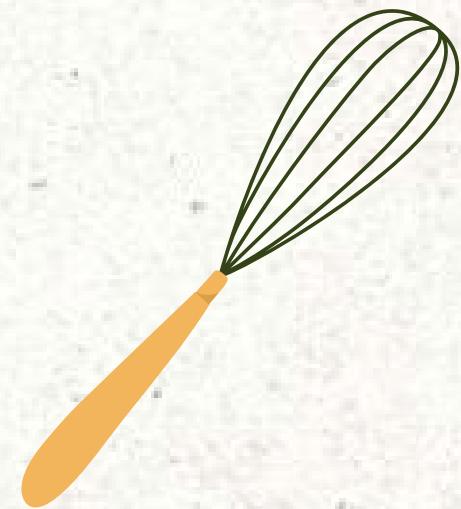




# CRISPY CREPES CAFE

*Survey Analysis  
Presentation*

- Group 5



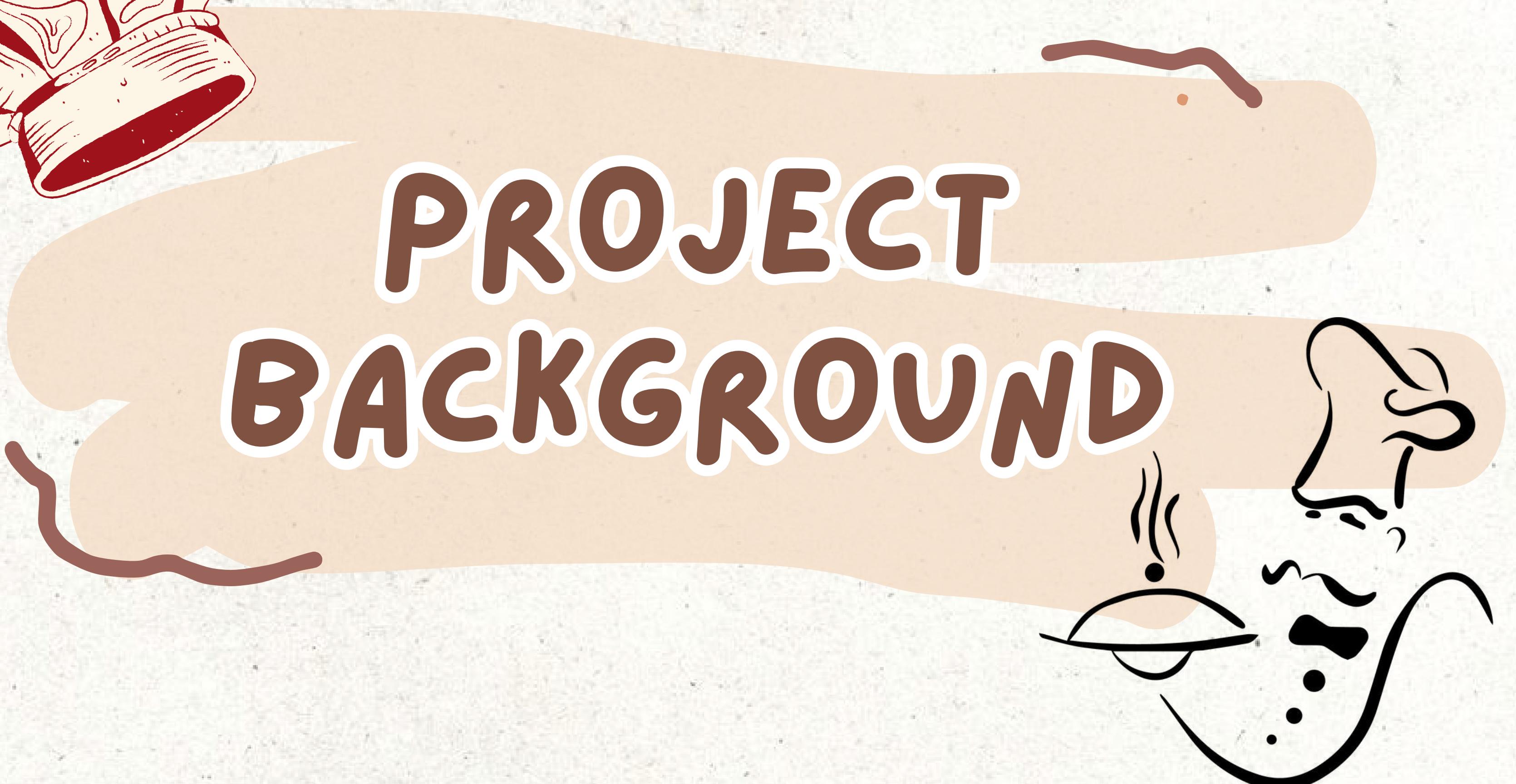
# AGENDA

- Project Background
- Data Collection Summary
- Data Analysis Results
- Summary and Recommendations
- Future Surveys





# PROJECT BACKGROUND



# Client Background

- Crispy Crepes Cafe, a mediterranean restaurant located in 714 Commonwealth Ave, near BU's GSU.
- Brahim is the sole owner of the restaurant that serves more than 80 items including crepes, omlettes, pasta, panini etc.
- Brahim's goals are to increase revenue since his costs keep rising, as well as understanding his main market (students).
- Assist clients in analyzing young students' dining habits and recommend strategies to enhance student engagement at the cafe, with menu variety and other cafe amenities.



# Incorporation of Survey Workshop Feedback

## Clarified Key Terms:

- Provided the definition of "dine-out" and "take-out" to eliminate ambiguity in questions.

## Improved Scale Design:

- Replaced hybrid scales with clear Likert scales.
- Adjusted the number values for "likely" to "very likely" to ensure consistency and logical flow.

## Refined Experiment:

- Modified the distinction between control and experimental conditions to enhance clarity.

## Reduced Survey Length:

- Removed questions related to delivery to streamline the survey.

## Reformed Questions:

- Revised questions for improved clarity and ease of understanding.





# DATA COLLECTION SUMMARY

## Data Collection

- Shared survey to friends and students around BU
- Each group member collected approximately 10 responses
- Collected 54 responses from students
- Focused on BU students since they constituted for the majority of the cafe's target customer group



# DATA ANALYSIS RESULTS



# TEST 1 HYPOTHESIS

## Paired Samples T-Test



- Hypothesis: We predict that consumers value the food quality more than the menu variety of a restaurant.
- Variables: **(Quality of food vs menu variety)**
  - **H0:** There is no significant difference between the mean importance of food quality & menu variety
  - **H1:** There is a significant difference between the mean importance of food quality & menu variety.

# TEST 2 HYPOTHESIS

## Paired Samples T-Test



- Hypothesis: We predict that consumers check delivery apps more than websites before going to a restaurant.
- Variables: **(delivery apps vs website)**
  - **H0:** There is no significant difference between the mean importance in likelihood of checking delivery apps vs website before dining.
  - **H1:** There is a significant difference between the mean importance in likelihood of checking delivery apps vs website before dining out / takeout.

# TESTS 1 AND 2 RESULTS



## TEST 1: Food Quality vs Menu Variety

- Results:
  - Mean difference: 1.30
  - two-sided p value: <0.001
  - **We reject the null hypothesis.**

## TEST 2: Delivery Apps vs Website

- Results:
  - Mean difference: 0.56
  - two-sided p value: 0.062
  - **We reject the null hypothesis (at 90%).**

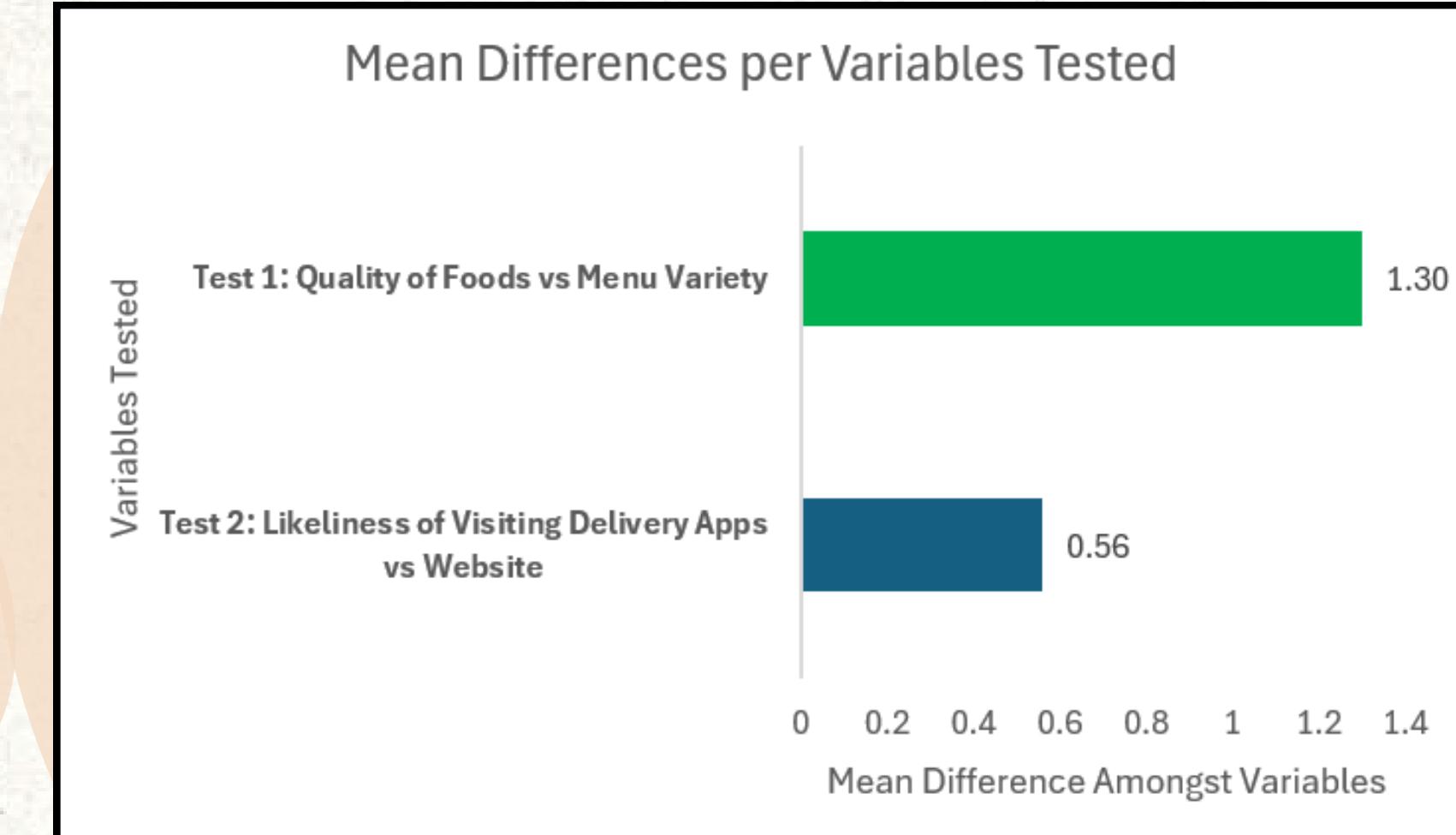
# TESTS 1 AND 2 MARKETING IMPLICATIONS

## Test 1: Importance Given to Quality of Food vs Menu Variety

- Consumers value food quality more than menu variety, and since Crispy Crepes offers more than 80 items, it could cut down its selection, thus cutting down costs, and satisfying the overall objective of being more profitable.

## Test 2: Likeliness of Visiting Delivery Apps vs Website

- Crispy Crepes used to be present on delivery apps, but because of the high fees, the owner chose to exit. The results show that while consumers do prefer checking delivery apps over website before visiting a restaurant, the significance isn't as high in order for Crispy Crepes to make the switch once again.



# TEST 3 HYPOTHESIS

## Correlation



- Hypothesis: We predict that the higher the average amount of money a person spends on a meal, the more likely they are to highly recommend the cafe to friends and family.
- Variables: (**spent\_dine\_out** vs **recommend\_crispy**)
  - **H0:** There is no significant correlation between the average money spent on a meal by a person and their likeliness to highly recommend the cafe to friends and family.
  - **H1:** There is a significant correlation between the average money spent on a meal by a person and their likeliness to highly recommend the cafe to friends and family.

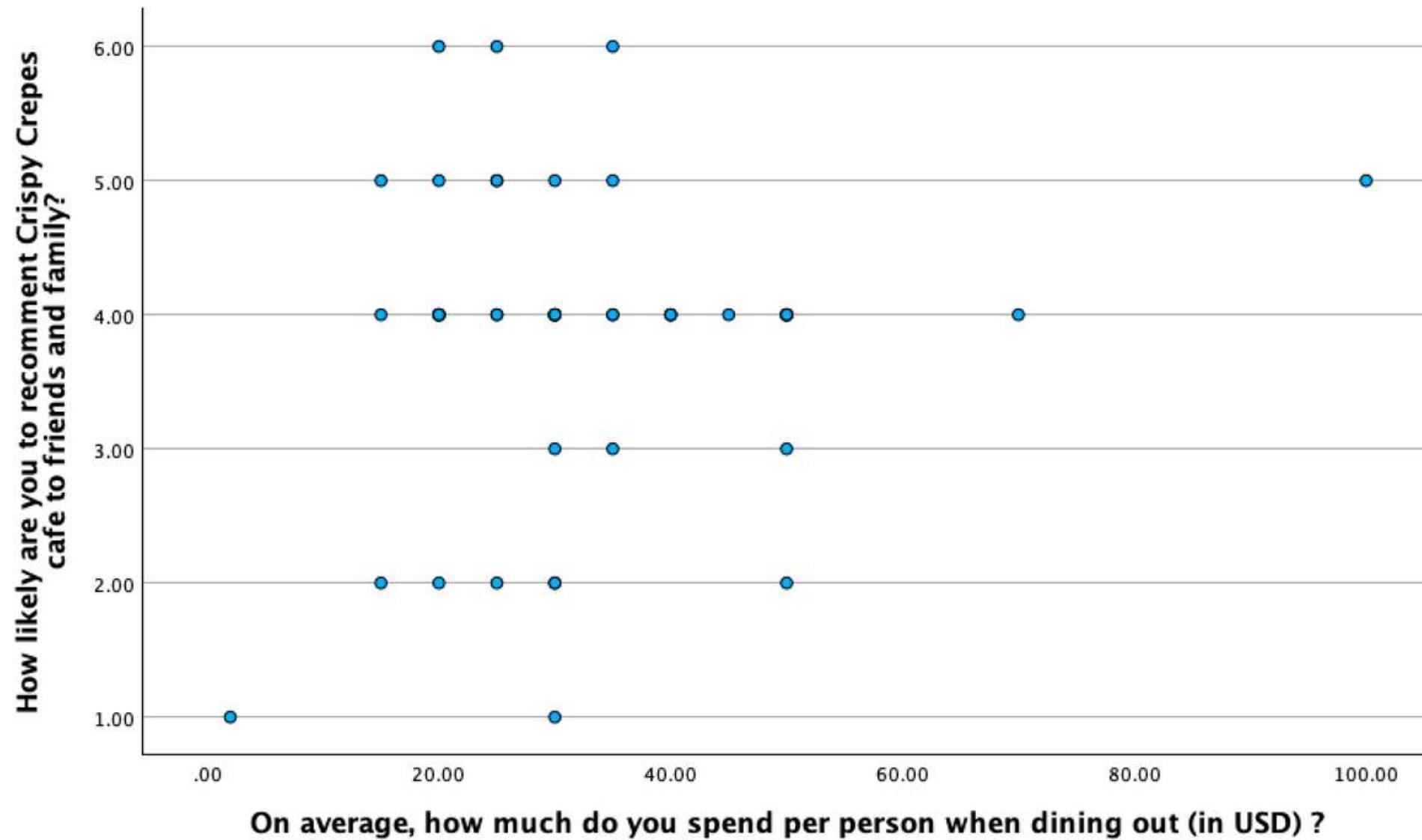
# TEST 3 RESULTS

## Results and Interpretation

- Results:
  - p-value = 0.343.
  - r value = 0.141

**We fail to reject the null hypothesis.**

- Implication: The test is not significant, indicating that the average amount of money that a person spends on a meal might not impact how they would recommend the cafe to friends and family.



# TEST 4 HYPOTHESIS

## Chi-Square Test



- Hypothesis: We predict that the frequency of dining out significantly influence the likelihood of visiting Crispy Crepes for breakfast in the control group (based on the restaurant's name)
- Variables: **(Dine out Habits vs Visit crispy)**
  - **H0:** There is no significant difference between the frequency of dining out and the likelihood of visiting Crispy Crepes for breakfast.
  - **H1:** There is a significant difference between dine out habits and the likelihood to visit Crispy Crepes.

# TEST 4 AND RESULTS

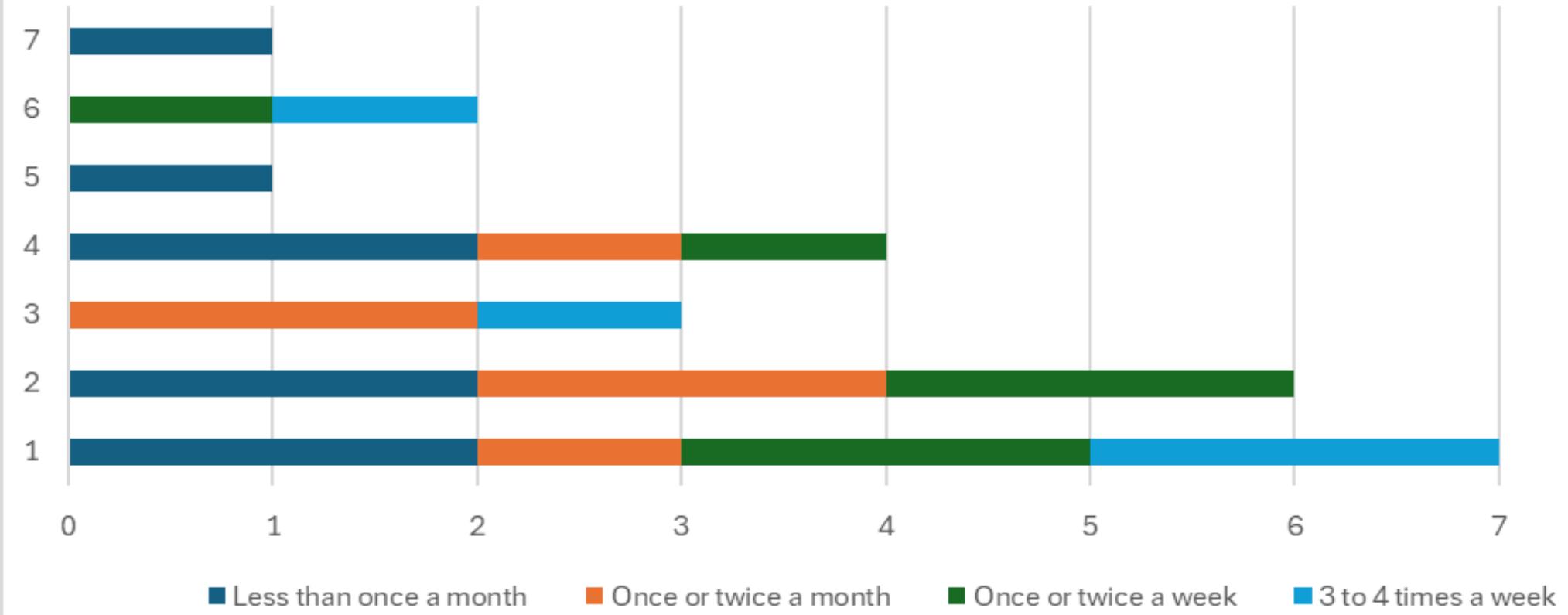


## Results

- Results:
  - p-value = 0.685.

We fail to reject the null hypothesis.

Relationship Between Dining Frequency and Likelihood to Visit Crispy Crepes.



## Interpretation

- Dining out habits do not appear to influence customers' likelihood to visit Crispy Crepes, at least in this analysis.
- If frequent diners are more likely to visit Crispy Crepes for breakfast (based on the name), targeting them with promotions is a good strategy. But in this case, it isn't. The management team should direct resources in alternative avenues to attract customers.

# TEST5 HYPOTHESIS

## SIMPLE LINEAR REGRESSION



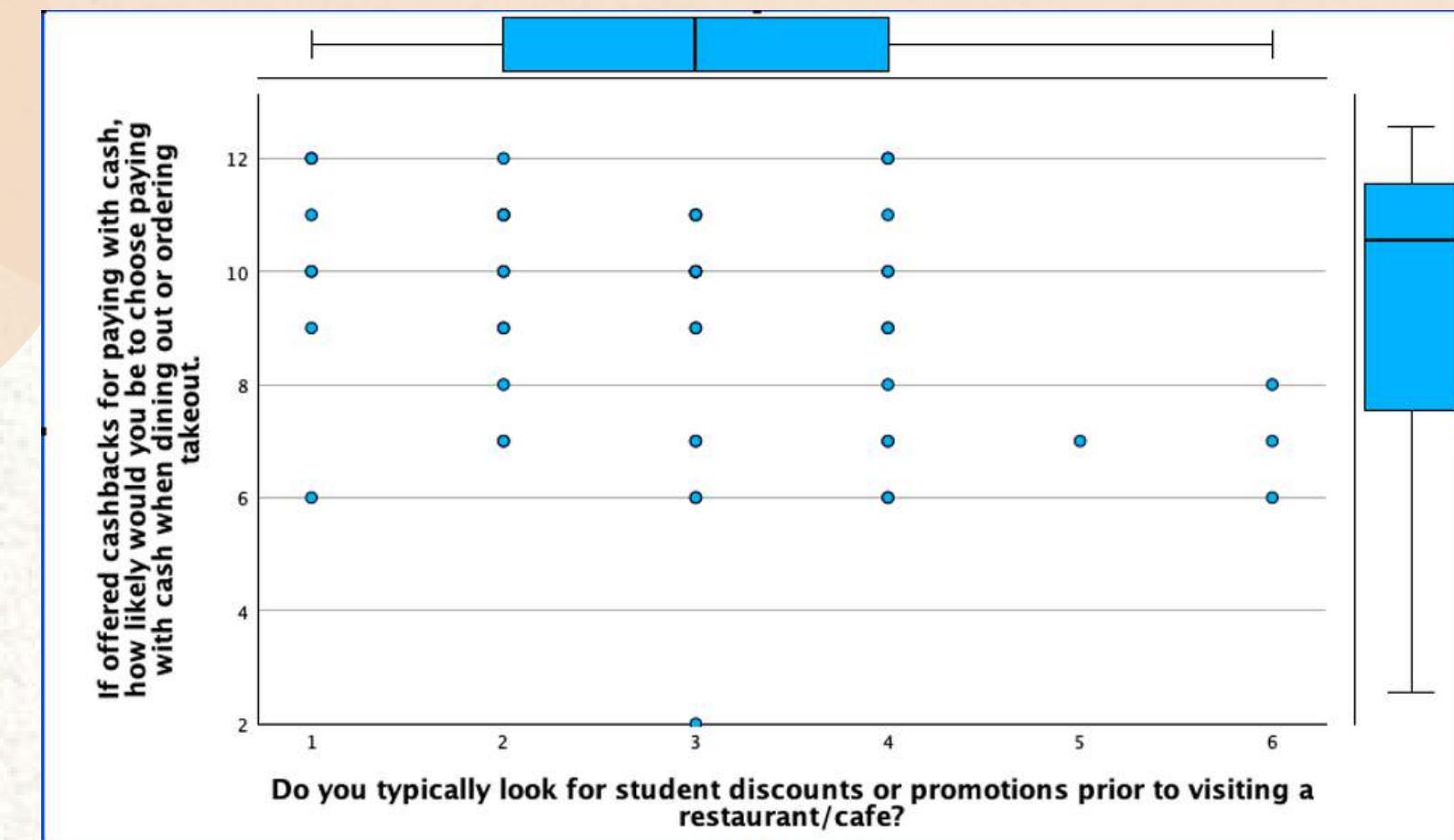
- Question: Does looking for offers before dining predict the likelihood of paying with cash if cashback is offered?
  - **H0:** Looking for offers before dining does not predict the likelihood of paying with cash if cashback is offered.
  - **H1:** Looking for offers before dining does predict the likelihood of paying with cash if cashback is offered

# -TEST 5 RESULTS

## Results and Interpretation



- Results:
  - p-value = 0.009.  
**We reject the null hypothesis.**
- cashback incentive =  $10.779 - 0.536 * \text{promotion seeking}$
- Implication: looking for offers before dining does predict the likelihood of paying with cash if cashback is offered.
- Individuals who actively search for discounts or promotions before dining out are less likely to opt for paying with cash when offered a cashback incentive.



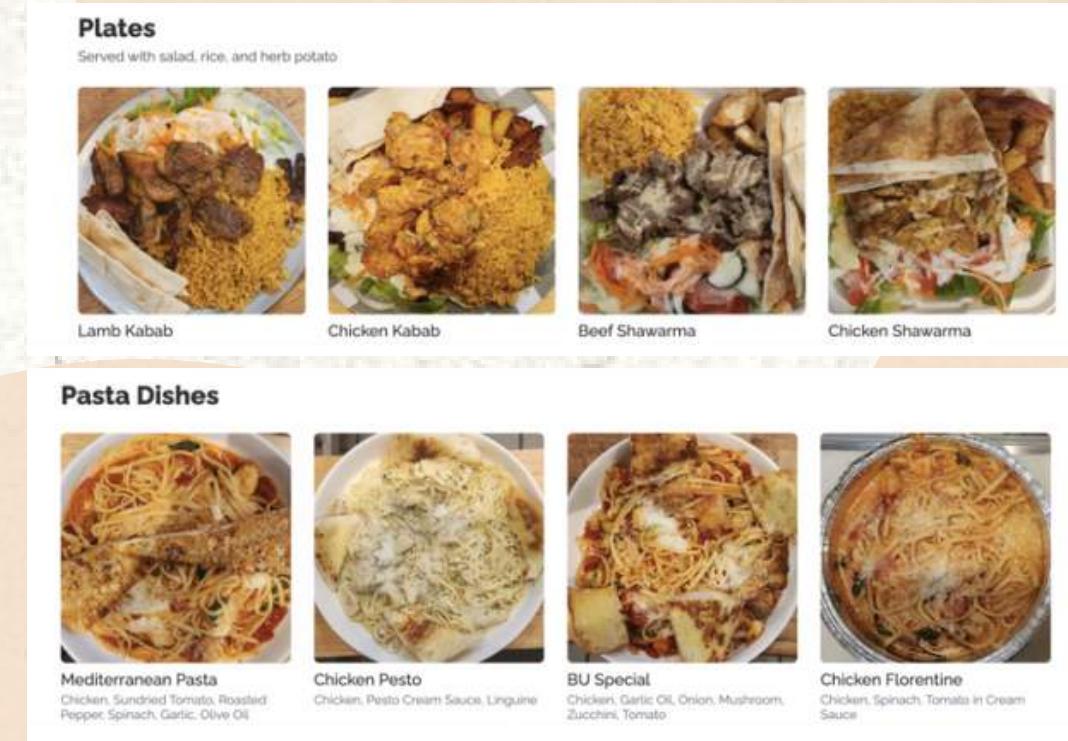


# EXPERIMENT-1

## Control Group:



## Experiment Group



## Survey Question

Both groups were asked about their likelihood to visit the café for different meals and their likelihood of recommending the café to others.

**Hypothesis:** We hypothesize that respondents in the experimental condition will be more likely to visit the café for lunch compared to those in the control condition.

( $H_0$ ): There is no significant mean difference in the likelihood of visiting the café for lunch between the control experiment condition.

( $H_1$ ): There is a significant mean difference in the likelihood of visiting the café for lunch between the control experiment condition.

# EXPERIMENT RESULTS-1



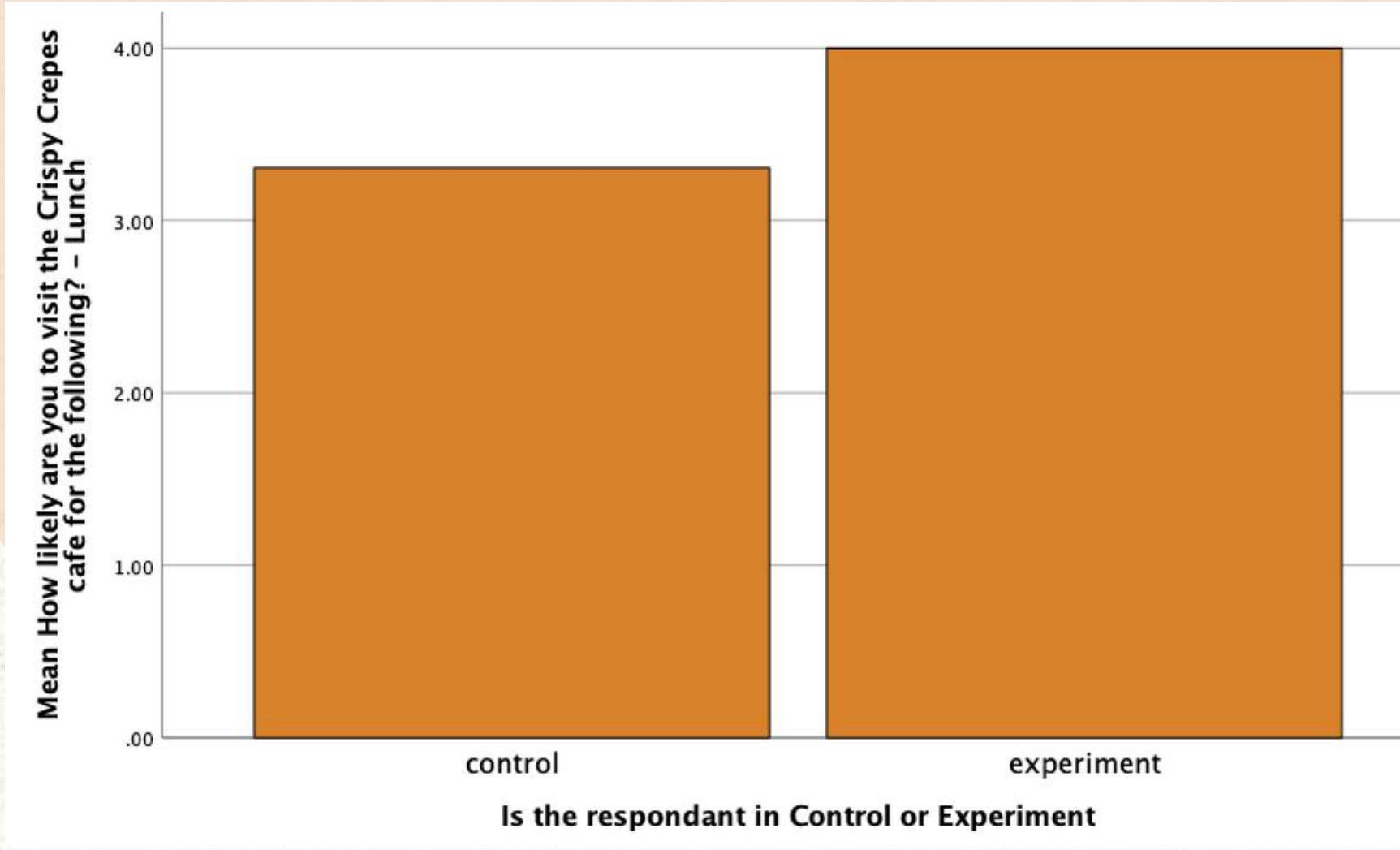
## Independant Samples T-Test

## RESULTS

### Measures:

1. Condition: Binary Independant Variable
2. visit\_crispy\_lunch: Continuous Dependant Variable

- Mean Difference = - 0.7
- P - Value = 0.185
- We fail to reject the null hypothesis.



**Marketing Implication:** Although the difference is modest, the café could showcase the menu and variety of items more prominently and monitor whether it leads to increased customer visits and improved revenue.

# EXPERIMENT -2

## Multiple Regression with Interactions

- We predict that the more importance a person places on menu variety, the more likely they are to recommend the cafe to friends and family, and this relationship may differ based on whether they are in the control or experimental condition.
- Variables: **importance of menu variety, likelihood to recommend, condition**
  - **H0:** There is no significant relationship between the importance of menu variety and the likelihood of recommending the cafe to friends and family, nor does the condition (control or experimental) moderate this relationship.
  - **H1:** There is a significant relationship between the importance of menu variety and the likelihood of recommending the cafe to friends and family, and the condition (control or experimental) moderates this relationship.



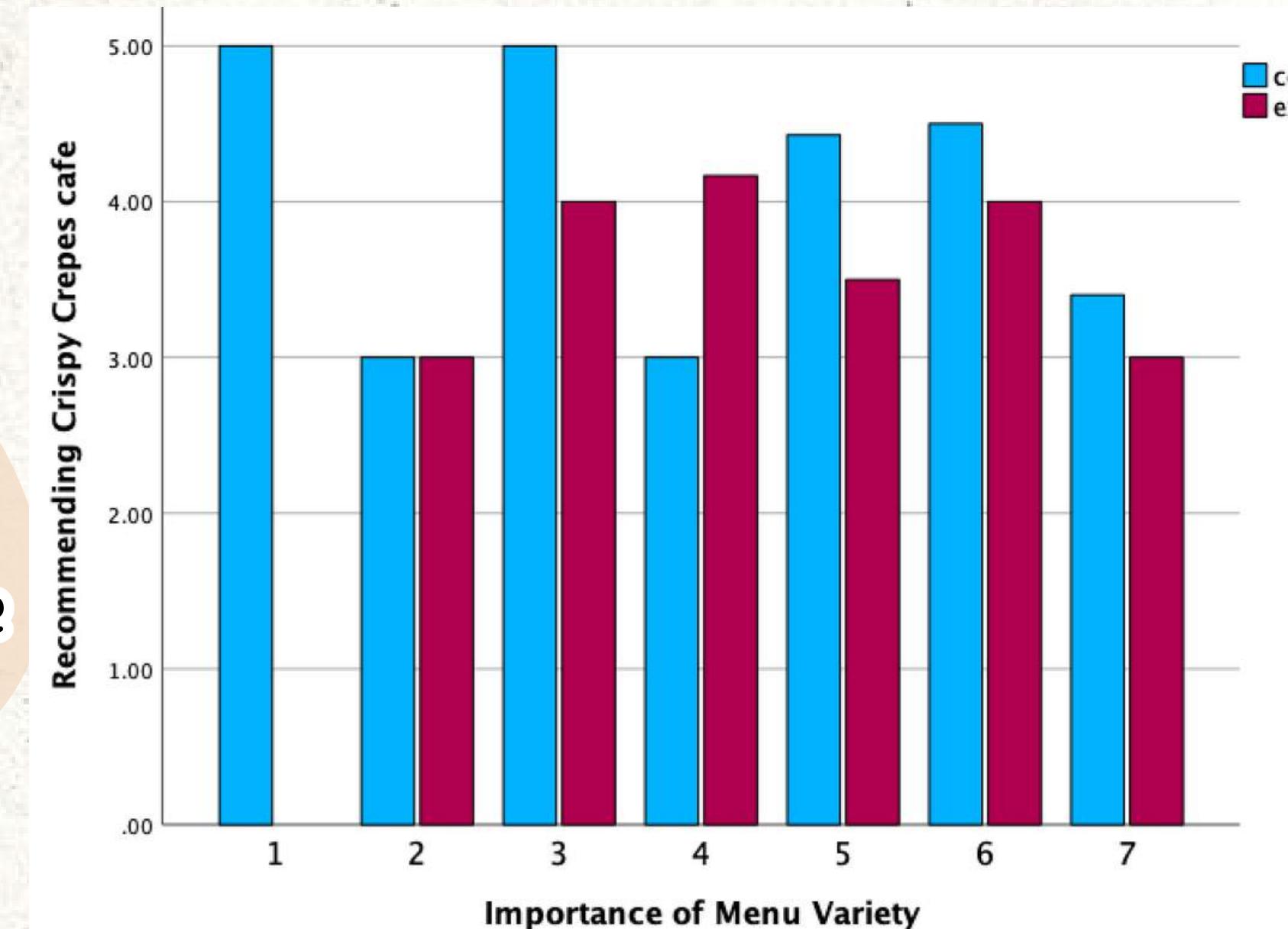
## Results and Interpretation

- Results:
  - $R^2 = .0256$
  - Coefficient ( $\beta$ ) = 0.0869
  - interaction p-value: 0.6946
- We fail to reject the null hypothesis (at 90%)
- Marketing implications:
  - The relationship between how much importance people place on menu variety and their likelihood to recommend the cafe is consistent across both the control and experimental conditions. The cafe could explore ways to make the customer experience unique maybe through showcasing videos and promoting in social media

# EXPERIMENT 2 RESULTS



control  
experiment



# EXPERIMENT - 3

## Multiple Regression with Interactions

- We predict that the more importance a person places on food quality, the more likely they are to recommend the cafe to friends and family, and this relationship may differ based on whether they are in the control or experimental condition.
- Variables: **importance of food quality, likelihood to recommend, condition**
  - **H0:** There is no significant relationship between the importance of food quality and the likelihood of recommending the cafe to friends and family, nor does the condition (control or experimental) moderate this relationship.
  - **H1:** There is a significant relationship between the importance of food and the likelihood of recommending the cafe to friends and family, and the condition (control or experimental) moderates this relationship.



# EXPERIMENT 3 RESULTS



## Results and Interpretation

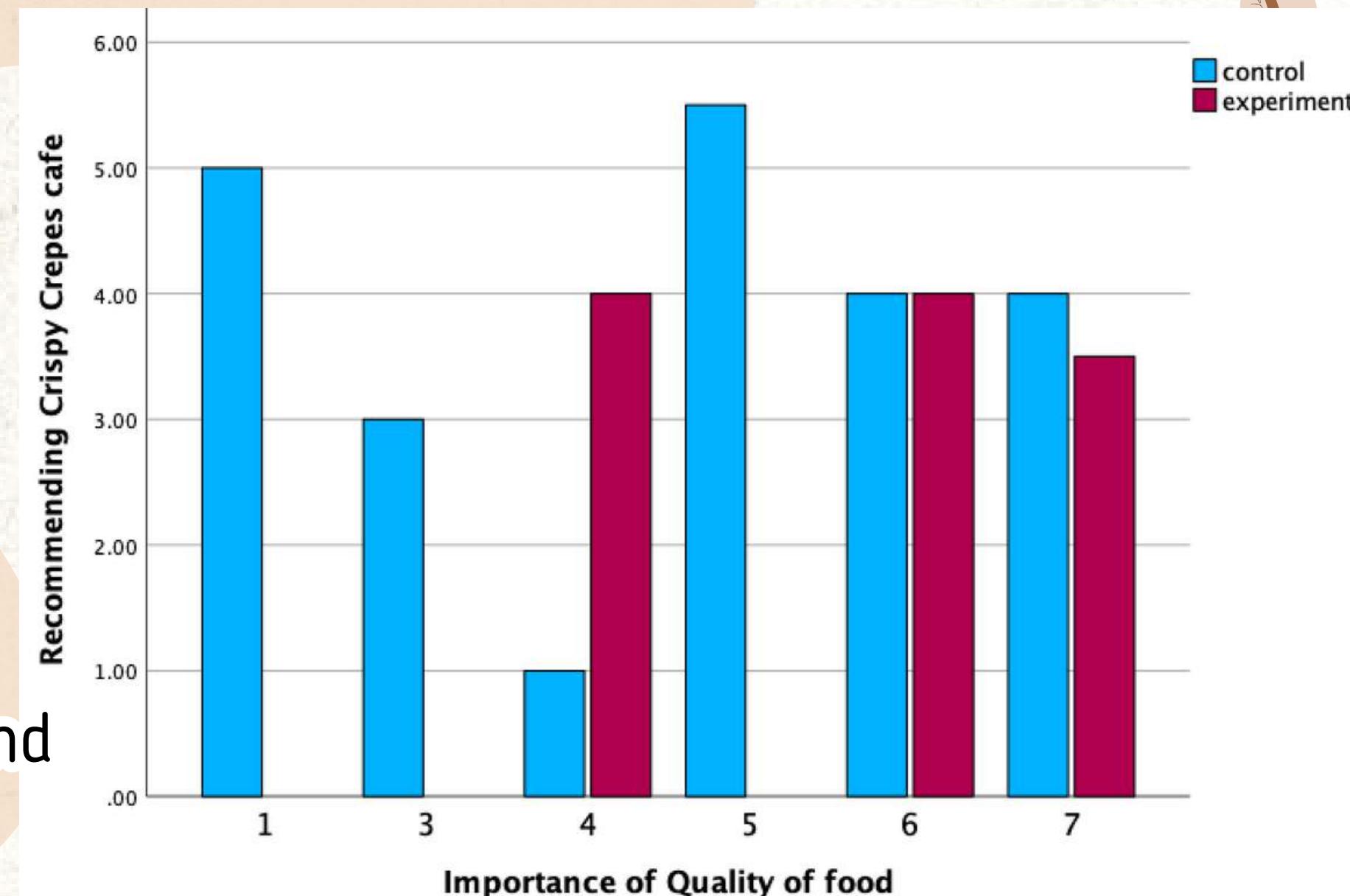
- Results:

- $R^2 = .0252$
- Coefficient ( $\beta$ ) = -0.2484
- interaction p-value: 0.4440

We fail to reject the null hypothesis (at 90%)

- Marketing implications:

- The relationship between how much importance people place on food quality and their likelihood to recommend the cafe is consistent across both the control and experimental conditions.



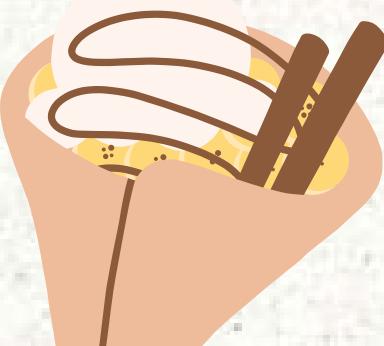


# SUMMARY AND RECOMMENDATIONS



# SUMMARY AND RECOMMENDATIONS

- Streamline the Menu - reducing the number of menu items can help improve quality, reduce costs, and simplify operations.
- Consider Targeted Delivery Promotions through exclusive website deals.
- Focus on Customer Experience for Recommendations - prioritize enhancing customer service, food quality, and unique dining experiences to drive word-of-mouth marketing.
- Individuals don't prefer paying by cash even when it is incentivised, consider other types of incentives.
- Evaluate Breakfast Promotions- focus on local student promotions or bundled meal deals to attract more customers during breakfast hours.





**DIFFERENCES TO  
THE SURVEY FOR  
THE FUTURE**

## Things to do differently in the future:

- Include additional factors related to decision-making around food options, such as:
  - price sensitivity
  - dietary preferences
  - service speed
- Incorporate open-ended feedback, especially for those who wish to comment about Crispy Crepes and why they would / would not eat there
- Follow up on dinner take out preferences, since Crispy Crepes closes at 8pm - could signify a missed opportunity



THANK you!!



# APPENDIX



# APPENDIX

- Test 1:  
Output

Paired Samples Test							Significance				
		Paired Differences			90% Confidence Interval of the Difference			t	df	One-Sided p	Two-Sided p
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper					
Pair 1	Please rate the importance of each of the following factors when selecting a café or restaurant for dining out. - Quality of food - Please rate the importance of each of the following factors when selecting a café or restaurant for dining out. - Menu variety	1.292	1.663	.240	.889	1.694	5.383	47	<.001	<.001	

- Test 1:  
Variables

Please rate the importance of each of the following factors when selecting a café or restaurant for dining out.

	Not important at all	Very unimportant	Somewhat unimportant	Neutral	Somewhat important	Very important
	1	2	3	4	5	6
Convenience	<input type="radio"/>					
Location	<input type="radio"/>					
Quality of food	<input type="radio"/>					
Ambiance/atmosphere	<input type="radio"/>					
Friend recommendations	<input type="radio"/>					
Reviews/ratings	<input type="radio"/>					
Menu variety	<input type="radio"/>					
Price/affordability	<input type="radio"/>					



# APPENDIX

- Test 2:  
Output

Paired Samples Test							Significance			
	Paired Differences			90% Confidence Interval of the Difference		t	df	One-Sided p	Two-Sided p	
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper					
Pair 1	Before dining out or ordering takeout from a place for the first time, how likely are you to check the following sources for information? - Delivery apps (e.g., UberEats, DoorDash, GrubHub) - Before dining out or ordering takeout from a place for the first time, how likely are you to check the following sources for information? - Website	.563	2.041	.295	.068	1.057	1.909	47	.031	.062

Before dining out or ordering takeout from a place for the first time, how likely are you to check the following sources for information?

	Extremely unlikely	Very unlikely	Unlikely	Neutral/Neither likely nor unlikely	Likely	Very likely	Extremely likely
Social Media profile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Google, Yelp, or similar review websites	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Delivery apps (e.g., UberEats, DoorDash, GrubHub)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- Test 2:  
Variables

# APPENDIX

## • Test 3: Output

		Correlations	
		How likely are you to recommend Crispy Crepes cafe to friends and family?	On average, how much do you spend per person when dining out (in USD) ?
How likely are you to recommend Crispy Crepes cafe to friends and family?	Pearson Correlation	1	.141
	Sig. (2-tailed)		.343
	N	47	47
On average, how much do you spend per person when dining out (in USD) ?	Pearson Correlation	.141	1
	Sig. (2-tailed)	.343	
	N	47	49

## • Test 3: Variables

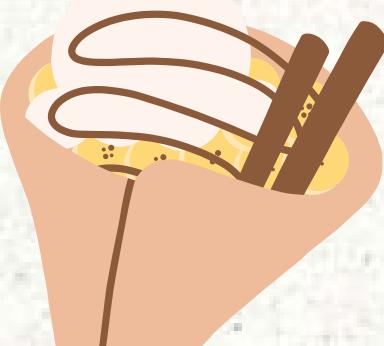
spent\_takeout

On average, how much do you spend per person when ordering takeout (in USD) ?

recommend\_crispy\_exp

How likely or unlikely would you be to recommend Crispy Crepes to friends or family?

- Extremely unlikely
- Very unlikely
- Unlikely
- Neither likely nor unlikely
- Likely
- Very likely
- Extremely likely



# APPENDIX

# • Test 4: Output

# • Test 4: Variables

Model Summary						
R	R-sq	MSE	F	df1	df2	p
.1599	.0256	1.2940	.3586	3.0000	41.0000	.7832
Model						
	coeff	se	t	p	LLCI	ULCI
constant	4.5939	.7746	5.9303	.0000	3.0294	6.1584
importan	-.1211	.1496	-.8094	.4230	-.4232	.1811
Conditio	-.6498	1.0811	-.6010	.5511	-2.8332	1.5336
Int_1	.0869	.2197	.3954	.6946	-.3569	.5307

How likely or unlikely would you be to recommend Crispy Crepes to friends or family?

- Extremely unlikely
  - Very unlikely
  - Unlikely
  - Neither likely nor unlikely
  - Likely
  - Very likely
  - Extremely likely

## Value Labels

Value	Label
.00	control
1.00	experimenter

### importance\_choosing

Please rate the importance of each of the following factors when selecting a café or restaurant for dining out.

# APPENDIX

- Test 5:  
Output

Model Summary							
R	R-sq	MSE	F	df1	df2	p	
.1587	.0252	1.2639	.3617	3.0000	42.0000	.7809	
Model							
	coeff	se	t	p	LLCI	ULCI	
constant	3.8769	.9811	3.9517	.0003	1.8970	5.8569	
importan	.0212	.1635	.1294	.8977	-.3088	.3511	
Conditio	1.3352	2.0019	.6670	.5084	-2.7048	5.3752	
Int_1	-.2484	.3215	-.7728	.4440	-.8972	.4003	

- Test 5:  
Variables

How likely or unlikely would you be to recommend Crispy Crepes to friends or family?

Extremely unlikely  
 Very unlikely  
 Unlikely  
 Neither likely nor unlikely  
 Likely  
 Very likely  
 Extremely likely

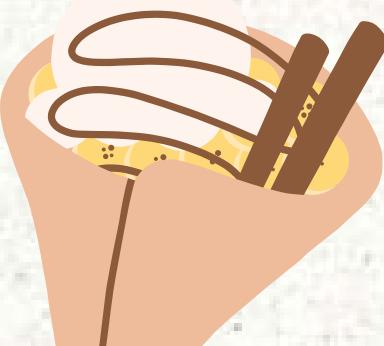
Value Labels.

Value	Label
.00	control
1.00	experiment

importance\_choosing

Please rate the importance of each of the following factors when selecting a café or restaurant for dining out.

	Not important at all	Very unimportant	Somewhat unimportant	Neutral	Somewhat important	Very important	Extremely important
	1	2	3	4	5	6	7
Convenience	<input type="radio"/>						
Location	<input type="radio"/>						
Quality of food	<input type="radio"/>						
Ambiance/atmosphere	<input type="radio"/>						
Friend recommendations	<input type="radio"/>						
Reviews/ratings	<input type="radio"/>						
Menu variety	<input type="radio"/>						
Price/affordability	<input type="radio"/>						



# APPENDIX

## Test 6: Output

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	14.667 <sup>a</sup>	18	.685
Likelihood Ratio	18.165	18	.445
Linear-by-Linear Association	.039	1	.843
N of Valid Cases	24		

a. 28 cells (100.0%) have expected count less than 5. The minimum expected count is .17.



## Test 6: Variables

### Dine-out\_Habits

How often do you dine out ?

- Less than once a month
- Once or twice a month
- Once or twice a week
- 3 to 4 times a week
- 5 or more times a week

visit\_crispy\_control

How likely are you to visit the Crispy Crepes cafe for the following?

			Likelihood Scale						
			Extremely Unlikely	Very Unlikely	Unlikely	Neutral/Neither likely nor unlikely	Likely	Very Likely	Extremely Likely
			1	2	3	4	5	6	7
	Breakfast		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Brunch		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Lunch		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Dinner		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Dessert		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



# APPENDIX

- **Test 7:**  
**Output**

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.
		B	Std. Error	Beta			
1	(Constant)	10.779	.635			16.965	<.001
	Do you typically look for student discounts or promotions prior to visiting a restaurant/cafe?	-.536	.198	-.368	-2.711		.009

- a. Dependent Variable: If offered cashbacks for paying with cash, how likely would you be to choose paying with cash when dining out or ordering takeout.

- **Test 7: Variables**

Do you typically look for student discounts or promotions prior to visiting a restaurant/cafe?

- Always
- Often
- Sometimes
- Rarely
- Never
- Not applicable (I'm not a student)

If offered cashbacks for paying with cash, how likely would you be to choose paying with cash when dining out or ordering takeout.

- Extremely unlikely
- Very unlikely
- Unlikely
- Neither likely nor unlikely
- Likely
- Very likely
- Extremely likely

# APPENDIX-Experiment

## • Outputs:

## Independent Samples Test

	Levene's Test for Equality of Variances				t-test for Equality of Means					95% Confidence Interval of the Difference		
	F	Sig.	t	df	Significance		Mean Difference	Std. Error Difference	Lower	Upper		
How likely are you to visit the Crispy Crepes cafe for the following? - Lunch	Equal variances assumed	.037	.848	-1.347	45	.092	.185	-.69565	.51628	-1.73548	.34418	
	Equal variances not assumed			-1.349	44.992	.092	.184	-.69565	.51564	-1.73420	.34290	

# • Variable:

How likely are you to visit the Crispy Crepes cafe for the following?



# FOLLOW UP SURVEY QUESTIONS



## Follow up survey questions:

- How would you rate the following amenities for what you value most in a cafe when studying (e.g., free Wi-Fi, quiet environment, availability of outlets)?
  - Above variables and rated 1-7 (where 1 is not valued at all, 7 is very valuable)
- How often do you choose cafes as a place to study or work on assignments?
  - 1-7 (1 being not often at all, 7 being very often)
- How important are seasonal or limited-time menu items in encouraging repeat visits?
  - 1-7 scale (1 being not important at all, 7 being very important)
- Do you prefer quick-service cafes over sit-down restaurants on busy school days? Why?
  - Select one from quick service vs sit down. Have an optional open-ended section if they want to elaborate
- How important are healthy or dietary-specific menu options (e.g., vegan, gluten-free) in your choice of a cafe?
  - 1-7 scale (1 being not important at all, 7 being very important)
- If you've been to Crispy Crepes:
  - What makes Crispy Crepes more or less appealing than other cafes near campus?
    - Open-ended response only for those that select they have been
- On average, what time do you have dinner at - select from the range:
  - Before 5pm | 5-6pm | 6-7pm | 7-8pm | 8-9pm | 9-10pm | After 10pm

