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The “Mask Effect” on the tips that customers leave restaurant servers

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ABSTRACT

Masks have become the custom among restaurant workers and bartenders as a form of protection against COVID-19. Yet, given the rapid introduction of masks to the uniforms of restaurant servers there is a dearth of extant scholarship that has explored the effects of face coverings on customers’ behaviors. In response, this research offers a preliminary test of the effect of server masks on a common consumer behavior in the full-service restaurant industry—tipping. We review theoretical and empirical reasons suggesting that a mask may have a negative effect on customers’ tipping practices. Potential mask effects on tipping are then explored with a survey experiment that was administered to a large and diverse sample of Amazon Mechanical Turk “workers.” Our results suggest that wearing a mask is not likely to, on average, have a meaningful effect on how much restaurant customers tip their servers. However, we do observe a negative indirect effect of a mask on customer reported tip amount through diminished perceptions of a hypothetical servers’ friendliness. This effect was found to be attenuated among those who are altruistically motivated to tip servers as a way to help them financially. The implications of our results and directions for future research are discussed.

According to new research by One Fair Wage (OFW), over 80% of restaurant servers reported experiencing a decrease in their tipped wages as a result of the COVID-19 pandemic. For many servers, the decline in tips was quite severe. In fact, 66% of the 1675 restaurant servers surveyed by OFW reported that their tip wages decreased by 50 or more percent during the pandemic. A portion of the decrease in servers’ tipped income during the pandemic was undoubtedly the result of reduced restaurant patronage, capacity restrictions, and the accompanying reduction in servers’ work hours. Additionally, recent research by Lynn (2021) found that the average tip percentage left in full-service restaurants deceased by roughly 1–2 percentages points following the onset of the pandemic—a decrease that is speculated to be caused by the pandemic-related shift from dine-in services to take-out orders. Because customers are reluctant to tip for carryout services, this shift is logically a contributing factor to the pandemic associated decline in servers’ and bartenders’ tipped incomes.

The financial hardship that low-income earners, in particular, experienced because of the surge in unemployment and accompanying loss of income following the onset of the pandemic (see Parker et al., 2020) also likely played a role in the reduction of servers’ tipped wages. In a recent analysis of 17 million Chicago taxi rides taken between 2018 and 2021 Conlisk (2021), for instance, found that “the percent of riders who left a tip plummeted roughly 15% points” in March 2020 “and remained well below the pre-pandemic mean even a year later.” The reduction in the proportion of riders leaving their driver a tip was shown by Conlisk to be driven primarily by riders who were picked up in low-income areas of Chicago. The negative effect that the pandemic has had on consumers’ overall mood (see Lynn and McCall, 2000; Sánchez, 2002) and social distancing mandates that have restricted their ability to interact closely with their servers and bartenders (see Guéguen and Jacob, 2005, 2014) may have further dampened customers’ tipping generosity during the pandemic.

In addition to these factors, there are reasons to believe that customers may be inclined to tip their servers and bartenders less because they are now wearing masks to protect themselves and others from contracting the COVID-19 virus. The service mantra encouraging service employees to provide “service with a smile” underscores the importance of authentic displays of positive affect when it comes to cultivating a positive customer experience. Lending credence to this mantra is a large and diverse body of scholarship documenting varied interpersonal effects of service providers’ display of positive affect (e.g., Barger and Grandey, 2006; Hofmann et al., 2021; Ka-shing and Chan, 2020; Pugh, 2001). Given this body of extant evidence it is perhaps not surprising that restaurant servers who smile or otherwise display positive affective

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signals tend to be perceived to be more friendly and receive larger tips as a result (e.g., see Bujisic et al., 2014; Chi et al., 2011; Lynn and McCall, 2009; Lynn, 2006; Medler-Liraz, 2014). In short, it is logical to suspect that when servers’ non-verbal facial cues that signal warmth and friendliness are largely concealed with a mask, customers may be inclined to leave them smaller tips than they otherwise would have left if such non-verbal hospitable cues were fully visible. We thus posit that our mask manipulation will have a significant negative indirect effect on the size of tips that respondents report that they would leave a hypothetical server through their perceptions of the server’s friendliness.

In contrast, service providers’ display of positive affect during service encounters may continue to have the desired effect on behavioral and cognitive customer outcomes even when such displays are largely concealed by a mask. For instance, an authentic open mouth smile sets into motion a chain reaction wherein the raising of the corners of the mouth causes other facial features to change, most notably the emergence of crows’ feet wrinkles around the eyes, which may be an equally good, or even superior, identifiable cue of authentic displays of positive emotions/affection (Ekman et al., 2002; Lechner and Paul, 2019). If consumers are able to see positive displays of emotions (e.g., an authentic smile) in the eyes of service providers, then wearing a mask may not necessarily undermine their perceptions of their servers’ friendliness.

Recent research by Hofmann et al. (2021) lends some support to this possibility. The authors administered a vignette experiment to a sample of consumers that included a mask and open mouth smile manipulation of a hypothetical front-line employee of a fashion retailer. The authors report that respondents in the mask conditions rated the hypothetical employees’ emotional display significantly more positively when they were smiling compared to the condition where they were not smiling. Further, the authors demonstrate that an authentic smile had a positive effect on customer outcomes (e.g., advice taking, social rapport, satisfaction) irrespective of whether or not the hypothetical front-line employee was depicted wearing a mask. In fact, when the hypothetical employee was not smiling the authors found that a mask functioned to mitigate the negative effects that stem from the absence of positive affective displays on customer outcomes. This line of reasoning and extant empirical evidence suggest that the mandate that servers wear a mask may have no effect on restaurant customers’ tipping practices as long as servers continue to deliver service with a “masked smile.” If this is the case, we could also expect to observe a null relationship between our mask manipulation, respondents’ perception of their hypothetical servers’ friendliness, and the amount of money that they would purportedly leave them as a tip.

Additionally, extant theory and scholarship on the motivations that underpin tipping behaviors (see Lynn, 2009, 2015, 2016, 2018), more generally, provide a basis to predict that some customers’ may even respond to visible cues of the pandemic, such as a mask, by tipping their service providers more generously than they otherwise would if such cues were absent. The motives involving a desire to help servers financially (i.e., altruistic motive) or reward them for their efforts (i.e., reciprocity motive) are likely to be particularly salient given the financial hardship that they have experienced and the heightened risk of contracting COVID that they have taken as a front-line worker during the pandemic. For instance, according to Lynn (2021), “it is possible that periods of crisis increase perceptions of relative fortune among those less affected by the crisis and thereby, enhance gratitude for services received, awareness of the costs involved in providing services, and/or perceptions of servers’ need for assistance, all of which would encourage tipping and increase tip amounts.”

Lending some credence to this possibility are the results from the previously cited study by Conlisk (2021) assessing changes in the tipping behaviors of Chicagoan taxi riders between 2018 and 2021. While the author observed a decrease in the proportion of riders who left their driver a tip following the onset of the pandemic, in March 2020, those who did leave a tip were found to on average tip more than they did pre-pandemic. This increase was shown to be driven largely by passengers’ income such that trips originating in higher income areas resulted in a larger increase in tip percentage than those originating in low-income areas of Chicago.

Importantly, however, the author also reports a positive association between the number of COVID hospitalizations in Chicago and the non-zero percentage of the fare that riders left their driver as a gratuity. As COVID hospitalizations increased, taxi riders who tipped their driver became on average more generous in the amount that they left. Consistent with Lynn (2021), the author interprets this pattern as “compelling evidence for the pro-social or altruistic nature of passengers” who despite the many reasons to tip less during the pandemic nonetheless tipped more in an effort to help drivers and compensate them for the heightened risk, evidenced by increasing rates of hospitalizations, of contracting COVID-19 while working during the pandemic. Much like knowledge of hospitalization rates, the act of wearing a mask may function as a cue of risk for those who are motivated to tip for altruistic and/or reciprocity reasons. If so, their tipping decisions may be less sensitive a mask’s concealment of facial cues signifying friendliness. In fact, the act of wearing a mask may in and of itself function as a hospitable gesture for consumers who are motivated to tip as a way to help servers and/or express their appreciation for the risk that they accrue by working during the pandemic. This would suggest that the any negative indirect effect of our mask manipulation on tip amount through perceptions of servers’ friendliness would be attenuated, or even become positive, among those respondents whose tipping practices are strongly governed by reciprocity or altruistic motives.

By analyzing data derived from a survey experiment that was administered to a large and diverse sample of Amazon Mechanical Turk “workers,” the current research offers a preliminary, and largely exploratory, test of the process outlined in Fig. 1. Our experiment allowed for a controlled test of the direct and indirect effects of a mask on customers’ perceptions of a hypothetical servers’ friendliness and the dollar amount that they would leave as a tip. The role of tipping motives (altruistic and reciprocity) in the process linking our manipulation of servers’ mask with respondents’ perceptions of the servers’ friendliness and their tipping intentions is also explored.
study analyzes data derived from a survey experiment that was administered to a sample of Amazon Mechanical Turk “workers.” While valid concerns have and continue to be raised regarding the quality of MTurk data (e.g., see Aruguete et al., 2019; Rouse, 2015; Smith et al., 2016), researchers are generally in agreement that MTurk is a useful platform to conduct large scale studies at an economical rate. Further, MTurk samples tend to be much more diverse than conventional convenience samples and are particularly well suited for experimental research (e.g., Berinsky et al., 2012; Casler et al., 2013; Hauser and Schwarz, 2016).

A total of 1642 MTurk workers assented to complete a five minute survey for a nominal reward ($0.60) paid by Amazon. However, 71 of these participants were omitted from the analysis because they took the survey twice (n = 9) or completed it in (n = 62) 120 s or less (median = 319 s). An additional 95 cases were omitted from the analysis because they provided questionable tip amounts. Fifty-four respondents were also omitted from the analysis because of missing data on our measure of tip amount, perceptions of server friendliness, altruistic and/or reward for good service motivations underpinning tipping behaviors. These procedures resulted in a large (n = 1422) and demographically diverse sample of United States consumers (50 states, District of Columbia, and Puerto Rico). Males (50.4%) and females (49.6%) were equally represented in our sample and 68.8% self-reported to be non-Hispanic White, 10.5% as Asian, 11.5% as non-Hispanic Black or African American, 6.6% as Hispanic or Latino, and 2.5% of another race/ethnic group. The average respondent was 40.56 years of age (SD = 12.86).

2. Experimental manipulations

To test the causal effect of a mask on customers’ tipping intentions we asked respondents to imagine that they had taken a friend or family member out for dinner at a local restaurant and showed them a photograph of a hypothetical waiter/waitress that we indicated had been assigned to their table. The photograph that was included with the vignette was of either a White, Black, or Hispanic male or female server who was either wearing a black mask or was not. The six models that were depicted in the photographs were selected from Adobe Stock⁴ and black masks were superimposed on them using Photoshop. The selected photographs were set in a restaurant, bar, or cafe; and the models all had similar poses, open mouth smiles, and direct eye contact. Following the vignette respondents were asked to report, in dollars and cents, how much they would tip the server if their bill was $57.54 and they were satisfied with both the food and quality of service. The average reported tip amount for this question ranged from $0.00 to $28.00 with a mean of $10.71 (SD = 3.85).

Next, we displayed the same photograph that had previously been randomly assigned to respondents and asked them to report on a 7-point scale (1 = extremely unfriendly, 7 = extremely friendly) how friendly the server appeared. The average score on the friendliness scale was 5.91 (SD = 1.09) indicating that the hypothetical servers were perceived by most respondents to be quite friendly in their appearance. Finally, included in a block of items towards the end of the short survey were six

2 Reported tip amounts were considered entry errors, non-serious, exaggerated, or otherwise questionable estimates if they exceeded 50% ($28.77) of the hypothetical bill size.

3 The 220 cases that were omitted because of data quality concerns were distributed similarly across the 12 experimental conditions (x² = 9.44 (df=11), p = 0.581). As such, the substantive conclusions derived from our analysis should not be sensitive to the omission of these cases.

4 https://stock.adobe.com/license-terms

5 We also asked respondents to report how much they would tip if they were (1) dissatisfied with both the food and quality of service, (2) satisfied with the food but dissatisfied with the quality of service, and (3) dissatisfied with the food but satisfied with the quality of service. The within-person manipulation is the focus of another and unrelated paper. We nonetheless estimated a repeated measure general linear model to explore whether the average negative within-person effect of dissatisfactory dining experiences on tip amount varied as a function of our between-person manipulation. The within-subject effect of dissatisfaction on tipping was found to be weaker (p = 0.06) for respondents in the mask conditions compared to those in the non-mask conditions. The nature of this interaction was such that respondents in the mask condition left larger tips under conditions of dissatisfactory dining experience compared to those who had a server that was not wearing a mask. This finding suggest that customers may be more forgiving of dissatisfactory experiences when they are primed to think about the pandemic by a server who is wearing a mask. This within-subject experiment was also used to assess the robustness of our results in an analytic sample that excluded an additional 180 cases for data quality concerns. Response patterns were considered questionable and cases omitted if a respondent reported a higher tip amount in the dissatisfied with food and service condition than in the satisfied with the food and service condition or reported a lower tip amount under the dissatisfied with only food/service condition than in the dissatisfied with both the food and service condition. Respondents who reported a tip amount that exceeded 50% ($28.77) of the hypothetical bill size in any of the remaining three within-person conditions were also omitted from this alternative analytic sample. The substantive conclusions derived from the results produced by models that were estimated using this alternative analytic sample (n = 1242) were consistent with those reported in the main text.
questions adopted from Lynn (2018); see also Lynn (2009, 2015, 2016) that are used to measure altruistic and reciprocity (e.g., reward good service) motives underpinning respondents’ tipping behaviors.6

A rotated (Promax) principle components analysis (PCA) of all six items produced a clear two-factor solution that accounted for 70.40% of the total item variance. Three items asking respondents to report their agreement (1 = strong disagree, 7 = strongly agree) with statements indicating that they tip “out of gratitude for a positive service experience,” “as a way of saying thank you,” and “to reward good service” loaded strongly on the first factor (eigenvalue = 2.70) and as a result were summed and averaged to create an index (alpha = 0.85) measuring respondents’ motive to tip servers in order to reward their service efforts (reciprocity motive). The reciprocity motive index ranged from 1 to 7 with a mean of 6.03 (sd = 0.949). The other three items asked respondents to report their agreement with statements indicating that they are motivated to tip “to make servers happy,” “because servers need the money more than they do,” and “to make up for servers’ low wages.” These items loaded on the second factor (eigenvalue = 1.53) and were used to create a mean index (alpha = 0.70) measuring respondents’ motive to tip for altruistic reasons. The altruism motive index ranged from 1 to 7 with a mean of 4.93 (sd = 1.24).

3. Results

Table 1 presents results from independent sample t-tests comparing mean tip amounts and perceptions of servers’ friendliness across experimental conditions. As shown in Table 1, mean tip amounts were not observed to be sensitive to our mask manipulation. The average tip amount between the masked and non-masked conditions was not significant for any of the six hypothetical servers included in our experiment (p values ranged from .348 to .897). However, wearing a mask did have a significant negative effect on respondents’ perceptions of the hypothetical servers’ friendliness. On average, servers with a mask (mean = 5.75) were rated .32 points (p < 0.001) lower on our measure of perceived friendliness than servers who were not wearing a mask (mean = 6.07).

These results leave open the possibility that wearing a mask has an indirect causal effect on customers’ tipping practices through diminished perceptions of friendliness. As a formal test of this process we estimated a simple mediation model using the PROCESS macro for SPSS (Hayes, 2017). Statistical significance of the indirect effect was determined using bias-corrected confidence intervals based on 10,000 bootstrap samples. As shown in Table 2, controlling for the hypothetical servers’ sex and race, the indirect effect of wearing a mask on respondents’ tipping intentions through perceptions of server friendliness was statistically significant (see b = −.15, BootLLCI = −.239, −.077).

Additionally, and as shown in Table 2, female (b = 0.342, p < 0.001) and Black (b = 0.163, p = 0.017) servers in our experiment were on average rated as appearing friendlier than the hypothetical male and White servers were rated. Further, (see Model 2, Table 2) controlling for perceptions of friendliness respondents reported that they would tip the female servers in our study significantly less (b = −0.589, p = 0.004) than the male servers. However, these associations should be interpreted with caution. Two of the three hypothetical male servers in our experiment were depicted holding a tray with a glass of wine on it and were wearing formal attire (e.g., bowtie). These signals of fine dining were not present in any of the photographs of our hypothetical female servers. In short, these associations may be the outcome of the confounding of servers’ sex and race with other factors that may be associated with customers’ tipping behaviors (and/or perceptions of friendliness).

Next, we estimated two moderated mediation models to assess whether the strength of this indirect effect varies as a function of altruistic (Table 3) or reciprocity (Table 4) motives underpinning the practice of tipping.7 As shown in Model 1 (Table 3) the interaction between our manipulation of servers’ mask and respondents’ self-reported altruistic tipping motive is significant (b = 0.097, p = 0.030) such that the negative effect of a mask on perceptions of friendliness decreases as respondents’ motivation to tip to help servers increases. As a result, the size of the negative indirect effect of a mask on tip amount through perceptions of friendliness is diminished as a function of altruistic tipping motives (index of moderated mediation coefficient = −0.039, BootLLCI = −0.002, BootULCI = −0.084).8

As shown in the bottom panel of Table 3, among those that scored low on our measure of altruistic tipping motives the estimated indirect effect (b = −0.178 BootLLCI = −0.297, −0.077) is 51% higher than among those that report being strongly motivated to tip in a way of helping servers financially (b = −0.088, BootLLCI = −0.170, −0.026).

However, and as shown in Table 4, we find no evidence that the indirect effect of wearing a mask on our respondents’ reported tip amount through perceptions of the hypothetical servers’ friendliness is sensitive to variability in reciprocity tipping motives. Further, the non-significant interaction terms between our manipulation of mask and tipping motives predicting tip amount (Model 2 of Tables 3 and 4) indicate that the (null) direct, or unmediated, effect of mask on tip amount does not differ as a function of altruistic nor reciprocity tipping motives. We also estimated a series of supplemental moderated mediation models to explore whether the indirect effect of our manipulation of mask on tip amount differs as a function of the race and/or sex of our hypothetical servers or the race and/or sex of our respondents. These models produced no reliable evidence that the indirect mask effect that we observe is sensitive to the sex or race of the hypothetical server or the sex or race of our respondents.

8 It is also plausible that seeing a mask on a server would function to activate customers’ motivation to tip for altruistic or reciprocity reasons and thereby shape their appraisal of servers’ friendliness and resultant tipping behaviors (see Jacob et al., 2013). Given that our measures of tipping motives are general in nature and not linked with the experimental vignette we are not able adequately test this alternative specification of the process. We did nonetheless explore this possibility by estimating two serial mediation models linking our mask manipulation with tipping motives (altruistic/reciprocity), perceptions of server friendliness, and tip amount (mask → motives → friendliness → tips). Results from these models did not support this alternative specification of the process. Our mask manipulation was not observed to be associated with our measure of altruistic tipping motives (b = −0.026, p = 0.691) nor reciprocity motives (b = −0.028, p = 0.579).

9 The index of moderated mediation is a formal test of the statistical significance of moderated mediation (Hayes, 2017). In this case, this index quantifies the relationship between altruistic tipping motives and the size of the indirect effect of our mask manipulation on tip amount through perceptions of friendliness. The index coefficient (0.039) can be interpreted as the predicted change in the size of the negative indirect effect (mask → friendliness → tip) with a one-unit increase in our measure of altruistic tipping motives. Given that the standard deviation of our measure of tip amount is $3.85, the moderation of the indirect effect that we observe is quite small (1% of a $50 tip). To further explore the moderating effect of political partisanship in the relationship between our mask manipulation and customers’ tipping intentions we created a dummy variable contrasting respondents who reported residing in states that were won by Trump (−1) with those that were won by Biden (+0) in the 2020 presidential election. Exploratory models that included this very crude proxy for respondents’ political partisanship produced no evidence to suggest that the effects of our mask manipulation on perceptions of a hypothetical servers’ friendliness (b = −.092, p = .427) or reported tipping intentions (b = −.199, p = .631) varied as a function of their state’s electoral votes.

6 We wanted to keep the survey short (e.g., five minutes) and as such we refrained from including all of the indicators of altruistic and reciprocity tipping motives included in Lynn’s body of research.

7 Our measure of tip amount, perceptions of friendliness, and tipping motives (altruistic/reciprocity) were all significantly correlated (p < 0.001) and ranged in size from 0.118 (tip amount and perceptions of friendliness) to 0.261 (altruistic and reciprocity motives).
Table 1
Results from independent sample T-test comparing average tip amount and perceptions of server friendliness across mask and non-mask experimental conditions.

| Condition | N  | Mean Tip   | Mean Difference (P value) | Mean Friendliness | Mean Difference (P value) |
|-----------|----|------------|--------------------------|-------------------|--------------------------|
|           |    | (SD)       |                          | (SD)              |                          |
| 115       | 115| $10.94     | 0.070                    | 5.71              | 0.538                    |
|           |    | (3.78)     | (0.897)                  | (1.21)            | (<0.001)                 |
| 114       | 114| $10.87     | 5.18                     | 6.28              | 0.200                    |
|           |    | (4.38)     |                          | (1.09)            |                          |
| 112       | 112| $10.48     | -0.379                   | 6.28              | 0.200                    |
|           |    | (4.18)     | (.481)                   | (0.893)           | (0.107)                  |
| 143       | 143| $10.86     | 6.08                     | 5.90              | 0.277                    |
|           |    | (4.32)     |                          | (1.04)            |                          |
| 107       | 107| $11.57     | 0.287                    | 5.90              | 0.277                    |
|           |    | (3.98)     | (0.572)                  | (0.971)           | (0.037)                  |
| 137       | 137| $11.29     | 5.62                     | 6.30              | 0.136                    |
|           |    | (3.90)     |                          | (1.01)            | (0.257)                  |
| 139       | 139| $10.40     | 0.347                    | 6.30              | 0.136                    |
|           |    | (3.60)     | (0.456)                  | (1.01)            | (0.257)                  |
| 107       | 107| $10.06     | 6.16                     | 5.99              | 0.277                    |
|           |    | (3.62)     |                          | (1.09)            |                          |
| 127       | 127| $10.22     | -0.466                   | 6.06              | 0.074                    |
|           |    | (3.89)     | (.348)                   | (1.04)            | (0.593)                  |
| 93        | 93 | $10.68     | 5.99                     | 6.12              | 0.629                    |
|           |    | (3.26)     |                          | (0.972)           | (<0.001)                 |
| 108       | 108| $10.72     | 0.308                    | 6.12              | 0.629                    |
|           |    | (3.68)     | (0.494)                  | (0.964)           | (<0.001)                 |
| 120       | 120| $10.41     | 5.49                     | 6.12              | 0.629                    |
|           |    | (3.10)     |                          | (1.31)            |                          |
| No Mask (Total) | 708 | $10.69     | -0.030                   | 6.07              | 0.321                    |
|            |    | (3.86)     | (.883)                   | (1.04)            | (<0.001)                 |
| Mask (Total) | 714 | $10.72     | 5.75                     | 6.12              | 0.629                    |
|            |    | (3.84)     |                          | (1.12)            |                          |
4. Discussion and conclusion

In an effort to curtail the spread of COVID-19, facial coverings became a normative feature of public life and while there is much uncertainty regarding the future, some commentators speculate that this may continue to be the case well into the future.  

If this materializes to be the case, the results from this survey experiment, taken as a whole, should be welcome news to restaurant managers, servers, and bartenders, in particular, and tipped employees, more generally. Like those of Hofmann et al. ’s (2021) recent survey experiment that was centered on the effects of wearing a mask on consumer outcomes in a retail context, our results suggest that wearing a mask, on average, does not negatively impact customers’ tipping practices in a full-service restaurant context. Supplemental and exploratory analyses indicate that this is the case across servers’ and customers’ race and sex. While we do find some evidence suggesting that customers may be inclined to tip their servers less as a result of the negative effect that a mask has on customers’ perceptions of servers’ friendliness, this effect is quite small (15 cents) and is clearly offset by countervailing processes.

For instance, one (nominal) countervailing process we were

Table 2

Results from OLS Regression Models Testing the Indirect effect of Mask on Tip Amount through Perceptions of Friendliness.

|                     | Perceptions of Friendliness (Model 1) | Tip Amount ($) (Model 2) |
|---------------------|----------------------------------------|---------------------------|
|                     | b       | Se     | LLCI  | UCLI  | b       | Se     | LLCI  | UCLI  |
| Mask (−1)           | -0.322  | 0.057  | -0.433| -0.211| 0.176   | 0.205  | -0.226| 0.577 |
| Server Female (−1)  | 0.542   | 0.057  | 0.231 | 0.453 | -0.589  | 0.205  | -0.491| -0.187|
| Black Server (−1)   | 0.163   | 0.068  | 0.029 | 0.210 | -0.047  | 0.245  | -0.528| 0.433 |
| Hispanic Server (−1)| 0.072   | 0.070  | -0.065| 0.210 | -0.343  | 0.250  | -0.834| 0.148 |
| Friendliness        | 0.469   | 0.095  | 0.283 | 0.656 | 0.022   |        |       |       |
| Constant            | 5.82    | 0.064  | 5.69  | 5.94  | 8.28    | 0.598  | 7.10  | 9.45  |
| $R^2$               | 0.050   |        |       |       | 0.022   |        |       |       |
| Indirect Effect (Mask → Friendliness → Tip Amount) | -0.151  | 0.041  | -0.239| -0.077|        |        |       |       |

Table 3

Results from OLS regression models testing the moderated mediation process involving altruistic tipping motive.

|                     | Perceptions of Friendliness (Model 1) | Tip Amount ($) (Model 2) |
|---------------------|----------------------------------------|---------------------------|
|                     | b       | Se     | LLCI  | UCLI  | b       | Se     | LLCI  | UCLI  |
| Mask (−1)           | -0.806  | 0.229  | -1.25 | -0.357| -1.07   | 0.827  | -2.70 | 0.549 |
| Server Female (−1)  | 0.030   | 0.056  | 0.221 | 0.440 | -0.594  | 0.204  | -0.994| -0.195|
| Black Server (−1)   | 0.169   | 0.068  | 0.037 | 0.302 | -0.019  | 0.244  | -0.497| 0.459 |
| Hispanic Server (−1)| 0.094   | 0.069  | -0.042| 0.229 | -0.282  | 0.249  | -0.771| 0.208 |
| Friendliness        | 0.396   | 0.096  | 0.209 | 0.584 |        |        |       |       |
| Altruistic Motive   | 0.087   | 0.031  | 0.026 | 0.149 | 0.234   | 0.113  | 0.012 | 0.456 |
| Altruistic X Mask   | 0.097   | 0.045  | 0.009 | 0.186 | 0.246   | 0.162  | -0.072| 0.564 |
| Constant            | 5.38    | 0.168  | 5.05  | 5.71  | 7.54    | 0.795  | 5.98  | 9.99  |
| $R^2$               | 0.076   |        |       |       | 0.036   |        |       |       |
| Conditional Indirect Effect (Mask → Friendliness → Tip Amount) | b BSE BLLCI BULCI | -0.151  | 0.041  | -0.239 | -0.077 |        |        |       |

Table 4

Results from OLS regression models testing the moderated mediation process involving reciprocity tipping motive.

|                     | Perceptions of Friendliness (Model 1) | Tip Amount ($) (Model 2) |
|---------------------|----------------------------------------|---------------------------|
|                     | b       | Se     | LLCI  | UCLI  | b       | Se     | LLCI  | UCLI  |
| Mask (−1)           | -0.246  | 0.358  | -0.948| 0.457 | -0.324  | 1.30   | -2.88 | 2.23  |
| Server Female (−1)  | 0.334   | 0.055  | 0.226 | 0.443 | -0.572  | 0.204  | -0.971| -0.172|
| Black Server (−1)   | 0.164   | 0.067  | 0.033 | 0.295 | -0.033  | 0.243  | -0.511| 0.444 |
| Hispanic Server (−1)| 0.063   | 0.068  | -0.071| 0.198 | -0.352  | 0.249  | -0.840| 0.136 |
| Friendliness        | 0.375   | 0.097  | 0.185 | 0.565 |        |        |       |       |
| Reciprocity Motive  | 0.248   | 0.039  | 0.172 | 0.525 | 0.455   | 0.144  | 0.173 | 0.738 |
| Reciprocity X Mask  | -0.012  | 0.059  | -0.127| 0.104 | 0.080   | 0.214  | -0.339| 0.499 |
| Constant            | 4.32    | 0.243  | 3.85  | 4.80  | 6.09    | 0.979  | 4.17  | 8.01  |
| $R^2$               | 0.094   | 0.036  |        |       |        |        |       |       |
| Conditional Indirect Effect (Mask → Friendliness → Tip Amount) | b BSE BLLCI BULCI | -0.115  | 0.044  | -0.211 | -0.040 | -0.118 | 0.038  | -0.199 | -0.049 | -0.122 | 0.044  | -0.217 | -0.045 | 0.004  | 0.027  | -0.060 | 0.051 |
surprised to discover and that we explored with supplemental analyses involved our respondents’ rating of the hypothetical server’s physical attractiveness.

On a 7-point scale (1 = extremely unattractive, 7 = extremely attractive) our respondents on average rated servers in our experiment with a mask (mean = 5.52) significantly (p = 0.018) more physically attractive than those without a mask (mean = 5.35) and as a result they tended to tip masked servers slightly more (indirect effect = 0.039, BLLCI = 0.0039, ULCLI = 0.091) than comparable servers who were not wearing a mask. This positive indirect effect is attenuated and is no longer significant after controlling for respondents’ perceptions of the hypothetical servers’ friendliness (indirect effect = 0.016, BLLCI = -0.014, ULCLI = 0.059). Nonetheless, the general pattern that we observe in our data may reflect the growing acceptance and obligatory nature of face coverings during the pandemic to the degree that the absence of a covering, at least during the pandemic, is perceived to be irresponsible and unattractive by some customers (see Hofmann et al., 2021). Alternatively, masked faces may be interpreted as more attractive due to positivity bias wherein observers assume that partially obscured faces are more attractive than they would be if the entire face were visible (see Orghan and Hidalgo, 2020). Future research that explores the relationship between a mask and interpersonal perceptions of attractiveness is encouraged.

Further, while individual differences in consumers’ motivation to tip as a way to help servers financially and reciprocate for services received have been identified as potentially important factors towards understanding tipping behavior under crisis conditions (Lynn, 2021: Conlisk, 2021), our study constitutes the first to include measures of such motives in an empirical analysis. We find no evidence to suggest that the null effect of a mask on customers’ tipping behaviors that we observe is sensitive to variability in customers’ motivation to tip for altruistic or reciprocity reasons. However, our results do suggest that the tipping practices of those who tip for altruistic reasons may be less sensitive to the negative effect that a mask has on customers’ perceptions of servers’ friendliness. Indeed, we show that among those that are altruistically motivated to tip there was a 50% decrease in the size of the negative indirect effect of our manipulation of servers’ mask and their reported tip amount through perceptions of the servers’ friendliness. This finding suggests that consumers who are motivated to tip for altruistic reasons may be more inclined than others to see mask wearing as a pro-social and friendly gesture thereby offsetting the negative effect of a mask’s concealment of other cues of friendliness (e.g., open mouth smile).

Public health messages that encouraged that masks be worn as a form of not only self-protection against COVID-19 but importantly also as a way to protect others from contracting the virus likely functioned to enhance such a pro-social interpretation of mask wearing.

Our results also offer an incremental contribution to our broader understanding of the operant mechanisms that link tipping motives with tipping behaviors. Specifically, the findings that we report suggest that consumers who are strongly motivated to tip for altruistic or reciprocity reasons may tip more than their counterparts do, in part, because of the influence of these motives on their cognitive appraisal of their servers’ friendliness. We further explored this possibility by estimating two mediation models testing for indirect effects of our measures of tipping motives on reported tip amount through perceptions of server friendliness. Controlling for all of our experimental manipulations (hypothetical servers’ sex, race, and whether he/she was wearing a mask) the indirect effect of both altruistic (see b = 0.055, BCCL95% = 0.025, 0.089) and reciprocity (b = 0.091, BCCL95% = 0.039, 0.151) motives on respondents’ tipping intentions through perceptions of server friendliness were statistically significant. In short, customers who are motivated as a tipper to help servers financially and reward them for their efforts appear to be inclined to appraise their servers’ appearance more favorably and it is, in part, because of such favorable appraisals that they tend to tip them more generously (see Jacob et al., 2013; Lynn and McCall, 2016).

Our use of a vignette experimental design allowed for a controlled assessment of the direct and indirect causal effects of a mask on the tips that customers’ report they would leave to a hypothetical restaurant server. We do so in a relatively large and demographically diverse sample of U.S. consumers thus limiting the chances that our results reflect Type I or II errors. Of course, the hypothetical nature of our experiment leaves open the possibility that our results may not generalize to dining scenarios involving servers and customers in the flesh. Further, the endogenous nature of the relationship between face coverings and the pandemic constitutes an additional and related threat to the validity of our results.

For instance, most participants in a mask condition likely assumed that the hypothetical dining scenario was set in the present—during the pandemic. However, it is less clear how those in a no-mask condition interpreted the time context of the hypothetical dining scenario. If they assumed the scenario was set in a “normal” or non-pandemic context then our manipulation of servers’ mask might be conflated with other factors that are also endogenous to the pandemic. Thus, the “mask effects” (or lack thereof) that we observe might, at least to some degree, be

In addition to asking respondents to report how friendly and attractive they thought the hypothetical server appeared we also asked them to rate the servers’ overall appearance (1 = dislike a great deal, 7 = like a great deal). We intended to use all three questions to create a multi-item scale measuring respondents’ perception of the hypothetical servers’ overall aesthetic appeal. The results of correlational, reliability, and exploratory principal components analyses (PCA) lent credence to the appropriateness of this plan. Measures of perceived friendliness, attractiveness, and overall appearance of the hypothetical server were correlated between .419 and .560 and exhibited a moderate but acceptable level of internal consistency (alpha = .75). Additionally, a rotated (Promax) PCA of the three items produced a single factor solution that accounted for 67% of the total item variance. However, upon closer inspection of the focal bivariate relationships we discovered the countervailing effect of a mask on respondents’ perceptions of the hypothetical servers’ attractiveness (p = 0.018) and overall appearance (p = 0.929) vis-à-vis friendliness. We refrained from including our measure of respondents’ perceptions of servers’ overall appearance and attractiveness in the main analysis because the effect sizes were quite trivial and doing so would have added little to the substantive conclusions that we draw from the analysis that we do present. However, we think the experimental effects of a mask on perceptions of the physical attractiveness of the hypothetical server is sufficiently interesting that we wanted to present it in the discussion section as a way to encourage further research on the role that wearing a mask might play in shaping customers’ judgements of servers’ physical attractiveness.

This pattern was further explored and was not found to be sensitive to the sex of the server or the sex of the respondent. That is, the small indirect effect of our mask manipulation on tip amount through attractiveness was similar in magnitude for male and female respondents who were assigned to a condition involving a male or female server who either was or was not wearing a mask.

13 A mask may also function as a not so subtle reminder of the pandemic related tribulations that restaurant servers and bartenders face, thus leading altruistically motivated tipplers to look past the abundance of facial cues that signal friendliness when deciding how much to leave their servers as a tip. In other words, the effect of perceptions of server friendliness on reported tip amount could theoretically be moderated by tipping motives. This alternative specification of the process was explored by estimating a model predicting tip amount that included a multiplicative term between respondents’ perceptions of friendliness and altruistic motives. The interaction effect was not significant in this model (b = -0.067, p = 0.357).

14 To assess the robustness of this empirical pattern we estimated additional models that included measures of respondents’ perceptions of the hypothetical servers’ overall appearance and physical attractiveness as mediators of the relationship between tipping motives and reported tip amount. Results from these models were consistent with those reported on perceptions of servers’ friendliness. Respondents motivated to tip for altruistic or reciprocity reasons tended to rate the hypothetical servers’ overall appearance and physical attractiveness more favorably and as a result reported leaving larger tips than their counterparts who were less motivated to tip for such reasons.
interpreted as more general “pandemic effects.” Other respondents in the non-mask condition were likely to assume that the hypothetical dining scenario was set in the present thereby inducing feelings of discomfort with the idea of being in close contact with a mask-less server. Feelings of discomfort or other emotional responses (e.g., moral indignation) to the absence of a mask may have functioned to diminish perceptions of friendliness and the size of tips that these respondents would reportedly leave the hypothetical server. This process may have obscured a negative mask effect on tip amount but only to the degree that the same process is not inversely operant amongst comparable individuals in the mask conditions. In short, ambiguities surrounding respondents’ assumptions about the timing of the hypothetical dining scenario and the effects of such assumptions on respondents’ perceptions of the hypothetical servers’ friendliness and their reported tip amount may have threatened the validity of the results we present.

Notwithstanding these salient limitations, there are both conceptual and empirical reasons to suspect that our results are internally valid and generalizable. Conceptually, if there is a true, meaningful, negative “server mask” effect on customers’ tipping practices it would logically be more likely, not less likely, to be observed under experimentally controlled and hypothetical conditions. In real life scenarios, servers wearing a mask would be able to signal their warmth and friendliness towards their customers verbally and thereby offset the possible negative effects associated with the concealment of nonverbal displays of positive affect such as the open mouth smile (see Hofmann et al., 2021). That we did not observe a substantively meaningful mask effect suggests that a negative effect, at minimum, is not likely to be observed under real-life conditions.

Further, the correlational structure observed in our data replicates that of many other studies. For instance, while not the focus of the current study, our respondents’ reported tipping intentions were observed to be sensitive to our within-person manipulation of service satisfaction—a relationship that has been widely documented in the extant tipping literature (e.g., see Banks et al., 2018; Brewster and Brauer, 2017). Further, Black participants in our study reported that they would leave the hypothetical server a significantly smaller tip than White participants—a finding that has been reported in many previous studies that have used a variety of different methodologies (e.g., see Brewster and Nowak, 2019; Lynn, 2006). We were also able to replicate previously observed correlations between our measures of altruistic and reciprocity tipping motives and our respondents’ reported tipping intentions (see Lynn, 2015, 2016, 2018). Finally, that extant research has documented a relationship between what people say they would do under hypothetical conditions and what they actually do if confronted with a similar situation (e.g., see Brauer, Day, and Hammond, 2019; Hainmueller, Hangartner, and Yamamoto, 2015) gives us added confidence in the external validity of our results.

In short, when our results are coupled with those of Hofmann et al. (2021) we have some confidence in concluding that wearing a mask is not likely to, on average, have a meaningful effect on customers’ tipping practices. Of course, future research should aim to confirm this conclusion in a more authentic real life context. With the waxing and waning of COVID cases there will likely be windows of time wherein servers and bartenders may choose to wear a mask but are not required to do so. These windows will provide an opportunity for researchers to conduct naturalistic field experiments offering additional and more authentic test of the effects of wearing a mask on customers’ tipping behaviors. Future research should also assess whether our substantive conclusions are sensitive to the black mask that each of the hypothetical servers in our experiment were depicted wearing. For instance, given the link between introducing humor and entertainment into the service encounter and customers’ tipping behaviors (Frank and Lynn, 2020; Gueguen, 2002; Rind and Strohmets, 2001) future research might find that wearing an attention-getting or comical mask may function to enhance the quality of customers’ tipping behaviors. There are also reasons to believe that wearing a red (see Gueguen and Jacob, 2014; although see also Lynn et al., 2016) or gold (see Lee et al., 2018) color mask may encourage, at least under some conditions, customers to leave larger tips and as such should be explored in future research.

Studies that aim to identify the individual and environmental conditions under which wearing a mask leads customers to tip their servers more or less than they otherwise would be also encouraged. One potentially salient moderator that warrants research efforts is customers’ political affiliation. As captured in a GQ article titled, “Your Mask Is Now Your Political Identity,” the presence or absence of a mask has become a symbol of tribal membership — with Democrats/liberals wearing masks to signal social responsibility and concern for others and Republicans/conservatives refraining from doing so as a declaration of their individual freedom. Given such disparate partisan attitudes towards masks it is possible, if not likely, that servers wearing masks would increase the size of tips left by Democrats and decrease them from Republicans (see Conlisk, 2021). If future research determines this to be the case, it would have important implications on the tipped income of servers and bartenders who are forced to or choose to wear a mask while working in restaurants located in conservative/Republican parts of the United States.

Finally, we encourage future research centered on the effects of masks on customer behaviors, more generally. One such behavior of need of further research is what has colloquially been dubbed “maskual harassment.” The phenomenon of maskual harassment was revealed by the previously cited research by One Fair Wage (OFW) and is described as hostility that servers confront while trying to enforce COVID-19 protocols, most notably the mandate that customers wear mask when not seated at their table, or the harassment that waitresses, in particular, experience when they are asked to remove their mask and risk exposure to COVID-19 so that male customers can judge their looks before deciding how much to leave them as a tip (see Goldberg 2021). Nearly 60% of OFW’s study participants (58%) reported “feeling reluctant to enforce COVID-19 protocols out of concern that customers would tip them less” and their concerns appear warranted—a full two thirds (67%) reported having received what they perceived to be a below average tip after enforcing a protocol. Moreover, roughly 42% reported an increase in unwanted sexual comments from customers since the pandemic began and a large proportion of such comments take the form of a request that the waitress remove their mask or violate social distancing protocols and many feel compelled to comply for fear that the customer will not tip them if they refrain from doing so.

While it may be tempting to assume that maskual harassment is simply old wine in a new bottle—a reincarnation of a long standing and widely documented problem with sexual harassment in the restaurant

15 For example, we have seen restaurant workers wear masks with sequins, brightly-colored designs, or even a screen-printed mustache. These masks can elicit comments and smiles or laughter from patrons.
16 https://www.gq.com/story/mask-coronavirus-politics
17 https://www.pewresearch.org/politics/2020/06/25/republicans-democrats-move-even-further-apart-in-coronavirus-concerns/
18 If a mask functions to increase tips from Democrats and decrease tips from Republicans it might be evident in a difference in the variance in tips across mask and non-mask conditions. However, as shown in Table 1, this was not observed to be the case. The standard deviations in the non-mask conditions (sd = 3.86) and mask conditions (sd=3.84) were nearly identical (F = 0.012, p = 0.912). However, given the uncertainty regarding our respondents’ assumptions about the timing of the hypothetical dining scenario who were in the non-mask conditions the moderating effect of political affiliation should not be rejected based on this evidence. It is possible, for instance, that Republicans in our sample rewarded the non-masked server and Democrats penalized the non-masked server in proportion to the increase/decrease in tips that are attributed to political affiliation in the mask conditions.
industry—these statistics suggest otherwise and underscore the need for research centered on the pervasiveness, nature, and consequences of such pandemic related harassing consumer behaviors. More generally, we encourage research that assesses the ways in which a mask alters the dynamics of customer-employee interactions. Such research will be especially important if masks become a long-term feature of the uniform of restaurant servers and bartenders as some commentators speculate will be the case. We hope that the current research inspires such research.

Data availability

Data will be made available on request.

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