



Default Option Bias in the Food Consumption of College Students in Bangkok

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Abstract

The objective of this research is to study behavioral bias through setting a default option in food consumption among college students in Bangkok and its suburbs via a population-based survey experiment. The survey encompasses 1,222 observations across 15 educational institutes. Based on the literature, this research categorizes three ways of setting a default option via recommendations, cognitive effort and context. Comparing the treatment groups to the baseline, the findings reveal that setting a default option via the three channels affects consumption choices, which can be implemented as a policy. This ranges from including healthy food items in recommended menus, making a healthy option a default that requires no additional cognition, and creating contextual components that highlight options and induce the consumption of healthy food.

Keywords: Behavioral Economics, Default Option Bias, Food Consumption, Choices

JEL Classifications: D01, E21, I12, I1, Q1

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1. Introduction

Behavioral economics involves the study of human decision-making which deviates from the economic optimum. The field of behavioral economics is growing steadily and has been used to explain human decision-making in various contexts as its framework provides additional insights into decision-making, especially irrational decisions which cannot be fully explained within the framework of classical economics. Thus, behavioral economics contributes to a more complete and efficient analysis of human decision-making.

So-called 'irrational decisions' may arise from a set of limitations; for instance, humans may fail to consider the complete set of information variables needed to make a decision at a given point of time, or they may be cognitively limited, which eventually leads to the failure to compare different alternatives (Kahneman, 2003). In such a situation, irrational decisions tend to occur.

In the past, behavioral economics played a significant role in explaining human irrational decision-making. However, since 2017 when Richard Thaler was awarded the Nobel Prize in Economics, there has been a surge of interest in the application of behavioral economics in policy-making. Some of Thaler's globally acclaimed works include 'Save More Tomorrow' intended to help increase old-age pensions and rational investment, and the Nudge Framework proposed to encourage people to exercise regularly and consume healthy food.

This research emphasizes the application of behavioral economics to the analysis of food consumption decisions with the aim of providing policy recommendations. Since food consumption is a fundamental behavior, it impacts an individual's state of health and well-being. The eating behavior of Thai people has changed significantly from the past, encompassing trends to consume less meals prepared at home (relative to total expenditure on food) and more ready-to-eat meals (relative to the number of meals consumed). In addition, fat and meat consumption have increased replacing other food elements like rice and cereals (Kosulwat, 2002). Such changes in eating behavior may stem from economic growth which increases the opportunity cost of preparation time at home, and the popularization of eating culture spreading from the West via globalization, engendering the consumption of fast food.

According to the survey on health, well-being and eating behavior in 2013 by the National Statistic Office in Thailand with a total sample of 66,659 individuals, it was found that Thai people are prone to certain risky eating behaviors such as consumption of high-fat foods (45.87%), soft drinks (98.96%), Western fast food (27.7%), sweet non-alcoholic beverage (53.84%), ready-to-eat food (45.14%), etc. As a matter of fact, the governmental efforts in disseminating the knowledge and understanding of healthy food choices have been considerate. In addition, consumers have a wide variety of food choices as evident from the arrays of restaurants in the era where 'eating out' is mainstream. Nonetheless, the majority of Thai population consume food based on personal preference which increases risks of disease. This may account from preference for taste, personal habit or craving. Thus, eating habit of most Thais can be seen as an irrational decision.

Thus, an interesting question involves why Thai people continue to choose to consume food based on personal preferences or taste which mostly comprise options which are not healthy despite the fact that consumers are able to recognize the potential health risks associated with such eating habits. Another question concerns what would be the most effective policy in changing consumption behavior among Thai people to become more rational without involving any active coercion, and/or resorting to traditional policies such as dissemination of information. Using behavioral economics,

this research paper seeks to address the aforementioned questions and provide effective policy recommendations.

2. Literature Review

A handful of experimental studies have been conducted internationally examining bias among food consumption choices, with the majority pertaining to 'default option bias'. Setting a default option refers to the way of determining a set of alternatives to be offered to a decision-maker in such a way that he/she is not required to undertake additional cognition (Johnson and Goldstein, 2003). Most studies that examined default option bias in food consumption were conducted in the United States of America, including studies using primary data from various governmental projects and from experiments (Acharya, Patterson, Hill, Schmitz, and Bohm, 2006, and Anzman-Frasca, Dawes, Sliwa, Dolan, and Nelson, 2014). These studies concerning the default option bias can be grouped into three categories, namely setting a default option using recommendations, cognitive effort, and context.

Setting a default option using recommendations refers to the way the default option is emphasized to outshine other alternatives in terms of appearance or value. Recommendations can be made both with and without consumers' awareness. For instance, the arrangement of food options to enhance the accessibility of healthy food items and to purposely decrease the accessibility of unhealthy food items. Similarly, menu booklets can be prepared in such a way that the initial pages include recommended items that are good for one's health (Downs, Loewenstein, and Wisdom, 2009). Healthy food items can be presented with pictures so as to attract attentions, or the size of food containers can be adjusted (Roberto and Kawachi, 2014; Wansink and Kim, 2005). Along this line, Just and Wansink (2009) used behavioral economics to alleviate the plight of failing lunch programs among schools in the USA. Some low-cost policies in practice include the placement of fruits, in lieu of milk, close to the cashier (since milk is relatively more difficult to be stored if not consumed immediately, while fruits are relatively more portable and can be stored for a longer time period) (Schwartz, 2007), or as simple as a shut refrigerator containing ice cream led to the reduction of ice cream consumption by 16% (Meyers, Stunkard, and Coll, 1980). These policies are implemented by setting a default option using recommendations which are either direct suggestions or indirect contextual insinuations. Such policies encourage students to consume more healthy food items, which, for policymakers, fulfills both health and financial goals.

Setting a default option using cognitive effort refers to the way the default option is offered to promote immediate decision-making. On the other hand, if a decision-maker wishes to opt for an alternative, an individual is required to exert effort or cognition within the decision-making process. The research by Anzman-Frasca et al. (2014) found that most restaurants offer complementary food items such as bread, French fries, salad and soup on a set menu without the need to ask their customers (Wootan, 2012). However, most complementary food items on the set menu are usually high in calories and low in nutrients. This led Anzman-Frasca et al. (2014) to conduct a survey among children between the age of 8 and 18 years old to study changes to the complementary food items on a set menu at a fast food restaurant - from French fries (or food items with high calories) to fruits and vegetables. Responses from the survey revealed that two out of three children did not have negative feelings regarding the change of food items on the set menu. Therefore, a policy promoting restaurants to

include fruit and vegetables on set menus could help improve children's health and cultivate healthy eating habits.

Hanks et al. (2012a) conducted an experiment in a high school canteen where children lined up in two types of queue. Children in the first queue received a menu with healthy food and milk, but could still order other food items. Nonetheless, children could freely choose their queue or change to the other queue. In the second queue (representing a control condition), children received a normal menu. It was found that the sale of healthy food items increased by 18%, while the consumption of other food items (i.e. those not classified as healthy food items) decreased by 28%. This finding is in line with that of Anzman-Frasca et al. (2014).

Hanks et al. (2012b) conducted a default option bias experiment using context, which refers to the way the default option is emphasized via environmental or contextual elements that nudge a decision-maker towards the choice preferred by the policymaker. The focus of Hanks et al.'s (2012b) experiment was how the context of one food item affects the decision to consume other food items, which are either substituting or complementary items. However, it might be the case that consumption choice is unrelated to the first item, and having this item in the choice set causes the decision-maker to choose other alternatives (i.e. trigger foods) as if this food item is an inferior choice. Thus, it is possible to influence consumers to choose, on their own terms, the food we want them to consume. This finding is in line with the work by Schouteten (2003) which revealed that the contextual design of how food choices are presented could predict consumption choices as accurately as 80% – 90%.

Nonetheless, a systematic study using such theories and experimental protocols in the field of behavioral economics in the context of behavioral bias within food consumption in Thailand, particularly that related to setting a default option using recommendations, cognitive effort and context, is still lacking. Thus, this research represents the first step in investigating behavioral bias in food consumption in Thailand by examining the extent to which consumption choices are influenced by the setting of default options via the three aforementioned channels.

3. Objectives

This study aims to examine behavioral bias related to the food consumption choices of college students in Bangkok and its suburbs in order to provide policy recommendations concerning the setting of default options via three channels, namely recommendations, cognitive effort and context.

4. Scope of the Study

The survey encompassed only college students in Bangkok and its suburbs, covering all types of universities, namely public universities, private universities and Rajaphat universities (i.e. teachers training institutes). We focus on college students because they can make decisions independently. Representatives within younger samples, such as high school students, have limited freedom in choosing food items, which can be imposed on them by parents or schools. On the other hand, working age samples face other limitations in terms of time or choice (i.e. food options limited by daily routes to and from the work place, sharing food with other family members, etc.). These reasons contribute to limiting the freedom within food choices made compared to college students.

As this is the first study that examines behavioral bias in food consumption in Thailand, we emphasize the understanding of default option bias in food consumption using recommendations, cognitive effort, and context.

The nature of this study is more of a general analysis of behavioral bias, rather than a test. In addition, we simultaneously study three ways of setting the default option. Therefore, we use a population-based survey experiment which simulates a decision-taking scenario using graphics, menus and real objects, instead of using a simple questionnaire. The design of this study also includes treatment variations like those used in laboratory experimentation. Nonetheless, the findings from this study reveal only stated preferences, which offer limited inference regarding actual behavior.

5. Methodology

A population-based survey experiment is employed with 108 experimental conditions. Each group of the sample population receives different sets of menus with choices that have been alternatively ordered, but still offer the same set of choices to avoid the ordering effect. The assignment of sample population to different questionnaires is done via random assignment, which is predetermined beforehand on the questionnaire. This protocol creates survey responses from randomized groups which allows for the analysis of different treatment effects.

Nonetheless, the explanatory power of a population-based survey experiment depends on the quality of the randomized groups in each treatment (i.e. to what extent their characteristics are similar). In other words, the more similar the characteristics of the randomized groups in each treatment, the more reliable the explanatory power of the population-based survey experiment will be. However, the characteristics of the randomized groups in each treatment in this study have been found to be very similar. This issue will be addressed prior to the analysis of the behavioral bias in each section.

The sample population in this study includes college students enrolled on bachelor degree programs in Bangkok and its suburbs, which are further grouped into three sub-categories depending on type of institution - public, private or Rajaphat universities. Regarding randomization and the number of observations involved, a confidence level of 95% with margin errors of +/- 2.8 yields 1,222 as an appropriate number of observations. This is proportionately distributed among three types of institutions using the database of the Information Department of the Office of the Higher Education Commission in 2013 (from the total population of 494,920 individuals) (see Table 1.)

Table 1: Distribution of the sample and the sample size

Types of institution	Number (individuals) ¹	Proportion (%)	Number of observations ²
Public universities and those managed by the government	164,462	33.23	406
Private universities	220,507	44.55	544
Teachers college	109,951	22.22	272
Total	494,920	100.00	1,222

Source: Authors' calculations by Information Department, the Office of the Higher Education Commission, 2013.

6. Characteristics of the Sample

In this section, we present the characteristics of the sample in three sub-sections namely (1) information related to demographics, consumption habits and buying behavior, (2) importance of healthy food consumption among the sample, and (3) knowledge and understanding of the characteristics of healthy food.

6.1 Demographics, consumption habits and buying behavior of the sample

The sample is composed of 53% female and 47% male observations. 50% of the sample have residential domiciles in other provincial areas, while 35% and 15% have residential domiciles in Bangkok and its suburbs, respectively. Regarding the nature of residence, students in the sample reside with parents (45%), with friends (21%), with relatives, (13%), alone (20%) and with a significant other or sibling (1%).

The survey reveals that parents' occupations are varied with a majority engaging in trade and business (41%), followed by white-collar workers (20.8%), and civil servants or state enterprise employees (17.4%). Considering personal income (excluding rental expenditure), it was found that 74% of the sample have a monthly income of less than 10,000 Thai Baht while the remaining receive more than 10,000 Thai Baht per month. For household income, it was found that 40.2% of the sample earns more than 50,000 Thai Baht per month, while 29% indicate a household income of less than 30,000 Thai Baht per month and 28.5% indicate that the figure ranges between 30,000 and 50,000 Thai Baht per month.

Regarding food consumption behavior, the survey revealed that 70% of the sample, on average, consume three meals per day (or 21 meals per week), of which approximately 10 meals per week are consumed away from home, comprising cooked-to-order meals (63.8%), noodle dishes (47.3%), and fast food (42.7%). In addition, approximately eight meals per week are bought to consume at home, comprising cooked-to-order meals (51.2%), à-la-carte items, such as Singaporean chicken rice (33.1%), and noodle dishes (31.2%). The most important factors influencing food choices include taste (32%), food safety (19.9%), and convenience (17.3%), respectively. Even though half of the sample reside with their parents, the fact that many meals are consumed outside their homes implies that restaurants and food shops play an important role in determining the state of their health as cooking at home plays a relatively minimal role.

Almost half of the sample admit to attempting to control food consumption while still maintaining their number of meals at 21 per week. This implies that students in our sample try to reduce the amount of food consumed in each meal, indicating that they are aware of health issues by reducing the amount consumed in each meal whilst maintaining the number of meals. In addition, there is a clear correlation between diet control and calorie estimation (even though calculated by a mobile application). While it is inconclusive whether calorie estimation causes diet control or diet control causes calorie estimation, our study finds that the two behaviors are closely related.

It can be seen that students in our sample have varied characteristics, with income levels that allow them to make own food choices, and prefer to consume food away from home. This implies that the sample is suitable for the study of behavioral bias in food consumption as students in our survey have the freedom to make their own consumption choices.

6.2 Importance of healthy food consumption among the sample

Three questions are included to measure attitudes towards consumption of healthy food. The first inquires if the sample thinks that consuming healthy food is important. The survey reveals that the majority of the sample rates consumption of healthy food as most important. The second question inquires if the sample is determined in finding and selecting nutritious food, which majority of the sample rates as being very important. The last question inquires if the sample consumes healthy food, of which majority response rating lies at medium level. This implies that the college students in our sample perceive the consumption of healthy food as an important behavior. However, when it comes to the determination to do so and actual behavior, the rate of importance declines respectively, suggesting that students in our sample want to consume healthy food, but cannot fulfill their goal.

Therefore, the data indicates that most college students in our sample give considerable importance to the consumption of healthy food, but fail to follow through on achieving their goals. This finding confirms the fundamental hypothesis that consumption behavior does not follow the rationality assumption of the economic framework.

6.3 Knowledge and understanding of the characteristics of healthy food among the sample

The survey also includes questions related to information on nutrition labels. We find that students in our sample do read nutrition labels; 48% sometimes, 27% always, 19% have read at least once, and 6% have never read. In addition, we find that most consumers have seen the detailed and simple type of nutrition labels, respectively. Food products often display at least one of two types of nutrition label, which can be displayed on the front of or at the back of the product.

In addition, we also find that 95.2% of our sample have read nutrition labels on the front of products, of which 29.2% indicate that they read them on a regular basis. Similarly, 93.7% of our sample have read nutrition labels at the back of products, of which 24.5% indicate that they do so on a regular basis. The three products for which nutrition label are read most often are dairy products (64.2%), beverages (53.6%) and semi-processed foods (34.5%).

Three additional questions are included to test the understanding of nutrition labels - what does MSG taste like, is low or high fat content good for health, and what do the numerical figures on nutrition labels mean. Most students in the sample answered two questions correctly out of three, and almost half of the sample answered all three questions correctly. This indicates that students in our sample do have basic understanding and knowledge related to food and nutrition as they have seen and read nutrition labels and can understand the information displayed on them. This implies that the dissemination of information through nutrition labels on food products succeeds at a moderate level.

The survey responses related to nutrition labels shows that college students are interested in nutrition information and understand it, which implies that they can make rational decisions as well.

7. Analysis of the behavioral bias from setting a default option

In this section, we present an analysis of the behavioral bias by setting default options in the food consumption of college students in Bangkok and its suburbs via three channels, namely recommendations, cognitive effort and contextual framing.

7.1 Behavioral bias from setting a default option via recommendations

To survey the default option bias in food consumption via recommendations, we simulate a situation in which our sample are about the order a dish at a cooked-to-order restaurant. The sample is divided into five subgroups, each of which receives different menus (i.e. there are five types of menu). In each type of menu, there are two types of food items; the first type is labelled as 'general dishes' consisting of 30 items, and the second as 'recommended dishes', printed within the square frame, consisting of six items. The six items among the recommended dishes are selected from the 30 general dishes. Both menus differ only in the items contained in the recommended dishes (i.e. within the square frame), keeping other items outside the frame the same. This is done for all five types of menu. Therefore, all five groups in the sample receive the same options (as all five types of menu contain the list of 30 identical food items). However, the default option varies for each type of menu.

It is necessary to have many types of menu because if there is only one menu and our sample choose food items from the recommended dishes (i.e. items in the frame), in this case it cannot be concluded whether the sample choose the recommended dish because of their preference for a particular item (that happens to be in the recommended dishes), or because of our design in creating the recommended dishes. Therefore, having five types of menu will allow us to test the hypothesis of our experiment - whether the food choices of the sample result from our design of recommended dishes, or not. In other words, if the majority of our sample choose items from the recommended dishes even though food items change across each menu, then it can be concluded that the effect is due to labeling the items as recommended dishes within a frame and not to any particular preference for particular food items.

Table 2 presents the demographic characteristics of the sample responding to the five types of menu. It can be seen that the sample of each treatment has similar characteristics, including proportion of male respondents and median personal income. This leads to the ability to effectively derive the treatment effect. From the survey responses, it can be seen that the majority of choices made belong to recommended dishes (i.e. items in the frame) at a rate of approximately 52% to 57%, which is reasonably high and not significantly different among different treatments.

For all five types of menu, the proportion of food choices belonging to recommended dishes on average accounts for 56%. Given that there are six food items in the recommended dishes, this implies that 9.3% of the sample choose an item from the list of recommended dishes ($= 56/6$), while 44% of the sample choose from the list of thirty-item general dishes, implying 1.5% of the sample chooses an item from the general dishes ($= 44/30$).

The above finding suggests that by putting a food item on the list of recommended dishes (that is putting it in the frame), leads to an increased likelihood that the item is chosen at a rate of 6.2 times ($= 9.3/1.5$). In addition, comparing the same food item, such as pork/chicken fried rice (as a recommended dish) and pork/chicken fried rice (as a general dish), it is found that on average the sample chooses recommended dishes more often by about 2.3 to 4.1 times. The magnitude depends on familiarity with particular food items such that presenting common dishes as recommended decreases the likelihood of the dish being chosen.

Table 2: Survey responses: setting a default option via recommendations

	Menu no.				
	1	2	3	4	5
Number of respondents (person)	240	248	244	246	244
Proportion of male (percent)	47	49	44	46	49
Median personal income (in Baht per month)	10,000	10,000	10,000	10,000	10,000
Proportion choosing recommended dishes (percent) (Average value = 56) *	59	52	55	57	57
Proportion choosing healthy dishes (percent) (Average value = 39) **	32	44	42	36	41

Note: * Testing for the statistical difference of the proportion of the sample choosing recommended dishes among treatments with F-tests, we find no significant difference at a 90% confidence level. Testing for the statistical difference between the proportion of the sample choosing recommended and general dishes for each treatment using t-tests, we find a significant difference at the 99% confidence level.

** Testing for the statistical difference of the proportion of the sample choosing healthy dishes among treatments with F-tests, we find no significant difference at the 90% confidence level. Testing for the statistical difference between the proportion of the sample choosing healthy and general dishes for each treatment using t-tests, we find a significant difference at 99% the confidence level.

Source: Authors' calculations.

In another treatment, we change the word ‘recommended’ to ‘healthy’ without changing any food items on the menu. The objective is to test how using the phrase ‘healthy dish’ would affect the choices made. From Table 2, it can be seen that food choices belonging to healthy dishes account for 39%, while the proportion of choices for general dishes accounts for 61%. This implies that 6.5% of the sample chooses an item from the list of healthy dishes (= 39/6), while 2% of the sample chooses an item from the list of general dishes (= 61/30). We can thus conclude that the effect of the default option bias in the case of healthy dishes is less pronounced compared to the case of recommended dishes.

If we compare the same food item such as ‘clear seaweed soup with tofu and rice’ as a healthy dish and as a general dish, it is found that the average likelihood that the item is chosen when labelled as a healthy dish increases by ten times compared to when it is listed in the general dishes. Nonetheless, when listed in the general dishes, the food item is not chosen at all.

To conclude, setting a default option by labelling food items as ‘recommended dishes’ has a significant effect on the food choices made by college students, while setting a default option as a ‘healthy dish’ has a lesser impact compared to the case of recommended dishes. Therefore, including healthy food items in the recommended menu can encourage the consumption of healthy food among college students.

7.2 Behavioral bias from setting a default option via cognitive effort

For the test using cognitive effort, we examine whether the way of presenting food choices on the menu affects consumer choices or not. In particular, if the consumers wish to change an item from the default option, they are required to exert cognitive effort. In this study, our sample faces a hypothetical situation in which they are at a burger stall. The sample is divided into three groups. All groups have the same set of choices, but the presentation of choices varies in terms of the level of cognitive effort involved.

Group no. 1 receives Type 1 menu with three choices as follows;

Menu 1: A hamburger for 120 Thai Baht

Menu 2: A hamburger with fries for 139 Thai Baht

Menu 3: A hamburger with salad for 139 Thai Baht

Group no. 2 receives Type 2 menu with three choices as follows;

Menu 1: A hamburger for 120 Thai Baht

Menu 2: A hamburger with fries for 139 Thai Baht, accompanied by a message 'can change fries to salad'

Group no. 3 receives Type 3 menu with three choices as follows;

Menu 1: A hamburger for 120 Thai Baht

Menu 2: A hamburger with salad for 139 Thai Baht, accompanied by a message 'can change salad to fries'

It can be seen that all the three types of menu offer the same food choices comprising three items. However, Types 2 and 3 require an extra effort to change the order. In other words, changing the item in the order requires cognitive effort. In the case of the Type 2 menu, if the consumer wishes to have a hamburger with salad, he/she needs to tell the waiter to change from fries to salad.

For the Type 1 menu which consists of three choices, the sample can freely choose any alternative without exerting cognitive effort, and therefore this group serves as a baseline for our experiment. When compared to Type 2 and 3 menus, we can derive the effect of setting the default option via cognitive effort on consumption choices.

It can be seen from Table 3 that the characteristics (proportion of male sample and median income) of the treatment groups do not significantly differ. The findings from the survey are as follows;

Group no. 1: 15.7% choose Menu 1- A hamburger for 120 Thai Baht

59.0% choose Menu 2- A hamburger with fries for 139 Thai Baht

25.3% choose Menu 3- A hamburger with salad for 139 Thai Baht

Group no. 2: 30.4% choose Menu 1- A hamburger for 120 Thai Baht

69.0% choose Menu 2- A hamburger with fries for 139 Thai Baht

Only 0.6% of the sample change from fries to salad

Group no. 3: 47.5% choose Menu 1- A hamburger for 120 Thai Baht

50.5% choose Menu 2- A hamburger with salad for 139 Thai Baht

Only 2.0% of the sample change from salad to fries

Comparing Type 1 (Baseline) and Type 2 menus, it can be seen that when setting a hamburger and fries as the default option (i.e. a choice without cognitive effort), this option is the most chosen option in both types of menu.

Comparing Type 1 (Baseline) and Type 3 menus, it can be seen that that when setting a hamburger and salad as the default option (i.e. a choice without cognitive effort), it is found that the proportion of sample choosing a hamburger and salad in Type 3 menus increases two-fold ($= 50.5/25.3$) compared to the baseline treatment.

It can thus be concluded that presenting food options in restaurants in such a way that requires exertion of cognitive effort plays an important role in determining the decision-making of college students without reducing the number of alternatives available. Setting a default option via cognitive effort can be implemented as a policy where such a default option is a healthy item, and in case an individual prefers a less healthy alternative, the exertion of cognitive effort is required.

Table 3: Survey responses: setting a default option via cognitive effort

	Menu no.		
	1	2	3
Number of respondents (persons)	388	422	412
Proportion of male (percent)	48	47	47
Median personal income (in Baht per month)	10,000	10,000	10,000
Proportion choosing a hamburger (percent)	15.7	30.4	47.5
Proportion choosing a hamburger and fries (percent) **	59.0	69.0	(2.0)*
Proportion choosing a hamburger and salad (percent) ***	25.3	(0.6)*	50.5

Note: * Figures in parenthesis indicate the option that requires exertion of cognitive effort.

** Testing for the statistical difference of the proportion of the sample choosing a hamburger and fries among treatments with F-tests, we find a significant difference at the 99% confidence level.

*** Testing for the statistical difference of the proportion of the sample choosing a hamburger and salad among treatments with F-tests, we find a significant difference at the 99% confidence level.

Source: Authors' calculation from surveys.

7.3 Behavioral bias from setting a default option via context

The objective of studying the default option bias via context is to test whether the external environment affects consumption choices or not. In our experimental survey, the respondents in our sample face a hypothetical situation at a cafe. They have to decide about the size of their coffee, ranging from small to medium to large. The sample are divided into three groups receiving different types of menu. In each menu, the sizes of coffee (small, medium and large) are equal, but the prices for each size vary in each menu.

Group 1 receives a menu offering coffee priced according to proportion (i.e. the price per unit volume is constant). For Group 2, the price of coffee decreases in terms of the size of the cup (i.e. the price per unit volume decreases in volume). Finally, for Group 3, the price of coffee increases depending on the size of the cup (i.e. the price per unit volume increases in volume). The price of a large coffee is the same in all three menus, while the prices of small and medium coffee varies. This design allows us to derive the effect of context (i.e. prices of small and medium coffees) on consumption decisions, while isolating the price effect of large coffees.

Since the experimental survey to test the default option bias via context divides the sample into three groups, as in the case of cognitive effort, the characteristics of the group in each treatment do not significantly differ. We are principally interested in the proportion of the sample choosing large coffee as its price is same in all cases, while the prices of other sizes vary.

The findings from the survey are presented in Table 4. It is found that when the price of coffee is proportional to the size of the cup, 8.7% of the sample in Group 1 chooses a large cup. However, when the price of coffee decreases in the size of the cup, the proportion of the sample choosing a large cup increases to 19.7%. In the last case where the price of coffee increases in terms of the size of the cup, the proportion of the sample choosing a large cup plummets to 6.6%.

It can be seen that even though the price of large coffee is constant in all three cases; 115 Thai Baht, the rate at which this option is chosen changes as its context (i.e. price of the alternatives) changes. This implies that the context consisting of other alternatives has an impact on highlighting certain options as 'default' one. The fact that the respondents in the sample prefer one choice over other alternatives is not dependent on components such as the price of a particular item, but rather on the contextual components surrounding the decision-making process.

Table 4: Survey responses: setting a default option via context

Menu no.	Information	Large*	Medium	Small
1	Price (in Baht per cup)	115	95	70
	Price (in Baht per liter)	143.75	143.75	143.75
	Proportion of sample choosing (percent)	8.7	59.2	32.1
2	Price (in Baht per cup)	115	110	100
	Price (in Baht per liter)	143.75	166.45	205.36
	Proportion of sample choosing (percent)	42.3	38	19.7
3	Price (in Baht per cup)	115	80	50
	Price (in Baht per liter)	143.75	121.05	102.68
	Proportion of sample choosing (percent)	6.6	32.8	60.6

Note:* Testing for the statistical difference of the proportion of the sample choosing a large coffee among treatments with F-tests, we find a significant difference at the 99% confidence level.

Source: Authors' calculations.

8. Conclusions and Policy Implications

The objective of this study is to examine the behavioral bias derived from the setting of the default option in the consumption choices of college students in Bangkok and its suburbs. A population-based survey experiment is used wherein sample respondents are randomly assigned into randomized treatment groups.

Three types of behavioral bias in terms of the setting of the default option have been examined. The first concerns setting a default option via recommendations where the sample faces a hypothetical situation at a restaurant and have to order food items from a menu. It is found that setting a default option as a 'recommended dish' has a significant impact on the consumption choices of college students. Therefore, promoting healthy dishes as part of the default option in the recommended sections of menus will lead to the higher consumption of healthy food items among college students.

The second case examines setting a default option via increasing cognitive effort, where the sample is divided into three groups. Although all groups have the same food options, the way information is presented differs. The findings reveal that presenting information in restaurants where cognitive effort is required when wishing to change food orders plays an important role in consumption choices among college students. Therefore, setting a default option via increasing cognitive effort can be implemented in policy making where healthy food items are set as defaults and the exertion of cognitive effort is required to change to a less healthy option.

Lastly, we study the effect of setting a default option via context wherein the sample respondents face a hypothetical situation at a cafe when deciding the size of their coffee. The size of coffee ranges from small through medium to large at varied prices. It is found that the choice of a large coffee changes according to the context when the prices of small and medium coffee vary. This implies that the contextual components consisting of the prices of alternatives can highlight a certain option as representing a default. Hence, designing contextual components can highlight healthy food options and thereby promote their level of consumption.

As far as policy implications are concerned, it can be concluded that setting a default option plays a significant role in influencing consumption choices, which can be manipulated to induce the greater consumption of healthy food. This can be done via

giving recommendations, increasing the cognitive effort of ordering a less healthy option and designing contextual components to induce desirable choices.

Even though the above conclusion is in line with most of the studies conducted abroad, it must be noted that modes of food consumption and culinary features vary greatly in Thailand, details of which can be further explored in the future.

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