2015a) theory about why some service occupations are more likely to be tipped than others.

### 3.3. Variables, Rating Scales, and Occupation Scores

The service occupations rated in this study were randomly ordered for each respondent, who was randomly assigned to rate the occupations on one of thirteen different variables. All the rating scales had a "don't know" option that was coded as a missing value. The variables and the scales used to rate them were as follows:

- Tipping Likelihood – “How likely would you be to tip the following people assuming they did a good job in serving you?” with response options of (1) very unlikely, (2) unlikely, (3) neither likely or unlikely, (4) likely, and (5) very likely,<sup>2</sup>
- Frequency of Use – “How often do the customers of each of the following service providers typically use those services?” with response options of (1) yearly, (2) monthly, (3) weekly, and (4) daily,
- Same Server – “How likely is a customer of each of the following service providers to be served by the same individual when using that service multiple times?” with response options of (1) very unlikely, (2) unlikely, (3) neither likely or unlikely, (4) likely, and (5) very likely,
- Customer Difficulty – “How difficult/easy is it for customers of each of the following service providers to tell how good a job the service provider did?” with

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<sup>2</sup> Evidence for the validity and generalizability of the occupational likelihood of tipping scores derived from MTurk workers' ratings in this study is provided by their high correlation with similar occupational tipping scores obtained by Starbuck (2009) from an international sample of 1,270 adults from 30 nations ( $r = .89$ ,  $n = 27$ ,  $p < .001$ ) and by Azar (2005a) based on tipping guidebooks ( $r = .88$ ,  $n = 33$ ,  $p < .001$ ).

- response options of (1) very easy, (2) easy, (3) neither difficult or easy, (4) difficult, and (4) very difficult,
- Supervisor Difficulty – “How difficult/easy is it for the supervisor or manager of each of the following service providers to tell how good a job the service provider did for the customer?” with response options of (1) very easy, (2) easy, (3) neither difficult or easy, (4) difficult, and (4) very difficult,
  - Service Customization – “How customized or personalized is the service typically provided by each of the following service providers?” with response options of (1) not customized, (2) somewhat customized, (3) moderately customized, and (4) very customized,
  - Contact Time – “For approximately how many minutes do each of the following service providers have face-to-face contact with their customers in a typical service encounter?” with response options of (1) less than 15 minutes, (2) 15 to 30 minutes, (3) 31 to 60 minutes, (4) 61 to 120 minutes, and (5), more than 120 minutes (>2 hours),
  - Income Disparity – “Typically, how does the customer’s income compare to that of each of the following service providers he/she gets service from?” with response options of (1) customer earns much less than service provider, (2) customer earns less, (3) customer and service provider have similar incomes, (4) customer earns more, and (5) customer earns much more than service provider,
  - Worker Skill – “How much skill is required to be a successful member of each of the following service professions?” with response options of (1) little to no skill

- required, (2) some skill required, (3) moderate skill required, and (4) much skill required,
- Worker Judgment – “How much judgment does each of the following service providers exercise in doing his/her job?” with response options of (1) little to no judgment, (2) some judgment, (3) moderate judgment, and (4) much judgment,
  - Touch Likelihood – “How likely are each of the following service providers to physically touch their customers?” with response options of (1) very unlikely, (2) unlikely, (3) neither likely or unlikely, (4) likely, and (5) very likely,
  - Customer Happier – “How does the customers’ happiness compare to the happiness of each of the following service providers DURING a typical service encounter?” with response options of (1) customer is much less happy than the service provider, (2) customer is less happy, (3) customer and service provider are equally happy, (4) customer is more happy, and (5) customer is much more happy than service provider, and
  - Public Visibility – “How visible to others are the server-customer interactions of each of the following service providers during a typical service encounter?” with response options of (1) not visible, (2) somewhat visible, (3) moderately visible, and (4) and very visible.

The ratings were averaged and used to obtain a score for each occupation on each variable and these scores were used in the analyses below with occupation as the unit of analysis. The list of service occupations rated and the mean ratings each received (hereafter called “occupation scores”) are presented in Appendix A.<sup>3</sup> Since the

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<sup>3</sup> Several months after completion of this survey, I conducted another survey asking MTurk workers to rate the same set of service occupations on two new rating scales not included in this paper. As in the earlier

respondents were randomly assigned to rate all the service occupations on only one variable and they were given a “don’t know” option that was coded as a missing value, the sample size for each occupation score varied across occupations and variables. However, only one of the 1,599 occupation scores was based on the judgments of fewer than 50 people. The sample sizes for those occupation scores ranged from 37 to 113 with a mean of 85.90 and a standard deviation of 12.24.

Customer difficulty was subtracted from supervisor difficulty to obtain a measure of “Customer Advantage” in evaluating server performance and this measure was used rather than its components in the regression analyses. In addition, preliminary analyses of the data indicated that there was a problem of multicollinearity. Three of the variables – worker skill, worker judgment, and income disparity -- were particularly highly correlated ( $|r's| > .87$ ,  $n = 123$ ,  $p's < .001$ ), so the standardized scores on these three variables were averaged (after reverse coding income disparity) to form an index of “Occupational Status” (with coefficient alpha of .96) and this index was used in tests of the hypotheses involving its components in the analyses reported below. A summary description of all the occupation-level variables used in in the tests of hypotheses appears in Table 1.

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survey, respondents were randomly assigned to rate all the occupations on one of the two new scales. One scale asked respondents to rate how likely U.S. consumers are to give each service provider a tip if they were satisfied with the service provided. Occupational scores based on this rating were very highly correlated the current study’s tipping likelihood score, which asked about respondents’ personal likelihood of tipping ( $r = .973$ ,  $n = 122$ ,  $p < .001$ ). This supports the reliability of the original measure as well as its robustness across different question wordings. The second scale asked respondents to rate how likely members of each occupation would be to feel insulted or offended if offered a tip. After collecting this measure, I realized that respondents were likely to have based their judgments in large part on how frequently those occupations are offered tips, so it is not included in the current study’s predictive models in order to avoid an endogeneity problem.



Insert table 1 about here

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#### 4. Results and Discussion

Descriptive statistics for, and zero-order correlations among, the occupation-level variables in this study are presented in Table 2. Coefficients and robust standard errors from the primary regression analyses used to test hypotheses are presented in Table 3.<sup>4</sup> Coefficients and bootstrap standard errors from supplemental simultaneous quantile regression analyses are presented in Table 4.<sup>5</sup> The findings from all these analyses are described below.

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Insert tables 2 thru 4 about here

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##### 4.1. *Expected Findings*

Consistent with expectations, both bivariate and multivariate analyses found that U.S. consumers were more likely to tip occupations for which (i) workers' performance can be evaluated more easily by customers than by managerial supervisors (H3), (ii) workers' income, skill and judgment (i.e., occupational status) were low (H9), and (iii) customers are much happier than workers during the typical service encounter (H10). These occupational characteristics should enhance consumers' reward, altruistic, and

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<sup>4</sup> OLS regression with robust standard errors was used to predict tip likelihood and customer advantage from all the predictor variables with coefficients in Models 1 and 2 of Table 3. STATA commands for model 1 - regress TIP FU SS CA SC CT OS TL CH PV, vce(robust). STATA commands for model 2 - regress CA FU SS SC CT OS TL CH PV, vce(robust).

<sup>5</sup> Simultaneous quantile regression, with 1000 bootstrap samples to estimate the standard errors, was used to predict the 50<sup>th</sup>, 70<sup>th</sup> and 90<sup>th</sup> quantiles of tip likelihood from all the predictor variables in Table 3. STATA commands - sqreg TIP FU SS CA SC CT OS TL CH PV, quantiles(50 70 90) reps(1000).

envy-reduction motives for tipping respectively (see Azar, 2004, 2005a; Jacob and Page, 1980; Berkowitz, 1972; Branas-Garza, 2006; Foster, 1972). Occupational status should also enhance the likelihood of worker offense at being offered a tip and, thus, egalitarian motives for not tipping. Thus, these findings provide support for Lynn's proposal that tipping is more common and normative for some occupations than others because the characteristics of some occupations more strongly and consistently evoke the motives that underlie tipping. They also support the importance of reward, altruistic, and envy-reduction motives as drivers of tipping as well as the importance of egalitarian motives as a constraint on tipping.

The finding that consumers are more likely to tip occupations for which they have an advantage over managerial supervisors in evaluating worker performance stands in contrast to Azar's (2005a) finding that occupational likelihood of receiving tips was unrelated to consumers' ability to monitor (or evaluate) worker performance. The current study's measure of customer advantage in evaluating server performance correlated only modestly with Azar's measure of consumer monitoring ability ( $r = .370$ ,  $n = 33$ ,  $p < .04$ ), so differences between these two measures may explain the different findings.<sup>6</sup> In that context, it is important to note that the current measure of customer advantage in evaluating worker performance was greater for more customized services, for services

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<sup>6</sup> The current study's use of a relative (or difference) measure of customer monitoring ability does not appear to be critical because a regression analysis replacing customer advantage in Model 1 of Table 3 with both of its component measures of customer and supervisor difficulty in evaluating worker performance produced a reliable negative effect of customer difficulty ( $B = -.965$ ,  $t(111) = -3.87$ ,  $p < .001$ ) and a reliable positive effect of supervisor difficulty ( $B = .536$ ,  $t(111) = 2.21$ ,  $p < .03$ ). Instead, it is differences between the current study's ratings of customer difficulty and Azar's ratings of customer ability that appear to matter. These ratings were only modestly correlated with one another ( $r = -.443$ ,  $n = 33$ ,  $p < .01$ ) and the former was more strongly related than the latter to both Azar's ( $r = -.575$ ,  $n = 33$ ,  $p < .001$  vs  $r = .305$ ,  $n = 37$ ,  $p < .07$ ) and the current study's ( $r = -.684$ ,  $n = 122$ ,  $p < .001$  vs  $r = .290$ ,  $n = 33$ ,  $p < .11$ ) measure of tipping likelihood.

involving more face-to-face contact time, and for services involving less skill and judgment from workers as expected (see Model 2, Table 3). In fact, customer advantage mediated the effects of these variables on tipping likelihood as hypothesized, with the indirect effects (thru customer advantage) on tipping likelihood of greater service customization (H4: indirect  $B = .178$ , bootstrap  $SE = .083$ ,  $CI_{95\%} = .052$  to  $.396$ ), greater server-customer contact time (H5: indirect  $B = .102$ , bootstrap  $SE = .042$ ,  $CI_{95\%} = .038$  to  $.216$ ), and lower occupational status (H6: indirect  $B = -.172$ , bootstrap  $SE = .069$ ,  $CI_{95\%} = -.328$  to  $-.060$ ) all being statistically reliable.<sup>7</sup> These findings provide evidence both for the validity of the customer advantage measure and for Azar's (2005a) assumptions that services with more personal and less professional components would be easier for customers to evaluate. They also highlight the need to control for this mediator when testing hypothesized direct effects of various occupational characteristics on the likelihood of receiving tips.

#### *4.2. Unsupported Expectations*

Contrary to expectations, multivariate analysis of the data failed to find that U.S. consumers were more likely to tip occupations that involve (i) more frequent patronage by customers (H1), (ii) a greater likelihood of getting the same server on repeat service occasions (H2), (iii) more face-to-face contact time between the server and customer (H7), (iv) a greater likelihood of the server touching his or her customers (H8), or (v) more publically visible server-customer interactions (H12). These failures to support theoretically derived hypotheses are explored further below.

##### *4.2.1. Interpersonal contact effects*

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<sup>7</sup> These hypothesized indirect effects were tested using Hayes (2012) PROCESS macro for SPSS, which uses bootstrapping to calculate the standard errors of indirect effects.

The fact that people were not more likely to tip occupations involving more frequent, prolonged and intimate contact between the server and his or her customers is puzzling. Previous research has shown that interpersonal contact increases empathy and liking (Berkowitz 1972; Pettigrew, et. al. 2011), which underlie altruism and esteem motives, and that altruistic and esteem motives drive tipping (Lynn 1997 2015a 2015b). Furthermore, frequency of patronage, duration of service encounter, and touching have all been shown to increase restaurant tipping at the service-encounter level of analysis (Lynn and Grassman, 1990; Lynn et. al., 2012; Lynn et.al., 1998) and personal connection and contact time have been shown to increase tip likelihood at the occupational level of analysis (Azar, 2005a; Starbuck, 2009).

The failure to find positive interpersonal-contact effects in this study cannot be attributed to poor measurement of tipping likelihood because the current study's measure correlated with a comparable measures reported by Azar (2005a) and Starbuck (2009) as reported in Footnote 2. Furthermore, an analysis predicting the current study's measure of tipping likelihood from Azar's predictors produced results very similar to those originally reported by Azar including a significant positive effect of personal closeness ( $B = .258$ ,  $t(28) = 2.387$ ,  $p < .03$ ).<sup>8</sup>

Nor can this study's failure to find positive interpersonal-contact effects be attributed to poor measurement of closeness-inducing interpersonal-contact because three of the four measures correlated positively with Azar's (2005a) measure of subjective personal closeness as expected -- people feel closer to workers in occupations with a high

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<sup>8</sup> Like Azar's (2005a) original analysis, this analysis also produced a significant negative effect of worker income ( $B = -.433$ ,  $t(28) = -4.603$ ,  $p < .001$ ) and non-significant effects for customer income ( $B = .083$ ,  $t(28) = .981$ , n.s.) and customer monitoring ability ( $B = -.115$ ,  $t(28) = -.556$ , n.s.).

likelihood of getting the same server on repeat service occasions ( $r = .593$ ,  $n = 33$ ,  $p < .001$ ), more face-to-face server-customer contact ( $r = .815$ ,  $n = 33$ ,  $p < .001$ ), and a higher likelihood of the server touching the customer ( $r = .586$ ,  $n = 33$ ,  $p < .001$ ).<sup>9</sup>

Furthermore, our measure of face-to-face contact time is very similar to the one Starbucks (2009) found to be positively related to tipping.

It is tempting to attribute the current failure to find positive interpersonal-contact effects to the simultaneous use of three different measures of closeness-inducing interpersonal-contact in the regression model, which might have partialled-out too much of the variance in the underlying “closeness” construct to find a significant effect.

However, the three closeness-inducing interpersonal-contact variables had tolerances exceeding .30 and their relationships with the likelihood of an occupation being tipped were similar across bivariate and multivariate analyses (see Tables 2 and 3).

Furthermore, standardizing and averaging these three measures into an index of interpersonal closeness (with an alpha coefficient of .746) and replacing the separate measures with this index in the regression predicting tipping likelihood (Model 1, Table 3) produced a negative effect ( $B = -.276$ ,  $SE = .114$ ,  $t(114) = -2.42$ ,  $p < .02$ ) rather than the expected positive one.

Finally, the significant negative effect of the closeness index (as well as the negative effects of same server and contact time) suggests that the failure to support hypotheses and to replicate previous related findings reflects more than a simple lack of statistical power. For now these failures remain a mystery that we can only hope will be

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<sup>9</sup> The one exception was customer usage frequency, which was negatively, rather than positively, correlated with personal closeness ( $r = -.494$ ,  $n = 33$ ,  $p < .005$ ) -- perhaps because customers have less face-to-face contact time per service occasion with servers in more frequently used occupations ( $r = -.338$ ,  $n = 122$ ,  $p < .001$ ).

solved as future researchers continue to explore and learn about occupational differences in tipping.

#### *4.2.2. Future encounter effects*

It is difficult to question the idea that future-service motives for tipping depend on the prospect of future service-encounters, so the fact that neither customer usage frequency nor likelihood of the customer getting the same server on repeat service occasions predicted the likelihood of an occupations receiving tips suggests that future-service motives are not strong drivers of occupational differences in tipping. This is not to say that desires for better future service never motivate tipping or that such motivation never varies across occupations. In fact, Lynn (2015b) found that future-service motives increased the likelihood that individuals would tip bartenders but not the likelihood that they would tip taxi-drivers, parking-valets, hotel bellmen and others. However, Lynn's findings indicate that future-service motives rarely drive tipping at the individual level of analysis and the current findings suggest that these motives also account for little of the variation across occupations in the receipt of tips.

#### *4.2.3. Public visibility effects*

It is also difficult to doubt that people are more concerned about impression management when their behavior is visible than when it is not. Thus, the fact that occupational differences in the public visibility of service encounters did not predict occupational differences in the likelihood of receiving tips suggests that tipping is not strongly driven by the tippers' concerns about the reactions of other customers or onlookers. However, people's concern about the public's response to their tipping may be greater the stronger the social norms for tipping. This possibility suggests that concern

with others reactions to, and therefore the effects of public visibility on, the likelihood of tipping an occupation may be stronger the more common it is to tip that occupation. This possibility was tested in a simultaneous quantile regression analysis using quantiles of .50, .70, and .90, which corresponded to likelihood of tipping scores of 2.4, 3.0, and 3.6 in the sample as a whole. This analysis produced a positive effect of public visibility, but only on the 90<sup>th</sup> quantile (see Table 3).<sup>10</sup> Public visibility increases the likelihood of an occupation being tipped if that occupation is already likely to be tipped for other reasons. Thus, Hypothesis 12 is supported, but with unforeseen qualifications.

#### *4.3. Unexpected Findings*

In addition to confirming or failing to confirm the hypotheses, the analyses revealed four unexpected relationships. As already mentioned, two measures of interpersonal-contact -- the likelihood of getting the same server on repeat service occasions and the amount of server-customer contact time -- had negative rather than the expected positive effects on the likelihood of an occupation being tipped. These reverse effects, which were observed in both the bivariate and multivariate analyses, suggest that people are less, not more, likely to tip workers in occupations involving more closeness-inducing interpersonal-contact between the server and customer. Such a conclusion is consistent with Foa and Foa's (1974, 2012) resource exchange theory, which posits that money is a less acceptable medium of payment for more particularized (or personal) resources. It could also be seen as consistent with Starbuck's (2009) finding that tipping is less prevalent in countries with higher levels of interpersonal trust. However, it is inconsistent with a lot of other theory and research as described previously. These

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<sup>10</sup> Unfortunately, the q90 regression coefficient for public visibility was not reliably larger than the q50 or q70 regression coefficients for that variable ( $F$ 's (1, 112) = 2.36 and 2.55,  $p$ 's = .128 and .113 respectively).

surprising and conflicting findings represent an important area of inquiry for future research on occupational differences in tipping.

The third unexpected finding was that service customization had a positive effect on the likelihood of an occupation being tipped after controlling for customer advantage in evaluating server performance. An indirect, positive effect of service customization through customer advantage in evaluating server performance was expected and found, but the direct effect was not predicted and proved to be even larger than the expected indirect effect ( $B = .966$  vs  $.178$ ). Perhaps providing customized service increases servers' social rapport with customers and this increases the likelihood of receiving tips by enhancing customers' desires to help the servers and/or to avoid losing the servers' esteem. Alternatively, consumers may feel that more customized or personalized services deserve a personalized reward even if managerial supervisors could monitor and reward server performance. Testing these possibilities is another area of inquiry left to future research.

Finally, the simultaneous quantile regression analysis unexpectedly indicated that customer advantage in evaluating server performance was a stronger predictor of tipping likelihood among rarely tipped than among often tipped occupations.<sup>11</sup> In fact, customer advantage did not increase the likelihood of getting tipped for occupations that were most frequently tipped (see Table 3). This finding suggests that reward motivations for tipping decline as tipping becomes more common and may reflect a tendency for those motives to be crowded out by other motives for tipping. Such an effect would be consistent with

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<sup>11</sup> The 50<sup>th</sup> quantile regression coefficient for customer advantage was marginally significantly larger than the 70<sup>th</sup> quantile regression coefficient and significantly larger than the 90<sup>th</sup> quantile regression coefficient ( $B = .898$  vs  $.506$ ,  $F(1, 112) = 2.75$ ,  $p < .110$  and  $B = .898$  vs  $-.215$ ,  $F(1, 112) = 5.80$ ,  $p < .018$ ).



the claims of social commentators who argue that social pressures have made tipping so obligatory that it has lost its function as a reward (May,1980).

## **5. General Discussion and Conclusions**

The results of this study indicate that U.S. consumers are more likely to tip occupations for which (i) workers' performances can be more easily evaluated by consumers than by managers, (ii) workers provide customized service, (iii) workers' income, skill and needed judgment are low, and (iv) workers are less happy than customers during the service encounter. Occupations with greater frequency of customer patronage and/or greater likelihood of encountering the same service provider on multiple service occasions are not more likely than other occupations to be tipped. The theoretical and practical implications of these findings are discussed below along with directions for future research.

### *5.1. Theoretical Implications*

The results of this study support some and disconfirm other expectations derived from Lynn's (2015a) theory that tipping is more common and normative for some occupations than others because the characteristics of some occupations more strongly and consistently evoke the motives that underlie tipping. This mixed support suggests that the basic idea underlying the theory has validity, but that its application to some specific motives is not as straightforward as originally thought. In particular, only some of the occupational characteristics assumed to affect altruistic and esteem motives for tipping predicted occupational likelihood of being tipped, so those motives do not operate precisely as originally thought. In addition, none of the occupational characteristics that impact future encounters with the service provider predicted occupational differences in

tipping likelihood, so future service motives appear to have no effects on occupational differences in tipping.

The supportive findings were only correlational and do not permit strong causal inferences, but it is unlikely that tipping affects perceptions of the occupational characteristics examined in this study, so reverse causality is not a strong concern. Furthermore, the simultaneous analysis of multiple occupational characteristics' relationships with tipping likelihood rules out a number of obvious potential confounds that could be responsible for those variables' bivariate relationships with tipping likelihood. These considerations combine with the clear, compelling, and a-priori arguments in Section 2 of this paper (and in Lynn, 2015a) that the tested occupational characteristics *should* causally affect the likelihood of tipping an occupation to suggest that the observed relationships probably (though not definitively) reflect the theorized causal processes. Certainly, confidence in the theorized causal processes is stronger given the observed multivariate relationships than it would be in their absence.

The non-supportive findings (tests of H1 and H2) that suggest future service motives are unimportant determinants of occupational differences in the likelihood of receiving tips also have implications for other theories involving that motive. In particular, they challenge traditional economic explanations of tipping centering around its use by rational consumers to ensure better service on future service encounters (Ben-Zion and Karni, 1977; Schotter, 1979). Thus, they highlight the need for economists to broaden their conceptions of consumers' utility functions to include non-economic benefits such as others' welfare, equitable relationships, social approval, and social equality.

Although they challenge the role of future service in motivating tipping, the current findings do support the often repeated idea that tipping represents a normative solution to market inefficiencies (Bodvarsson and Gibson, 1997; Conlin et.al., 2003; Jacob and Page, 1980; Kwortnik et.al., 2009). Specifically, the finding that consumers are more likely to tip an occupation the greater is their advantage over managerial supervisors in ease of evaluating server performance is consistent with its serving as a type of efficiency enhancing buyer monitoring (Jacob and Page, 1980). This evidence is particularly important because an earlier, smaller-scale study failed to find a similar relationship and concluded that: “The results refute a common belief that tipping exists to improve economic efficiency by lowering monitoring costs.” (Azar, 2005a, pg. 1871). The current findings suggest that conclusion was premature.

### *5.2. Practical Implications*

The results of this study, together with the theory they support, also have practical implications regarding firms’ tipping policies. From a business perspective, tipping has both advantages and disadvantages (Lynn and Withiam, 2008). Its advantages include attracting and retaining better service workers (Lynn et.al., 2011), motivating those workers to provide more personalized service (Kwortnik et. al., 2009), reducing perceived expensiveness to consumers (Lynn and Wang, 2013), and reducing commissions paid to distributors (Lynn and Withiam, 2008). Its disadvantages include increasing employees’ role conflict (Eddleston et.al., 2002), encouraging employees to give customers goods and services without charging for them (Brady et.al., 2012), motivating employees to discriminate in service delivery against customers perceived to be poor tippers (Barkan and Israeli, 2004; Brewster, 2015), and exposing firms to tax

penalties from employees' under-reporting of income (Anderson and Bodvasson, 2005). This mix of advantages and disadvantages means that the optimal tipping policy will vary with firms' circumstances. Thus, some service firms and their managers may want to encourage tipping in situations where it is rare and others may want to discourage tipping in situations where it is common. In fact, such managerial efforts to promote counter-normative tipping can be seen in a proliferation of tip jars at service counters (Conley, 2003), in the cruise industry's replacement of voluntary tipping at the end of the cruise with daily service charges (Engle, 2002), and in the increasing number of restaurants in the United States that have replaced tipping with automatic service charges or service-inclusive menu prices (Wells, 2014). Other recent examples of corporate efforts to shape tipping include Marriott Hotels campaign to encourage tipping of its maids (Harpaz, 2014) and Uber's discouragement of tipping of its drivers (see Furman, 2015).

Taken as a whole, the theory and findings in this paper suggest that occupational tipping norms are not arbitrary, but reflect the interplay between occupational characteristics and consumer motivations for tipping. Thus, counter-normative tipping policies are likely to meet with resistance and should be carefully considered and thought-out before being adopted. The specific hypotheses and findings in this paper can inform such efforts by identifying the types of services for which counter-normative tipping policies are more or less likely to be successful and by identifying the sources of resistance that must be overcome if those policies are to succeed.

The theory and findings in this paper suggest that it will be easier for managers to encourage tipping of service workers the greater the customer advantage over supervisors in evaluating server performance, the higher the levels of service customization those

servers provide, the lower the servers' occupational status (worker income, skill and judgment), and the greater the hedonic advantage of customers over those servers. Thus, managers should attend to the number and strength of these occupational characteristics when assessing the likelihood of success in encouraging tipping of some new or existing non-tipped occupation and deciding whether or not to proceed with such efforts. For example, restaurant managers contemplating pro-tipping policies for their employees handling "takeout" or "to-go" orders should note that those workers, though not highly paid and arguably less happy than their customers, work in a pleasant environment performing a simple and standardized service that can be easily monitored by managers. These occupational characteristics suggest that consumer motivation to tip these workers will be modest at best, so managers should anticipate only moderate success in encouraging tipping of their workers at takeout counters. Indeed, anecdotal evidence suggests that only about twenty percent of takeout customers tip (Mayyasi, 2015) and the current analyses suggest that figure is unlikely to rise substantially.

Of course, the implications described above apply in reverse to managers seeking to discourage tipping of service workers. Such efforts will be more difficult the greater the customer advantage over supervisors in evaluating server performance, the higher the levels of service customization those servers provide, the lower the servers' occupational status (worker income, skill and judgment), and the greater the hedonic advantage of customers over those servers. Again, managers should attend to the number and strength of these occupational characteristics when assessing the likelihood of success in discouraging tipping of some new or existing tipped occupation and deciding whether or not to begin and/or continue such efforts. For example, Uber, which does not allow

charge tipping and actively discourages cash tipping of its drivers (see Furman, 2015), might want to reconsider this policy because its drivers have many of the characteristics associated with frequently tipped occupations – their work is more easily observed and evaluated by customers than by managers, they have ample opportunities for service customization in terms of routes taken, music and temperature choices, and social interaction during the ride, they perform a relatively low status job, and they often face hours of work while many of their passengers are headed to positive places/events. These occupational characteristics suggest that consumers will be highly motivated to tip Uber drivers and will be unhappy with the company’s failure to facilitate their doing so. In fact, 13,000 people in Washington D.C. have recently signed a petition asking Uber to add a tipping feature to their app (Furman, 2015).

In addition to informing decisions about whether or not to adopt counter-normative tipping policies, the theory and findings reported here suggest ways that firms can reduce resistance to such policies when they are adopted. The occupational characteristics discussed above are theorized to increase the likelihood of being tipped by supporting reward, altruism and envy-reduction motives for tipping respectively. This suggests that managers seeking to encourage tipping of a rarely tipped occupation with one or more of those characteristics should try to strengthen these motives by reminding consumers how difficult/effortful servers jobs are, how motivating servers find tips, how appreciative servers are to receive tips, and/or how individual and human their servers are. Marriott illustrated one way to do this when they begin placing envelopes signed by the maid and encouraging tipping in rooms as a way to individuate the maid in consumers’ minds and to remind them of the maid’s service and appreciation of a tip

(Harpaz, 2014). Conversely, managers seeking to discourage tipping of occupations with one or more of those characteristics should dampen the relevant motives for tipping by telling customers that their employees are happy, professional, and well compensated. Uber has illustrated one way of doing this with a publically released report that its “driver-partners” are highly satisfied, independent businessmen who make \$6 an hour more than taxi drivers (Benson Strategy Group, 2014).

### *5.3. Future Research*

In addition to enhancing our understanding of why we are more likely to tip some service occupations than others, this study raises several issues for future research. Two of those issues have already been discussed in Sections 4.2.1 and 5.1. A third issue in need of future research is raised by the limited predictive power of the model tested in this study. Together, the predictors in Model 1 accounted for only fifty-eight percent of the variance in occupational likelihood of receiving tips, raising questions about what explains the remaining variance. This paper has focused on occupational characteristics likely to evoke different tipping motivations in consumers and it is possible that there are additional occupational characteristics fitting this description to be discovered and tested. However, it is also possible that the unknown drivers of occupational differences in the likelihood of receiving tips will be found elsewhere – e.g., in factors that affect servers’ receptivity to tips and/or firms’ willingness to permit tipping of their employees. Thus, more theory and research is needed to further our understanding of why some occupations are more likely than others to be tipped. The related question of how occupational differences in tipping practices have evolved, and continue to evolve, over time also deserves more research attention.

Taking an even broader view, occupational differences in tipping and their implications for tipping policies represent just one of many tipping related topics of relevance to economists. Also relevant to economists are the effects on tipping of variables such as consumer personality and/or motivation (Lynn, 2015b), new technologies and/or payment methods (Haggag and Paci, 2014), and national identity, culture and/or values (Lynn and Starbuck, 2015) as well as tipping's effects on consumers, employees, sales, and/or profits as a form of buyer monitoring (Jacob and Page, 1980), conspicuous consumption (Lynn, 1997), voluntary pricing (Natter and Kaufmann, 2015), price partitioning (Lynn and Wang, 2013), price discrimination (Schwartz, 1997), service-guarantee/risk-reducer (Holland, 2009), employee incentive/reward (Azar, 2004), and feedback about consumer satisfaction (Voss et.al., 2004) as well as its effects on economic-efficiency (Conlin et.al., 2002) and social-welfare (Azar, 2005b). Some research investigating these aspects of tipping has been conducted (see cited papers above), but much more is needed. Tipping is a highly complex and widespread form of economic behavior that has received far less attention than it deserves (Azar, 2003). Hopefully, this paper will encourage more economists to think of tipping not only as something they do as consumers, but also as a topic they can and should investigate as theorists and researchers.



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Table 1. Summary of occupation-level variables in the analyses.

Variable Label	Source of Values	Question Wording	Response Scale
Tipping Likelihood (TIP)	Means of subjects' ratings	How likely would you be to tip the following people assuming they did a good job in serving you?	1 = very unlikely to 5 = very likely
Frequency of Use (FU)	Means of subjects' ratings	How often do the customers of each of the following service providers typically use those services?	1 = yearly 2 = monthly 3 = weekly 4 = daily
Same Server (SS)	Means of subjects' ratings	How likely is a customer of each of the following service providers to be served by the same individual when using that service multiple times?	1 = very unlikely to 5 = very likely
Customer Advantage (CA)	Index subtracting customer difficulty from supervisor difficulty		
• Customer Difficulty	Means of subjects' ratings	How difficult/easy is it for customers of each of the following service providers to tell how good a job the service provider did?	1 = very easy to 4 = very difficult
• Supervisor Difficulty	Means of subjects' ratings	How difficult/easy is it for the supervisor or manager of each of the following service providers to tell how good a job the service provider did for the customer?	1 = very easy to 4 = very difficult
Service Customization (SC)	Means of subjects' ratings	How customized or personalized is the service typically provided by each of the following service providers?	1 = not customized to 4 = very customized
Contact Time (CT)	Means of subjects' ratings	For approximately how many minutes do each of the following service providers have face-to-face contact with their customers in a typical service encounter?	1 = less than 15 minutes to 5 = more than 120 minutes (>2 hours)

Occupational Status (OS)	Index averaging standardized values of worker skill, worker judgement, and income disparity (reverse coded) (Coefficient alpha = .96)		
• Worker Skill	Means of subjects' ratings	How much skill is required to be a successful member of each of the following service professions?	1 = little to no skill required to 4 = much skill required
• Worker Judgement	Means of subjects' ratings	How much judgement does each of the following service providers exercise in doing his/her job?	1 = little to no judgement to 4 = much judgement
• Income Disparity	Means of subjects' ratings	Typically, how does the customer's income compare to that of each of the following service providers he/she gets service from?	1 = customer earns much less than service provider to 5 = customer earns much more than service provider
Touch Likelihood (TL)	Means of subjects' ratings	How likely are each of the following service providers to physically touch their customers?	1 = very unlikely to 5 = very likely
Customer Happier (CH)	Means of subjects' ratings	How does the customers' happiness compare to the happiness of each of the following service providers DURING a typical service encounter?	1 = customer is much less happy than service provider to 5 = customer is much more happy than service provider
Public Visibility (PV)	Means of subjects' ratings	How visible to others are the server-customer interactions of each of the following service providers during a typical service encounter?	1 = not visible to 4 = very visible

Table 2. Descriptive statistics of, and correlations among, the occupation-level variables in this study (N = 122 occupations).

	Mean	S.D.	Minimum	Maximum	FU	SS	CA	SC	CT	OS	TL	CH	PV
Tipping Likelihood	2.57	.77	1.56	4.83	.26**	-.34**	.55**	-.14	-.23*	-.54**	-.02	.56**	.19*
Frequency of Use (FU)	2.22	.62	1.11	3.71		-.06	.20*	-.31**	-.34**	-.43**	-.03	.45**	.24**
Same Server (SS)	3.28	.64	2.02	4.65			-.28**	.75**	.52**	.70**	.48**	-.52**	.05
Customer Advantage (CA)	.05	.31	-.84	.85				-.07	.11	-.40**	.01	.41**	.41**
Service Customization (SC)	2.41	.57	1.39	3.73					.74**	.77**	.57**	-.52**	.17
Contact Time (CT)	2.27	.88	1.12	4.10						.65**	.48**	-.44**	.33**
Occupational Status (OS)	.00	.97	-1.49	2.38							.39**	-.79**	-.00
Touch Likelihood (TL)	2.55	1.00	1.40	4.82								-.25**	.39**
Customer Happier (CH)	3.57	.43	2.05	4.29									.05
Public Visibility (PV)	2.94	.45	1.54	3.75									

\* p &lt; .05, \*\* p &lt; .01

Table 3. Coefficients and robust standard errors from regression models predicting the likelihood of an occupation being tipped and customer advantage in evaluating server performance (N = 122).

	Model 1: Tipping Likelihood	Model 2: Customer Advantage
Constant	.133 (.819)	-1.06** (.383)
Frequency of Use	-.008 (.080)	.033 (.051)
Same Server	-.261 <sup>†</sup> (.133)	-.113 <sup>†</sup> (.058)
Customer Advantage	.722*** (.213)	
Service Customization	.965***** (.178)	.246*** (.079)
Contact Time	-.285*** (.089)	.141*** (.041)
Occupational Status	-.377***** (.105)	-.239***** (.051)
Touch Likelihood	.041 (.052)	-.041 (.029)
Customer Happier	.358* (.161)	.023 (.105)
Public Visibility	.071 (.150)	.173*** (.058)
R <sup>2</sup>	.579	.50

<sup>†</sup> p < .06, \* p < .05, \*\* p < .01, \*\*\* p < .005, \*\*\*\*\* p < .001

Table 4. Coefficients and bootstrap (1000) standard errors from quantile regression models predicting the likelihood of an occupation being tipped (N = 122).

	Model 1: 50 <sup>th</sup> Quantile	Model 2: 70 <sup>th</sup> Quantile	Model 3: 90 <sup>th</sup> Quantile
Constant	.739 (.998)	.006 (1.059)	-1.412 (1.449)
Frequency of Use	-.071 (.118)	.069 (.135)	.305 (.210)
Same Server	-.102 (.209)	-.295 (.195)	-.473* (.214)
Customer Advantage	.898*** (.271)	.506 <sup>†</sup> (.259)	-.215 (.436)
Service Customization	.809*** (.233)	1.013**** (.243)	.987*** (.306)
Contact Time	-.403*** (.125)	-.353** (.122)	-.374* (.147)
Occupational Status	-.448** (.163)	-.469*** (.147)	-.373 <sup>†</sup> (.210)
Touch Likelihood	.087 (.084)	.083 (.075)	.104 (.103)
Customer Happier	.160 (.241)	.325 (.213)	.523 (.296)
Public Visibility	.158 (.239)	.199 (.219)	.631* (.280)
Pseudo R <sup>2</sup>	.418	.458	.476

<sup>†</sup> p < .06, \* p < .05, \*\* p < .01, \*\*\* p < .005, \*\*\*\* p < .001

## Appendix A. List of occupations and means of variables by occupation.

<b>Occupation</b>	<b>TIP</b>	<b>FU</b>	<b>SS</b>	<b>CD</b>	<b>SD</b>	<b>SC</b>	<b>CT</b>	<b>ID</b>	<b>WS</b>	<b>WJ</b>	<b>TL</b>	<b>CH</b>	<b>PV</b>	<b>OS</b>	<b>CA</b>
Car Detailer	2.67	1.80	2.90	2.23	2.17	2.53	1.90	3.96	2.28	2.51	1.64	3.74	2.33	.28	-.06
Car Windshield Installer/Repairer	2.00	1.45	2.94	2.43	2.07	1.84	1.83	3.82	2.51	2.56	1.50	3.41	2.46	.42	-.36
Hotel Porter or Bellhop	3.78	2.21	2.81	2.08	2.41	1.91	1.42	4.32	1.46	1.92	2.32	3.79	2.92	-.31	.33
Insurance Agent	1.59	1.58	4.06	3.04	2.96	2.78	2.43	2.85	2.69	3.13	2.20	2.81	2.72	.99	-.08
Hairstylist/Barber	4.09	2.36	4.53	1.93	2.10	3.49	2.71	3.60	2.85	3.08	4.67	3.56	3.52	.78	.17
Parcel Delivery Person (like UPS)	1.84	2.66	3.37	2.54	2.50	1.80	1.21	3.43	2.04	2.27	1.98	3.91	2.81	.29	-.04
Barista	3.53	3.31	3.25	1.96	2.12	2.61	1.50	4.10	2.11	2.17	2.26	3.57	3.34	.06	.16
Bartender	4.24	3.04	3.56	1.98	2.36	2.92	2.36	3.54	2.52	2.86	2.73	3.73	3.75	.61	.38
Hotel Bell Captain	2.82	2.03	2.98	2.60	2.37	2.02	1.38	3.87	1.83	2.24	1.86	3.77	2.81	.07	-.23
Bicycle Mechanic	2.12	1.51	3.48	2.48	2.06	2.20	1.73	3.94	2.57	2.66	1.66	3.40	2.39	.43	-.42
Building Superintendent	1.82	2.12	4.13	3.14	2.75	2.32	1.85	3.03	2.67	3.12	1.77	3.27	2.32	.92	-.39
Bus Driver (Interstate Scheduled Bus)	1.80	2.88	3.00	2.46	2.66	1.65	2.92	3.49	2.29	2.84	1.70	3.71	3.18	.55	.20
Busboy/girl <sup>a</sup>	3.10	2.98	2.49	2.30	1.97	1.60	1.31	4.46	1.30	1.78	1.67	4.03	2.81	-.46	-.33
Restaurant Busboy <sup>a</sup>	3.11	2.90	2.46	2.24	1.97	1.51	1.23	4.48	1.29	1.66	1.70	4.12	2.71	-.51	-.27
Office Building Doorman	2.93	3.46	3.79	2.09	2.18	1.90	1.30	4.28	1.38	2.16	2.15	3.79	3.17	-.25	.09
Lifeguard	1.74	2.29	3.07	2.54	2.38	2.13	1.68	3.97	2.59	3.36	3.94	3.34	3.37	.66	-.16

Limousine Rental Chauffeur	3.49	1.66	2.62	2.19	2.51	2.51	2.52	3.96	2.04	2.51	2.33	3.97	2.74	.20	.32
Motorbus Coach Operator	2.06	2.03	2.65	2.37	2.68	1.88	2.79	3.66	2.35	2.78	1.85	3.66	3.09	.49	.31
Exotic Dancer	3.89	2.27	2.99	2.13	2.77	2.68	2.44	2.88	2.16	2.05	4.03	4.29	3.61	.44	.64
Party Clown	2.93	1.36	2.59	2.19	2.76	2.83	3.32	4.38	1.87	2.32	3.02	3.84	3.56	-.06	.57
Theatre/Concert Usher	1.88	2.07	2.25	2.20	2.43	1.63	1.32	4.22	1.32	1.88	2.33	3.86	2.93	-.34	.23
Concierge	3.30	2.40	3.35	2.29	2.35	2.81	1.59	3.89	2.13	2.73	2.27	3.83	3.14	.32	.06
Cosmetologist	2.84	2.22	3.88	2.03	2.18	3.23	2.97	3.56	2.81	3.01	4.64	3.60	3.29	.75	.15
Clothing Store Salesperson	1.76	2.36	2.76	2.20	2.22	2.33	1.53	4.03	1.73	2.22	3.20	3.84	3.35	-.03	.02
Cafeteria Server	2.20	3.35	3.08	2.15	2.10	1.83	1.31	4.30	1.33	1.71	2.00	3.97	3.23	-.42	-.05
Disc Jockey	2.15	2.25	3.37	2.36	2.53	2.61	1.99	3.33	2.43	2.59	1.61	3.24	2.32	.56	.17
Dishwasher	2.05	3.27	2.33	2.22	1.94	1.39	1.20	4.51	1.30	1.48	1.49	4.19	1.54	-.58	-.28
Dog Groomer	3.12	2.09	4.00	2.07	2.12	2.92	1.80	3.90	2.32	2.52	3.11	3.58	2.68	.31	.05
Hotel Doorman	3.41	2.65	3.07	2.00	2.18	1.89	1.27	4.21	1.29	2.07	2.27	3.85	3.31	-.28	.18
Ski Instructor	2.35	1.46	3.49	2.52	2.78	3.04	3.54	3.48	2.92	2.99	4.01	3.36	3.49	.81	.26
Hospital Nurse's Aide	1.74	2.28	2.98	2.99	2.60	2.62	2.71	3.40	2.88	3.16	4.51	3.36	2.97	.88	-.39
Fast Food Worker	2.05	3.19	2.25	2.19	2.07	1.74	1.36	4.46	1.46	1.69	1.95	4.21	3.23	-.44	-.12
Hospital Nurse	1.73	2.10	3.18	2.93	2.72	2.98	2.75	2.63	3.59	3.65	4.65	3.28	3.26	1.54	-.21
Museum Tour Guide	2.07	1.75	2.97	2.23	2.48	2.33	3.45	3.79	2.29	2.64	1.79	3.49	3.56	.38	.25



Casino Chips Cashier	2.31	2.21	2.49	2.20	2.16	1.54	1.57	3.95	1.86	2.20	2.38	3.62	2.95	.04	-.04
Casino Dealer	2.92	2.28	2.66	2.55	2.55	1.91	2.91	3.55	2.44	2.77	2.10	3.33	3.51	.55	.00
Gas Station Attendant	2.30	3.08	2.88	2.18	2.29	1.67	1.21	4.36	1.33	1.84	1.76	3.88	3.06	-.40	.11
Golf Caddie	3.42	2.39	3.29	2.13	2.37	2.60	3.73	4.28	1.65	2.25	2.87	3.71	3.17	-.13	.24
Garbage Collector	2.05	2.97	3.59	2.38	2.50	1.45	1.14	3.81	1.54	1.86	1.40	4.14	2.38	-.14	.12
Restaurant Pick-up/Takeout	2.59	2.88	2.91	2.11	2.24	1.86	1.25	4.38	1.40	1.88	2.11	4.00	2.76	-.37	.13
Restaurant Chef/Cook	2.26	2.88	3.43	2.33	2.07	2.60	1.29	3.35	3.02	3.03	1.52	3.75	1.98	.90	-.26
Message Courier	2.98	2.63	2.74	2.33	2.55	1.99	1.41	4.12	1.57	1.97	2.29	3.76	2.64	-.19	.22
Cruise Ship Deck Steward	2.78	1.68	2.88	2.43	2.37	2.27	2.00	3.87	2.17	2.34	2.20	3.71	2.80	.21	-.06
Hotel Maid/Housekeeper	3.69	2.59	2.71	2.18	2.08	1.90	1.66	4.40	1.54	2.23	1.83	4.28	2.36	-.21	-.10
Hotel Room-Service Waiter	3.88	2.09	2.49	2.13	2.28	2.11	1.37	4.16	1.52	2.08	2.11	4.06	2.73	-.19	.15
Personal Housekeeper/Maid	3.65	2.97	4.23	1.99	2.25	2.83	2.46	4.43	1.78	2.43	2.29	4.26	2.54	-.07	.26
Ship's Room Steward or Cabin Boy	3.30	2.02	2.85	2.49	2.40	2.16	1.72	4.24	1.69	2.00	1.90	3.82	2.23	-.18	-.09
Locksmith	2.09	1.54	3.38	2.26	2.57	2.37	1.82	3.40	2.84	2.95	1.66	3.09	2.73	.80	.31
Washroom Attendant	3.31	2.62	2.68	2.15	2.35	1.77	1.19	4.47	1.28	1.73	2.50	3.93	2.84	-.49	.20
Rafting/Canoeing Guide	2.52	1.46	3.40	2.50	3.09	2.74	3.73	3.73	2.69	3.04	3.11	3.38	3.41	.67	.59
Massage Therapist	3.27	2.21	4.07	2.11	2.77	3.19	3.32	3.42	2.96	2.83	4.72	3.84	3.06	.79	.66
Hunting Guide	2.52	1.60	3.52	2.55	2.90	2.93	3.80	3.68	2.69	3.11	2.74	3.27	3.15	.71	.35

Home/Furniture Mover	3.02	1.48	2.60	2.13	2.65	2.19	2.88	4.01	1.62	2.26	1.96	4.04	2.88	-.04	.52
Restaurant Musician or Singer	3.13	2.24	3.17	2.07	2.26	2.54	2.29	3.75	2.92	2.40	1.80	3.25	3.41	.52	.19
Manicure/Pedicure Person	3.65	2.40	3.67	1.88	2.00	2.96	2.74	4.02	2.35	2.49	4.82	3.93	3.47	.27	.12
Newspaper Carrier	3.01	3.58	3.76	2.20	2.51	1.55	1.15	4.48	1.26	1.62	1.64	3.83	2.17	-.53	.31
Street Musician	3.81	2.61	2.76	2.14	2.99	2.48	1.51	4.35	2.65	2.24	1.78	3.09	3.50	.18	.85
Shoe Shine Person	3.93	2.62	3.07	1.65	1.95	2.11	1.51	4.54	1.45	1.67	3.95	4.04	3.14	-.47	.30
Parking Valet	4.16	2.48	2.44	2.28	2.43	1.87	1.25	4.35	1.56	2.22	2.32	3.78	3.05	-.19	.15
Hotel Laundry Valet	3.20	2.15	2.50	2.36	2.46	1.80	1.32	4.38	1.42	1.92	1.80	3.92	2.12	-.35	.10
Group Tour Guide	2.70	1.55	2.84	2.31	2.77	2.44	3.81	3.77	2.32	2.64	2.04	3.60	3.59	.40	.46
Pizza Delivery Driver	4.52	2.64	2.63	2.01	2.31	1.65	1.12	4.37	1.41	1.88	2.21	4.18	3.05	-.36	.30
Restaurant Host/Hostess	2.78	2.90	3.09	2.01	1.99	2.18	1.54	4.22	1.66	2.30	2.00	3.92	3.53	-.09	-.02
Golf Instructor	2.01	2.25	4.15	2.58	2.62	3.11	3.61	3.36	2.95	2.97	4.04	3.25	3.34	.85	.04
Satellite Antenna Installer	1.76	1.50	2.45	2.93	2.37	2.02	2.17	3.70	2.53	2.52	1.53	3.77	2.54	.45	-.56
Captain of a fishing charter boat	2.45	1.78	3.75	2.95	2.95	2.60	3.15	2.93	3.15	3.40	2.38	3.15	2.81	1.21	.00
Mate of a fishing charter boat	2.39	1.80	3.16	3.01	2.87	2.20	3.17	3.87	2.34	2.52	2.49	3.32	2.67	.33	-.14
Sommelier/Wine Steward	2.39	2.03	3.09	2.72	2.81	2.66	1.60	3.52	2.45	2.78	2.17	3.38	2.86	.57	.09
Fishing Guide	2.55	1.51	3.36	2.53	2.72	2.81	3.77	3.64	2.49	2.86	2.90	3.33	3.29	.57	.19
Rug/Carpet Steam-Cleaner	2.27	1.39	2.91	2.22	2.18	1.87	2.39	3.95	1.92	2.04	1.53	3.91	2.38	.00	-.04

Keno (Casino) Runner	2.35	2.13	2.46	2.67	2.53	1.77	1.70	3.83	1.92	2.18	1.84	3.42	2.62	.09	-.14
Home Pool Service Provider	2.37	1.89	3.56	2.36	2.43	2.13	1.90	4.03	2.23	2.36	1.75	3.65	2.39	.19	.07
Tattoo Artist	3.15	1.44	4.14	2.15	2.10	3.73	3.79	3.36	3.22	3.12	4.77	3.30	3.30	.99	-.05
Taxicab Driver	3.98	2.92	2.02	2.21	2.71	2.52	2.23	3.86	2.01	2.81	1.80	3.65	3.22	.32	.50
Tennis Instructor	2.17	2.45	4.13	2.58	2.65	3.14	3.53	3.66	2.88	2.92	4.12	3.29	3.34	.71	.07
Private Tour Guide	3.12	1.50	3.15	2.11	2.82	3.28	4.09	3.67	2.35	2.80	2.30	3.58	3.14	.49	.71
Tow Truck Driver	2.08	1.54	2.58	2.47	2.63	1.88	1.75	3.45	2.21	2.68	1.73	2.65	2.78	.48	.16
Hotel Van Driver	3.04	2.07	2.61	2.17	2.57	1.77	2.01	4.04	1.70	2.23	1.86	3.68	2.86	-.04	.40
Waiter/Waitress	4.83	2.93	2.92	1.99	2.03	2.40	2.20	4.33	1.78	2.32	2.60	4.15	3.62	-.08	.04
Front Desk Clerk	2.07	2.59	3.21	2.17	2.23	1.98	1.41	3.98	1.66	2.34	2.01	3.77	3.54	.01	.06
Architect	1.58	1.50	3.80	3.38	3.04	3.51	3.02	2.22	3.86	3.70	1.82	3.14	2.11	1.78	-.34
Radiology/X-ray Technician	1.71	1.51	3.33	3.50	2.66	2.45	1.98	2.41	3.38	3.34	4.12	2.87	2.55	1.44	-.84
Car Washer	3.36	2.40	2.44	1.81	1.88	1.86	1.53	4.46	1.38	1.79	1.59	4.07	2.73	-.43	.07
Home Electrician	1.94	1.44	3.45	3.07	2.70	2.60	2.57	2.74	3.53	3.40	1.74	3.21	2.62	1.40	-.37
Grade-School Teacher	1.67	3.51	4.22	3.12	2.97	2.90	4.04	3.17	3.31	3.52	3.70	3.32	3.52	1.22	-.15
Bank Loan Officer	1.60	1.55	3.84	3.15	2.94	2.70	2.69	2.55	2.80	3.43	2.31	3.00	2.68	1.23	-.21
Private Home Nurse	2.26	3.25	4.27	2.71	3.07	3.43	4.10	2.99	3.40	3.58	4.71	3.40	2.90	1.33	.36
Dental Hygienist	1.56	1.43	4.08	2.87	2.41	2.61	2.83	2.80	3.20	3.32	4.72	2.67	3.12	1.24	-.46

Car Mechanic	1.94	1.55	3.94	3.23	2.46	2.57	2.01	3.22	3.32	3.37	1.82	2.72	2.52	1.16	-.77
Child Care/Day Care Worker	2.16	3.71	4.34	3.07	2.74	2.97	3.25	3.80	2.50	3.32	4.34	3.74	3.40	.67	-.33
Dentist	1.57	1.38	4.64	2.99	2.41	3.17	2.89	1.73	3.84	3.66	4.81	2.35	3.09	1.92	-.58
Veterinarian	1.66	1.55	4.46	3.06	2.71	3.03	2.37	1.97	3.83	3.78	3.21	3.10	2.81	1.88	-.35
College Professor	1.60	3.32	4.23	3.00	3.29	2.90	3.91	2.18	3.75	3.71	2.06	2.96	3.60	1.76	.29
Home Computer Repairer	2.23	1.53	3.34	2.68	2.59	2.74	2.49	3.33	3.23	3.30	2.10	3.39	2.65	1.07	-.09
Plumber	2.12	1.54	3.52	2.81	2.67	2.26	2.33	3.05	3.12	3.04	1.74	3.34	2.73	1.04	-.14
Gardener/Lawn Worker	2.91	2.48	3.66	2.12	2.14	2.69	1.93	4.22	1.93	2.38	1.66	3.94	2.73	.03	.02
Tree Trimmer	2.19	1.57	3.35	2.40	2.25	2.39	1.78	3.91	2.22	2.62	1.51	3.67	2.51	.31	-.15
Tax Preparer	1.72	1.11	4.06	3.12	2.55	3.02	3.02	2.97	3.08	3.41	1.98	3.12	2.45	1.17	-.57
Speech Pathologist	1.61	2.43	4.29	3.08	2.85	3.40	3.35	2.18	3.67	3.55	2.85	3.04	2.85	1.68	-.23
Preacher/Pastor/Priest	1.78	2.92	4.65	2.84	3.12	3.01	3.25	3.51	2.63	3.20	3.59	2.99	3.49	.77	.28
Appliance Delivery/Installation	2.48	1.48	2.29	2.40	2.62	2.15	2.22	3.82	2.49	2.60	1.82	3.92	2.64	.42	.22
Physical or Occupational Therapist	1.79	2.40	4.31	2.91	2.86	3.35	3.42	2.34	3.49	3.57	4.73	3.11	3.20	1.57	-.05
Veterinary Assistant/Technician	1.71	1.63	3.76	3.06	2.62	2.52	2.29	2.93	3.03	3.13	3.13	3.24	2.67	1.08	-.44
Personal Accountant	1.80	1.72	4.49	2.96	2.74	3.39	3.02	2.61	3.36	3.43	2.09	3.19	2.64	1.39	-.22
Bank Teller	1.64	2.83	3.25	2.38	2.16	2.08	1.41	3.42	2.31	2.76	2.08	3.46	3.53	.55	-.22
Attorney/Lawyer	1.69	1.43	4.29	3.31	2.94	3.46	3.50	1.68	3.80	3.89	2.57	2.35	3.01	2.00	-.37

Personal Website Designer	2.10	1.74	4.05	2.64	2.40	3.44	2.39	2.88	3.28	3.51	1.59	3.30	1.69	1.30	-.24
Real Estate Agent	1.66	1.67	3.99	2.85	2.71	3.30	3.60	2.68	2.89	3.38	2.76	3.32	3.19	1.20	-.14
Mortician	1.65	1.76	3.45	3.49	3.14	2.89	2.56	2.54	3.26	3.16	4.09	2.05	1.86	1.29	-.35
Grocery Cashier	1.80	3.02	2.96	1.89	1.93	1.63	1.36	4.41	1.50	1.94	2.37	4.00	3.51	-.32	.04
Gas Pump Attendant	2.79	2.97	2.60	1.95	1.93	1.60	1.25	4.32	1.28	1.65	1.66	3.77	3.06	-.46	-.02
Copy Machine Operator (like at Kinkos)	1.64	2.36	2.61	2.05	2.33	1.89	1.34	4.19	1.58	1.83	1.62	3.62	2.71	-.26	.28
Dry-Cleaning Desk Clerk	1.96	2.52	3.60	2.29	2.16	1.92	1.32	4.08	1.45	1.84	2.02	3.80	3.14	-.26	-.13
Bus Driver (Charter Bus)	2.30	2.33	2.87	2.25	2.65	2.00	3.00	3.73	2.25	2.77	1.80	3.75	3.22	.43	.40
Grocery Bagger/Carrier	2.74	3.02	2.57	1.75	1.99	1.67	1.28	4.48	1.25	1.58	2.07	4.05	3.32	-.55	.24
Airport Porter	3.10	1.91	2.30	2.30	2.53	1.85	1.31	3.89	1.74	2.10	2.23	3.67	2.66	-.02	.23
Bus Tour Guide	2.39	1.74	2.84	2.33	2.71	2.32	3.49	4.00	2.19	2.63	1.96	3.68	3.46	.27	.38
Masseuse/Masseur	3.49	2.22	3.93	2.18	2.73	3.14	3.26	3.56	2.80	2.62	4.64	3.99	3.03	.62	.55
Grocery Delivery Person	3.62	2.73	2.94	1.74	2.24	1.91	1.35	4.34	1.36	1.90	2.27	4.00	2.79	-.36	.50
Shampooer	2.60	2.14	3.02	2.03	2.26	1.96	1.82	4.24	1.38	1.67	4.27	3.97	2.79	-.40	.23
Horseback Riding Guide	2.20	1.77	3.60	2.45	2.89	2.79	3.57	3.72	2.70	2.87	3.72	3.40	3.17	.62	.44
Floral Delivery Person	3.20	1.56	2.66	2.15	2.26	1.90	1.21	4.20	1.45	1.99	2.10	3.85	2.68	-.25	.11
Counter Help with Tip Jar	3.58	3.11	2.68	2.10	2.33	1.91	1.32	4.37	1.32	1.71	2.01	3.56	3.05	-.45	.23

Note: TIP = Tipping Likelihood, FU = Frequency of Use, SS = Same Server, CD = Customer Difficulty, SD = Supervisor Difficulty, SC = Service Customization, CT = Contact Time, ID = Income Disparity, WS = Worker Skill, WJ = Worker Judgment, TL = Touch Likelihood, CH = Customer Happier, PV = Public Visibility, OS = Occupational Status, and CA = Customer Advantage

<sup>a</sup> The ratings for these two versions of “busboy” were averaged and those averages were used in the regression model.