WORKING PAPER

ECONOMIA PUBBLICA
PUBLIC ECONOMICS

Department of Economics and Law

Choice overload and contextual inference: An experimental test
Irene Maria Buso

Working Paper No. 192
March 2020

Sapienza University of Rome
Via del Castro Laurenziano 9 – 00161 Roma

ISSN 1974-2940

SAPIENZA
UNIVERSITÀ DI ROMA

Choice overload and contextual inference: An experimental test

Irene Maria Buso *

March 3, 2020

Abstract

The paradoxical finding of the preference for small sets of products (Iyengar and Lepper; 2000) has been explained with cognitive costs and regret. Instead, Kamenica (2008) suggests that the set size conveys a payoff relevant information about the popularity of the products in a set: in small set there are the most popular products. The present experimental analysis aims to test if the contextual inference theory can explain the increased willingness to take a product from small sets; the experiment relies on the standard framework in experiments on choice overload: it is a between-subjects experiment where the willingness to purchase a product rather than accept a fixed monetary payment is compared in the two experimental conditions, that is when an extensive or a small choice set is provided to the participants. The new element with respect to previous studies on this topic is that the participants do not see the options in the set: the items are presented inside bags. The subjects can choose to take one product at random from the set or a fixed monetary fee; the choice is offered sequentially on three products: chocolate, yoghurt and crisps. This design rules out alternative explanations as cognitive costs and regret since the only information given is the set size. The results show that in two of the three product categories the proportion of people that prefer to take whatever product from the small set is higher than from the large one.

*Buso: Junior Fellow at CIMEO Sapienza Experimental Economics Lab. Email: irenemaria.buso@uniroma1.it

Acknowledgments: I wish to thank Professor Giuseppe Ciccarone for supervision and support in developing this research project during my PhD thesis, the Department of Economics and Law at Sapienza for financial support in running the experiment as well as the technical and intellectual help of the staff and reserchers of CIMEO Lab. I also gratefully acknowledge the valuable comments of John Hey, Rosemarie Nagel and an anonymous referee.

1 Introduction

The paradoxical finding that having extensive choice sets may have detrimental consequences for consumer welfare (Iyengar and Lepper; 2000) has opened a new strand of literature that aims at understanding the effects of a large number of options on decision making. The failure of some papers to replicate these paradoxical findings (Chernev; 2003; Scheibehenne et al.; 2009) stresses the necessity to identify the circumstances that lead to the arise of this phenomenon.

The cognitive overload that the processing of many options implies has been proposed as a possible explanation for this phenomenon. Reutskaja and Hogarth (2009) show experimental evidence in favor of the moderating role that cognitive costs play in decreased satisfaction in purchases from large sets. Also, the emotional aspects of choices as regret have been proposed as a moderator of the phenomenon (for e.g., Sarver; 2008).

An alternative explanation has been suggested by Kamenica (2008): the dimension of the choice set (large vs small) conveys payoff-relevant information on the products in that set. Assuming asymmetric information between firms and consumers on the distribution of tastes in the population and a fraction of consumer uninformed on their tastes, the dimension of the sets becomes relevant for uninformed consumers; in fact, the average popularity of the products is higher in small sets than in large sets, and the uninformed consumers look for the most popular options since these are more likely to fit their tastes. We have then a clear prediction on the behavior of uniformed consumer in this setting: given that they cannot do better than pick a random product from a set, they will be more willing to draw a product from a small set rather than from a large set.

The present experimental analysis aims at testing if this contextual inference mechanism can to some extent explain the preference for small sets. The design relies on the typical experimental setting used to test the preference for small sets' products: it is a between-subjects study where the experimental groups are alternatively presented with a small or large set of products and have to decide if they prefer to receive a fixed monetary fee or a product from the set. This baseline design is modified implementing the assumption on consumers' information: uncertainty about preferences is introduced offering products that subjects cannot see when they make the choice; hence, they do not know their subjective values. The subjects know the dimension of the choice set; in addition, they know that the offers in the sets are the real product line offered by a store in Rome, and they can then expect that the set size is informative about population tastes. If they choose to take a product instead of money, this is randomly drawn from the set.

This design reproduces the condition under which we can have contextual inference, i.e. preference uncertainty and informative sets, and rules out alternative explanations as cognitive costs and regret. The choice task is done on three products: chocolate, yoghurts and crisps. To preempt the results, in two of the three product categories the proportion of people that prefer to take whatever product in the small set condition is significantly higher than in the large set one. The paper proceed as follows: in section 2, the literature on preference for small sets is reviewed and the research questions are developed in detail. In section 3 the experimental design is presented together with the hypotheses tested. In Section 4, the experimental procedure is presented in detail. Results are reported in section 5, and section 6 concludes.

2 Literature Review and Research Questions

The experimental analysis of Iyengar and Lepper (2000) has highlighted the negative effect that an increasing number of options may have on consumer satisfaction and willingness to purchase a product. This phenomenon is a paradox in choice theory since enlarging the choice set should not worsen consumers' welfare. These detrimental consequences have been explained through the cost-benefit paradigm, where as the number of options increases there is a rise of not only of the opportunities of consumption, but as well of the cost of a choice in terms of cognitive effort (e.g., Roberts and Lattin; 1991; Reutskaja and Hogarth; 2009) and time (Botti and Hsee; 2010).

Also, regret has been shown to be a consequence of the increasing number of consumption possibilities (e.g., Iyengar and Lepper; 2000; Inbar et al.; 2011); hence, anticipatory regret could be an antecedent of choice overload (e.g., Sarver; 2008). Moreover, individual attitudes toward maximizing and satisficing (e.g., Schwartz; 2004) have been shown to have a role in satisfaction with choices from small and large sets. The necessity to identify the conditions under which preference for small sets is more likely to arise have motivated a meta-analysis by Chernev et al. (2015); they suggest that the most relevant moderating factors of choice overload are decision task difficulty, choice set complexity, preference uncertainty and effort-minimizing goal.

Kamenica (2008) proposes a novel explanation of this phenomenon: the preference for small choice sets may be due not to cognitive limitations or emotional factors, but to the rational inference of the consumers. When there is preference uncertainty and asymmetric information between consumers and firms on the distribution of tastes, the uninformed consumer infers the popularity of the options from the set size; this hypothesis relies on previous theoretical and empirical studies showing that the consumer may be uncertain on the subjective value of the options. However, even if the consumer

experience this kind of uncertainty, she is usually aware of how her tastes compares with the tastes of the rest of the population. Hence, individual preferences are defined not in absolute terms, but relatively to others' preferences (Wernerfelt; 1995). According to this argument, the popularity of a product becomes a way to establish which option is more likely to fit the tastes of the consumer who is uncertain about her absolute preferences (if one believes that her tastes are not different from the average of the population). Prelec et al. (1997) show that this kind of preference uncertainty implies that consumption choices are sensitive to the context, since different contexts may imply different inferences about others' tastes. This argument is used by Kamenica (2008) in order to explain the choice overload phenomenon: the context (i.e. a small or a large set) affects the inference on the popularity of the options available: the consumers expect to find the most popular products in the small sets, and hence the preference for choosing from small sets arises. The reason why the small sets should contain the most popular products and the consumers should know this is the profit maximization strategy of the firms. Indeed, on the supply side, the model assumes that firms know the distribution of tastes in the population, and they build the product line according to these tastes in order to maximize their profit: they want to offer the most popular products; however, the average popularity of the products offered is decreasing in the breadth of the product line: the first product introduced is the most popular, the second is the second most popular, an so on. Hence, products with lower popularity are sequentially introduced and the larger the product line is the more are introduced products with relatively lower popularity[1]. On the demand side the model assumes that there is a fraction of consumers that is uninformed about their tastes and about the distribution of tastes in the population. Since there is asymmetric information between consumers and firms, and it is assumed that consumers know this asymmetry, the uninformed consumer can infer the distribution of tastes from the production choices of the firms. In particular, they can infer the average popularity of the products from the number of products offered: since they cannot do better than choose randomly[2], they are more willing to pick whatever product from a limited rather than from an extensive set. Indeed, they have more chances to take a product that is likely to suit them from a small set than from a large one. Therefore, the model predicts the preference for small sets because of the inference of payoff-relevant information from the set size. Under preference uncertainty and information asymmetry, it is payoff-maximizing choosing from the small set even if there are not cognitive limitations and emotional factors in decision-making. Hence, the following design aims to test experimentally if the preference for taking products from small sets can be explained by the

[1]It has to be noticed that the small sets contain the most popular options because this behaviour is profit maximizing for the firms. If the small sets were a random selection from a larger sets, the small sets would not have this property.

[2]The reason why the cannot do better than choose randomly is that they have uncertain preferences.

inference-based mechanism proposed by the model of Kamenica (2008).

3 Experimental Design and Hypotheses Testing

The choice task

The present experiment relies on the standard framework of the experiments on choice overload: it is a between-subjects experiment where the willingness to purchase a product rather than accepting a fixed monetary payment is compared in two experimental conditions, that is when an extensive or a small choice set are provided to the participants. The new element with respect to previous experiments on this topic is that the participants do not see the options in the set: the items are presented inside bags in the lab. The subjects chose to take one product at random from the set or the monetary fee. Hence, the participants were forced to the condition of preference uncertainty assumed in the contextual-inference theory, since no one had the possibility to observe the products and evaluate the subjective values of the products; this condition, i.e., preference uncertainty, should imply the necessity to infer the popularity of the products. The participants had to take a random product from the set in case they chose a product instead of the monetary fee; they were told that in case they had chosen to take a product, they would have received one of the products of the set randomly drawn; it was explicitly stated that they would be allowed to see only the drawn product and not the whole content of the set. Instead, if they had taken the monetary payment, they would have received an amount of money equal to the average value of the products in the set. Since it was not possibile to see the products in the set before the choices, cognitive costs cannot account for a preference for the small set in this design. Further, since the whole product line cannot be seen after the choices, anticipated regret cannot explain the preference for taking a product from the small set as well.

Another element of the design that is fundamental to test contextual inference theory is that the participants know that the products offered are the entire product line of a store: they know that the options inside a set belong to the same brand and are the actual and whole assortment for that product offered in a store in Rome. The name of the brand and that of the store were not told to them. Since the product offered are a real assortment offered by a supplier, they may consider the assortment as informative on population tastes. For this reason real products were used in the experiment, instead of abstract induced-value objects[3]. The two experimental conditions, i.e., small

[3]Since these products do not have an induced-value, individual homegrown preferences are taken into account asking for a non-incentivized liking-rating score from 0 to 10 and the frequency of consumption of each product.
Note that the theory may be tested with value induced objects creating experimentally the supply side of the market

and large sets, are implemented as follows: for the group of subjects in the small set condition the products offered were taken from a store with a limited product line; for the group of subjects in the large set condition the products offered were taken from a store with a large product line. In each session the choice is done for three products: chocolate, yoghurts and crisps.

The prediction of the theory is that uninformed subjects prefer to take whatever product from the small set rather than whatever product from the large set because the context (small vs. large set) conveys the information about the likelihood of receiving a product that suits their preferences. Hence, the present experiment tests the following hypothesis:

Hypothesis 1: The proportion of people that choose to take the product rather than the monetary fee in the small set condition is greater than in the large set condition.

According to this hypothesis, subjects should choose to take a product rather than money more frequently from small sets than from large sets. In line with the contextual inference argument, the participants may expect to find more popular products in the small set (for example, traditional flavors of chocolate: dark, milk etc.) since the shops offering few flavors usually select the most standard and liked flavors; instead, in the large set they may pick an unsual product that is less likely to suit their tastes, for example spicy chocolate.

The guessing task

To further understand the kind of information that the subjects infer from the context in this setting, the participants' beliefs on the popularity of the products in the sets are elicited. Through an online survey before the experiment, run during Spring 2017, there were collected the liking-ratings over the products offered in the experiment by a sample of 15 potential consumers, that were students of the faculty of Economics that did not participate in any following session of the experiment. Products were rated them from 0 to 10, and the participants were incetivized knowing that they would have received one of the products that they rated at least 7. The subjects in the experiment knew this information, and they had to guess how many products in the offered set received an average rating equal to 7 or higher. According to the contextual inference theory, it is more likely that one choose to take a product if he/she believes that there is a higher percentage of high rated, i.e., popular, products. Furthermore, extending the argument of Kamenica (2008), one may prefer the small set if he/she believes that in the large set there is a higher proportion of niche products that are then

and inducing preference over objects with an asymmetry of information. However, using real products the inference process may be elicited more unconsciuosly. Furthermore, using real product is the standard way of testing choice overload in experiments. Therefore, keeping this framework is helpful for a comparison with previous findings.

unlikely to suit the tastes of the average consumer. From the third class session also the guessing on the number of products that received a rating equal or lower than 4 is introduced. The following hypotheses are then tested:

Hypothesis 2a: The choice of acceptance of the product is positively associated with the belief of a greater proportion of high-rated products and negatively associated with the belief of a greater proportion of low-rated products is the choice set.

Hypothesis 2b: In small sets it is expected to be a greater proportion of high-rated products and a lower proportion of low-rated products.

4 Experimental Protocol

The experimental sessions were run in May and June 2017 at the University of Rome "La Sapienza", in the Department of Economics and Law. There were six sessions overall. The first four sessions were run in class and the other two sessions in the CIMEO Sapienza Experimental Economics Laboratory[4].

The participants were bachelor and master students of the Faculty of Economics." The class sessions were run at the beginning or at the end of a lesson and the students could participate on a volutary basis; they did not receive a show-up fee for their participation in class sessions but only the payment for the choices done during the experiment. Instead, the participants to the laboratory sessions were recruited through an email sent by the faculty didactic manager to the institutional email address of the students and they received a fee of 5 euros for showing-up in the laboratory in addition to the payment for the experiment. Class session were run with pencil and paper whereas the experiment in the laboratory was computerized. Further details on the experimental protocol in class and laboratory session are provided in the following sections, and a summary of the main features of each session is reported in Table 1.

Class Sessions' Protocol In the first session (the 18th of May) 23 subjects were assigned to the small set condition and 18 to the large set one. In the second session (the 25th of May) 30 subjects

[4]All the sessions were managed by the author in Italian. Instructions in Italian and the English translation are in the appendix.

were assigned to the small set condition and 31 to the large set one. In the third session (the 26th of May) 12 subjects were assigned to the small set condition and 12 to the large set one. In the fourth session (the 29th of May) 6 subjects were assigned to the small set condition and 4 to the large set condition. The products used in the first session were chocolate and yoghurt; in all the other sessions the products were chocolate, yoghurt and crisps. In the small set condition the subjects chose among 6 types of chocolate, 8 yoghurts and 5 types of crisps. In the large set condition they chose among 25 types of chocolate, 30 yoghurts and 27 crisps. The guessings on the popularity of the product in the set were asked for each product category. In the first two class sessions the guessing on the number of products in the set rated on average equal or lower than 4 was not asked. The tasks were six in total (three choice tasks and three guessing tasks)[5] and one of these 6 tasks was randomly chosen for final payment.

In case one of the choice tasks was chosen for payment, the students would have received the product or the monetary payment, according to their choices; the monetary payment was equal to 2 euros for chocolate and crisps and 1.5 euros for yoghurt, but the participants were not explicitly told the amount of the payment they would have received during the session: they just knew that the fixed monetary payment was equal to the average value of the products in the set. In case one of the guessing tasks was chosen for payment, they would have received 5 euros if the guessing was correct, otherwise they would have received 5 minus the quadratic error without the possibility of a negative payoff. The experiment lasted 20 minutes; the instructions were read aloud sequentially: the participants were instructed to complete each task of the experiment after it was read aloud by the experimenter, and they were not allowed to look at the following tasks before being authorized, that is not before the previous tasks were completed by all participants and the new task had been read aloud. No show-up fee was provided for these class sessions, and one third of the subjects was randomly chosen for the final payment, except for the last class session where they were all paid[6]. In the first two sessions a guessing task was drawn for payment in front of the class and the students received the payment at the beginning of the following lesson. The average payment was 2 euros. In the last session the crisps choice task was drawn for the final payment; the subject received the products after few days.

[5]The three choice tasks are those where the subjects choose between the product and the money. The guessing tasks are those were they have to guess about the liking of the products in the set.

[6]Charness et al. (2016) review the effect of different payment structure, and they show that paying all or a subset of subjects does not affect behaviour generally. However, if the experiment uses a complex task, paying some or all subjects may become relevant. Although the task in this experiment (choosing between consumption products) is not considered in that paper, the binary choice among lotteries can be considered a very similar task to that used in this experiment both in terms of complexity and partially also as type of choice: it is generally found that in this kind of task paying a subset or all subject does not affect the result.

Laboratory Sessions' Protocol Two laboratory sessions were run on the 15th of June with 60 students. The sessions were computerized and programed in z-Tree (Fischbacher; 2007). The large set treatment was run in the first session, and the small set treatment in the second one with 30 participants in the first session and 29 in the second one. Differently from class sessions, in laboratory sessions demographic controls about sex, age and education were collected. In the small set condition they chose among 6 types of chocolate, 8 yoghurts and 5 crisps. In the large set condition they chose among 38 types of chocolate, 30 yoghurts and 22 crisps. Beliefs about the number of products rated 7 or more and 4 or less were elicited. In case one of the guessing tasks was drawn for payment, they were paid for one of the two guessing chosen randomly. Differently from the class sessions, the amount of the fixed monetary payment that participants would have received in case they did not choose a product was explicitly declared in the instructions. The payment rule for the guessing tasks was slightly different from the class sessions: 5 euros for the correct guessing, and 5 minus the error in case of incorrect guessing. The experiment lasted 30 minutes and afterwards the payment was administered individually outside the laboratory. The instructions were on the screen and they were read aloud at the beginning of each of the six tasks of the experiment. The products were in the laboratory when the sessions were run: products were inside bags so that they could not be seen. One subject was recruited at the beginning of each session among the participants to look inside these bags and guarantee to the other participants that there were really the variety of different products declared by the experimenter: this subject did not play the tasks and received a fixed payment equal to 7 euros. One of the six tasks was randomly chosen for payment. In the first session the product task with crisps was paid giving the show-up fee plus 2 euros to those who did not choose the product and one random product to the others[7]. In the second session the guessing task with chocolate was paid and the average payment was approximately 8 euros including the show-up fee.

[7]It was possibile to replace all products after the random drawn, and the subjects were made aware of it.

Table 1: Summary of Experimental Protocol

This table shows a summary of the main features of each session of the experiment.
.

Session date	Session place	N of Subjects	Products used	Guessing 7+	Guessing 4-	Demographics	Payment
18th May	Class	small: 23 large: 18	Chocolate (small:6; large: 25) Yoghurt (small:8; large: 30)	yes	no	no	$\frac{1}{3}$ of the students No Show-up Fee
25th May	Class	small: 30 large: 31	Chocolate (small:6; large: 25) Yoghurt (small:8; large: 30) Crisps (small:5; large:27)	yes	no	no	$\frac{1}{3}$ of the students No show-up fee
26th May	Class	small: 12 large: 12	Chocolate (small:6; large: 25) Yoghurt (small:8; large: 30) Crisps (small:5; large:27)	yes	yes	no	$\frac{1}{3}$ of the students No Show-up fee
29th May	Class	small: 6 large: 4	Chocolate (small:6; large: 25) Yoghurt (small:8; large: 30) Crisps (small:5; large:27)	yes	yes	no	All students No show-up fee
15th June (I)	Laboratory	small: 30	Chocolate (small:6; large: 38) Yoghurt (small:8; large: 30) Crisps (small:5; large:22)	yes	yes	yes	All students Show-up fee
15th June (II)	Laboratory	large: 29	Chocolate (small:6; large: 38) Yoghurt (small:8; large: 30) Crisps (small:5; large:22)	yes	yes	yes	All students Show-up fee

5 Results

The summary statistics of the data from class sessions and laboratory sessions are reported in table 2 and 3. A summary of the finding of this section is in Table 4.

The results of the regression analyses on class session data (5.1) and laboratory session data (5.2) are first presented, and then hypothesis 1 is discussed in 5.3. In 5.4 the beliefs analysis is presented.

Table 2: Summary Statistics on Class Sessions

Rating is a variable that assumes integer values from 0 to 10 and it is the self-reported liking of each product. *Frequency* takes values from 1 (every day) to 5 (never), and it represents the frequency of consumption of the type of product (chocolate, yoghurt, crisps).
.

	Mean	SD	Min	Max
Rating Chocolate	7.5	1.7	3	10
Rating Yoghurt	5.5	2.3	0	10
Rating Crips	7.4	2	0	10
Frequency Chocolate	2.1	0.9	1	5
Frequency Yoghurt	2.7	1.14	1	5
Frequency Crisps	2.7	0.8	2	5
N	135 (Chocolate and Yoghurt)			95 (Chips)

Table 3: Summary Statistics on Laboratory Sessions

	Mean	SD	Min	Max
Rating Chocolate	7.75	1.5	3	10
Rating Yoghurt	6.3	2.1	0	10
Rating Crisps	6.7	2.4	0	10
Frequency Chocolate	2	0.85	1	4
Frequency Yoghurt	2.5	1.1	0	5
Frequency Crisps	2.8	1	1	5
N	59			

Table 4: Summary of the Findings

This table shows the percetages of accepted products in small (*% products Small Set*) and large sets (*% products Large Set*). *N obs* is the number of observations. *P-Value* is the significance level of the set size in the regression analyses below.
.

	% Products Small Set	%Products Large Set	N obs	P-value
Class Chocolate	34%	17%	136	0.07
Class Yoghurt	15%	15%	136	not significant
Class Crips	48%	30%	95	0.04
Class Chocolate and Crisps	37%	30%	231	0.02
All Class Products	30%	19%	367	0.04
Laboratory Chocolate	29%	21%	59	not significant
Laboratory Yoghurt	20%	15%	59	not significant
Laboratory Crisps	33%	33%	59	0.057
All Laboratory Products	27%	24%	177	0.057

5.1 Class Sessions

Firts, the data from class session are analyzed product by product type through logistic regressions. Then, all data from class sessions are analyzed using a mixed-effects logistic regression with random intercept that account for the repeated measurement. The results of the regression analyses are reported in table 5.

Chocolate Class The dimension of the set (marginally) significantly (p-value=0.07) affects the decision to take the chocolate or not: the predicted probability of taking chocolate is 18% in the large set and 31% in the small set.

Yoghurt Class The decision whether to take the yoghurt or not was not significantly affected neither by the set size nor by other covariates.

Crisps Class The dimension of the set significantly (p-value=0.04) affects the decision to take the crisps or not: the predicted probability of taking crisps is 29% in the large set and 50% in the small set.

All Class Sessions Considering the data in all class sessions, the dimension of the set significantly (p-value=0.04) affects the decision to take one of the products from the set. Also, Rating and Frequency positively affect the choice to take the product. The predicted probability of taking crisps is 20% in the large set and 32% in the small set.

Table 5: Regressions All Class Sessions

This table displays the results of the probit regression analysis on data from class sessions. Regressions 1, 2 and 3 are run for single products.
Regression 4 is on chocolate and crisps data and Regression 5 on all class data using a mixed-effects probit model with random intercept.
The dependent variable of the regressions is *Acceptance*: a dummy variable equal to 1 when the product is accepted and equal to 0 when the product is not accepted.
Treatment is a dummy variable equal to 1 in the small set condition and equal to 0 in the large set condition.
Guessing 7+ ranges between 0 and 1 as itn is the proportion of products in the set that, according to their guessings, received an average rating equal or higher than 7.
$\hat{\sigma}^2$ is the estimated variance of the random intercept at the subject level
.

	(1) *Acceptance Chocolate*	(2) *Acceptance Yoghurt*	(3) *Acceptance Crisps*	(4) *Acceptance Chocolate & Crisps*	(5) *Acceptance All Class Products*
Treatment	0.46*	0.13	0.63**	0.92**	0.92**
	(0.25)	(0.28)	(0.29)	(0.45)	(0.46)
Liking-rating	0.23**	0.091	0.07	0.34**	0.49***
	(0.10)	(0.10)	(0.10)	(0.15)	(0.14)
Frequency	-0.19	-0.15	-0.56**	-0.51**	-0.33*
	(0.17)	(0.17)	(0.24)	(0.26)	(0.18)
Guessing 7+	-0.39	-0.29	0.18	-0.60	-0.018
	(0.61)	(0.63)	(0.68)	(0.87)	(0.75)
Session	-0.10	0.14	0.31	0.002***	0.13
	(0.15)	(0.15)	(0.21)	(0.24)	(0.25)
Product type				0.63***	0.56***
				(0.20)	(0.18)
Constant	-1.89*	-1.39	-0.52	-3.73**	-6.01***
	(1.06)	(1.02)	(1.37)	(1.73)	(1.68)
$\hat{\sigma}^2$				2.93	4.03*
				(1.86)	(2.08)
Observations	135	136	93	228	364

Standard errors in parentheses, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 6: Marginal effects - Class Sessions

This table reports the predicted probability of acceptance of the product in small (*Pred. Prob. Small Set*) and large (Pred. Prob. Large Set) sets. Also, the last line report the marginal effect of the set size on the acceptance probability, that is, the pedicted change in the probability resulting from restricting the set in percentage points.
.

	Chocolate Acceptance	*Yoghurt Acceptance*	*Crisp Acceptance*	*All products pooled Acceptance*
Pred. Prob. Small Set	0.31	0.16	0.50	0.32
Pred. Prob. Large Set	0.18	0.13	0.29	0.20
Marginal effect	13	2.8	20	11.5

5.2 Lab Sessions

Firts, the data from laboratory sessions are analyzed by product type through logistic regressions. Then, all data from lab sessions are analyzed using a mixed-effects logistic regression with random intercept that account for the repeated measurement. The results of the regression analyses are reported in table 7.

Chocolate Laboratory None of the covariates significantly affect the decision of taking the chocolate or not. Even if the treatment variable does not reach the significance level, the results slightly go in the predicted direction: in the large set condition 23 persons chose money and 6 chose chocolate. In the small set condition 21 persons chose money and 9 chocolate.

Yoghurt Laboratory None of the covariates significantly affect the decision of taking the product or not, except for the guessing on the number of products that were rated equal or lower than 4. Even if the treatment variable does not reach the statistical significance, the results slightly go in the predicted direction: in the large set condition 24 persons chose money and 5 yoghurt. In the small set condition 24 persons chose money and 6 yoghurt.

Crisps Laboratory The dimension of the set (marginally) significantly (p-value=0.057) affects the decision to take crisps or not: the predicted probability of taking crisps is 24% in the large set and 46% in the small one. The evaluation of the crisps significantly (p-value=0.01) increases the willingness to take them as well as the beliefs about the number of high rated crisps (p-value=0.09).

All Lab Sessions Pooling all laboratory data, the dimension of the set significantly (p-value=0.057) affects the decision to take a product or not: the predicted probability of taking a product is 19% in the large set and 33% in the small one. The evaluation of the products, *Liking-Rating*, strongly significantly increases the willingness to take them.

Table 7: Regression Analysis on Laboratory Sessions' data

This table displays the results of the probit regression analysis on data from laboratory sessions. Regressions 1, 2 and 3 are run for single products.
Regression 4 is on all lab data using a mixed-effects probit model with random intercept.
The dependent variable of the regressions is *Acceptance*: a dummy variable equal to 1 when the product is accepted and equal to 0 when the product is not accepted.
Treatment is a dummy variable equal to 1 in the small set condition and equal to 0 in the large set condition.
Guessing 7+ ranges between 0 and 1 as itn is the proportion of products in the set that, according to their guessings, received an average rating equal or higher than 7.
Guessing 4- ranges between 0 and 1 as itn is the proportion of products in the set that, according to their guessings, received an average rating equal or lower than 4.
$\hat{\sigma}^2$ is the estimated variance of the random intercept at the subject level *Education* ranges from 1 to 6: it is equal to 1 at the first year of the bachelor, 5 at the last year of the master, otherwise 6.
.

	(1) *Acceptance Chocolate*	(2) *Acceptance Yoghurt*	(3) *Acceptance Crisps*	(4) *Acceptance All Lab Products*
Treatment	0.36	0.50	1.30*	0.68*
	(0.44)	(0.49)	(0.68)	(0.36)
Rating	0.43**	0.49**	0.70***	0.58***
	(0.21)	(0.19)	(0.26)	(0.14)
Frequency	0.11	0.24	-0.37	0.013
	(0.33)	(0.28)	(0.29)	(0.18)
Guessing 7+	2.20	-1.48	-3.00*	-0.16
	(1.50)	(1.49)	(1.76)	(0.91)
Guessing 4-	1.15	-3.35*	-1.24	-1.44
	(1.40)	(1.73)	(1.75)	(0.99)
Age	-0.28*	-0.04	0.05	-0.08
	(0.15)	(0.12)	(0.17)	(0.08)
Sex	-0.28	0.36	1.03*	0.19
	(0.45)	(0.50)	(0.57)	(0.33)
Education	0.19	0.09	0.25	0.14
	(0.18)	(0.18)	(0.20)	(0.13)
Product type				0.31*
				(0.17)
Constant	-0.14	-3.16	-6.49	-4.40**
	(3.47)	(3.01)	(4.64)	(2.10)
$\hat{\sigma}^2$				0.41
				(0.39)
Observations	59	59	59	177
Standard errors in parentheses				
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$				

Table 8: Marginal effects - Laboratory Sessions

This table reports the predicted probability of acceptance of the product in small (*Pred. Prob. Small Set*) and large (Pred. Prob. Large Set) sets. Also, the last line report the marginal effect of the set size on the acceptance probability, that is, the pedicted change in the probability resulting from restricting the set in percentage points.
.

	Chocolate Acceptance	*Yoghurt Acceptance*	*Crisp Acceptance*	*All products pooled Acceptance*
Pred. Prob. Small Set	0.29	0.24	0.47	0.33
Pred. Prob. Large Set	0.20	0.14	0.24	0.19
Marginal effect	8.7	9.8	25	13.7

5.3 Discussion

Pooling the product together we find mild evidence of an effect of the set size on the acceptance choice in the class sessions and a marginally significant effect in the laboratory sessions. Hence, the statistical significance is decreased in laboratory sessions, where the amount of the monetary fee is known. Note that the significance of the set dimension is lower in the lab sessions than in the class ones. This may be because the subjects in the laboratory were explicitly told the amount of the monetary payment in case they did not choose the product. This may have decreased the difference in the acceptance rate in the two sets since the average value of the set was homogenized across the experimental conditions. This evidence is in line with previous findings on the moderating role of an ideal point in choice overload phenomenon (Chernev; 2003).

Note that the significance of the effect is heterogeneous across products: there is mild evidence that small sets increase the probability of taking chocolate and chips in class sessions, while in the lab sessions there is a marginal significant effect only for crisps. There is not a significant effect for yoghurt neither in class nor in lab sessions; this latter result about yoghurt may depend on the fact that it is a less liked product: on average yoghurt received the lower liking-rating. It is plausible to think that if a product is not liked, it will not be chosen, whatever is the dimension of the set. Indeed, yoghurt was chosen very infrequently, considering the choices in both experimental conditions: 32 out of 195 participants chose to take a yoghurt. Instead: 57 out of 154 chose to take crisps, and 50 out of 194 chose to take chocolate. This finding about yoghurt is in line with previous literature showing the moderating role of options' attractiveness in preference for small sets (e.g., Chernev and Hamilton (2009)).

Overall, hypothesis 1 is supported by the current findings, altough the significance of the effect depends on the product type and on the features of the experimental design.

5.4 Beliefs' Analysis

The average of the guessing for product category is reported in Table 9, while the regression analyses on the belief is reported in Table 10. The regression analyses are run for all sessions, and these do not show a relation between the choice to take a product (i.e., the variable *Acceptance*) and the belief on the number of high-rated products (rating over 7[8]). Instead, there is a marginally significant of evidence that the decision of taking a product or not from a set is (negatively) associated with the beliefs that there are low-rated products in a set. Although this latter finding has a low statistical significance, it has to be considered the low number of observations; this result provides a first explicit evidence of the link between popularity of options and choices in such context. Also, this evidence suggests that the willingness to avoid niche (that is, not popular) products may be a more relevant factor than the willingness to find the best product in a set. Hence, this result is in line with hypothesis 2a just for low-rated products.

However, there is not support for Hypothesis 2b: there is not evidence that in small sets people expect a greater proportion of high-rated products or a lower proportion of low-rater products, the variable *Treatment* is not significante indeed.

In conclusion, the evidence on the guessing task suggests that the presence of niche products rather than the presence of popular product could be the more payoff relevant information for the consumers. However, there is not evidence that sustains the link between the set size and these beliefs.

[8]In these regression analyses the variables that refer to the guessing are worked out computing the proportion of product high or low rated in each set.

Table 9: Guessing - Summary of the results

Average Guess 7+ is the average across subjects of the guessing on the number of products rated equal or higher than 7. *Average Proportio 7+* is the same variable normalized for the numer of products in the set.
Average Guess 4- is the average across subjects of the guessing on the number of products rated equal or lower than 4. *Average Proportio 4-* is the same variable normalized for the numer of products in the set.

.

		Chocolate	*Yoghurt*	*Crisp*	*All products in lab and class sessions*
Average Guess 7+	Small	3.76	4.25	3.32	3.82
	Large	18.15	16.35	16.21	16.95
Average Proportion 7+	Small	0.62	0.53	0.66	0.60
	Large	0.62	0.54	0.64	0.60
Average Guess 4-	Small	1.89	2.83	1.25	1.99
	Large	9.13	10.51	6.73	8.79
Average Proportion 4-	Small	0.31	0.35	0.25	0.30
	Large	0.27	0.35	0.27	0.30

6 Conclusions

Previous studies show that preference for small sets is related with cognitive costs and regret. The present evidence suggests that the length of the product line plays a role as well in determining the preference for small sets. The experiment carried out in this work shows that the information on the length of a product line significantly affects the decision to pick up a product from the set. Since the product lines were not observable neither ex-ante nor ex-post choices, cognitive costs and anticipatory regret cannot explain the preference for taking products from the small set observed in this experiment. Contextual inference can instead explain such behavior: payoff relevant features of the product in the set can be inferred by the information on the length of the product line. In particular, the participants may infer that in small product lines the most popular and standard flavors are offered, and then it is more likely to find a product that suits their tastes, as a bar of simple dark chocolate or a classic flavor of crisps. Instead, in the extensive product lines, they may expect to find niche products too (for example, coco and turmeric crisps or salty chocolate), and since these products are liked only by a small fraction of the consumers, it is less likely that they may like them. However, the analysis of their guesses on the number of high and low rated product in small and large set fails to provide direct evidence of this mechanism mediating the preference for small sets.

More data should be collected in this experimental setting in order to confirm the robustness of the results, and to test the mediating role of popularity or of other mediating mechanisms that may be at work in such a context. According to the evidence collected, the a follow-up experiment should

Table 10: Regression Guessings - All Sessions

The regressions are mixed-effects. The dependent variable in each regression is the guessing on the number of product rated equal or higher than 7, lower than 4 respectively, normalized for the number of products. *Acceptance* is a dummy variable equal to 1 when the product is accepted and equal to 0 when the product is not accepted.
Treatment is a dummy variable equal to 1 in the small set condition and equal to 0 in the large set condition.
.

	(1) *Proportion 4-*	(2) *Proportion 7+*
Acceptance	-0.0435*	0.00854
	(0.0263)	(0.0212)
Treatment	0.00785	0.00508
	(0.0301)	(0.0240)
Product Type	-0.0187	0.0163*
	(0.0118)	(0.00943)
Session	0.0171	0.000201
	(0.0172)	(0.00780)
Frequency	0.0190	0.000328
	(0.0136)	(0.0104)
Rating	-0.00147	0.0199***
	(0.00657)	(0.00493)
Constant	-1.918***	-1.843***
	(0.0521)	(0.0379)
Observations	277	541
Observations	543	279
Standard errors in parentheses		
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$		

consider product specific effects, i.e. the yoghurt has been show to be not very suitable for these tasks. Further, knowing the monetary fee amount, as in lab sessions, may confound the effect of the treatment.

References

Botti, S. and Hsee, C. K. (2010). Dazed and confused by choice: How the temporal costs of choice freedom lead to undesirable outcomes, *Organizational Behavior and Human Decision Processes* **112**(2): 161–171.

Charness, G., Gneezy, U. and Halladay, B. (2016). Experimental methods: Pay one or pay all, *Journal of Economic Behavior & Organization* **131**: 141–150.

Chernev, A. (2003). When more is less and less is more: The role of ideal point availability and assortment in consumer choice, *Journal of consumer Research* **30**(2): 170–183.

Chernev, A., Böckenholt, U. and Goodman, J. (2015). Choice overload: A conceptual review and meta-analysis, *Journal of Consumer Psychology* **25**(2): 333–358.

Chernev, A. and Hamilton, R. (2009). Assortment size and option attractiveness in consumer choice among retailers, *Journal of Marketing Research* **46**(3): 410–420.

Fischbacher, U. (2007). z-tree: Zurich toolbox for ready-made economic experiments, *Experimental economics* **10**(2): 171–178.

Inbar, Y., Botti, S. and Hanko, K. (2011). Decision speed and choice regret: When haste feels like waste, *Journal of Experimental Social Psychology* **47**(3): 533–540.

Iyengar, S. S. and Lepper, M. R. (2000). When choice is demotivating: Can one desire too much of a good thing?, *Journal of personality and social psychology* **79**(6): 995.

Kamenica, E. (2008). Contextual inference in markets: On the informational content of product lines, *The American Economic Review* **98**(5): 2127–2149.

Prelec, D., Wernerfelt, B. and Zettelmeyer, F. (1997). The role of inference in context effects: Inferring what you want from what is available, *Journal of Consumer research* **24**(1): 118–125.

Reutskaja, E. and Hogarth, R. M. (2009). Satisfaction in choice as a function of the number of alternatives: When "goods satiate", *Psychology & Marketing* **26**(3): 197–203.

Roberts, J. H. and Lattin, J. M. (1991). Development and testing of a model of consideration set composition, *Journal of Marketing Research* pp. 429–440.

Sarver, T. (2008). Anticipating regret: Why fewer options may be better, *Econometrica* **76**(2): 263–305.

Scheibehenne, B., Greifeneder, R. and Todd, P. M. (2009). What moderates the too-much-choice effect?, *Psychology & Marketing* **26**(3): 229–253.

Schwartz, B. (2004). The paradox of choice.

Wernerfelt, B. (1995). A rational reconstruction of the compromise effect: Using market data to infer utilities, *Journal of Consumer Research* **21**(4): 627–633.

Appendix

Translated instructions

WRITE HERE THE ID NUMBER THAT YOU HAVE RECEIVED.....

Instruction: In this experiment there are 6 sections. [X] people will be randomly selected for payment; they will be paid according to their own choices in one of the sections. The section chosen for payment is randomly drawn at the end of the experiment.
At the beginning of each section the experimenter will read the instructions, that are also written in the paper sheets. Please, go on with the experiment according to the order indicated by the experimenter: it is important to finish one section before continuing with the following one. If you read one section before the experimenter allows you to do it, you will be excluded from the experiment and its payment.

DO NOT TURN THE PAGE BEFORE THE OFFICIAL START!

[In lab sessions socio-demografic variables were asked at the beginning of the experiment]
(in the following page or screen)
SECTION 1 - Chocolate

- How much do you like chocolate from 0 to 10?
  Write a number between 0 and 10 that represents your liking of chocolate in general.....

- How often do you consume chocolate?
  Put an "X" near the frequency that better represents your usual consumption of chocolate.
  1 Once a day.....
  2.Once a week....
  3.Once a month....
  4. Less than once a month/infrequently.....
  5. Never.....

A store in Rome offers 6 (25) different flavors of chocolate of the same brand. Indicate with an "X" the option that you prefer between receiving one of the 6 (25) types of chocolate chosen at random

or a monetary payment equal to the average value of the 6 (25) products [2 euros in the lab sessions]:

1. I prefer one of the 6 (25) types of chocolate chosen at random....

2. I prefer the monetary compensation...

(in the following page or screen)

SECTION 2 - Chocolate

The 6 (25) products offered by the store were observed by a group of potential consumers. They were asked to rate each product from 0 to 10 according to their liking. They knew that they would have received a product among those rated higher or equal to 7.

- How many products received an average rating higher or equal to 7?
  Write a number bewtween 0 and 6 (25) that represents your opinion...

- How many products received an average rating lower or equal to 4?
  Write a number bewtween 0 and 6 (25) that represents your opinion...

Note that if your guessing is exactly equal to the true average you will receive 5 euros. If your guessing is different from the true average, you will receive 5 euros minus the square of the difference between the true average and the guessed one: $5-(trueaverage-guessedaverage)^2$ [5-true average in the lab sessions]. If this value is negative, you will receive nothing. *(in the following page or screen)*

SECTION 3 - Yogurt

- How much do you like yogurt from 0 to 10?
  Write a number between 0 and 10 that represents your liking of yogurt in general.....

- How often do you consume yogurt?

  Put an "X" near the frequency that better represents your usual consumption of yogurt.

  1 Once a day.....

  2.Once a week....

  3.Once a month....

  4. Less than once a month/ /infrequently.....

  5. Never.....

A store in Rome offers 8 (30) different flavors of yogurt of the same brand. Indicate with an "X" the option that you would prefer between receiving one of the 8 (30) yogurts chosen at random or a monetary payment equal to the average value of the 8 (30) products [1.5 euros in the lab sessions]:

1. I prefer one of the 8 (30) yogurts chosen at random....
2. I prefer the monetary compensation...

(in the following page or screen)

SECTION 4 - Yogurt

The eight (30) products offered by the store were observed by a group of potential consumers. They were asked to rate each product from 0 to 10 according to their liking. They knew that they would have received a product among those that were rated higher or equal to 7.

- How many products received an average rating higher or equal to 7?

  Write a number bewtween 0 and 8 (30) that represents your opinion...

- How many products received an average rating lower or equal to 4?

  Write a number bewtween 0 and 8 (30) that represents your opinion...

Note that if your guessing is exactly equal to the true average you will receive 5 euros. If your guessing is different from the true average, you will receive 5 euros minus the square of the difference between the true average and the guessed one: $5-(trueaverage-guessedaverage)^2$ [5-true average in the lab sessions]. If this value is negative, you will receive nothing. *(in the following page or screen)*

SECTION 5 - Crisps

- How much do you like crisps from 0 to 10?
  Write a number between 0 and 10 that represents you liking of crisps in general.....

- How often do you consume crisps?
  Put an "X" near the frequency that better represents your usual consumption of crisps.
  1 Once a day.....
  2.Once a week....
  3.Once a month....
  4. Less than once a month/infrequently.....
  5. Never.....

A firm offers 5 (27) different flavors of crisps. Indicate with an "X" the option that you would prefer between receiving one of the 5(27) crisps chosen at random or a monetary payment equal to the average value of the 5 (27) products[2 euros in the lab sessions]:
1. I prefer one of the 8 (30) crisps chosen at random....
2. I prefer the monetary compensation...
(in the following page or screen)
SECTION 6 - Crisps
The 5 (27) crisps offered by the store were observed by a group of potential consumers. They were asked to rate each product from 0 to 10 according to their preferences. They knew that they would have received a product among those that were rated higher than or equal to 7.

- How many products received an average rating higher than or equal to 7?
  Write a number bewtween 0 and 5 (27) that represents your opinion..

- How many products received an average rating lower than or equal to 4?
  Write a number bewtween 0 and 5 (27) that represents your opinion...

Note that if your guessing is exactly equal to the true average you will receive 5 euros. If your guessing is different from the true average, you will receive 5 euros minus the square of the difference between the true average and the guessed one: $5 - (trueaverage - guessedaverage)^2[5 - trueaverageinthelabsessions]$. If this value is negative, you will receive nothing.

Esperimento in classe

SCIVETE QUI IL NUMERO IDENTIFICATIVO CHE VI E' STATO CONSEGNATO: .....

Conservate il foglietto con il numero per il pagamento
Xbigletti verranno estratti casualmente per il pagamento

Istruzioni In questo esperimento ci sono 6 sezioni. Le [X] persone estratte per il pagamento verranno remunerate per le loro scelte in una delle sei sezioni, la quale verrá estratta casualmente. All'inizio di ogni sezione lo sperimentatore leggerá le istruzioni della relativa sezione che troverete scritte anche sul foglio. Procedere nell'esperimento secondo l'ordine indicato dallo sperimentatore: é importante completare una sezione prima di passare a quella successiva. Chi legge una sezione prima che lo sperimentatore l'abbia autorizzato sará escluso dell'esperimento e dal relativo pagamento.

NON GIRARE LA PAGINA PRIMA DELL'INIZIO UFFICIALE!

- **SEZIONE 1 - Cioccolata**

  - Quanto ti piace la cioccolata da 0 a 10?

    Scrivi un numero tra 0 e 10 che rappresenti il tuo gradimento della cioccolata in generale ..

  - Quanto spesso consumi la cioccolata? Metti una "X" vicino alla frequenza che meglio rappresenta il tuo consumo abituale di cioccolata.

    1. una volta al giorno....
    2. una volta alla settimana....
    3. una volta al mese....
    4. meno di una volta al mese/infrequentemente.....
    5. mai.....

  - Un negozio a Roma offre 25 diversi gusti della stessa marca di cioccolata. Indica con una X nell'apposita opzione se preferisci ricevere uno dei 25 prodotti (che verrá estratto casualmente tra questi 25) o una compensazione monetaria di un valore pari al valore medio dei 25 prodotti.

    1. Preferisco una delle 25 cioccolate estratta casualmente....
    2. Preferisco la compensazione monetaria...

- **SEZIONE 2 - Cioccolata**

  I 25 prodotti offerti da questo negozio sono stati osservati e valutati da un gruppo di potenziali consumatori. E' stato chiesto a queste persone di dare una valutazione da 0 a 10 sul loro gradimento di ciascuno dei 25 prodotti. Sono stati inoltre avvisati che avrebbero ricevuto uno dei prodotti tra quelli a cui avevano attribuito una voto maggiore o uguale a 7.

  - Secondo te quanti dei 25 prodotti hanno ricevuto in media un voto maggiore o uguale a 7?

    Scrivi qui un numero tra 0 e 25 che rispecchi la tua opinione.....

  - Secondo te quanti dei 25 prodotti hanno ricevuto in media un voto minore o uguale a 4?

    Scrivi qui un numero tra 0 e 25 che rispecchi la tua opinione.....

  - **Nota Bene** Se indovinerai esattamente quanti gusti sono stati valutati con un numero maggiore o uguale a 7 riceverai 5 euro. Se ti discosterai da tale valore riceverai 5 euro meno il quadrato della differenza tra il vero valore e quello da te espresso: $5 - (veramedia - mediadateipotizzata)^2$. Se il valore del pagamento sará negativo, non riceverai nulla.

- **SEZIONE 3 - Yogurt**

  - Quanto ti piace lo yogurt da 0 a 10?
    Scrivi un numero tra 0 e 10 che rappresenti il tuo gradimento dello yogurt in generale .....

  - Quanto spesso consumi lo yogurt? Metti una "X" vicino alla frequenza che meglio rappresenta il tuo consumo abituale di yogurt.

    1. una volta al giorno
    2. una volta alla settimana
    3. una volta al mese
    4. meno di una volta al mese/infrequentemente
    5. mai

  - Un negozio a Roma offre 30 diversi gusti della stessa marca di yogurt. Indica con una X nell'apposita opzione se preferisci ricevere uno degli 30 prodotti (che verrá estratto casualmente tra questi 30) o una compensazione monetaria di un valore medio pari a quello dei 30 prodotti.

    1. Preferisco uno degli 30 yogurt estratto casualmente....
    2. Preferisco la compensazione monetaria....

- **SEZIONE 4 - Yogurt**

  Gli 30 prodotti offerti da questo negozio sono stati osservati e valutati da un gruppo di potenziali consumatori. E' stato chiesto a queste persone di dare una valutazione da 0 a 10 sul loro gradimento di ciascuno degli 30 prodotti. Sono stati inoltre avvisati che avrebbero ricevuto uno dei prodotti tra quelli a cui avevano attribuito una voto maggiore o uguale a 7.

  - Secondo te quanti degli 30 yogurt hanno ricevuto in media un voto maggiore o uguale a 7?

    Scrivi qui un numero tra 0 e 30 che rispecchi la tua opinione...

  - Secondo te quanti degli 30 yogurt hanno ricevuto in media un voto minore o uguale a 4?

    Scrivi qui un numero tra 0 e 30 che rispecchi la tua opinione...

  - **Nota Bene** Se indovinerai esattamente quanti gusti sono stati valutati con un numero maggiore o uguale a 7 riceverai 5 euro. Se ti discosterai da tale valore riceverai 5 euro meno il quadrato della differenza tra il vero valore e quello da te espresso:

    $5 - (veramedia - mediadateipotizzata)^2$. Se il valore del pagamento sará negativo, non riceverai nulla.

- **SEZIONE 5 - Patatine**

  – Quanto ti piaciono le patatine in busta da 0 a 10?

  Scrivi un numero tra 0 e 10 che rappresenti il tuo gradimento delle patatine in busta in generale

  – Quanto spesso consumi le patatine in busta? Metti una "X" vicino alla frequenza che meglio rappresenta il tuo consumo abituale di patatine in busta.

    1. una volta al giorno
    2. una volta alla settimana
    3. una volta al mese
    4. meno di una volta al mese/infrequentemente
    5. mai

  – Un'azienda offre complessivamente 27 tipi diversi di patatine in busta. Indica con una X nell'apposita opzione se preferisci ricevere una confezione di patatine in busta tra i 27 tipi offerti da questa azienda (che verrá estratto casualmente tra questi 27) o una compensazione monetaria di un valore pari alla media dei 27 prodotti.

    1. Preferisco uno dei 27 tipi di patatine estratto casualmente....
    2. Preferisco la compensazione monetaria....

- **SEZIONE 6 - Patatine**

  I 27 tipi di patatine offerte da questa azienda sono stati osservati e valutati da un gruppo di potenziali consumatori. E' stato chiesto a queste persone di dare una valutazione da 0 a 10 sul loro gradimento di ciascuno degli 27 prodotti. Sono stati inoltre avvisati che avrebbero ricevuto uno dei prodotti tra quelli a cui avevano attribuito una voto maggiore o uguale a 7.

  - Secondo te quante delle 27 patatine hanno ricevuto in media un voto maggiore o uguale a 7?
    Scrivi qui un numero tra 0 e 27 che rispecchi la tua opinione...
  - Secondo te quante delle 27 patatine hanno ricevuto in media un voto minore o uguale a 4?
    Scrivi qui un numero tra 0 e 27 che rispecchi la tua opinione...
  - **Nota Bene** Se indovinerai esattamente quanti gusti sono stati valutati con un numero maggiore o uguale a 7 riceverai 5 euro. Se ti discosterai da tale valore riceverai 5 euro meno il quadrato della differenza tra il vero valore e quello da te espresso:
    $5 - (veramedia - mediadateipotizzata)^2$. Se il valore del pagamento sará negativo, non riceverai nulla.

Screens with the intructions in the lab sessions

Screen 1

Inserisci il numero identificativo che ti è stato consegnato:..

Screen 2

Età:..

Sesso:..

Anno di Università:..

Screen 3

Quanto ti piace la cioccolata da 0 a 10?
Scrivi un numero tra 0 e 10 che rappresenti il tuo gradimento della cioccolata in generale:..
Quanto spesso consumi la cioccolata?
Indica la frequenza che meglio rappresenta il tuo consumo abituale di cioccolata:

- una volta al giorno.
- una volta alla settimana.
- una volta al mese.
- infrequentemente.
- mai.

Un negozio a Roma offre 6 diversi gusti della stessa marca di cioccolata. Indica l'opzione che preferisci, qualora questa sezione venga estratta per il pagamento: ricevere una delle 6 cioccolate (che verrà estratta casualmente tra queste 6) o una compensazione monetaria pari al valore medio delle 6 cioccolate, cioè 2 euro.

La tua scelta:

- Preferisco una delle 6 cioccolate estratta casualmente.
- Preferisco la compensazione monetaria di 2 euro.

Screen 4

Le 6 cioccolate offerte da questo negozio sono state osservate e valutate da un gruppo di potenziali consumatori.

E' stato chiesto a queste persone di dare una valutazione da 0 a 10 sul loro gradimento di ciascuna delle 6 cioccolate. Sono stati inoltre avvisati che avrebbero ricevuto una delle cioccolate tra quelle a cui avevano attribuito una voto maggiore o uguale a 7.
Secondo te quante delle 6 cioccolate hanno ricevuto in media un voto maggiore o uguale a 7?
Scrivi qui un numero tra 0 e 6 che rispecchi la tua opinione:...
Secondo te quante delle 6 cioccolate hanno ricevuto in media un voto minore o uguale a 4?
Scrivi qui un numero tra 0 e 6 che rispecchi la tua opinione:...
Se la sezione 2 verrà estatta per il pagamento, sarai pagato per una sola delle due domande, scelta casualmente. Per ogni domanda, se indovinerai esattamente quanti gusti sono stati valutati con un numero maggiore o uguale a 7 o un numero minore o uguale a 4, riceverai 5 euro. Se ti discosterai da tale valore riceverai 5 euro meno il valore assoluto della differenza tra il vero valore e quello da te espresso: $5 - |veramedia - mediadateipotizzata|$. Se il valore del pagamento sarà negativo, non riceverai nulla.

Screen 5

Quanto ti piace lo yogurt da 0 a 10?
Scrivi un numero tra 0 e 10 che rappresenti il tuo gradimento dello yogurt in generale:...
Quanto spesso consumi lo yogurt?
Indica la frequenza che meglio rappresenta il tuo consumo abituale di yogurt:

- una volta al giorno.
- una volta alla settimana.
- una volta al mese.
- infrequentemente.
- mai.

Un negozio a Roma offre 8 diversi gusti della stessa marca di yogurt. Indica l'opzione che preferisci, qualora questa sezione venga estratta per il pagamento: ricevere uno degli 8 yogurts (che verrà estratto casualmente tra questi 8) o una compensazione monetaria pari al valore medio dei 8 yogurts, cioè 1 euro.

La tua scelta:

- Preferisco uno degli 8 yogurts estratto casualmente.
- Preferisco la compensazione monetaria di 1 euro.

Screen 6

Gli 8 yogurts offerti da questo negozio sono stati osservati e valutati da un gruppo di potenziali consumatori. E' stato chiesto a queste persone di dare una valutazione da 0 a 10 sul loro gradimento di ciascuno dei 8 yogurts. Sono stati inoltre avvisati che avrebbero ricevuto uno degli yogurts tra quelli a cui avevano attribuito una voto maggiore o uguale a 7.
Secondo te quanti degli 8 yogurts hanno ricevuto in media un voto maggiore o uguale a 7?
Scrivi qui un numero tra 0 e 8 che rispecchi la tua opinione:...
Secondo te quanti degli 8 yogurts hanno ricevuto in media un voto minore o uguale a 4?
Scrivi qui un numero tra 0 e 8 che rispecchi la tua opinione:...
Se la sezione 4 verrà estatta per il pagamento, sarai pagato per una sola delle due domande, scelta casualmente. Per ogni domanda, se indovinerai esattamente quanti gusti sono stati valutati con un numero maggiore o uguale a 7 o un numero minore o uguale a 4, riceverai 5 euro. Se ti discosterai da tale valore riceverai 5 euro meno il valore assoluto della differenza tra il vero valore e quello da te espresso: $5 - |veramedia - mediadateipotizzata|$. Se il valore del pagamento sarà negativo, non riceverai nulla.

Screen 7

Quanto ti piaciono le patatine in busta da 0 a 10?
Scrivi un numero tra 0 e 10 che rappresenti il tuo gradimento delle patatine in busta in generale:..
Quanto spesso consumi le patatine in busta?
Indica la frequenza che meglio rappresenta il tuo consumo abituale di patatine in busta:

- una volta al giorno.
- una volta alla settimana.
- una volta al mese.
- infrequentemente.
- mai.

Un negizio di Roma offre complessivamente 5 tipi diversi di patatine in busta della stessa marca. Indica l'opzione che preferisci, qualora questa sezione venga estratta per il pagamento: ricevere una confezione di patatine in busta tra i 5 tipi offerti da questo negozio (che verrà estratta casualmente tra questi 5) o una compensazione monetaria pari al valore medio delle 5 patatine, cioè 1.5 euro.

La tua scelta:

- Preferisco uno dei 5 tipi di patatine estratto casualmente.
- Preferisco la compensazione monetaria di 1.5 euro.

Screen 8

I 5 tipi di patatine offerte da questo negozio sono stati osservati e valutati da un gruppo di potenziali consumatori. E' stato chiesto a queste persone di dare una valutazione da 0 a 10 sul loro gradimento di ciascuna delle 5 patatine. Sono stati inoltre avvisati che avrebbero ricevuto uno dei prodotti tra quelli a cui avevano attribuito una voto maggiore o uguale a 7.
Secondo te quante delle 5 patatine offerte da questo negozio hanno ricevuto in media un voto maggiore o uguale a 7?
Scrivi qui un numero tra 0 e 5 che rispecchi la tua opinione:...
Secondo te quante delle 5 patatine hanno ricevuto in media un voto minore o uguale a 4?
Scrivi qui un numero tra 0 e 5 che rispecchi la tua opinione:...
Se la sezione 6 verrà estatta per il pagamento, sarai pagato per una sola delle due domande, scelta casualmente. Per ogni domanda, se indovinerai esattamente quanti gusti sono stati valutati con un numero maggiore o uguale a 7 o un numero minore o uguale a 4, riceverai 5 euro. Se ti discosterai da tale valore riceverai 5 euro meno il valore assoluto della differenza tra il vero valore e quello da te espresso: $5 - |veramedia - mediadateipotizzata|$. Se il valore del pagamento sarà negativo, non riceverai nulla.

Screen 9

(choice task)
Sezione estratta casualmente per il pagamento:...
Hai vinto una confezione di/una compensazione monetaria pari a...
(belief task)

Hai vinto una quantità di euro pari a..



SAPIENZA
UNIVERSITÀ DI ROMA

SCIENTIFIC COMMITTEE

Eleonora Cavallaro
Giuseppe Croce
Debora Di Gioacchino
Maurizio Franzini
Emanuela Ghignoni
Luisa Giuriato
Enrico Saltari
Annamaria Simonazzi

The Working Papers Series of the Department of Economics and Law is an electronic publication intended to allow scholars to present findings of their research activity. Submitted papers contain original, unpublished work, and represent a contribution to economic literature, from any field in economics, in the theoretical, historical and empirical perspectives. Submitted papers are subjected to double blind peer review. The Working Papers Series is catalogued in the Research Papers in Economics (RePEc) Archives, and available under Creative Commons license 3.0, Attribution- Noncommercial-No derivative work. References to the Department's Working Papers must include: the author's name, the title of the working paper and the link to the working paper.



I Working Paper del Dipartimento di Economia e Diritto ottemperano agli obblighi previsti dall'art. 1 del D.L.: 31.8.45 n. 660 e dal Decreto del Presidente della Repubblica 3 maggio 2006 n.252, art.37.