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Clothing Color and Tipping: An Attempted Replication and Extension

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Abstract:	An online, hypothetical, tipping-scenario experiment found that female subjects perceived a waiter (but not a waitress) as less attractive when wearing a red shirt than when wearing a white or black shirt and that subjects tipped the servers less (not more) when those servers wore a red shirt than when they wore a white or black one. These findings are opposite those in the existing literature and suggest that the earlier findings are less generalizable than previously believed and that the process underlying previous clothing color effects on tipping may not be precisely what the researchers thought it was. Possible explanations of the discrepant findings are discussed along with directions for future research and practical implications.

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ABSTRACT

An online, hypothetical, tipping-scenario experiment found that subjects tipped the servers less (not more) when those servers wore a red shirt than when they wore a white or black one and that female subjects perceived a waiter (but not a waitress) as less attractive when wearing a red shirt than when wearing a white or black shirt. These findings are opposite those in the existing literature and suggest that the earlier findings are less generalizable than previously believed and that the process underlying previous clothing color effects on tipping may not be precisely what the researchers thought is was. Possible explanations of the discrepant findings are discussed along with directions for future research and practical implications.

Shirt Color and Tipping

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Clothing Color and Tipping:

An Attempted Replication and Extension

Many hospitality workers around the world rely upon voluntary payments of money from their customers (called “tips”) for a substantial portion of their income. Greater knowledge about the factors that influence consumer tipping would help these service workers to earn larger incomes. In addition to helping service workers, such knowledge would also benefit their managers because managers who use such knowledge to train and otherwise help their servers to earn larger tips should be rewarded with happier and more productive workers, which in turn should increase customer satisfaction and decrease the costs associated with absenteeism and turnover (Lynn, 2005).

Given its practical value, researchers from a variety of academic disciplines have studied tipping and identified numerous specific server behaviors that increase tips, such as touching customers, squatting down next to the table, and giving candy to customers, (see Lynn, 2011). Gueguen and Jacob (2013) recently contributed to this literature by examining the effects of waitresses’ clothing color on the tips given in restaurants in France. They found that male (but not female) customers were more likely to leave a tip and left larger tip amounts when the waitresses wore a red shirt than when they wore a shirt of another color.

Gueguen and Jacob (2013) attributed their clothing color effect on tipping to an enhancement of the waitresses’ physical and sexual attractiveness to men. Although they did not test this explanation, it is consistent with theory and research suggesting that the color red is associated with love, lust, and passion and that seeing the color red primes these concepts and feelings, which makes members of the opposite sex appear more

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3 attractive and sexually desirable. For example, Elliot and Niesta (2008) found that men
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5 (but not women) in the United States rated women in photographs as more attractive and
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7 sexy when they were pictured against a red as opposed to white, green, grey or blue
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9 backdrop. In addition, Elliot, et. al. (2010) found that women in several countries
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11 perceived men as more attractive and sexually desirable when they were pictured in front
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13 of a red background or wearing red shirts than when the background or shirts were some
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15 other color.
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20 Citing the findings of Elliot, et. al. (2010), Gueguen and Jacob (2013) speculate
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22 that the processes underlying their red shirt effect on tipping could also lead female
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24 customers to tip waiters more when the latter wear red. The study reported below was
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26 designed to test this possibility as well as to conceptually replicate Gueguen and Jacob's
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28 original effect and to test the role of perceived attractiveness as mediator of shirt color
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30 effects on tipping.
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33 34 METHOD

35 36 Overview

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38 An online 2 (server sex) by 3 (shirt color) between subjects experiment presented
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40 photos of a waiter or waitress wearing either a red, white or black shirt and asked study
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42 participants to indicate how much they would tip the server on a bill of \$15.69. This
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44 arbitrary bill amount was specified rather than asking for a percentage tip on an
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46 unspecified bill in order to make the scenario as life like as possible and in order to
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48 accommodate participants who tip flat dollar amounts as well as those who tip as a
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50 percentage of the bill. After specify the size of tip they would leave, participants were
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Shirt Color and Tipping

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3 asked to rate the attractiveness of the server and to provide demographic information
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5 about themselves.
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Sample

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10 A few subjects were recruited from among the researchers' friends but the vast
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12 majority were recruited through Amazon's Mechanical Turk, where they were asked to
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14 complete a brief survey about tipping in restaurants in exchange for a small payment of
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16 less than a dollar. One thousand eighty-five people finished the study. However,
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18 removal of ten observations with highly significant outliers on the tipping variable
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20 reduced the sample to 1075 observations. Seventy-eight percent of the participants were
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22 White and sixty-one percent were male. Their ages ranged from 18 to 82 with a mean of
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24 31 and a standard deviation of 10.
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Stimuli

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31 Participants were shown a picture of the interior of a half-full, casual dining
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33 restaurant along with the following words: "It is Thursday night and you are having
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35 dinner by yourself in the restaurant shown above. The meal and service is good but not
36
37 exceptional. Here is the waiter (waitress) that brought you your meal." Below these
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39 words was a picture of the server and below that picture appeared the following words:
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41 "Your meal came out to be \$15.69. How much would you tip him (her) (in dollars and
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43 cents)?" The picture of the restaurant and the words describing the scenario were the
44
45 same across all conditions. The pictures of the waiter and waitress were similar and
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47 showed the server from the waist up in a shirt with a black tie and carrying a tray with
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49 water glasses. Photoshop was used to change the shirt color of the servers, so that
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3 identical photos of each wearing a red, white and black shirt were obtained. Participants
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5 were randomly assigned to sex of server and shirt color condition.
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8 Measures

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10 The principle dependent measure was the dollar and cent tip amount the
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12 respondent said he or she would leave. However, ten observations for which the reported
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14 tip was seventeen dollars or more were dropped from analysis. The dropped observations
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16 were all over seven standard deviations from the mean. The next largest tip amount
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18 remaining in the analyzed data was \$6.31 and 1.74 standard deviations from the mean.
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22 After providing a tip amount, participants went to the next page, where they saw
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24 the same picture of the server and were asked to rate his or her attractiveness on a ten
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26 point scale whose endpoints were labeled “Not Attractive” (1) and “Very Attractive”
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28 (10). Finally, participants in both studies indicated their sex along with other
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30 demographic information.
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33 RESULTS

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35 The means, standard deviations, and sample sizes of tip amount and server
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37 attractiveness in each condition are presented in Table 1. Two 2 (server sex) x 3 (shirt
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39 color) x 2 (customer sex) analysis of variance were performed using these variables as
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41 dependent measures and the results are presented in Tables 2 and 3.
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Insert tables 1 thru 3 about here

53 The analysis of tip amount produced significant effects only for shirt color ($F(2,$
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55 $1063) = 3.09, p < .05$) and the interaction of server sex with subject sex ($F(1, 1063) =$
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Shirt Color and Tipping

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3 7.58, $p < .007$). Paired comparisons indicated that male subjects tipped the waitress
4 significantly more than the waiter (marginal means = \$3.23 vs. \$2.97, $p < .05$) while
5 female subjects tipped the waitress non-significantly less than the waiter (marginal means
6 = \$2.99 vs. \$3.05, $p > .50$). More importantly, participants tipped significantly less when
7 their server's shirt was red than when it was white or black (marginal means = \$2.95 vs.
8 \$3.10 and \$3.12 respectively, p 's $< .05$). Contrary to the findings of Gueguen and Jacob
9 (2013), wearing a red shirt reduced the tips of servers in this study.

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20 The analysis of server attractiveness produced significant effects only for server
21 sex ($F(1, 1063) = 23.62, p < .001$) and the interaction of server sex with subject sex ($F(1,$
22 $1063) = 14.36, p < .001$). Paired comparisons indicated that male subjects found the
23 waitress significantly more attractive than the waiter (marginal means = 6.42 vs 5.31, $p <$
24 $.05$) while female subjects found the waitress only slightly and non-significantly more
25 attractive than the waiter (marginal means = 6.12 vs 5.98, $p > .50$).¹ Contrary to previous
26 research, wearing red did not reliably increase the attractiveness of either the waiter or
27 waitress in this study.

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39 Although not significant, the three way interaction between shirt color, server sex
40 and subject sex on server attractiveness was marginally significant ($p < .06$) so we
41 explored it further. This interaction reflected a significant server sex by shirt color
42 interaction for female subjects ($F(2, 413) = 3.48, p < .04$), but not for male subjects ($F(2,$
43 $650) = .73, p > .48$). Female subjects found the waitress more attractive when wearing red
44 than when wearing white or black (means = 6.33 vs 6.23 and 5.80 respectively), but only
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55 ¹ The zero order correlation between tip amount and server attractiveness was .02, $n = 1075, p > .50$. The
56 within cell correlation between tip amount and server attractiveness (the correlation of residuals after
57 controlling for server sex, customer sex, shirt color and their interactions) was -.01, $n = 1075, p > .80$.
58 Thus, server attractiveness did not mediate the shirt color effect on tipping in this study.
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3 the red-black difference was reliable at the .05 level. However, they found the waiter
4 significantly less attractive when wearing red than when wearing white or black (means =
5 5.42 vs 6.49 and 6.04 respectively, $p < .05$). Thus, our results fail to replicate previous
6 findings that men and women perceive the opposite sex as more attractive when those
7 opposite sex persons wear red as opposed to other colors.
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14 DISCUSSION

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17 The results of this study failed to support Gueguen and Jacob's (2013) speculation
18 that female customers may tip waiters more when those waiters wear red shirts and failed
19 to conceptually replicate their finding that male consumers tipped waitresses more when
20 waitresses wore red shirts. In fact, the servers in this study received lower tips when
21 wearing red shirts than when wearing white or black shirts. Our findings also failed to
22 replicate previous findings that men and women find members of the opposite sex more
23 attractive when those opposite sex persons are pictured in front of a red background or
24 pictured wearing red clothing (Elliot & Niesta, 2008; Elliot, et. al., 2010). In fact, we
25 found female subjects perceived a waiter as less attractive when wearing red than when
26 wearing white or black. Given our significant reversal of the expected effects, our results
27 cannot be attributed to low power or to a weak manipulation of shirt color. Rather, they
28 suggest that the previous findings are less generalizable than previously believed, and
29 that the process underlying previous clothing color effects on tipping may not be
30 precisely what the researchers thought it was.
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The Red-Attractiveness Effect

Perhaps the most surprising result of our study is the failure to find that wearing red increased the perceived attractiveness of the waiter and waitress to individuals of the opposite sex. Previous research has found this red-attractiveness effect in samples from several countries using pictorial stimuli and ratings not unlike those used here (see Elliot & Niesta, 2008; Elliot, et. al., 2010). However, researchers have found that color effects on human behavior are context specific. In sports and other competitive contexts, people wearing red are perceived as more dominant and aggressive (see Feltman & Elliot, 2011; Little & Hill, 2007) and in achievement/job-seeking contexts, wearing the color red decreasing others' perceptions of the wearer's ability and intelligence (see Maier, Elliot, Lee, Lichtenfeld, Barchfeld & Pekrum, 2012). Perhaps the restaurant tipping context of our study made the competence associations of red more salient and potent than the attractiveness associations. The uniforms (a shirt and tie) servers wore in this study could have also bolstered red-competence over red-attractiveness associations – especially for the waitresses. While a common uniform for wait staff of both genders, a shirt and tie is infrequently worn by women in other contexts and the masculinity of this attire may have strengthened red-competence associations at the expense of red-attractiveness associations. A competency explanation might also account for why female (but not male) subjects perceived the opposite sex server as less attractive when the latter wore red, because women, more than men, find achievement and competence to be important determinants of attractiveness in the opposite sex (Buss, 1989).²

² Elliot, et. al. (2010) found that perceptions of status mediate red effects on women's perceptions of male attractiveness and sexually desirability. One could argue that waiting tables is generally perceived as a low status occupation. Thus, the fact that our male targets were waiters could have outweighed the subtler cue of status provided by their red shirts. This could explain the absence of a positive red-attractiveness effect

The Red-Tipping Effect

Given the absence of a red-attractiveness effect, it is perhaps less surprising that we failed to find a positive effect of wearing red on the tips servers received, because Gueguen and Jacob (2013) hypothesized that their color effect on tipping was mediated by perceived attractiveness and sexiness. If Gueguen and Jacob's color effect on tipping was mediated by perceived attractiveness, then our failure to find a red-attractiveness effect would explain our failure to find a positive effect of wearing red on tips. It does not, however, explain why we found that servers wearing red received smaller tips than those wearing white or black.

Our finding that wearing red decreased servers' tips may be explained by the previously mentioned effects of red on perceptions of competence and on perceptions of aggressiveness and dominance. Subjects may have tipped the servers wearing red less than those wearing white or black because they perceived the former servers as less competent or as more aggressive/dominant. Unfortunately, we did not anticipate our negative red-tipping effect or the need to measure and test perceptions of server competence and aggressiveness/dominance as potentially mediators of that effect. Such tests are left to future research.

If red uniforms decrease tips because they make servers appear less competent or more aggressive/dominant as we speculate, then why didn't those perceptual effects manifest in Gueguen and Jacob's (2013) study? Perhaps these negative associations with the color red impacted tipping more strongly in our study than in that of Gueguen and Jacob because our study involved hypothetical role playing while theirs involved actual

for waiters, but could not explain why women found waiters wearing red less attractive than those wearing other colors.

dining experiences. It is possible that the actual service experience in Gueguen and Jacob's study outweighed the subtler cues of competence and/or aggressiveness/dominance provided by the waitresses' red shirts. Another possibility is that cultural differences between France and the U.S. make the context-specific associations of the color red differ across the two nations. These too are possibilities worth investigating in future research.

Theoretical Implications

Our finding that red did not enhance the attractiveness of waitresses raises questions about the processes underlying Gueguen and Jacob's (2013) red-tipping effect, because they attributed their finding to red priming effects that enhanced the waitress' perceived attractiveness. One possibility is that red did enhance the waitresses' perceived attractiveness through priming as Gueguen and Jacob speculated and that cultural differences between their French sample and our U.S. sample explain the different red-attractiveness effects (one presumed, the other measured) in the two studies. Another possibility is that perceived attractiveness did mediate Gueguen and Jacob's red-tipping effect, but not in the way they supposed. Red uniforms may have increased the perceived attractiveness of their waitress confederates, not because it directly primed male customers, but because it affected the waitresses' interactions with male customers. In other words, the waitress confederates' knowledge that they were wearing a red shirt may have led them to unintentionally alter their behavior in some way that enhanced their attractiveness to men (see Roberts, Owen & Havlicek, 2010). Such an effect would explain why we did not observe a positive red-attractiveness effect -- because the servers in our study did not actually interact with the subjects. Still another possibility is that

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3 something other than perceived attractiveness mediated the red-tipping effect observed by
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6 Gueguen and Jacob. Fleshing out and testing these possibilities is one potentially
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8 interesting direction for future research.
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10 Practical Implications

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12 From a practical perspective, the current findings suggest that more research is
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14 needed before restaurant managers change their servers' uniform colors to include red,
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16 and before servers start wearing red to work, in an attempts to increase the tips customers
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18 leave. Indeed, such effects might backfire and actually decrease tips. Although Gueguen
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20 and Jacob (2013) demonstrated that wearing red can increases waitresses tips from male
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22 customers, the current study demonstrates that the psychological effects of color are too
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24 complex and context dependent to confidently predict on the basis of one or even two
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26 studies. Much more research needs to be done before we can confidently prescribe
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28 uniform colors as a way to improve tips.
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For Peer Review

Shirt Color and Tipping

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Table 1. Means, standard deviations, and sample sizes by condition.

Subject Sex	Server Sex	Shirt Color	Tip Amount			Server Attractiveness		
			Standard		Valid N	Standard		Valid N
			Mean	Deviation		Mean	Deviation	
Male Subjects	Waiter	white	3.01	.89	103	5.46	2.16	103
		black	2.98	1.00	106	5.10	2.07	106
		red	2.91	.90	112	5.38	2.28	112
	Waitress	white	3.25 ^{ab}	.97	110	6.36	1.62	110
		black	3.32 ^a	.94	115	6.46	1.92	115
		red	3.13 ^b	.97	110	6.43	1.78	110
Female Subjects	Waiter	white	3.18 ^a	1.03	77	6.49 ^b	2.03	77
		black	3.10 ^a	.93	75	6.04 ^b	2.38	75
		red	2.86 ^b	.90	72	5.42 ^a	2.33	72
	Waitress	white	2.98	.93	65	6.23 ^{ab}	1.89	65
		black	3.06	.94	64	5.80 ^b	2.03	64
		red	2.92	.93	66	6.33 ^a	2.02	66

Note: Means within each combination of server and subject sex that have different superscripts are significantly different from one another at the .05 level.

Shirt Color and Tipping

Table 2. Analysis of tip amount.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	10152.867	12	846.072	948.143	.000	.915
Shirt Color	5.520	2	2.760	3.093	.046	.006
Server Sex	2.587	1	2.587	2.899	.089	.003
Subject Sex	1.736	1	1.736	1.945	.163	.002
Color x Server Sex	.800	2	.400	.448	.639	.001
Color x Subject Sex	.313	2	.157	.176	.839	.000
Server Sex x Subject Sex	6.763	1	6.763	7.579	.006	.007
Sex						
Color x Server Sex x Subject Sex	.951	2	.475	.533	.587	.001
Error	948.565	1063	.892			
Total	11101.431	1075				
Corrected Total	969.725	1074				

Shirt Color and Tipping

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Table 3. Analysis of server attractiveness.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	38279.200	12	3189.933	766.340	.000	.896
Shirt Color	16.352	2	8.176	1.964	.141	.004
Server Sex	98.318	1	98.318	23.620	.000	.022
Subject Sex	8.944	1	8.944	2.149	.143	.002
Color x Server Sex	19.143	2	9.572	2.299	.101	.004
Color x Subject Sex	10.043	2	5.022	1.206	.300	.002
Server Sex x Subject Sex	59.753	1	59.753	14.355	.000	.013
Color x Server Sex x Subject Sex	24.077	2	12.039	2.892	.056	.005
Error	4424.800	1063	4.163			
Total	42704.000	1075				

Peer Review