

A/B TESTING ANALYSIS

REVISING SEPHORA'S MOBILE APP PAGE TO OPTIMIZE ENGAGEMENT

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SEPHORA BRAND INTRODUCTION

- Sephora is a French multinational retailer of beauty and personal care products. They are owned by LVMH and have brick and mortar stores worldwide as well as a global online presence with its website.
- They have a loyalty program which is called Beauty Insider. Customers can create membership accounts by simply giving out an email and creating a password.
- Members can access their accounts through the Sephora website on their computers by clicking on "sale & offers" and "beauty offers", or the website or app on their phones by clicking on the "offers" icon at the bottom of their screen.



- Our experiment design involved adding 2 elements onto Sephora's existing offers page:
 - Independent variable of the "last chance" category
 - Moderator variable of category descriptions
- We decided to investigate the impacts of these changes onto the dependent variable of customer engagement



EXPERIMENT



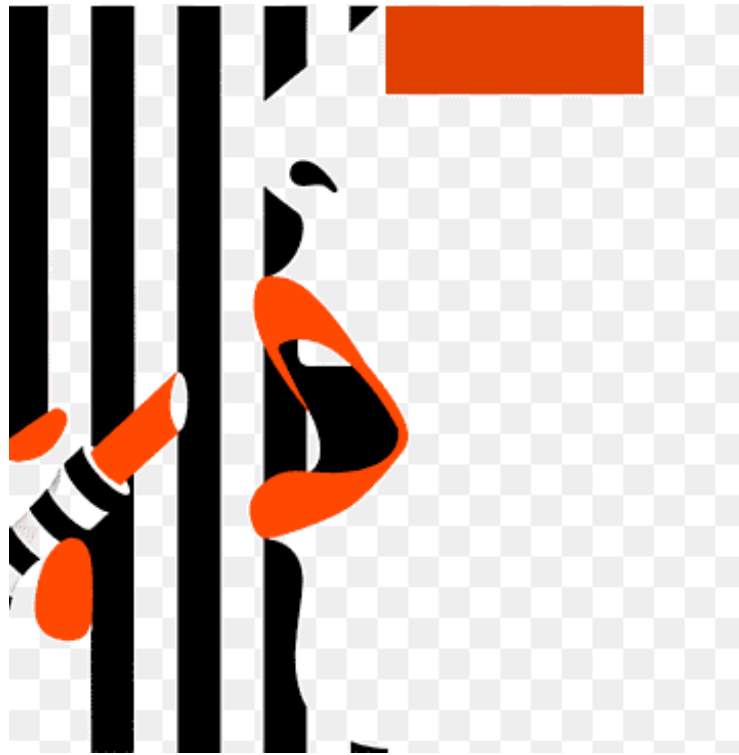
- 10 respondents failed the attention checks, which caused us to remove their data from the 250 total responses
- From the 240 responses that passed, there were slightly more male respondents and a majority that is white, between 18-29 years old, has a bachelor's degree, and has an annual income of <\$10,000 illustrating that they could be students or have just entered the workforce

SAMPLE ANALYSIS

- Two manipulation checks testing the "last chance" category and a created sense of urgency had passed (sig value < 5%)
- One manipulation check testing the presence of category descriptions failed (sig value > 5%)
 - People's views on the offers page are not affected by category descriptions
- We tried to filter out the extreme responses in the manipulation check failure, but that influenced other results
 - cannot disentangle category descriptions with "last chance" category
 - new focus on just the "last chance" category



MANIPULATION CHECKS



- No Manifest Dependent Measures
- 3 Construct Dependent Measures
 - Offers Evaluation
 - Engagement
 - Loyalty
- Only the Engagement measure differed across design conditions (sig value < 5%)
- 2-Step Conceptual Model
 - Engagement ➡ Loyalty

MAIN ANALYSIS




APPENDIX




LAST CHANCE CATEGORY

Last Chance (10)



Free Skylar Fragrance Mini
Try the fresh citrus scent of Pink Canyon.
Free with \$25 purchase.*
Beauty Insider members only.
Online only
*Exclusions/terms apply.

Apply

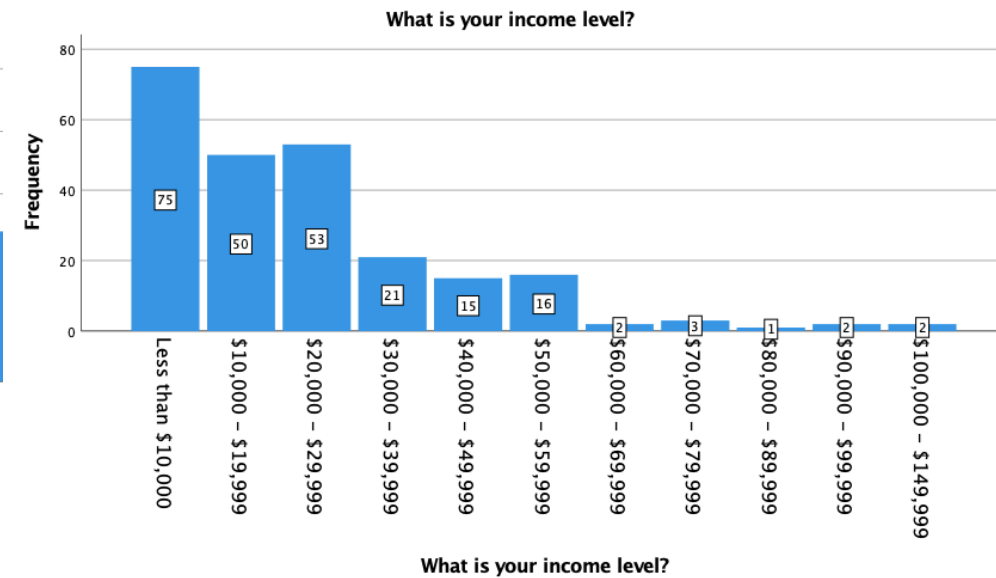
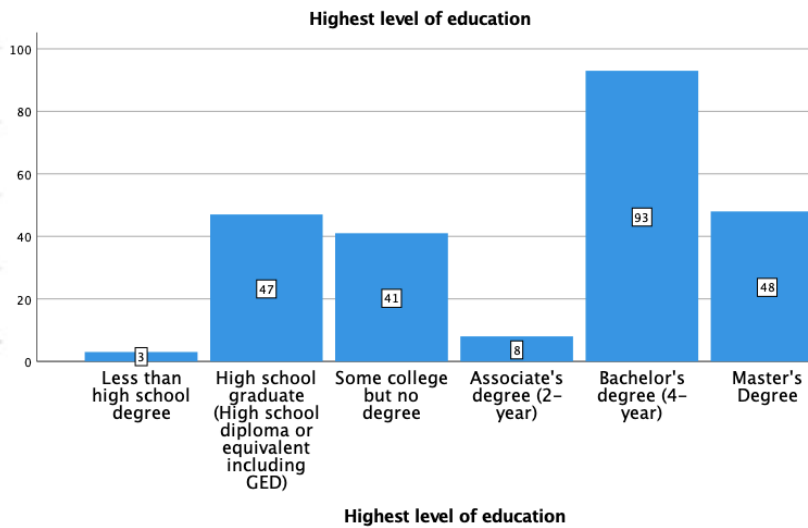
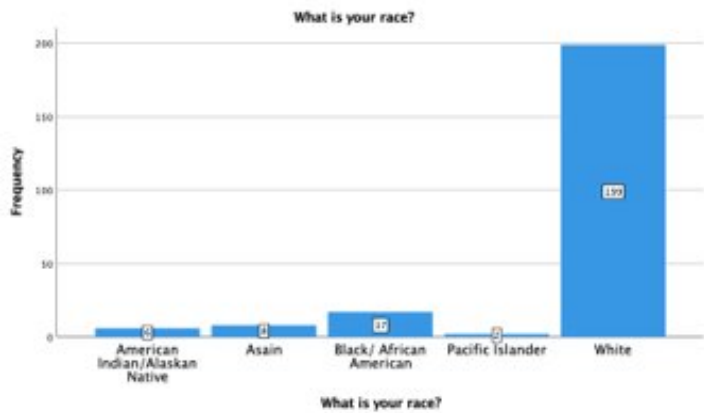
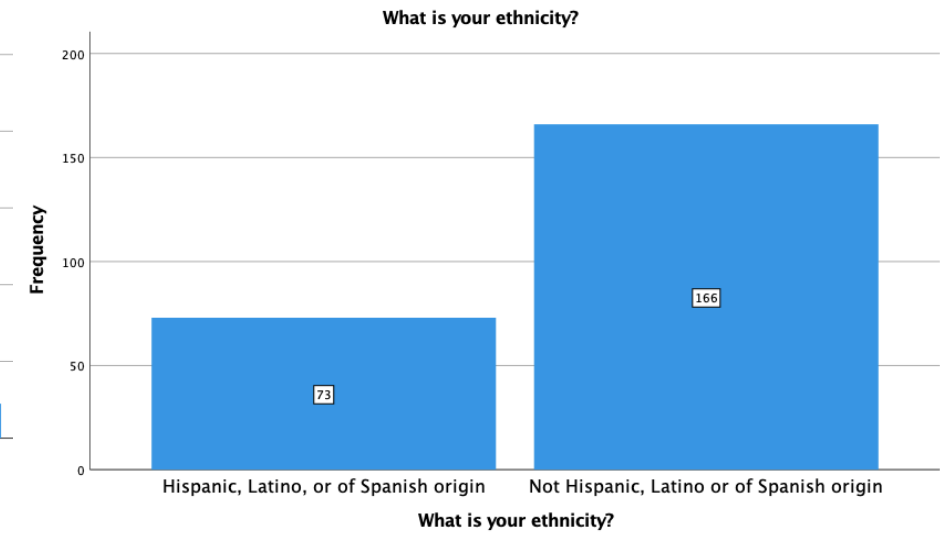
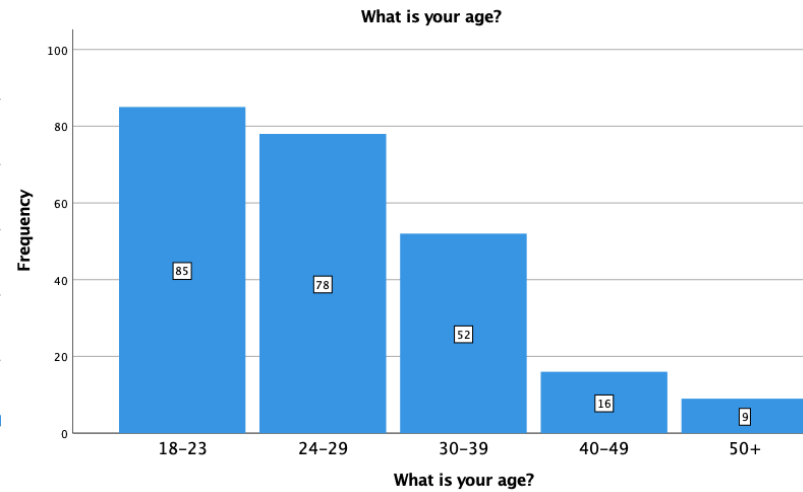
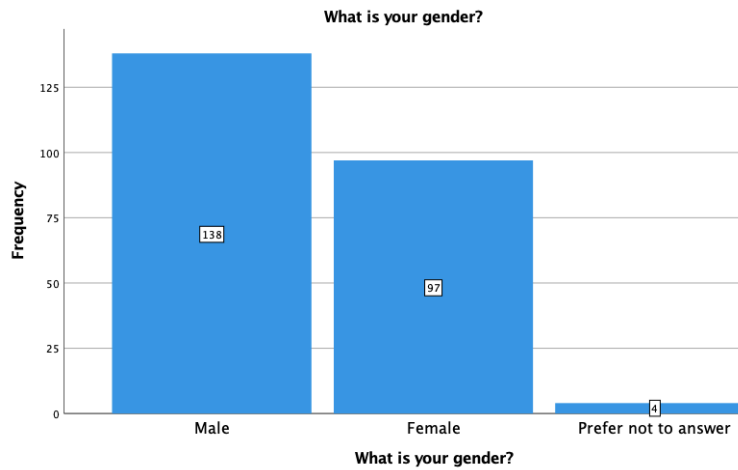


Get a Trial Size for
Support a healthy
and go longer bet
with this NEW dry
Complimentary with
Beauty Insider mem
Online only
*Exclusions/terms ap

Apply

- Check out these products before they run out of stock!

CATEGORY DESCRIPTIONS



DEMOGRAPHICS

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
Select the option that most aligns with your thoughts on the following statements. – The loyalty program offers the “last call” category to customers.	Between Groups	22.206	3	7.402	3.722	.012
	Within Groups	469.357	236	1.989		
	Total	491.562	239			
Select the option that most aligns with your thoughts on the following statements. – The loyalty program provides descriptions for what they offer.	Between Groups	23.830	3	7.943	5.243	.002
	Within Groups	357.566	236	1.515		
	Total	381.396	239			
Select the option that most aligns with your thoughts on the following statements. – The offers page creates a sense of urgency to buy	Between Groups	32.726	3	10.909	5.543	.001
	Within Groups	464.458	236	1.968		
	Total	497.183	239			

MANIPULATION CHECKS POST HOC ANALYSIS

Select the option that most aligns with your thoughts on the following statements. – The loyalty program offers the “last call” category to customers.

Duncan^{a,b}

Design	N	Subset for alpha = 0.05	
		1	2
Status Quo	67	4.39	
Category Descriptions	63	4.44	
Last Chance Category Descriptions	55	4.91	4.91
Last Chance	55		5.11
Sig.		.057	.440

Means for groups in homogeneous subsets are displayed.

- Uses Harmonic Mean Sample Size = 59.557.
- The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Select the option that most aligns with your thoughts on the following statements. – The loyalty program provides descriptions for what they offer.

Duncan^{a,b}

Design	N	Subset for alpha = 0.05	
		1	2
Status Quo	67	4.81	
Category Descriptions	63		5.30
Last Chance Category Descriptions	55		5.42
Last Chance	55		5.65
Sig.		1.000	.142

Means for groups in homogeneous subsets are displayed.

- Uses Harmonic Mean Sample Size = 59.557.
- The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Select the option that most aligns with your thoughts on the following statements. – The offers page creates a sense of urgency to buy

Duncan^{a,b}

Design	N	Subset for alpha = 0.05	
		1	2
Status Quo	67	4.72	
Category Descriptions	63	5.03	
Last Chance	55		5.56
Last Chance Category Descriptions	55		5.58
Sig.		.221	.944

Means for groups in homogeneous subsets are displayed.

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RELIABILITY TESTS: OFFERS EVALUATION ENGAGEMENT LOYALTY

Reliability Statistics

Cronbach's Alpha	N of Items
.888	4

Cronbach's Alpha	N of Items
.873	5

Cronbach's Alpha	N of Items
.937	4

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.797	.768		-3.641	<.001
	Engagement	.816	.069	.614	11.878	<.001
	What is your gender?	.531	.177	.157	3.000	.003
	What is your age?	-.041	.090	-.026	-.458	.648
	What is your ethnicity?	.043	.198	.011	.216	.829
	What is your race?	.220	.094	.118	2.347	.020
	Highest level of education	.113	.064	.097	1.763	.079
	What is your income level?	.092	.048	.101	1.911	.057

a. Dependent Variable: Loyalty

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
OfferEvaluation	Between Groups	6.970	3	2.323	1.549	.203
	Within Groups	354.069	236	1.500		
	Total	361.039	239			
Engagement	Between Groups	13.250	3	4.417	2.563	.055
	Within Groups	406.687	236	1.723		
	Total	419.937	239			
Loyalty	Between Groups	1.673	3	.558	.177	.912
	Within Groups	742.451	236	3.146		
	Total	744.125	239			

DEPENDENT MEASURES POST HOC ANALYSIS

OfferEvaluation

Duncan ^{a,b}		Subset for alpha = 0.05
Design	N	1
Status Quo	67	4.2806
Category Descriptions	63	4.6254
Last Chance	55	4.6545
Last Chance Category Descriptions	55	4.6945
Sig.		.094

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 59.557.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Engagement

Duncan ^{a,b}		Subset for alpha = 0.05	
Design	N	1	2
Status Quo	67	4.0746	
Last Chance	55		4.5591
Category Descriptions	63		4.5794
Last Chance Category Descriptions	55		4.6455
Sig.		1.000	.738

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 59.557.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Loyalty

		Subset for alpha = 0.05
Design	N	1
Status Quo	67	3.1903
Last Chance	55	3.2500
Category Descriptions	63	3.3373
Last Chance Category Descriptions	55	3.4091
Sig.		.547

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 59.557.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

LINEAR REGRESSION ENGAGEMENT – LOYALTY