

Online Appendix:

Observational Learning: Evidence from a Randomized Natural Field Experiment

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In this appendix, we collected the omitted information in the order that are mentioned in the main text of the paper. Appendix A provides the sample images of the information displays; Appendix B presents the questionnaire of the post-dining survey; Appendix C provides the details of the omitted results mentioned in Section IV.A of the paper; Appendix D provides the table of the descriptive statistics of the survey data; and finally, Appendix E collects the omitted results mentioned in Section IV.B of the paper.

A Appendix: Information Displays

Figure 1 shows the image of the ranking information display in one of the ranking treatment locations. The size of the plastic plaque is 19 cm \times 12 cm as we mentioned in the paper. The left side reads (translated from Chinese) “The Names of the Five Most Popular Dishes in this Location According to the Number of Plates Sold Last Week” in the heading, followed by five rows listing the ranking on the left column (No. 1 - No. 5) and the names of the corresponding dishes. The right side image shows how the plastic plaque is displayed at the ranking treatment tables.

Figure 2 shows the image of the saliency information display in one of the saliency treatment locations. The size of the plastic plaque is 19 cm \times 12 cm as we mentioned in the paper. The right side image reads (translated from Chinese) “The Names of Some Sample Dishes from Our Menu” in the heading, followed by the names of five dishes in the next five rows. The left side image shows how the plastic plaque is displayed at the ranking treatment tables.

Notice that the top 3 dishes listed in Figure 1 do not all appear in Figure 2. This is because the top 3 dishes in the two locations actually differ.



Figure 1: The Image of the Information Display in One of the Ranking Treatment Locations.

Notes: The left side image shows the content of the information display, with the five most popular dishes listed in their order of popularity in the previous week; the right side image shows how this plastic plaque is displayed at the dining tables in the restaurant.



Figure 2: The Image of the Information Display in One of the Saliency Treatment Locations.

Notes: The right side image shows the content of the information display, with the five sample dishes from the menu (the actual top 3 dishes are included in this list, but they are not revealed as the top 3 dishes); the left side image shows how this plastic plaque is displayed at the dining tables in the restaurant.

B Appendix: Post-Dining Survey Questionnaire

The simple post-dining survey questionnaire includes the following eight questions and it took on average less than one minute to complete.

1. How many times have you dined in this restaurant (including other branches of Mei Zhou Dong Po)?
a. ___ first time; b. ___ 2-5 times; c. ___ 6-10 times; d. ___ more than 10 times.
2. Your Gender: a. ___ male; b. ___ female.
3. Your Age: a. ___ 20-30; b. ___ 31-40; c. ___ 41-50; d. ___ 51-60
4. Your Occupation: _____
5. What is your level of education? a. ___ High school; b. ___ 2 year college; c. ___ 4 year university; d. ___ Graduate degree.
6. Which province were you born? _____
7. Do you work in Beijing? a. ___ Yes; b. ___ No.
8. Overall, how would you rate the dining experience? a. ___ Very satisfied; b. ___ Satisfied; c. ___ So so; d. ___ Not satisfied.

C Appendix: Omitted Results in Section IV.A

Tables 1 and 2 below report the results we reported in the main text that examine whether the ranking treatment effects differ for top 3 dishes. Table 1 shows that in the ranking treatment locations, the demand increase for top 3 dishes when ranking information was displayed was somewhat more pronounced than that for top 5 dishes on average (as reported in Table 3 in the main text).; specifically, the estimated coefficient of “Treat*Top 3” in an OLS specification identical to Column (2) in Table 3 is 0.032 with a standard error of 0.008 (and a p -value of close to 0).

In contrast, Table 2 shows that, in the saliency treatment locations, the estimated saliency effect for top 3 dishes that were merely displayed as sample dishes remains small and statistically insignificant; specifically, the estimated coefficient of “Treat*Displayed (Top 3)” in an OLS specification identical to Column (2) in Table 4 of the main text is 0.01 with a standard error of 0.008 (and a p -value of 0.19).

	(1)	(2)	(3)	(4)
Variables	OLS	OLS	Probit	Probit
Treat	-0.005 (0.001) ^{***}	-0.0008 (0.0005) [*]	-0.0054 (0.0013) ^{***}	-0.0019 (0.0004) ^{***}
<u>Top 3</u>	0.129 (0.006) ^{***}	0.157 (0.008) ^{***}	0.125 (0.006) ^{***}	0.118 (0.0092) ^{***}
Treat * <u>Top 3</u>	0.028 (0.008) ^{***}	0.032 (0.008) ^{***}	0.0155 (0.0038) ^{***}	0.0135 (0.0032) ^{***}
Total Number of Dishes Ordered		0.013 (0.000) ^{***}		0.0076 (0.0001) ^{***}
Log of Total Bill Amount		0.00016 (0.00012)		-0.0001 (0.0001)
Constant	0.048 (0.001) ^{***}	-0.026 (0.021)		
Dish Dummy	No	Yes	No	Yes
Location Dummy	No	Yes	No	Yes
Number of Observations	235052	235052	235052	235052
R^2	0.017	0.068	0.027	0.132

Table 1: The Effect of Ranking Treatment on the Demand of "Top 3" Dishes: Using Experiment Period Data Only.

Notes: An observation in this analysis is a bill-dish combination. See Section II for its construction. For Probits in Columns (3) and (4), the reported coefficients are the *marginal effects* at the means. Robust standard errors clustered at the Bill ID level are reported in parentheses; *, **, *** respectively denotes significance at 10%, 5% and 1%.

Variables	(1) OLS	(2) OLS	(3) Probit	(4) Probit
Treat	0.0008 (0.001)	-0.0006 (0.0004)	0.0008 (0.0010)	-0.0004 (0.0004)
<u>Displayed (Top 3)</u>	0.1033 (0.0052) ^{***}	0.1247 (0.012) ^{***}	0.1042 (0.0052) ^{***}	0.0965 (0.0129) ^{***}
Treat * <u>Displayed (Top 3)</u>	0.0102 (0.009)	0.0096 (0.008)	0.0041 (0.0037)	0.0035 (0.0028)
Total Number of Dishes Ordered		0.0130 (0.0002) ^{***}		0.0078 (0.0002) ^{***}
Log of Total Bill Amount		-0.0000 (0.0001)		-0.0003 (0.0001) ^{***}
Constant	0.0355 (0.0006) ^{***}	0.2273 (0.0906) ^{**}		
Dish Dummy	No	Yes	No	Yes
Location Dummy	No	Yes	No	Yes
Number of Observations	181868	181868	181868	181868
R^2	0.0125	0.05	0.0233	0.1154

Table 2: The Effect of Saliency Treatment on the Demand of "Displayed" Dishes that Are Actual "Top 3 Dishes": Using Experiment Period Data Only.

Notes: An observation in this analysis is a bill-dish combination. See Section II for its construction. For Probits in Columns (3) and (4), the reported coefficients are the *marginal effects* at the means. Robust standard errors clustered at the Bill ID level are reported in parentheses; *, **, *** respectively denotes significance at 10%, 5% and 1%.

D Appendix: Descriptive Statistics of the Survey Data

In Table 3, we report the omitted descriptive statistics of the survey data.

	Ranking Treatment Locations (644 Surveys)	Saliency Treatment Locations (693 Surveys)
<u>Survey Q1: How many times have you dined in this restaurant?</u>		
First time	14.29	18.15
2-5 times	22.54	20.51
6-10 times	13.55	11.88
10+ times	49.63	49.46
<u>Survey Q2: Your gender?</u>		
Male	60.39	55.22
Female	39.61	44.78
<u>Survey Q3: Your age?</u>		
20-30	36.13	39.36
31-40	45.87	42.22
41-50	13.19	14.39
51-60	4.81	4.02
<u>Survey Q5: What is your level of education?</u>		
High school	10.99	14.8
2 year college	23.83	28.82
4 year university	45.65	35.76
Graduate degree	20.44	20.62
<u>Survey Q7: Do you work in Beijing?</u>		
Yes	88.7	80.92
No	11.3	19.08
<u>Survey Q8: Overall, how would you rate the dining experience?</u>		
Very satisfied	34.31	35.8
Satisfied	58.95	54.05
So so	6.0	9.6
Not satisfied	0.74	0.55

Table 3: Descriptive Statistics of the Survey Data. NOTE: Percentages reported.

E Appendix: Omitted Results in Section IV.B

Table 4 performs regressions analogous to Column (3) in Table 8 of the main text using survey data from the saliency treatment locations. We found that the point estimate for the coefficient for “Treat*Displayed*Frequent” is negative but almost negligible in magnitude, and is statistically insignificant (with a p -value of 0.89).

	(1)	(2)	(3)
	Whole Sample	Survey Sample	Survey Sample
Treat	0.001 (0.001)	0.005 (0.005)	0.005 (0.006)
Displayed	0.0754 (0.0038) ^{***}	0.082 (0.0062) ^{***}	0.090 (0.007) ^{***}
Treat * Displayed	0.0077 (0.0056)	0.0068 (0.0058)	0.0071 (0.006)
Treat * Displayed * Frequent			-0.00002 (0.0002)
Constant	0.0316 (0.0006) ^{***}	0.026 (0.006) ^{***}	0.023 (0.005) ^{***}
Number of Observations	181868	52206	52206
R^2	0.01	0.021	0.023

Table 4: Infrequent Customers Do Not Respond More than Frequent Customer in the Saliency Treatment.

Notes: An observation is a *bill and dish combination*. All regressions are OLS without dish and location dummies. The variable "Frequent" is a dummy variable that takes value 1 if the customer reported having dined in the restaurant chain 6 or more times. Robust standard errors clustered at the Bill ID level are ported in parenthesis. *, ** and *** deotes significance at 10%, 5% and 1% respectively.