More Choices Makes You Better Off: Is An Illusion.

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Abstract

Do humans prefer more or fewer choices? The contemporary research determined whether there was a relationship between more or fewer choices and color preference and satisfaction. Information from a pool of undergraduate and graduate students was gathered. These findings have led to the popular notion that the more choice, the better--that the human ability to manage, and the human desire for, choice is unlimited. Findings from our study starkly challenge this implicit assumption that having more choices is necessarily more intrinsically motivating than having fewer. Additionally, it was seen that participants with limited choices asked for more choices and participants with more choices found it difficult to make the choice and took longer time but on average only very few were dissatisfied.

Introduction

It is a common supposition in today's society that more choices are better. From the classical theories in economics on free enterprise to mundane marketing tactics that provide customers with entirely different varieties of options from ailes of soda and chips to important life decisions like career choices and investment opportunities where people majorly contemplate alternative career choices and investment options. These days even food chains give us plenty of options and urge us to "Have it our way".

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On the face of it, there are many psychological theories and research that have been repeatedly demonstrated to understand the relationship between choices and intrinsic motivation, levels of satisfaction and perceived control. Theories in psychology like the attribution theory and the reactance theory all believe that even an illusionary perception of choices has powerful effects. Although prior studies have made a compelling case for the benefits of having choices, we as a group thought, economic students who are considered to be better aware of the consequences of choices overload and fairly rational will, fall into the trap of paradox of choices. Previous experiments conducted in these domains where they found that certainly there were cases

where a vast array of choices may have beneficial effects but on the other hand a growing body of research also suggest that people can have difficulty in managing complex choices. Research shows that selection, evaluation and integration of information depends on the number of choices offered. The study conducted here shows that limited choice conditions offered roughly the same amount of options as there were in the past studies. In comparison, the extensive choice condition had relatively more but not ecologically unrealistic number of options. Keeping all this in mind the present study focuses on testing the hypothesis that having limited or a small set of options may be more intrinsically motivating than having an overly extensive list of choices.

Experiment design

To measure preferences of color choices, Priyal et al. (2021) created two separate tests known as “Dons it’s time for a small change” which gathered demographic data as well as response time, contact information, demographics, and a link to a brief color survey. The participants were all graduate and undergraduate economics students and were chosen randomly. They were further divided into two groups randomly. Group A had been given the survey that asked for basic demographics (whether the participant was a student, faculty, or professor), age, country of origin, etc. Participants were then directed to click on a survey link that had them choose between 4 different colors. After completing the survey, satisfaction and color preference

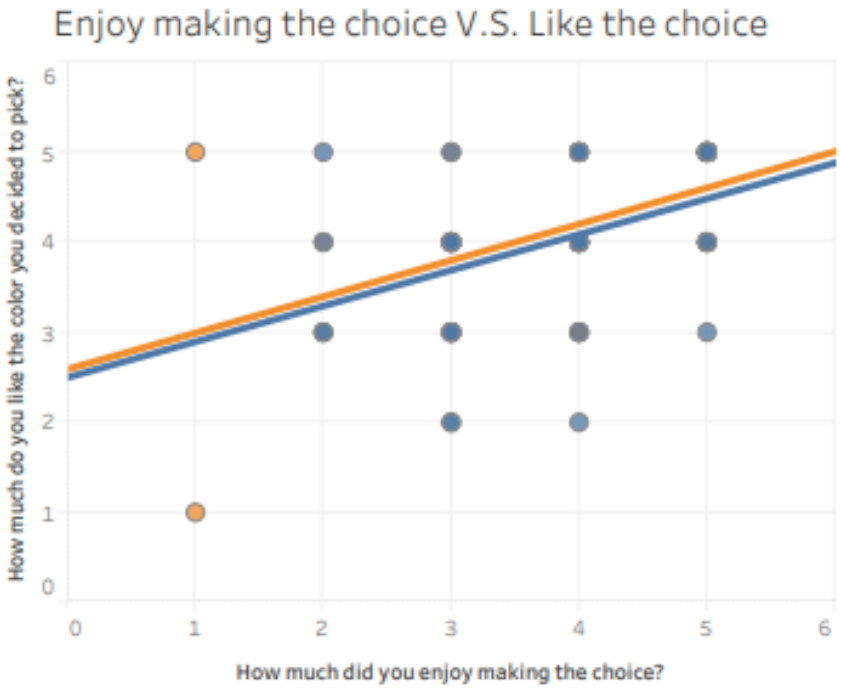
questions were left for the participant to answer. Participants were asked if they would purchase a USF t-shirt (worth $25) for $12 or $14 dollars depending if the t-shirt was in the color they chose in the previous survey. They were asked whether they were satisfied with their decision and rated their preference for the color on a likert-type scale (1 didn't like at all to 5 really liked my decision). They were also asked if they had difficulty with the choice and whether they enjoyed making the decision or wished for more colors. The test was replicated for Group B except this group's survey led them to 20 different color choices. Once the participant finished their google sheet, their responses would be recorded, and the test has ended. The data collected from the survey was analysed using R, Stata and Tableau. Additionally, the implications for further research are discussed.

Data analysis & Findings

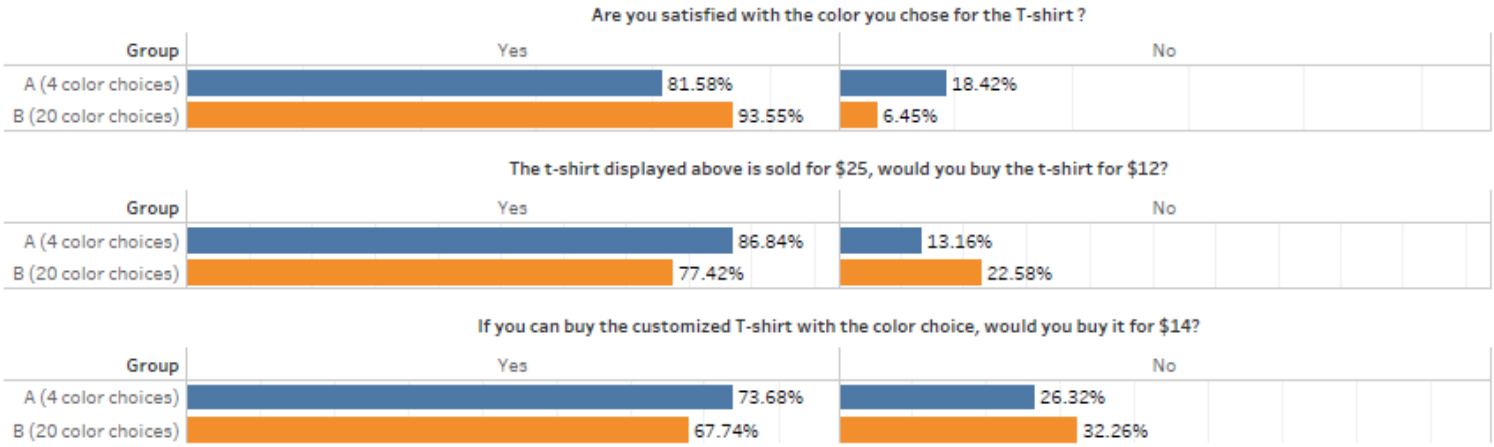
When participants answered the question of "How much do you like the color you decided to pick?" from a scale of 1 (not at all) to 5 (extremely); people from both groups (one had 4 color

choices, and the other group had 20 color choices) answered similarly. Both groups had a median rate of 4 (two sided t-test with a p-value of 0.5115). We can say that, having how many choices has no effect on people liking the color they picked.

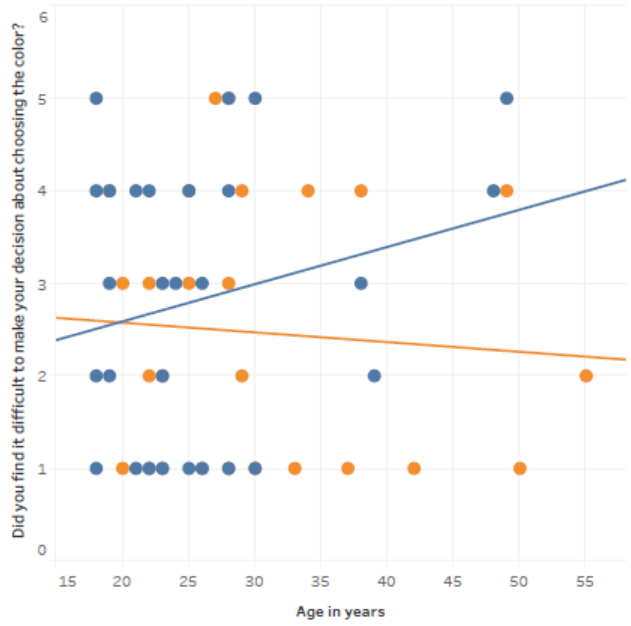
Answers to "How much did you enjoy making the choice?" and "How much do you like the color you decided to pick?" are highly correlated with each other in general (Correlation test with a p-value: < 0.0001***, Cor: 0.4618), as well as for

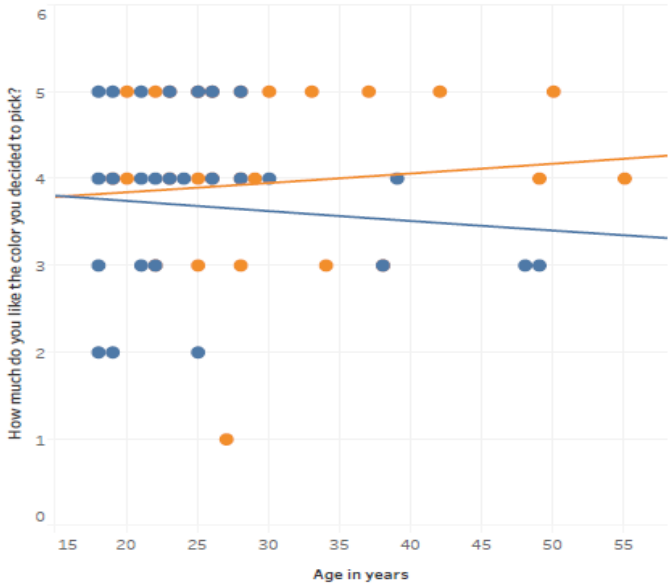


both Group A (4 color choices) (Correlation test - p-value: 0.0082**, Cor: 0.4228) and Group B (20 color choices) (Correlation test - p-value: 0.0041**, Cor: 0.5014). People who like the color they picked are more likely to enjoy making the choice, no matter how many color options they have (p-value for [Liking the color * group]: 0.9223). In other words, the quantity of options does not matter, but the quality of options matters here.

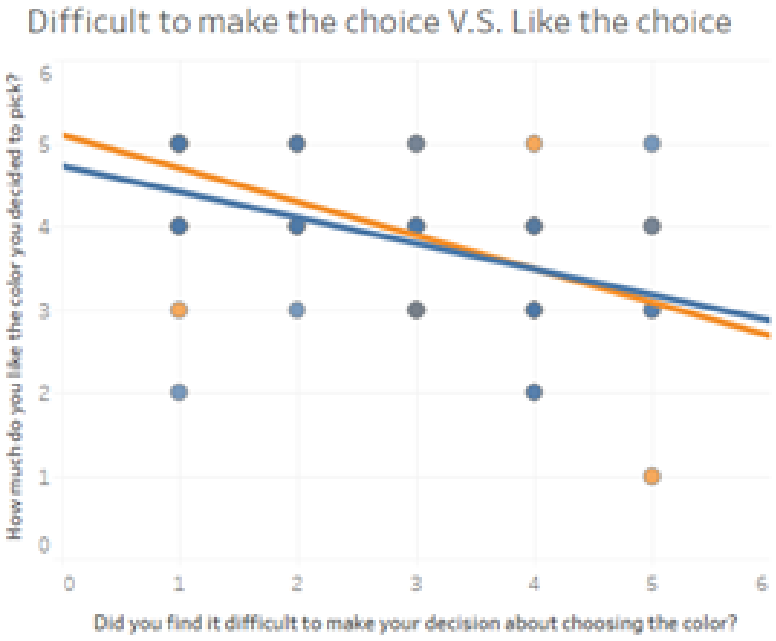


When looking at the question of "Are you satisfied with the color you chose for the T-shirt?" (yes/no question), participants with more color options are more likely to satisfied with the color they had chosen for the t-shirt (Group A, 82% yes; Group B, 94% yes; one sided t-test with a p-value of 0.0731*); however, participants with less options are more willing to buy the t-shirt than the participants with more options (Group A, 87% yes on $12 t-shirt and 74% yes on $14 t-shirt; Group B, 77% yes on $12 t-shirt and 68% yes on $14 t-shirt; one-sided t test on t-shirt for $12 with a p-value of 0.1557; one-sided t test on t-shirt for $14 with a p-value of 0.2974).

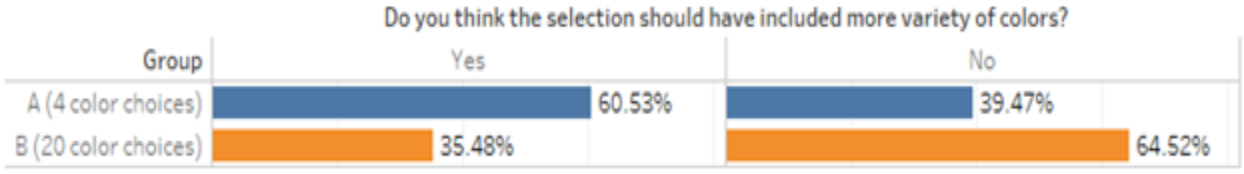




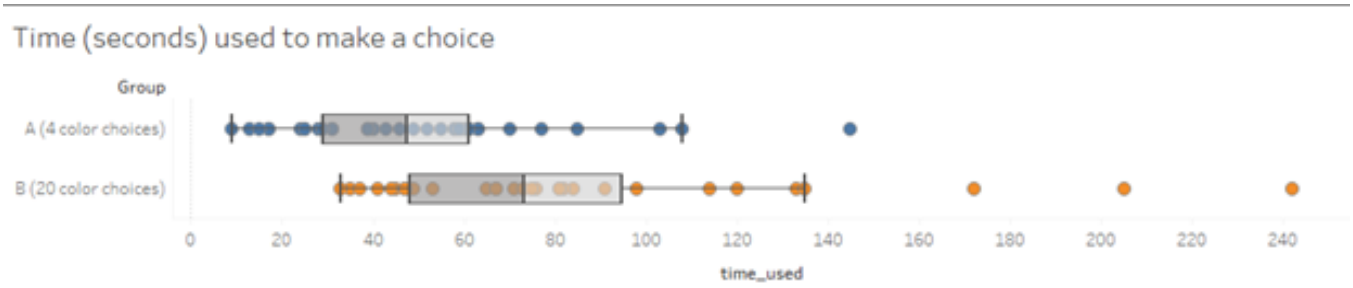
There is a positive correlation between age and difficulty in making decision (Correlation test - p-value: 0.135, Cor: 0.247), and a negative correlation between age and liking the chosen color (Correlation test - p-value: 0.5585, Cor: -0.0979) for participants with less color choices; however, the correlations flip if participants have more color choices (Correlation test for age vs difficulty in making decision with a p-value: 0.6842, Cor:



-0.0761; Correlation test for age vs liking the chosen color with a p-value: 0.6315, Cor: 0.08964). This tells us, when people have less options, older people seem to be more difficult to make a choice than younger people; and the more difficult to make choice for participants, the less likely they will like the color



(Correlation test with a p-value < 0.0001***, Cor: -0.5244). However, in general, when limited choices are offered, people ask for more variety of choices (one-sided t test with a p-value of 0.0195*). Moreover, when more options are offered, people who still don't see their favorite option will likely feel more difficult to make a choice (Correlation test on wish to have more colors vs difficulty in making decision in Group B with a p-value: 0.0055**, Cor: 0.4866).



Participants with more choices spent more time on making the choice than people with less choices (median time spent in Group A: 47.5 sec, median time spent in Group B: 73 sec;

one-sided t test with a p-value of 0.0002***). There is a stronger correlation between time used and liking the color in Group B (more choices) than Group A (less choices) (Correlation test in Group B with a p-value: 0.1311, Cor: -0.2772; Correlation test in Group A with a p-value: 0.9107, Cor: -0.0188); People will take time to make decisions when they have more options, but the more time they spend on, and the more options they have, the less likely they will like the color they pick.

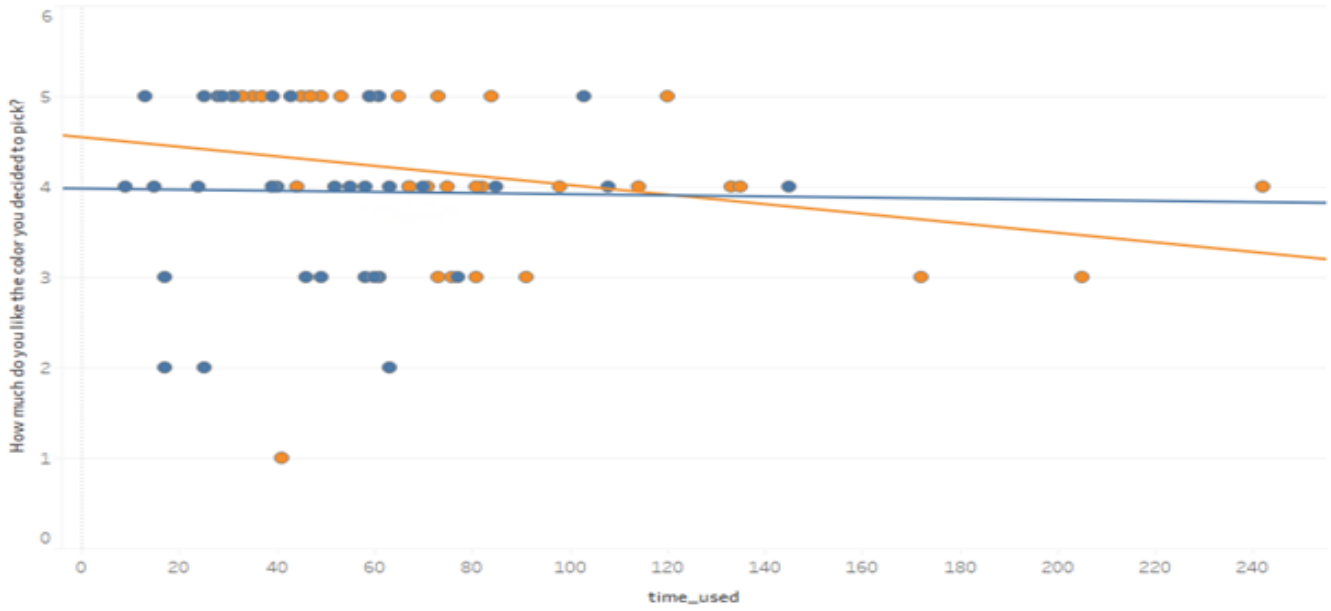


Table 1.

Source	SS	df	MS		
Model	1.19341159	3	.397803864	Number of obs	= 45
Residual	46.7176995	41	1.13945609	F(3, 41)	= 0.35
				Prob > F	= 0.7900
Total	47.9111111	44	1.08888889	R-squared	= 0.0249
				Adj R-squared	= -0.0464
				Root MSE	= 1.0675

like_choice	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
List_B	.1805479	.3466591	0.52	0.605	-.5195444	.8806402
age	.0114315	.0189267	0.60	0.549	-.0267918	.0496547
male	-.0475369	.3370261	-0.14	0.889	-.7281748	.633101
_cons	3.586935	.5487385	6.54	0.000	2.478735	4.695134

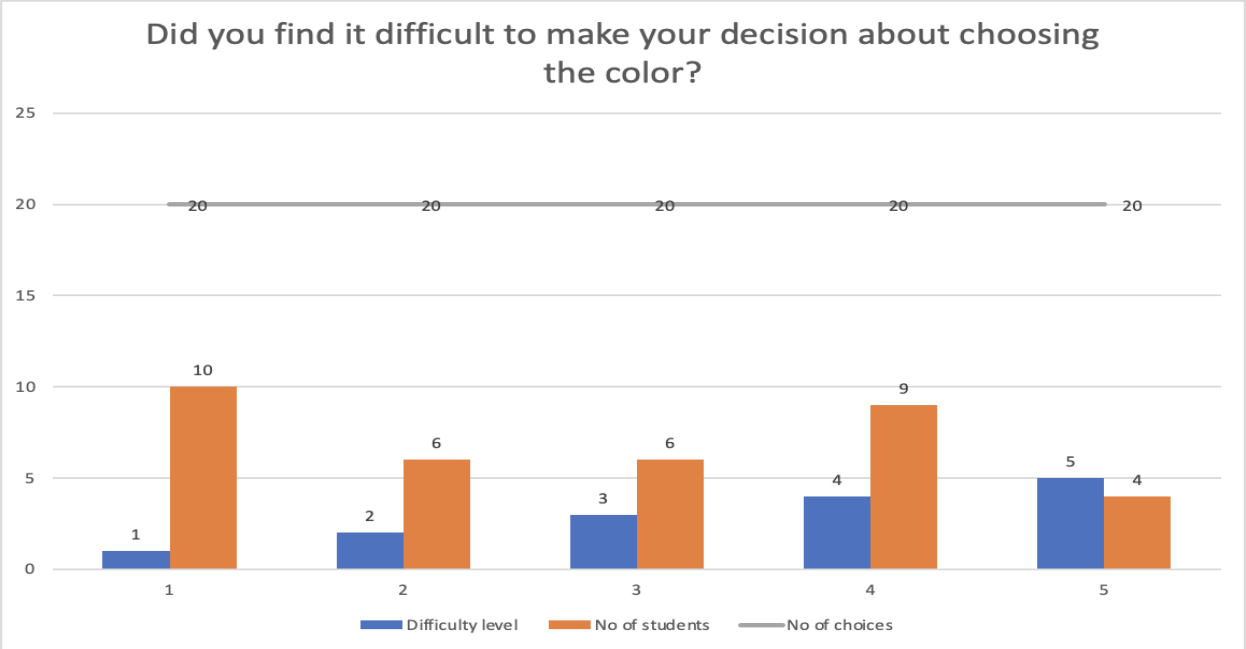
No variable was significantly correlated with one's choice preference as the P-value for each variable is about 0.05. Males tend to have a negative correlation with choice preference, meaning that they choose not to "like the choice" they have made. R-squared is 0.0245, suggesting that the variance accounts for .0249, suggesting that a longer list, age, and male genders only play 2.5% in the actual likeness of their choice. Coefficients of each variable are also low, suggesting that these factors are simply not that important to the preference of the choice being made and therefore demonstrates participants don't think much about whether choices can impact them significantly.

A two tailed t test was used to test the significance between number of choices offered and difficulties in decision about choosing.

t|stat|=10.42> 2.70 (2 sided 99% critical value)

Pr(>|t|)= 8.99e-11*** showing a very small probability that the results could be random (i.e out of chance)

Thus there is strong evidence that suggests that no. of choices is a strong determinant of difficulty in choosing colour. As choices are limited less people find it difficult to make a decision and more people were dissatisfied as compared to when they are offer more choices

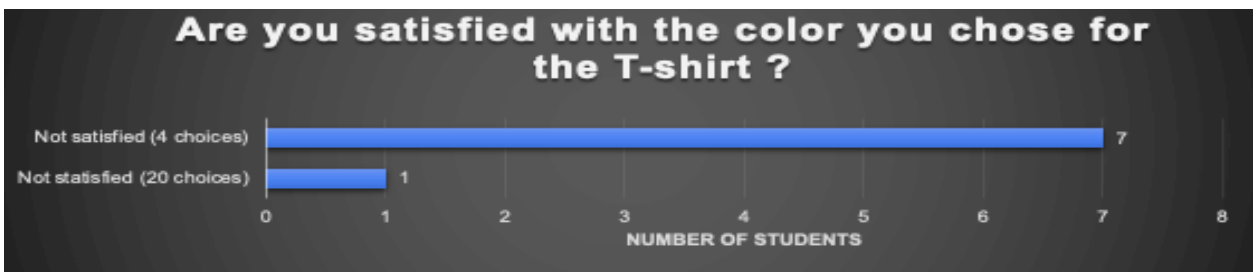


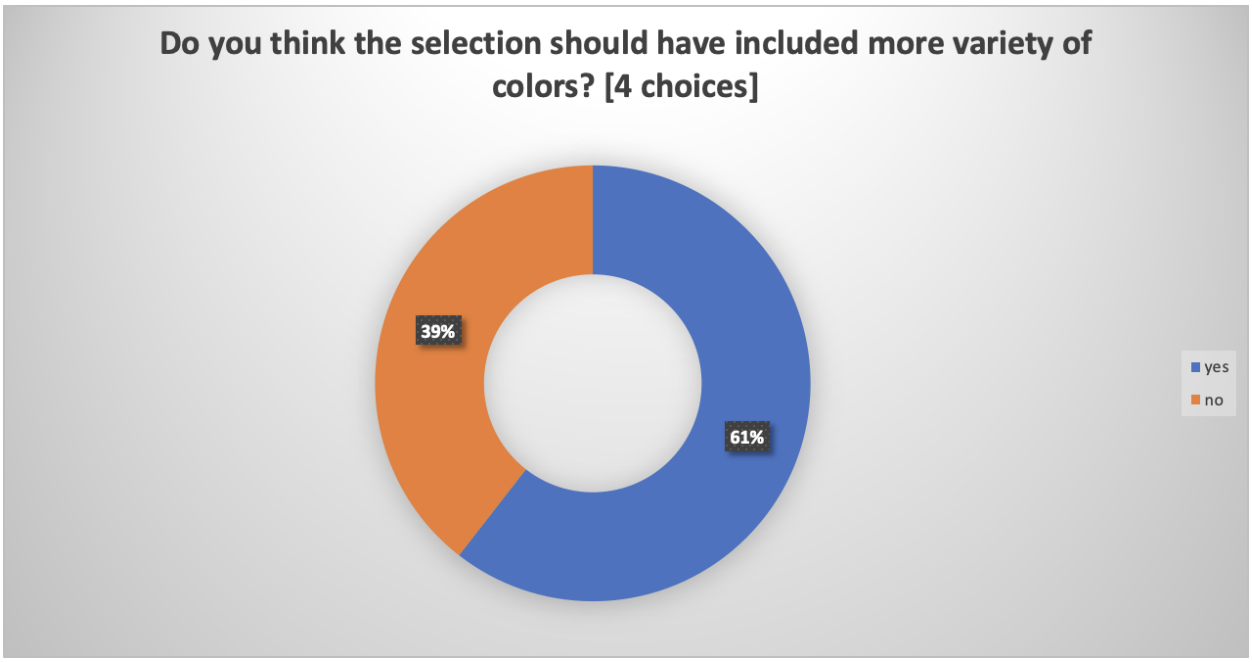
A two tailed t test was used to determine the significance of the number of choices offered and difficulties in decision about choosing.

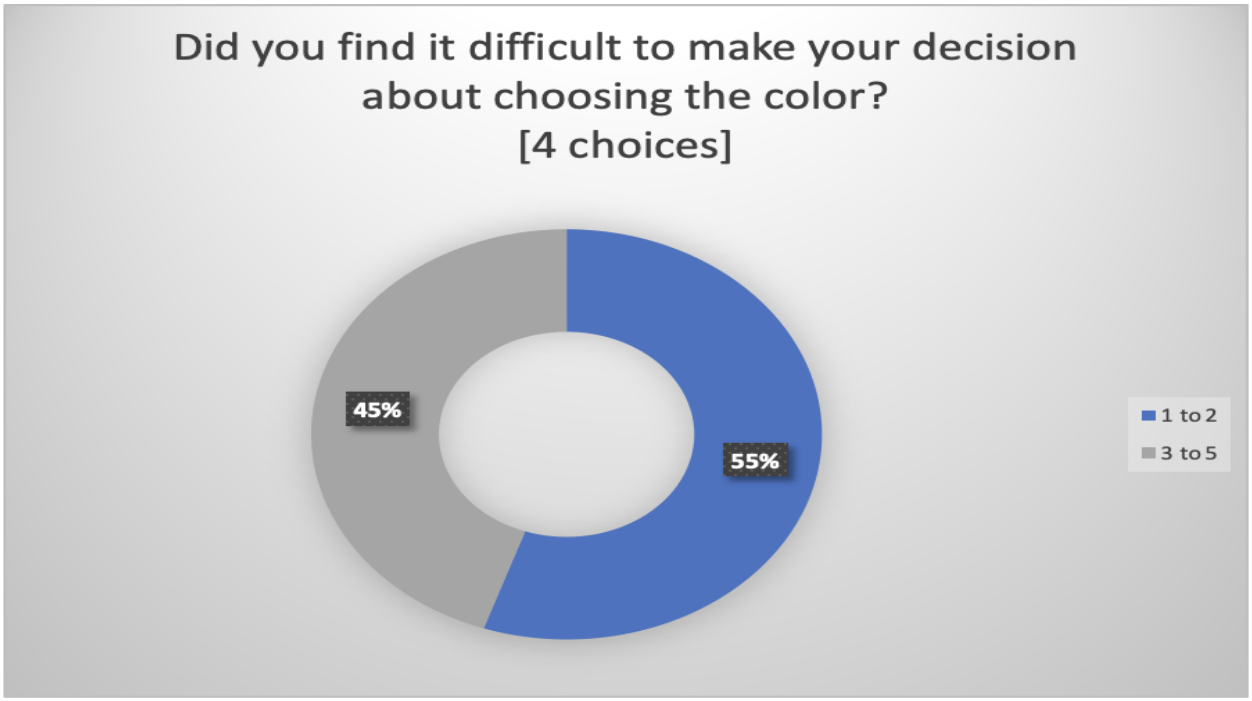
t|stat|=10.43> 2.70 (2 sided 99% critical value)

Pr(>|t|)= 3.89e-12*** showing a very small probability that the results could be random (i.e out of chance)

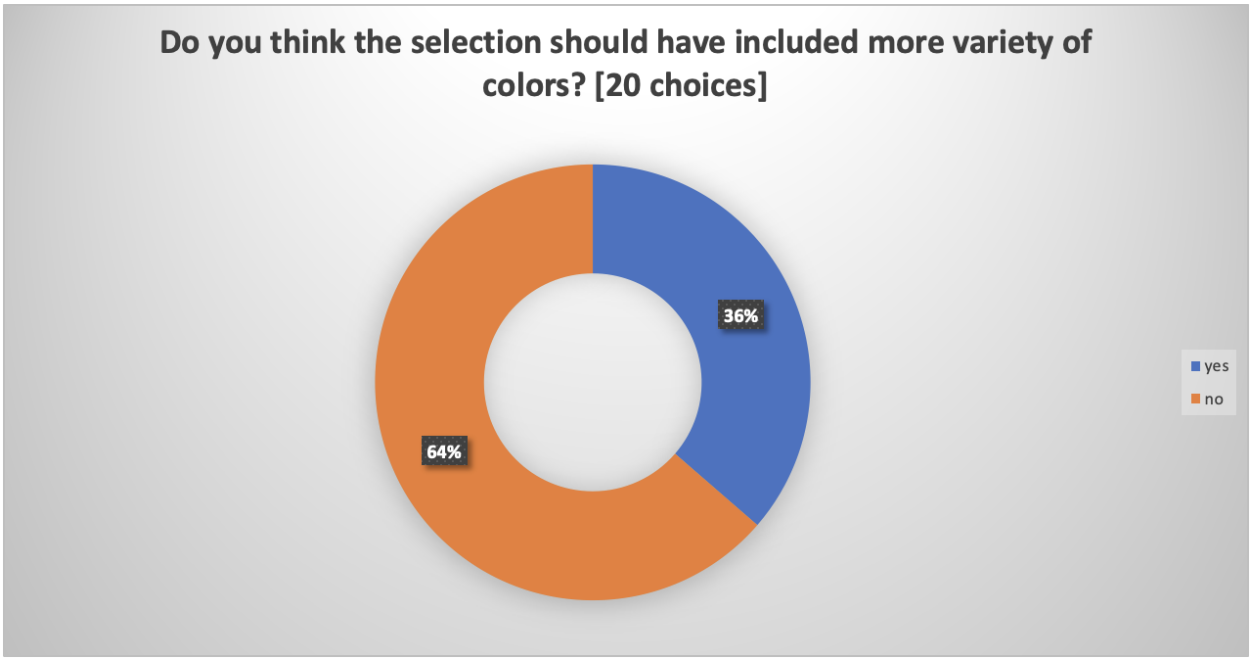
Thus there is strong evidence that suggests that no. of choices is a strong determinant of difficulty in choosing colour.As choices increase more people find it difficult to make a decision and less people were dissatisfied as compared to when they are offered less choices.

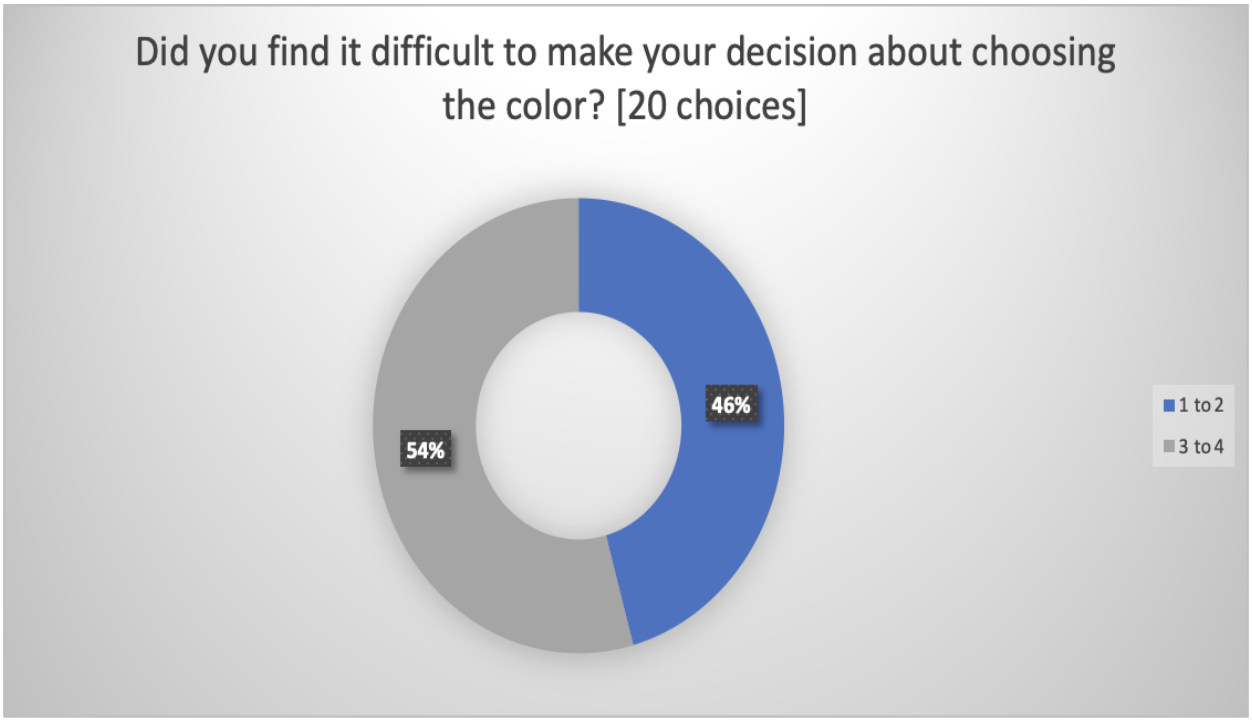






55% of students found it difficult to choose from 4 choices and 61% amongst them wanted more variety of choice. Therefore people want more choices when they are given fewer options





54% of students found it difficult to choose from 20 choices and 64% amongst them did not want more variety of choice. Therefore having more choices does not make you better off, it just makes choosing or deciding more difficult.

Conclusion

In conclusion, consistent with the theory of paradox of choice, the experiment results indicate that although people want more options, they are more likely to decide and be satisfied with the decision under less-options scenarios. The efficiency of decision-making behavior also needs to be considered. People's satisfaction will decline when the magnitude of choices available to them. As people spend more time on the decision-making process, the cost becomes higher, and the expected benefit would be higher. Therefore, provided more choices, an individual's satisfaction could not easily be met. Furthermore, we conclude that the quality of options also influences decision-making behaviors. Offering a mass of choices disperses the core of information, raises the complexity of decision-making processes, and ultimately reduces utility.

These findings suggest that augmenting the quality of choice and reducing the number of options but increasing additional and contextual information would allow people to make better decisions. Different individuals have various choice criteria and preferences. Market research is necessary before products launch. Optimizing the quantity of choice and providing the pertinent range of options would lead to economic efficiency outcomes.

Challenges & Recommendations

A few challenges arose when conducting this experiment on the paradox of choice. Initially, sample size was an issue since the sample population was limited to students in the class. However, after reaching out to various professor's and other students, the sample size increased. Another challenge faced was the age gaps within the sample population. Since most participants were either students or professors, it did not allow for much dispersion among the results, although interesting analyses were still developed. Initially, the study failed to account for gender, though that variable was added in for the final regressions.

From the experiment, as stated above, we concluded that less scenarios left participants better off in their decision making and satisfaction. For further tests on this paradox of choices, we recommend using a bigger sample size, perhaps to participants outside USF, so that the study can represent a larger subset of the population. We also recommend using people outside of economics who might not have prior knowledge of the paradox of choice so that there is no room for bias.

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