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Beauty and the feast: Examining the effect of beauty on earnings using restaurant tipping data ☆

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ABSTRACT

This paper looks at the effect of beauty on earnings using restaurant tipping data. Customers were surveyed as they left a set of five Virginia restaurants about the dining experience, their server, and themselves, including about their tip and their server's beauty and productivity. I find that attractive servers earn approximately $1261 more per year in tips than unattractive servers, the primary driver of which is female customers tipping attractive females more than unattractive females. Potential explanations of this earnings gap are drawn from both the labor and experimental economics literatures, the most compelling of which is customer taste-based discrimination.

1. Introduction

Beauty is desired. Despite the risks (Mayo Clinic Staff, 2010), Americans spent more than $12 billion consuming over 11 million cosmetic procedures in 2013, the latter which represents an approximate 279 percent increase over 1997 cosmetic procedure consumption (ASAPS, 2013). Of the over 11 million cosmetic procedures performed in 2013, nonsurgical procedures (e.g., Botox injection, laser hair removal) accounted for nearly 84 percent of the total and surgical procedures (e.g., liposuction, breast augmentation) accounted for only about 16 percent, with females consuming the lion's share of procedures at roughly 91 percent (ASAPS, 2013). Less risky means of attaining beauty include spending on clothing and the use of beauty products (Hamermesh, Meng, & Zhang, 2002). Consumer spending by Americans on clothing in 2013 amounted to

approximately $127 billion, with expenditures by women comprising close to 63 percent of this total (Bureau of Labor Statistics, 2014), and based on the results of a 2013 survey of Americans conducted jointly by *The Huffington Post* and YouGov, roughly 40 percent of males and about 80 percent of females use at least one beauty product to get ready in the morning on a typical day (Adams, 2013). All of this attention paid to beauty and appearance is not just a sign of the times. Medieval noblewomen, for instance, swallowed arsenic and applied the blood of bats to improve their complexions, and Victorian ladies trying to attain a wasp-like waist would have their lower ribs removed (The Economist Newspaper Limited, 2003).

Beauty pays. In their seminal study, Hamermesh and Biddle (1994) find that plain looking people earn less than average looking people, who in turn earn less than good looking people. Subsequent work, as a means of better controlling for productivity and other differences across individuals that might be correlated with beauty, has focused on workers either within a specific occupation (e.g., Biddle & Hamermesh, 1998) or in an experimental labor market (e.g., Mobius & Rosenblat, 2006). Related experimental work has examined the effect of beauty in dictator games (e.g., Rosenblat, 2008), public goods games (e.g., Andreoni & Petrie, 2008), ultimatum games (e.g., Solnick & Schweitzer, 1999), and trust games (e.g., Wilson & Eckel, 2006). Other studies have looked at the effect of beauty on callbacks using audit studies. For example, in Boo, Rossi, and Urzua (2013), attractive people receive more callbacks than unattractive people. Ruffle and Shtudiner (in press) find a beauty premium related to callbacks for attractive men but not for attractive women. The focus here in this paper, however, is on the effect of beauty on earnings.

One explanation of why beauty pays, formalized in Becker (1957), is taste-based discrimination, which comes in two flavors. Employer taste-based discrimination, evidence of which is found in Hamermesh and Biddle (1994), says that employers receive utility from interacting with attractive workers, and thus choose to pay them more. Evidence of customer taste-based discrimination, which says that attractive workers earn more than unattractive workers because customers have a taste for the former, thus making the former more productive, is found in Biddle and Hamermesh (1998).

Another explanation of why beauty pays has to do with certain stereotypes people ascribe to attractive people, including but not limited to intelligence, competence, leadership skills, and health (Eagly, Ashmore, Makhijani, & Longo, 1991; Feingold, 1992; Langlois et al., 2000). For example, Mobius and Rosenblat (2006) attribute a portion of their beauty premium to employers perceiving beautiful workers as being more able. Similarly, the public goods experiments in Andreoni and Petrie (2008) reveal a beauty premium among participants resulting from players' expectations that more attractive subjects are more cooperative. However, attractive subjects contribute, on average, no more or less than others. The beauty premium disappears when information is provided on individual contributions and becomes a beauty penalty. When expectations that beautiful people are more cooperative are dashed, people are less cooperative with them. Wilson and Eckel (2006), using trust game experiments, find that attractive trustees are viewed as more trustworthy than less attractive trustees and, thus, earn more in the first stage of the game; however, trustees expect attractive trusters to send more than they do and when these expectations are dashed, attractive trusters are punished (less is sent back by the trustee).

Two additional explanations of why beauty pays are because more attractive people have better negotiation skills and are more confident. For example, using dictator game experiments, Rosenblat (2008) finds that attractive recipients earn more than less attractive recipients, but only when dictators are able to both listen to recipient pre-recorded speeches and view recipient photographs. Mobius and Rosenblat (2006) attribute part of their beauty premium to attractive people having both better oral skills and greater confidence.

This paper contributes to this literature by presenting new evidence of whether and why beauty pays using restaurant tipping data. More specifically, using survey data that I collected outside of five Virginia restaurants, I look at whether beauty pays by comparing the tip earnings of attractive and unattractive restaurant servers and then consider taste-based discrimination, stereotypes, and negotiating ability, oral skills, and confidence as potential explanations of why beauty pays.[1] Survey respondents (respondent and customer are used interchangeably throughout the paper) answered questions about the size of the bill and tip, characteristics of the dining experience, and server and own demographics. Server beauty here is measured such that it is in the eye of the beholder, by asking customers to rate their server's beauty on a five-point scale. Previous studies have relied either on interviewer ratings of beauty (e.g., Hamermesh & Biddle, 1994), self-reported ratings of beauty (e.g., French, 2002), independent photo-based ratings of beauty (e.g., Hornik, 1992; Biddle & Hamermesh, 1998; Solnick & Schweitzer, 1999; Lynn & Simons, 2000; Mobius & Rosenblat, 2006; Wilson & Eckel, 2006; Andreoni & Petrie, 2008; Rosenblat, 2008; Belot, Bhaskar, & van de Ven, 2012; Ruffle & Shtudiner, in press), or objective measures of beauty (e.g., Boo et al., 2013). Because the customer's rating of the server's beauty occurs roughly simultaneously with their leaving of a tip, we are able to rule out simultaneity bias between the server's beauty and the tip amount.[2] Server productivity is measured by asking respondents to rate the quality of service they received from their server on a seven-point scale. Few previous studies of the effect of beauty on earnings control for actual productivity (e.g., Mobius & Rosenblat, 2006; Belot et al., 2012). None to my knowledge do so in a real-world work setting like is done here.

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[1] The unit of analysis in this paper is the customer. Thus, an alternative statement is that this paper compares the tips of customers who rate their server as attractive with the tips of customers who rate their server as unattractive. Because there is substantial agreement on what constitutes human beauty within a society at a point in time (Hamermesh, 2011), such a statement is equivalent to the statement that this paper compares the tip earnings of attractive and unattractive restaurant servers.

[2] The customer dines, leaves a tip, exits the restaurant, and then is asked to complete a survey. Thus, it is virtually impossible for the tip that is left by the customer to cause the server's beauty as measured by the customer.

This paper also contributes to the restaurant tipping literature. Restaurant tipping is a significant part of the U.S. economy, amounting to roughly $47 billion per year (Azar, 2011). It is also puzzling, at least from the standpoint of neoclassical economic theory – why do people voluntarily give money to their server *after* the service has been rendered? Future service considerations certainly play a role (Bodvarsson & Gibson, 1997; Lynn & McCall, 2000; Conlin, Lynn, & O'Donoghue, 2003) but, interestingly, consumers still leave their server a tip even when they plan never to visit the restaurant again (Kahneman, Knetsch, & Thaler, 1986). This suggests that social norms and other non-economic factors are at play. Related work in this literature has focused mostly on the effect of server appearance on tip earnings (e.g., Conlin et al., 2003; Lynn, 2009; Jacob, Gueguen, Boulbry, & Ardiccioni, 2010; Gueguen, 2012; Gueguen & Jacob, 2012), with the exception of Hornik (1992) and Lynn and Simons (2000) who, similar to this paper, examine the effect of server beauty on tip earnings. Both studies find positive effects. However, in contrast to my paper, Hornik (1992) does not control for server productivity and Lynn and Simons (2000) control only for self-rated productivity. In addition, and in further contrast to my paper, neither of these studies examines the source of the earnings gaps that they find. Other non-economic factors that have been found by researchers to influence tipping behavior include the desire for social approval and equitable relationships (Lynn & Grassman, 1990), concerns about reciprocity and let down aversion (Parrett, 2006), and concerns about social pressure and fairness (Azar, 2007a). Azar (2007b), in a recent literature review, discusses a variety of other factors that affect tips, including service quality, the size of the bill, service quantity, group size, food quality, and the degree of interpersonal connection between the server and the customer.

I find that attractive servers earn approximately $1261 more per year in tips than unattractive servers, a result that is both statistically and economically significant. The main driver of this beauty earnings gap appears to be female customers tipping attractive female servers more than unattractive female servers. I attribute these findings to customer taste-based discrimination.

The layout of this paper is as follows. Section 2 discusses the survey instrument and survey data, while Section 3 describes the empirical framework. Section 4 presents the results and Section 5 discusses the results and concludes.

2. Data

This section discusses the survey data collection procedure, followed by a discussion of the content of the survey.

2.1. Survey procedure

The data were collected outside of five Richmond, Virginia restaurants during Summer 2003 by myself and an assistant. A description of the restaurants at which the surveys were conducted is provided in Table 1. These five restaurants were chosen because out of the twenty-five restaurants which were approached, only these five gave me permission to survey their customers.[3] As well, it was too cost prohibitive to try and collect data from additional restaurants outside of the Richmond, Virginia area.

Surveys were administered on each of a Thursday, Friday, and Saturday evening, from 6 p.m. until roughly 10 p.m., at each of the five restaurants. Customers were approached post-meal, as they exited the restaurant, and the person paying the bill was asked to complete the survey. The same two people, both myself and an assistant, administered all of the surveys. 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 preserve the privacy of their responses, were asked to fold and place their completed survey in a box located away from the survey administrators. There is a possibility of some sample selectivity bias and some errors in the data gathering process. For example, some customers were either unwilling to complete the survey or left the restaurant before we could ask them to complete a survey. However, due to the private nature of the data collection, it is unlikely that customers lied about anything on the survey.

A total of 501 surveys were collected out of 630 attempts, yielding an approximate 80 percent response rate. A copy of the survey is provided in Appendix A.

2.2. Survey content

Question 5 on the survey asked respondents how much money they tipped their server. Combining this with question 4, which asked respondents about the size of their bill, percentage tip was computed. On average, respondents tipped their server 19.2 percent of the bill, which is consistent with recent survey work published in Conlin et al. (2003) and Lynn et al. (2008).[4]

Server productivity was measured via question 9 on the survey, which asked respondents to rate the service quality they received from their server on a seven-point scale. Table 2 summarizes these ratings. The majority of the respondents in the sample experienced what I refer to as above average service (>4 rating), with just approximately 3 percent of respondents

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[3] A sixth also gave me permission, but it was a bar. Because collecting survey data from the inebriated is difficult, and their responses suspect, I decided not to collect data from this establishment.

[4] The surveys in Conlin et al. (2003) span 39 restaurants of varying cuisines (Mexican, Italian, Thai, American) in Houston, Texas. The surveys in Lynn et al. (2008) were collected at a large national chain restaurant located in the southern United States.

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

Table 2
Distribution of service quality ratings.

	Service quality rating						
	1	2	3	4	5	6	7
Full sample (N = 283)	1 (0.35%)	4 (1.41%)	4 (1.41%)	22 (7.77%)	76 (26.86%)	102 (36.04%)	74 (26.15%)

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

experiencing what I refer to as below average service (<4 rating). 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 & McCall, 2000), this is not surprising.

Beauty was measured via question 11 on the survey. Consistent with Biddle and Hamermesh (1998), respondents were asked to rate their server's attractiveness as either (1) homely, (2) below average, (3) average, (4) above average, or (5) strikingly handsome/beautiful. The distribution of these ratings by server and customer gender is illustrated in Table 3. Most customers rated their server as either "average" or "above average", with very few giving their server a "homely", "below average", or "strikingly handsome/beautiful" rating. Male servers were more likely than female servers to be rated "below average" or "average" and less likely to be rated "homely", "above average", or "strikingly handsome/beautiful". Male customers were more likely than female customers to rate male servers as "below average" or "average" and less likely than female customers to rate male servers as "above average" (no male servers received a rating of "homely" or "strikingly handsome/beautiful"), and male customers were more likely than female customers to rate female servers as "average" or "strikingly handsome/beautiful" and less likely than female customers to rate female servers as "homely", "below average", or "above average". It is common in the literature to combine the bottom two categories to create a "below average looking" category, and the top two categories to create an "above average looking" category, and label the middle category "average looking". However, due to the limited number of servers comprising the bottom two categories, the "homely", "below average", and "average" categories were combined to create an "unattractive" category and the "above average" and "strikingly handsome/beautiful" categories were combined to create an "attractive" category.

The survey also incorporated a number of filters. Part two of question 4 asked survey respondents whether they received help paying the bill and part two of question 5 asked respondents if they received help paying the tip. Question 6 asked if the tip was automatically added to the 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.[5] The remaining questions on the survey collected additional customer, server, and dining experience characteristics.

3. Empirical framework

In this section, I discuss both the empirical specification used in the analysis as well as the data cleaning process.

3.1. Empirical specification

The empirical specification used in this paper is given by:

$$T_i = \alpha_o + \alpha_1 B_i + \alpha_2 S_i + \alpha_j R_{ij} + \alpha_k D_{ik} + \alpha_m X_{im} + \varepsilon_i \tag{1}$$

where i indexes a particular server-customer tip transaction and T is a measure of the customer's tip. For robustness purposes, I consider two specifications of T – percentage tip and dollar tip. B is an indicator variable for an attractive server, S is the customer's seven-point rating of service quality, R is a vector of survey restaurant indicator variables, and D is a

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[5] To see why a respondent receiving help paying the bill might result in the respondent's measured tip not accurately reflecting the respondent's tipping behavior, consider the following example. John and Joe go out to dinner together. John is a 20 percent tipper, while Joe does not tip at all. John and Joe each order the same thing. The total bill is $20 ($10 apiece), but Joe left his wallet at home and asks John to pay for him, promising to pay John $10 at a later date. Does John leave $22, which makes him look like a 10 percent tipper, or does he leave $24, which requires him to subsidize Joe, but makes him look like the 20 percent tipper that he is?

Table 3
Distribution of server beauty ratings.

	Beauty rating				
	1	2	3	4	5
Full sample (N = 283)	1	4	152	115	11
	0.35%	1.41%	53.71%	40.64%	3.89%
Male customers					
Male servers (N = 52)	0	2	34	16	0
	0.00%	3.85%	65.38%	30.77%	0.00%
Female servers (N = 138)	0	0	70	60	8
	0.00%	0.00%	50.72%	43.48%	5.80%
Female customers					
Male servers (N = 28)	0	1	18	9	0
	0.00%	3.57%	64.29%	32.14%	0.00%
Female servers (N = 65)	1	1	30	30	3
	1.54%	1.54%	46.15%	46.15%	4.62%

Survey respondents rated their server's beauty on a five point scale: 1 – Homely, 2 – Below Average, 3 – Average, 4 – Above Average, 5 – Strikingly Handsome/Beautiful.

vector of survey day indicator variables. The latter eliminate any restaurant or day specific heterogeneity that might impact the estimate of α_1. Finally, X is a vector of additional customer, server, and dining experience characteristics that influence tips.[6]

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

A potential issue is that the customer's service quality rating and the customer's beauty rating might be correlated, which could bias α_1. On one hand, it could be that customers have a taste for attractive servers over unattractive 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 α_1. Alternatively, it could be that customers have a taste for good service quality over bad service quality, and solely on this basis provide higher beauty ratings to good servers than to bad servers. The effect of this would be to bias upward α_1. Because these two effects move in opposite directions, there might be some canceling out. In addition, the correlation coefficient between server beauty and service quality ($r = 0.266$) provides comfort. However, some bias could still remain. Ideally, server beauty and service quality would have been measured independently, but this would have required close interaction with each restaurant's servers and management, which unfortunately was not possible.[7]

3.2. Data cleaning

I began with 501 observations. The data cleaning process consisted of several steps. First, all observations for which a "yes", incomplete, or ambiguous response was recorded for the second part of either question 4 (bill help) or 5 (tip help), or for question 6 (automatic service charge), were deleted, resulting in the removal of 99 observations, and leaving a subtotal of 402 observations. Next, observations in which the respondent provided an incomplete or ambiguous response to a survey question used in the analysis were dropped, resulting in the deletion of an additional 114 observations, leaving a new subtotal of 288 observations. The reason why so many observations were dropped 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 came at the cost of obtaining fewer completed surveys. The final step of the data cleaning process consisted of the removal of one outlier in which the respondent tipped zero and four outliers in which respondents tipped in excess of 100 percent of the bill. This resulted in the final data set of 283 observations. All five of these outliers represent significant discrete jumps in the data – the minimum and maximum percentage tip in the final data set are 8.3 percent and 68.6 percent.

A complete description of the variables used in the analysis is provided in Table 4. Summary statistics are provided in Table 5.

4. Results

First, I examine whether beauty pays, before looking at why beauty pays.

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[6] Included in X is a measure of the server's weight, but not height, as the latter was not measured by the survey. However, the relationship between ratings of beauty and height is very weak (Hamermesh, 2011).

[7] To obtain independent measures of server beauty and service quality, I would have needed a way for survey respondents to identify their server (e.g., ask servers to print their name on the receipt). Then, to obtain an independent beauty measure, I would have needed permission from each restaurant's management and servers to take photographs of the servers. To obtain an independent measure of service quality, I would have needed similar permission to ask each server's fellow servers and management to rate the server's service quality on a seven-point scale. All of this would have required extremely close interaction with each restaurant's servers and management, which unfortunately was not possible.

Table 4
Description of variables.

Variable	Description
% Tip	$ Tip as percentage of Bill Size
$ Tip	$ Amount of tip
Attractive server	Dummy equal to 1 if server beauty rated as a 4 or 5 on question 11 of survey; 0 otherwise
Bill size	Total bill amount
Table size	Number of people at survey respondent's table
Table size squared	Number of people at survey respondent's table squared
Alcohol	Dummy equal to 1 if someone whom the respondent paid for had alcohol; 0 otherwise
Service quality	Survey respondent's rating of service quality on scale from 1 ("Poor") to 7 ("Excellent")
Average sized server	Dummy equal to 1 if server weight rated as a 3 on question 12 of survey; 0 otherwise
Underweight server	Dummy equal to 1 if server weight rated as a 1 or 2 on question 12 of survey; 0 otherwise
Overweight server	Dummy equal to 1 if server weight rated as a 4 or 5 on question 12 of survey; 0 otherwise
White server	Dummy equal to 1 if server white; 0 otherwise
Male server	Dummy equal to 1 if server male; 0 otherwise
White customer	Dummy equal to 1 if survey respondent white; 0 otherwise
Customer age	Age of survey respondent
Married customer	Dummy equal to 1 if survey respondent married; 0 otherwise
Rich customer	Dummy equal to 1 if survey respondent reports annual income as more than $82,000; 0 otherwise
Attractive customer	Dummy equal to 1 if survey respondent rated own beauty equal to 4 or 5 on question 23 of survey; 0 otherwise
Food service experience	Dummy equal to 1 if respondent or close friends or family of respondent ever employed as a waiter or waitress; 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")
Male customer	Dummy equal to 1 if survey respondent male; 0 otherwise
Percent tip norm	Survey respondent's belief regarding percentage tip norm
Dollar tip norm	Percent Tip Norm 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

4.1. Does beauty pay?

I examine whether beauty pays first across the full sample, then separately across male and female servers, and then separately across male and female servers by customer gender.

4.1.1. Results across full sample

Looking first at the uncontrolled difference in mean tip earnings across attractive and unattractive servers, attractive servers earn approximately 1.26 percentage points more on a percentage tip basis than unattractive servers ($p = 0.088$, two-tailed t-test). On a dollar tip basis, attractive servers earn roughly $0.98 more than unattractive servers ($p = 0.042$, two-tailed t-test). However, these differences could be due to factors other than beauty. Thus, I look next at the controlled difference in mean tip earnings across attractive and unattractive servers. The findings, which are presented in the first columns of Tables 6 and 7 and are robust across dependent variable specification, show that even after controlling for server productivity and other factors that might affect tips, attractive servers earn higher tips than unattractive servers – approximately 1.37 percentage points more on a percentage tip basis ($p = 0.062$, two-tailed t-test) and about $0.40 more on a dollar tip basis ($p = 0.030$, two-tailed t-test).

Three additional robustness checks are considered. First, I look at what happens if the restaurant and day fixed effects are dropped from the analysis. Looking at the second columns of Tables 6 and 7, it can be seen that the results remain roughly the same. Second, it could be that the customer's reported belief about the tip norm and the customer's rating of the server's beauty are correlated, which could bias the estimate of the effect of server beauty on tip earnings. For example, perhaps customers have a taste for attractive servers over unattractive servers and make themselves feel better by reporting a higher tip norm when served by an attractive server and a lower tip norm when served by an unattractive server. The effect of this would be to bias downward the estimate of the effect of server beauty on tip earnings. Thus, I look at what happens when the Tip Norm variables are excluded from the analysis. Looking at the third columns of Tables 6 and 7 it can be seen that the results remain largely unchanged. Interestingly, the coefficients on Attractive Server do not increase, suggesting that the inclusion of the Tip Norm variables does not bias downward the effect of server beauty on tip earnings. Third, in light of the large number of observations dropped due to data cleaning, I see what happens if, in the second step of the data cleaning exercise described in Section 3.2, I delete observations in which the respondent provided an incomplete or ambiguous response to a survey question associated with just the statistically significant variables in the first columns of Tables 6 and 7, respectively. Looking at the last columns of Tables 6 and 7, which reveal larger sample sizes, it can be seen that

Table 5
Summary statistics.

Variable	Mean	Standard deviation	Min	25th percentile	Median	75th percentile	Max
% Tip	19.16	6.21	8.29	15.79	18.42	20.76	68.57
$ Tip	6.49	4.01	1.50	4.00	5.30	8.00	50.00
Attractive server	0.45	0.50	0.00	–	–	–	1.00
Bill size	35.68	21.88	6.34	21.00	30.75	46.03	245.00
Table size	2.78	1.31	1.00	2.00	2.00	3.00	12.00
Table size squared	9.45	12.60	1.00	4.00	4.00	9.00	144.00
Alcohol	0.50	0.50	0.00	–	–	–	1.00
Service Quality	5.72	1.10	1.00	5.00	6.00	7.00	7.00
Average sized server	0.84	0.37	0.00	–	–	–	1.00
Underweight server	0.08	0.27	0.00	–	–	–	1.00
Overweight server	0.08	0.27	0.00	–	–	–	1.00
White server	0.94	0.23	0.00	–	–	–	1.00
Male server	0.28	0.45	0.00	–	–	–	1.00
White customer	0.94	0.24	0.00	–	–	–	1.00
Customer age	44.58	12.01	12.00	36.00	46.00	53.00	90.00
Married customer	0.76	0.43	0.00	–	–	–	1.00
Rich customer	0.61	0.49	0.00	–	–	–	1.00
Attractive customer	0.35	0.48	0.00	–	–	–	1.00
Food service experience	0.73	0.45	0.00	–	–	–	1.00
Dining frequency	3.33	1.75	1.00	2.00	3.00	5.00	7.00
Male customer	0.67	0.47	0.00	–	–	–	1.00
Percent tip norm	16.83	2.96	10.00	15.00	15.00	20.00	30.00
Dollar tip norm	602.48	410.02	95.10	360.00	507.90	756.00	4900.00
R1	0.16	0.37	0.00	–	–	–	1.00
R2	0.27	0.45	0.00	–	–	–	1.00
R3	0.21	0.41	0.00	–	–	–	1.00
R4	0.17	0.38	0.00	–	–	–	1.00
R5	0.18	0.39	0.00	–	–	–	1.00
Thursday	0.24	0.43	0.00	–	–	–	1.00
Friday	0.42	0.50	0.00	–	–	–	1.00
Saturday	0.33	0.47	0.00	–	–	–	1.00

$N = 283$.

the results stay roughly the same. Finally, credence is lent to the productivity measure (Service Quality), which is highly significant across all of the specifications in Tables 6 and 7.

4.1.2. Results across male servers and female servers

Four indicator variables were created that correspond respectively to an attractive male server, an unattractive male server, an attractive female server, and an unattractive female server. I then compared the controlled mean tip earnings of attractive and unattractive male servers and attractive and unattractive female servers, the percentage and dollar tip empirical specifications associated with which, respectively, mirror the 'Full Model' specifications in Tables 6 and 7 and the full results associated with which are available upon request from the author. Looking first across attractive and unattractive male servers, I find that attractive male servers earn approximately 1.92 percentage points more on a percentage tip basis ($p = 0.106$, two-tailed t-test) and roughly \$0.49 more on a dollar tip basis ($p = 0.252$, two-tailed t-test) than unattractive male servers, although the latter result is not statistically significant. Looking across attractive and unattractive female servers, it is revealed that attractive female servers earn about 1.19 percentage points more on a percentage tip basis ($p = 0.148$, two-tailed t-test) and around \$0.37 more on a dollar tip basis ($p = 0.056$, two-tailed t-test) than unattractive female servers.

4.1.3. Results across male and female servers by customer gender

Eight indicator variables were created that correspond respectively to a male customer and attractive male server interaction, a male customer and unattractive male server interaction, a male customer and attractive female server interaction, a male customer and unattractive female server interaction, a female customer and attractive male server interaction, a female customer and unattractive male server interaction, a female customer and attractive female server interaction, and a female customer and unattractive female server interaction. I then compared the controlled mean tip earnings of attractive and unattractive male servers and attractive and unattractive female servers, first across male customers and then across female customers, the percentage and dollar tip empirical specifications associated with which, respectively, mirror the 'Full Model' specifications in Tables 6 and 7 and the full results associated with which are available upon request from the author.

Comparing first the controlled mean tip earnings of attractive and unattractive male servers across male customers, I find that male customers tip attractive male servers approximately 2.16 percentage points more on a percentage tip basis ($p = 0.095$, two-tailed t-test) and roughly \$0.18 more on a dollar tip basis ($p = 0.728$, two-tailed t-test) than unattractive male servers, but the latter result is not statistically significant. Comparing the controlled mean tip earnings of attractive and unattractive female servers across male customers reveals no significant differences in either percentage ($p = 0.705$, two-tailed t-test) or dollar ($p = 0.551$, two-tailed t-test) tip earnings.

Table 6
The effect of server beauty on percentage tip.

	Full model	No FEs	No tip norm	Larger sample
Attractive server	1.374*	1.235*	1.328*	1.191*
	(0.733)	(0.703)	(0.722)	(0.641)
Bill size	−0.103***	−0.109***	−0.103***	−0.082***
	(0.021)	(0.023)	(0.022)	(0.019)
Table size	−2.506***	−2.688***	−2.619***	−2.310***
	(0.683)	(0.693)	(0.692)	(0.641)
Table size squared	0.312***	0.333***	0.321***	0.256***
	(0.073)	(0.074)	(0.076)	(0.068)
Alcohol	1.457*	1.729**	1.624**	1.239*
	(0.745)	(0.750)	(0.796)	(0.698)
Service quality	0.810**	0.810**	0.795**	0.707**
	(0.339)	(0.346)	(0.330)	(0.301)
Underweight server	1.090	1.248	1.299	–
	(1.566)	(1.650)	(1.722)	
Overweight server	0.536	0.560	0.439	–
	(1.013)	(0.896)	(0.994)	
White server	−1.286	−0.750	−1.231	–
	(1.286)	(1.193)	(1.274)	
Male server	0.051	−0.812	0.125	–
	(0.620)	(0.592)	(0.619)	
White customer	1.188	1.541	1.511	–
	(1.645)	(1.546)	(1.568)	
Customer age	−0.102***	−0.096***	−0.106***	−0.081**
	(0.036)	(0.035)	(0.037)	(0.035)
Married customer	−2.974**	−3.215**	−3.009**	−1.856*
	(1.274)	(1.304)	(1.324)	(1.003)
Rich customer	0.786	0.914	0.715	–
	(0.860)	(0.828)	(0.856)	
Attractive customer	−0.971	−0.914	−0.816	–
	(0.773)	(0.764)	(0.706)	
Food service experience	−1.251	−1.147	−1.192	–
	(0.912)	(0.874)	(0.902)	
Dining frequency	0.345^	0.397*	0.387^	0.202
	(0.214)	(0.209)	(0.239)	(0.203)
Male customer	1.177^	1.175^	1.187^	0.952^
	(0.746)	(0.740)	(0.747)	(0.642)
Percent tip norm	0.228	0.232	–	–
	(0.225)	(0.219)		
Constant	22.221***	21.980***	26.086***	23.644***
	(5.408)	(5.049)	(3.763)	(2.316)
Restaurant fixed effects	Yes	No	Yes	Yes
Day fixed effects	Yes	No	Yes	Yes
N	283	283	283	341
R-squared	0.306	0.286	0.295	0.220
F-statistic	2.07***	2.56***	2.17***	3.05***

Dependent variable is % Tip.
White corrected standard errors reported in parentheses.
***, **, *, ^ denote significance at 1%, 5%, 10%, and 15% levels, respectively (two-tailed *t*-test, unless otherwise specified).

Next I compare the controlled mean tip earnings of attractive and unattractive male servers across female customers and find that female customers tip attractive male servers about 1.67 percentage points more on a percentage tip basis ($p = 0.389$, two-tailed *t*-test) and around $1.07 more on a dollar tip basis ($p = 0.077$, two-tailed *t*-test) than unattractive male servers, but only the latter result is statistically significant. Lastly, comparing the controlled mean tip earnings of attractive and unattractive female servers across female customers reveals that female customers tip attractive female servers approximately 3.01 percentage points more on a percentage tip basis ($p = 0.047$, two-tailed *t*-test) and roughly $0.84 more on a dollar tip basis ($p = 0.010$, two-tailed *t*-test) than unattractive female servers.

4.2. Why does beauty pay?

The results from Section 4.1 indicate that beauty pays. In this section I examine why beauty pays. I focus on three possible explanations: stereotypes, increased confidence and better negotiation/oral skills, and taste-based discrimination.

4.2.1. Stereotypes

This explanation says that attractive workers earn more than unattractive workers because employers stereotype attractive workers as possessing various positive attributes, including but not limited to intelligence, competence, leadership

Table 7
The effect of server beauty on dollar tip.

	Full model	No FEs	No tip norm	Larger sample
Attractive server	0.401**	0.385**	0.399**	0.356**
	(0.183)	(0.176)	(0.184)	(0.171)
Bill size	0.112***	0.113***	0.157***	0.103***
	(0.021)	(0.020)	(0.008)	(0.021)
Table size	−1.015***	−1.032***	−1.177***	−1.026***
	(0.282)	(0.273)	(0.306)	(0.228)
Table size squared	0.114***	0.117***	0.132***	0.113***
	(0.036)	(0.035)	(0.039)	(0.027)
Alcohol	0.200	0.309^	0.238	–
	(0.187)	(0.190)	(0.190)	
Service quality	0.283***	0.269***	0.258***	0.265***
	(0.090)	(0.092)	(0.088)	(0.091)
Underweight server	0.222	0.271	0.317	–
	(0.326)	(0.338)	(0.347)	
Overweight server	0.400	0.451^	0.378	–
	(0.297)	(0.282)	(0.290)	
White server	−0.019	0.041	0.029	–
	(0.412)	(0.373)	(0.409)	
Male server	−0.010	−0.183	0.022	–
	(0.243)	(0.191)	(0.241)	
White customer	0.359	0.490	0.474	–
	(0.488)	(0.465)	(0.470)	
Customer age	−0.030***	−0.029***	−0.032***	−0.021**
	(0.009)	(0.009)	(0.010)	(0.008)
Married customer	−0.605**	−0.652**	−0.562**	−0.470**
	(0.270)	(0.278)	(0.279)	(0.208)
Rich customer	0.082	0.102	0.043	–
	(0.230)	(0.225)	(0.240)	
Attractive customer	−0.030	−0.026	0.039	–
	(0.204)	(0.200)	(0.192)	
Food service experience	−0.221	−0.214	−0.196	–
	(0.229)	(0.218)	(0.225)	
Dining frequency	0.047	0.069	0.061	–
	(0.053)	(0.050)	(0.057)	
Male customer	0.404**	0.405**	0.404**	0.353**
	(0.189)	(0.187)	(0.190)	(0.168)
Dollar tip norm	0.003**	0.003**	–	0.003**
	(0.001)	(0.001)		(0.001)
Constant	1.642^	1.736*	1.912*	1.992**
	(1.085)	(1.004)	(1.083)	(0.806)
Restaurant fixed effects	Yes	No	Yes	Yes
Day fixed effects	Yes	No	Yes	Yes
N	283	283	283	323
R-squared	0.883	0.880	0.878	0.870
F-statistic	45.45***	54.74***	46.13***	65.63***

Dependent variable is $ Tip.
White corrected standard errors reported in parentheses.
***, **, *, ^ denote significance at 1%, 5%, 10%, and 15% levels, respectively (two-tailed t-test, unless otherwise specified).

ability, and health. Stereotypes, though, should not play a role in this environment, as the server's productivity is observable and the customer typically withholds their tip until the end of the dining experience (after observing the server's productivity). Thus, I rule out the stereotypes explanation.

However, stereotype related expectations might operate in this environment. For example, recent research (e.g., Wilson & Eckel, 2006; Andreoni & Petrie, 2008) suggests that customers, relying on stereotypes about attractive people, will expect attractive servers to deliver higher quality service than less attractive servers. If these expectations are met, attractive servers will be rewarded with higher tips relative to their unattractive counterparts, and if they are dashed, attractive servers will be punished with lower tips relative to their unattractive counterparts.

To test whether stereotype related expectations are at play here, I defined good service as a service quality rating of five or higher, and bad service as a rating of less than five, and then compared the controlled mean tip earnings of attractive and unattractive good servers and attractive and unattractive bad servers, the percentage and dollar tip empirical specifications associated with which, respectively, mirror the 'Full Model' specifications in Tables 6 and 7 and the full results associated with which are available upon request from the author. Comparing the controlled mean tip earnings of attractive and unattractive good servers, I find that attractive good servers earn approximately 1.64 percentage points more on a percentage tip basis ($p = 0.028$, two-tailed t-test) and roughly $0.47 more on a dollar tip basis ($p = 0.016$, two-tailed t-test) than unattractive good servers. Comparing the controlled mean tip earnings of attractive and unattractive bad servers reveals percentage tip

(p = 0.942, two-tailed t-test) and dollar tip (p = 0.948, two-tailed t-test) differences that are of the expected sign, but not statistically significant. However, that attractive servers earn more than unattractive servers, but attractive bad servers do not earn more than unattractive bad servers, can be considered a beauty penalty. Thus, the evidence indicates that in this environment there is a beauty premium when expectations are met and a beauty penalty when expectations are dashed.

4.2.2. Increased confidence and better negotiation/oral skills

More attractive servers might earn higher tips than unattractive servers either because they are more confident or because they have better negotiation/oral skills. While I am unable to directly test for these effects with my data, these effects all relate to the size of the bill. That is, if attractive servers are more confident and have better negotiation and oral skills than unattractive servers then attractive servers should find greater success in convincing their customers to order more food. Because tips in restaurants are typically computed as a percentage of the bill, a larger bill size implies a larger tip amount. To test this, I compared the uncontrolled mean bill size across attractive and unattractive servers, and found that attractive servers sell approximately $3.10 more in food and drink on average than unattractive servers, but this difference is not statistically significant (p = 0.237, two-tailed t-test).[8] Thus, I rule out the increased confidence and better negotiation/oral skills explanation.

4.2.3. Taste-based discrimination

The taste-based discrimination explanation says that attractive servers earn more than unattractive servers because restaurant customers have a taste for attractive servers over unattractive servers and, thus, tip them more. Taste-based discrimination typically comes in one of two flavors, employer or customer discrimination. In a restaurant tipping setting, the customer is the sole actor, so that any evidence of taste-based discrimination can be attributed solely to the customer. Evidence of taste-based discrimination exists if, after controlling for various factors that might influence tips, including productivity, attractive servers earn higher mean tips than unattractive servers. Such evidence was presented earlier in Section 4.1 of this paper. Thus, I am unable to reject customer taste-based discrimination as an explanation of why attractive servers earn higher tips than unattractive servers.

5. Discussion and conclusions

This paper examined whether and why beauty pays using restaurant tipping data. I find evidence of a beauty earnings gap. More specifically, I find that attractive servers earn about 1.37 percentage points more on a percentage tip basis and around $0.40 more on a dollar tip basis than unattractive servers. Stated differently, and in a way which highlights the economic significance of the result, attractive servers earn approximately $1261 more per year than unattractive servers, an amount that is equivalent to roughly 1.5 months of median gross rent in the United States or about 17 weeks' worth of food for an individual following a high-cost nutritious diet as defined by the United States Department of Agriculture (U.S. Census Bureau, 2012).[9,10]

The main driver of this beauty earnings gap appears to be female customers tipping attractive female servers more than unattractive female servers. This runs counter to Hamermesh and Biddle (1994), who find slightly larger beauty effects for men than for women, but is consistent with studies that find that womens' appearances evoke stronger reactions than mens' (e.g., Hatfield & Sprecher, 1986), as well as Rosenblat (2008), who finds that recipient beauty matters for female, but not for male, dictators.[11] However, one difference between the findings of this study and those in Rosenblat (2008) is that in Rosenblat (2008) female dictators reward not only attractive female recipients more, but also attractive male recipients more. Here, there is strong support for the result that female customers reward attractive female servers more, but only weak support for the result that female customers reward attractive male servers more.

As to why beauty pays, I considered three explanations – stereotypes, increased confidence and better negotiation/oral skills, and taste-based discrimination. Because the server's productivity is observable and the customer typically withholds

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[8] Regressing bill size on the full set of controls in Table 6 did not alter this conclusion.

[9] To arrive at this estimate, I first computed the predicted percentage tip from the econometric model found in the first column of Table 6. Computed at the means of the explanatory variables, the predicted percentage tip for attractive servers is 19.91 percent and for unattractive servers is 18.53 percent. Sales at full service restaurants in 2010 were approximately $188.7 billion (U.S. Census Bureau, 2012). Combining this information with the fact that attractive and unattractive servers comprise roughly 45 and 55 percent of my sample, respectively, I estimate that attractive servers earn around $16.9 billion (= 0.1991 × 0.45 × $188.7 billion) in tip income and unattractive servers earn about $19.2 billion (= 0.1853 × 0.55 × $188.7 billion) in tip income in a given year. The total number of waiters and waitresses employed in the United States in 2010 was approximately 2.1 million (U.S. Census Bureau, 2012). From this, I estimate that on average an attractive server earns roughly $17,884 per year (= $16.9 billion/[0.45 × 2.1 million]) and an unattractive server earns about $16,623 per year (= $19.2 billion/[0.55 × 2.1 million]), for a difference of approximately $1261 per year (= $17,884 − $16,623).

[10] In the presence of tipping out (to, say, the busboy and the food runner) and taxes, this difference decreases to $1261 ∗ (1 − τ_1 − τ_2), assuming that tipping out and taxes equally affect attractive and unattractive servers at a tip out rate of τ_1 and a tax rate of τ_2. Higher tip out rates are typically associated with higher end restaurants. For example, one of the restaurants in my sample does not employ busboys. Servers there bus their own tables and, thus, keep more of their tips. In addition, restaurant servers are notorious for underreporting their tip earnings. Thus, τ_1 + τ_2 is likely small in my sample. In the presence of tip pooling, an arrangement under which servers equally share their tips, the difference between the tip earnings of attractive and unattractive servers necessarily becomes zero. None of the restaurants in my sample engage in tip pooling.

[11] Maybe women are rewarding other women for the effort they make in trying to look good, something which women might know and care more about. For example, the results of a 2013 survey of Americans conducted jointly by *The Huffington Post* and YouGov reveal that approximately 45 percent of female respondents, compared with roughly 11 percent of male respondents, use three or more beauty products to get ready in the morning on a typical day (Adams, 2013).

their tip until the end of the dining experience (after observing the server's productivity), the stereotypes explanation is ruled out. However, stereotype based expectations do play a role in this environment. Consistent with the findings of Wilson and Eckel (2006) and Andreoni and Petrie (2008), I find evidence of a beauty premium when expectations that attractive servers will deliver good service are met, and a beauty penalty when expectations that attractive servers will deliver good service are dashed. The increased confidence and better negotiation/oral skills explanation is ruled out because the difference in average bill size across attractive and unattractive servers, while positive, is not statistically significant. Finally, consistent with the findings in Biddle and Hamermesh (1998), I am unable to reject customer taste-based discrimination as an explanation of why beauty pays in this environment.

One caveat to this study is that similar to most previous studies of the beauty earnings gap, the results here are based on a limited amount of data collected from a limited number of restaurants, in a certain geographic region of the United States, and therefore may or may not generalize. To have undertaken a more comprehensive data collection to include a greater number of restaurants, in a greater number of regions of the United States, was cost prohibitive. However, it is only through continued research involving different occupations/tasks, different geographies, and different time periods that we will be able to better understand beauty's implications, labor market and otherwise.

Appendix A. 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 <u>server's sex</u>? *(circle your response)*   **Male**   **Female**

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

TURN OVER→   **TURN OVER→**

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

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

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

Severely Underweight 1	Underweight 2	Average 3	Overweight 4	Severely Overweight 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 1	2	3	4	5	6	Most Frequent 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 <u>your sex</u>? *(circle your response)*   **Male   Female**

17. Which of the following categories best describes <u>you</u>? *(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 <u>your attractiveness</u>? *(circle your response)*

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

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

THANK YOU!! PLEASE FOLD AND PLACE IN BOX

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