

**Research on the Impacts of Banning Plastic Straws in Catering Industry on
Chinese Consumers' Environmental Attitudes**

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Abstract

Plastic straws are banned in the Chinese catering industry since 2021, and the main alternative, paper straws, gained a lot of unfavorable comments for their poor performance. The purpose of this study is to explore the impact of this national top-down environmental policy that brings inconvenience to daily life on the environmental attitudes of Chinese general public. A controlled experiment was conducted: the treatment group was exposed to details about the ban, whereas the control group was not. From there, they went through a choice experiment by imagining buying a cup of bubble tea and choosing plastic straw alternatives of different price levels; they then answered a series of questions to assess their environmental attitudes. Results indicate exposure to policy details increased subjects' acceptance of the major alternative – paper straws. Treatment and control groups both showed a strong positivity towards general environmental protection, but those supportive attitudes were restrained when the individual's lives were more directly affected. Between-subject comparison indicated that the subjects' attitudes toward the environment were insensitive to the policy exposure. All the above provides implications for business owners, researchers, and policymakers.

Key Words: environmental policy, choice experiment, non-pecuniary effect

Introduction

China is one of the biggest plastic products users worldwide. According to Ritchie and Roser (2018), although its per capita plastic waste generation was 0.12 kilograms per day in 2010, which could be considered moderate globally, its large population led the total amount to reach the world's greatest – 59.08 million tons per year. In 2015, 333,000 tons of plastic waste entered the Pacific Ocean from the Yangtze River; moreover, China is expected to produce 25% of the world's mismanaged plastic waste by 2025 (Ritchie & Roser, 2018). More specifically looking at the usage of plastic, disposable plastic products are widely used in daily life because of their convenience and satisfying performance, which has become the main way for people to produce plastic waste. For instance, according to the consultancy iiMedia Research, 46 billion plastic straws were used in China in 2019, weighing 30,000 tons (Zhang, 2020). Given the non-biodegradable nature of plastics, the negative impacts of those situations on the environment are unignorable.

As environmental problems have been gaining attention around the world, the Chinese government has shown its sense of responsibility and determination in trying to alleviate those alarming situations. In an article published in the Guardian, Clifford (2015) summarized China's environmental policies as "heavy on top-down administrative measures". This is evident in its approach to reducing plastics use. The earliest restriction dates back to 2008, when China banned retailers from handing out free plastic bags. University of Gothenburg (2010) conducted a consumer choice survey based on that policy and found that subjects used 49% fewer plastic bags because of the extra charge. A recent article on China Global Television Network noted that the actual effect was to reduce plastic bag use in supermarkets and shopping malls by more than two-thirds (Hu, 2021). In addition to the direct impact of

national policies on reducing plastic use, environmental awareness among the general public is also considerable. A survey conducted in 2020 showed that 74% of more than 1,000 respondents were willing to recycle materials such as glass, paper, and plastic; the percentage of respondents willing to perform this action was the highest among all options (Blazyte, 2022). From a macro perspective, so far, China's top-down environmental policies regarding plastics have been effective.

Building on the success above, China has recently taken another big step in reducing plastic use – a nationwide ban on plastic straws. In 2020, the National Development and Reform Commission and the Ministry of Ecology and Environment jointly issued the “*Opinions on Further Strengthening the Control of Plastic Pollution*”, which clearly stipulates that “by the end of 2020, the use of non-degradable disposable plastic straws will be banned in the catering industry nationwide”. Because of the extreme efficiency of the top-down policy, this regulation made significant differences in the year that followed – the restaurant industry was forced to switch to more environmentally friendly alternatives, including paper straws and polylactic acid (PLA) biodegradable straws. At the end of January 2021, the pulp was so sought-after on the Shanghai Futures Exchange that prices soared to the highest level in two years; an additional 3 million tons of demand for pulp was expected to be generated for that year (Leng, 2021). For PLA straws, another well-known yet more costly alternative that is more similar to plastic straws, the price rose by 67% in 2020 (Yao et al., 2021). Those numbers show that the ban on plastic straws is projected to significantly reduce the use of non-biodegradable materials.

While the policy itself seems to cut plastic use straight away, the response among the public is complicated. The biggest problem is that the main alternatives,

paper straws, are not nearly as useful as plastic ones. In early 2021, when the policy was first implemented, complaints about paper straws repeatedly topped the list of hot topics on China's most popular social media platform, *Weibo*. According to netizens' comments, paper straws have several sins: first, consumers have to put up with the unique smell of paper products. Second, the fibers in the paper absorb the liquid, making the straw prone to becoming soft, bent, and even peeling. Finally, paper straws are not as resistant to biting as plastic ones. It's worth noting that among the negative reviews, there were some interesting comments that reflected the multiple aspects of how consumers thought about the ban, such as "paper straws are really environmentally friendly, they degrade in my mouth" and "I have always used cloth bags for environmental reasons, but I really cannot accept paper straws". Comments like those demonstrated people's understanding of the positive environmental benefits of reducing plastic. But at the same time, when such a seemingly small change actually affected the pleasure in their daily life, they also showed hesitation and refusal to a certain extent – and this negative emotion is not just about drinking the beverages themselves; the larger concept of the environmental cause may also be involved.

It is interesting to dissect the public's mixed feelings about the plastic straw ban. On the one hand, as noted earlier, much of the Chinese public has long been educated and governed by top-down environmental policies and shows significant acceptance of universal – or even cliché - environmental measures, such as recycling plastics. On the other hand, the plastic straw ban would remove a commonplace item from daily life at a stroke, while alternatives are more costly for business owners and provide a substantially unpleasant experience for consumers. The question now is: how will the nationwide ban on plastic straws affect Chinese consumers'

environmental attitudes? In order to approach the answer to this question, this study focuses on the core hypothesis that, being exposed to a plastic straw ban reduces people's environmental concerns. To achieve this objective, a between-subject experiment was implemented, where consumers were given or not given information about the ban, made purchase choices, and answered questions about their environmental perceptions and demographics. The detailed experimental design, analysis methods, and results will be discussed in the following sections.

Methodology

Experiment Design

To put the experiment design in a nutshell, the research forms a control by distributing two different versions of a questionnaire, to explore the effect of exposure to the plastic straw ban on consumer purchase choices and environmental attitudes.

The first part of the questionnaire is a choice experiment, which is a valid technique widely used in economic research to “predict market behavior in the food retail environment” (Ahn & Lusk, 2020). Bubble tea shops, as the industry most associated with straw use, helped set up the background for the questionnaire. First, respondents were confronted with several products combinations that are based on the ban on plastic straws. They were asked to assume that they wanted to buy a cup of bubble tea, and to choose one of the following three combinations: bubble tea alone, bubble tea and paper straw combination, and bubble tea and PLA straw combination; a brief introduction of those two types of straw was provided in case of any knowledge gap – the respondents were able to know that both types are degradable and the texture of PLA is more similar to plastic. They could also reject any combination by choosing “None”. The ban was embodied because plastic straws were

not present in any of the question options. Second, in each question, the price of the different combinations varied, which is either ¥14 or ¥15. The difference between the lower and higher price level is ¥1. This number was carefully chosen: many fast-food restaurants in China offer a disposable cutlery pack containing wooden chopsticks, a napkin, and a toothpick at this price; based on observations on *Meituan*, the largest take-out platform in China, it could be seen that sales of those cutlery packs are often significantly smaller than the total number of orders. This means that the conventional price of cutlery packs is sufficient to influence consumers' willingness to pay, and is therefore valid as a difference between high and low prices in the choice experiment. Finally, the main effects orthogonal design with three product combinations and two price levels generated a total of four questions. Ordering bias was eliminated because the order of the options was randomly scrambled. Such orthogonal design uncorrelated the influence of the price of different combinations on purchase choice.

Figure 1. Example choice experiment question; instructions were in the introduction part of the survey

Question 2

			
Bubble Tea No Straw CNY14	Bubble Tea + Paper Straw CNY15	Bubble Tea + PLA Straw CNY14	None
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The difference between the experiment and control groups – that is, whether customers were exposed to the plastic straw ban - is reflected in the first part of the

questionnaire. Respondents in the treatment group will be provided with a short paragraph outlining the origin, timing, and specifics of the plastic straw ban before they begin answering the multiple-choice questions about product combinations. The control group, on the other hand, will begin making their choices about bubble tea and straws right after they opened the questionnaire. This control design is centered around the core hypothesis and helps to reflect the information effects of the ban itself.

The second part of the questionnaire quantified respondents' attitudes towards environmental protection, to measure the impact of exposure to the ban in the previous part. Dunlap and Liere (2008) provided a framework for quantifying peoples' environmental attitudes with a series of Likert-type questions; this was applied in this experiment. The respondents answered seven Likert-type questions: they will read six statements about environmental protection and pick the one that best fits them from a list of strongly disagree, disagree, agree, and strongly agree; the extra question was the trap question, in which subjects were asked to choose "strongly disagree." The six statements formed a gradient, from whether to acknowledge the existence of environmental problems in general, to whether humans should act, and to whether everyone should tolerate the daily inconveniences of environmental policies. This gradient design corresponds to the sharp contrast between the acceptance of the general public to the grand concept of environmental protection in the top-down atmosphere mentioned above and their aversion to paper straw, an environmentally friendly but unpleasant utensil. Besides, the wording of the statements was delicately designed so that of all the six meaningful statements, opposition meant greater environmental concern in statements 2 and 5. In brief, the second part of the

questionnaire helps quantify customers' environmental attitudes in a hierarchical manner.

The last part of the questionnaire is about demographics. Respondents were asked to provide their basic information about gender, age, and education. Some questions about drinking bubble tea and using paper straws were then included, providing additional references for the analysis of the results. Respondents were asked how often they drank bubble tea, which indirectly reflected how much they got exposed to the paper straw issue in their daily lives. Those who answered "yes" to the question of whether they had ever used a paper straw were also asked to rate the performance of paper straws; this helped determine whether and to what extent they had negative attitudes toward paper straws. To sum up, the statistics of the demographics section will provide auxiliary information for the integrated analysis of the choice experiment and environmental attitudes section.

Data Collection & Analysis

The survey was published online on Qualtrics and Credamo. On the former platform, the questionnaires were mainly spread through the author's social relations in China; the latter is a survey company based in China that collects answers by paying random respondents on the platform. Given that this research did not screen subjects except for their residence in China, releasing questionnaires on multiple platforms and collecting data from various sources would not have a substantial impact on the experiment results.

After deleting invalid submissions that failed the trap question, 628 responses were collected. 327 of them belonged to the treatment group, that is, a detailed policy

introduction was provided at the beginning of the questionnaire; the remaining 301 were in the control group and not exposed to the policy.

Data analysis starts with a non-parametric analysis of the choice experiment. For each of the four individual questions as well as all four questions of the first part as a whole, the percentages of respondents choosing each of the product combinations in the treatment and control groups were calculated. To check whether the differences between the two groups are related to the exposure to the plastic straw ban, a Chi-square test of independence was conducted. The analytical approach of the choice experiment data helps to gain insight into the impact of whether detailed information on the plastic straw ban was provided and different prices on consumer purchasing behavior.

For the rest of the questionnaire that measured the subjects' attitude towards environmental protection and collected demographic information, this research adopts the quantitative method of Dunlap and Liere (2008) in the article, *The "New Environmental Paradigm"*. For each statement, the percentages of respondents choosing each of the five choices, from strongly disagree to strongly agree, were counted. Next, the spectrum from strongly disagree to strongly agree got assigned a value. For statements 1, 3, 4, and 6, strongly disagree is -2 points, neutral is 0 points, and strongly agree is 2 points; vice versa for statements 2 and 5. After the calculations above were completed, the treatment and control groups were compared to check for differences in quantified environmental concerns. A two-tailed independent t-test is conducted to examine the statistical significance of the differences. Besides the contrast between the treatment and control groups, notable findings within the groups are also discussed.

Results

The non-parametric analysis results of the choice experiment are summarized in Table 1, including the options, their corresponding prices, the percentages of respondents' choices in each question, and all four questions as a whole, along with the Chi-square values.

Table 1. Non-parametric Analysis of the Choice Experiment Section

Question 1	No Straw	Paper Straw	PLA Straw	None
(Price)	¥14	¥14	¥15	
Treatment	13.76%	53.21%	26.91%	6.12%
Control	12.29%	52.16%	32.89%	2.66%
Difference	1.47%	1.05%	-5.98%	3.46%
Chi-Square Value	6.38		p Value	0.09

Question 2	No Straw	Paper Straw	PLA Straw	None
(Price)	¥14	¥15	¥14	
Treatment	12.54%	20.80%	61.16%	5.50%
Control	12.62%	18.60%	67.11%	1.66%
Difference	-0.09%	2.19%	-5.95%	3.84%
Chi-Square Value	7.57		p Value	0.06

Question 3	No Straw	Paper Straw	PLA Straw	None
(Price)	¥15	¥14	¥14	
Treatment	6.42%	36.09%	50.46%	7.03%
Control	8.31%	28.24%	62.46%	1.00%
Difference	-1.88%	7.85%	-12.00%	6.04%
Chi-Square Value	21.56		p Value	0.00

Question 4	No Straw	Paper Straw	PLA Straw	None
(Price)	¥15	¥15	¥15	
Treatment	7.65%	30.28%	51.68%	10.40%
Control	10.30%	23.26%	61.46%	4.98%
Difference	-2.65%	7.02%	-9.78%	5.41%
Chi-Square Value	12.65		p Value	0.01

All	No Straw	Paper Straw	PLA Straw	None
Treatment	10.09%	35.09%	47.55%	7.26%
Control	10.88%	30.56%	55.98%	2.57%
Difference	-0.79%	4.53%	-8.43%	4.69%
Chi-Square Value	40.37		p Value	0.00

Before stepping into the comparison between two groups, the figures within each question and group provide some insights into the customers' preferences. Firstly, rather than using their own straws or drinking directly using the cup, subjects tended to get a straw along with the drink; in other words, the utility provided by straws from the beverage shops is considerable. In question 1 and 2, when one of the straws is more expensive, the percentage of respondents choosing the other straw is 4 to 5 times greater than that of choosing not to use any straws. In question 4 where all bundles were ¥15, less than 10% of people chose "No straw". Secondly, the better performance of PLA straw helps it gain more preferences, yet the willingness to pay got significantly affected by the price. In question 3 and 4, where two types of straws shared the same price, the percentage of respondents choosing PLA straws were twice

as much as paper straws; but this was almost reversed in question 1, where PLA straws were ¥1 more expensive. In brief, for the customers in general, a straw provided by the beverage seller matters; they are aware of the more satisfying experience of using PLA straws but the demand elasticity is noticeable, especially when a cheaper substitute is fairly reachable.

As for the differences between the two groups, with the degree of freedom of 3 and the significance level α of 0.05, the corresponding critical value in the Chi-square table is 7.82, which means if the calculated Chi-square value is greater than that, the null hypothesis that the respondents' choices of product combinations are independent of whether they got exposed to the details about the plastic straw ban should be rejected. As shown in the table, the Chi-square values are greater than 7.82 in question 3, question 4, and especially when considering the choice experiment as a whole, meaning that the exposure to the policy details did have something to do with which bubble tea and straw product bundle to choose.

According to the last three sub tables in Table 1, reading information about the plastic straw ban at the very beginning affected purchasing choices in the following way. The impacts across different circumstances, i.e., price levels, are generally homogeneous: with the exposure to the ban, the percentage of respondents that did not want a straw decreased by a small proportion, and the percentage of them choosing PLA straws decreased by around 10% – roughly half of that became a greater acceptance of the paper straws with the other half completely giving up drinking the bubble tea.

The findings of the choice experiment can be summarized as follows: consumers preferred PLA straws – they are environmentally friendly and perform as well as plastic ones. However, when they were educated by the detailed plastic straws

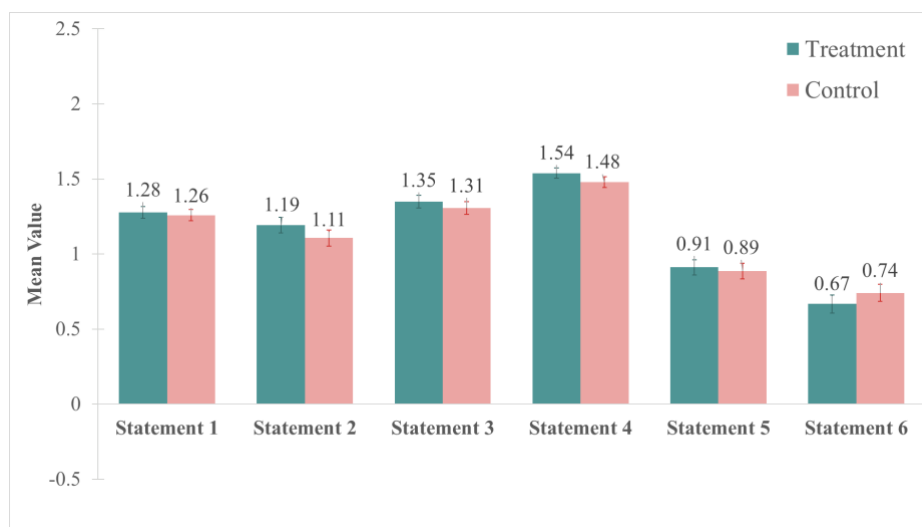
ban, they were more receptive to paper straws. This may have something to do with the fact that, having been in heated discussion for a long time, paper straws are more well-known; also, they are more widely used by the foodservice industry because of their lower cost. If this is true, then the greater acceptance of paper straws means a greater acceptance of the impacts of the policy in real life.

Table 2. Summary Statistics of The Responses to Likert-Type Questions in The Environmental Attitudes Section

Statements		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Standard Deviation	Difference	p value ($\alpha = 0.05$)
Environmental problems do exist.	Treatment Control	1.53% 0.66%	0.61% 1.00%	3.36% 4.98%	57.49% 58.47%	37.00% 34.88%	1.28 1.26	0.700 0.658	0.02	0.72
Human activities do not have substantial negative impacts on the environment.	Treatment Control	42.51% 36.88%	44.34% 47.18%	6.12% 7.64%	3.98% 6.31%	3.06% 1.99%	1.19 1.11	0.941 0.932	0.09	0.25
We should try to stop those activities that harm the environment.	Treatment Control	2.14% 0.66%	0.00% 1.66%	4.89% 6.31%	46.79% 49.17%	46.18% 42.19%	1.35 1.31	0.764 0.721	0.04	0.47
We need to support the cause of environmental protection.	Treatment Control	0.92% 0.33%	0.00% 0.33%	1.53% 3.99%	39.45% 41.86%	58.10% 53.49%	1.54 1.48	0.625 0.625	0.06	0.23
We do not have to bear the economic costs of environmental policies.	Treatment Control	24.16% 23.92%	53.21% 51.16%	14.98% 16.61%	4.89% 6.31%	2.75% 1.99%	0.91 0.89	0.911 0.910	0.02	0.74
We should tolerate the inconvenience that environmental protection causes to our daily life.	Treatment Control	7.65% 3.32%	8.56% 10.30%	12.54% 15.61%	51.99% 50.50%	19.27% 20.27%	0.67 0.74	1.114 1.003	-0.07	0.38

For the analysis of the environmental attitudes part, the summary of statistics of each question is shown in Table 2; a bar chart that highlights the means of the two groups is present in Figure 2. Between the treatment and control groups, none of the differences is statistically significant at the significance level of 0.05, meaning that in terms of the quantified environmental attitudes embodied by the six statements present in this research, the respondents are insensitive to the exposure to the plastic straws ban.

Figure 2. Comparison of the treatment and control groups of the mean values of six statements



In addition to the contrast between the two groups, the homogeneous trend within the two groups also provides some insights. First, all of the statements achieved scores greater than 0; in particular, the first four more general statements received mean scores greater than 1. This implies that the overall attitude of the respondents towards environmental protection is positive. On this basis, the last two statements had significantly lower means. Statement 5 emphasizes the responsibility of ordinary people to bear the economic costs of environmental protection, while statement 6 is more relevant to the main focus of this experiment: the paper straws that have attracted so many complaints are an intuitive example of the inconvenience that environmental policies bring to daily life. This phenomenon reflects an underlying concern that the Chinese public’s positive attitude toward environmental issues is evident under the broad concept of “environmental protection,” but is restrained in contexts that are more relevant to their own interests. Does this positive signal diminish further when moving from an attitude evaluation to real-life actions? Chen (2020) conducted a questionnaire survey with students at Xiamen University in

China and concluded that there was a mismatch between the prevalence of positive environmental attitudes among students and the low frequency of involvement in environmental organizations. To sum up, from fanciful and intangible concepts to interests-related considerations, and from thought experiments to real life, it deserves more efforts to find out a solution on how to efficiently translate the general public’s positive attitudes towards environmental protection derived from government and school education into spontaneous and substantial contributions that alleviate the environmental and resource problems.

Table 3. Summary Statistics of The Environmental Attitudes Section, Grouped by Demographic Categories

Demographic Category		(Count)		Environmental problems do exist.			Human activities do not have substantial negative impacts on the environment.			We should try to stop those activities that harm the environment.			We need to support the cause of environmental protection.			We do not have to bear the economic costs of environmental policies.			We should tolerate the inconvenience that environmental protection causes to our daily life.		
				T	C	p value	T	C	p value	T	C	p value	T	C	p value	T	C	p value	T	C	p value
Age	< 18	1	3	1.00	1.33	-	2.00	1.00	-	2.00	1.33	-	2.00	1.33	-	1.00	1.00	-	-1.00	0.33	-
	18-25	105	108	1.39	1.31	0.36	1.24	1.02	0.09	1.14	1.11	0.78	1.41	1.22	0.05	0.89	0.87	0.90	0.66	0.66	1.00
	26-35	129	130	1.33	1.26	0.40	1.29	1.25	0.75	1.48	1.42	0.37	1.57	1.64	0.30	1.04	0.98	0.60	0.96	0.98	0.83
	36-45	55	42	1.24	1.10	0.38	0.78	1.02	0.30	1.40	1.45	0.73	1.69	1.57	0.25	0.76	0.57	0.38	0.45	0.52	0.81
	≥ 46	37	18	0.86	1.28	0.14	1.32	0.78	0.03	1.38	1.33	0.87	1.57	1.67	0.63	0.76	1.00	0.43	0.03	0.06	0.94
	Gender	Male	106	124	1.34	1.25	0.32	1.16	1.04	0.39	1.40	1.35	0.61	1.48	1.53	0.54	1.02	0.86	0.21	0.86	0.74
Female		221	177	1.25	1.27	0.81	1.21	1.15	0.52	1.33	1.28	0.52	1.57	1.44	0.05	0.86	0.90	0.62	0.57	0.74	0.12
Education	≤ Junior high	9	13	0.33	1.08	0.28	0.78	0.69	0.39	0.89	1.08	0.82	1.00	1.62	0.20	0.33	0.69	0.88	-0.56	0.31	0.11
	High school	25	30	1.12	0.93	0.27	0.24	0.70	0.09	1.52	1.07	0.05	1.64	1.23	0.14	0.60	0.57	0.85	0.24	0.10	0.64
	College	63	48	1.05	1.19	0.67	1.22	0.98	0.02	1.41	1.40	0.78	1.46	1.60	0.53	0.86	0.67	0.27	0.59	0.60	0.87
	Bachelor's degree	210	189	1.39	1.34	1.00	1.30	1.22	0.72	1.32	1.35	0.98	1.59	1.49	0.01	1.00	1.00	0.57	0.78	0.90	0.30
	Master's degree	20	19	1.50	1.21	0.37	1.40	1.16	0.95	1.40	1.21	0.75	1.35	1.37	0.21	0.75	0.95	0.10	0.80	0.95	0.64
	Doctor's degree	0	2	-	1.50	-	-	1.50	-	-	0.50	-	-	1.00	-	-	1.00	-	-	-0.50	-
Monthly Frequency of Drinking Bubble Tea	Never	46	37	1.20	1.05	0.43	0.89	0.92	0.91	1.20	1.08	0.62	1.61	1.54	0.56	0.83	0.81	0.95	-0.09	0.14	0.46
	1-2 times	131	108	1.25	1.26	0.93	1.24	1.08	0.15	1.32	1.31	0.95	1.47	1.47	0.99	0.80	0.91	0.36	0.60	0.76	0.25
	3-5 times	104	109	1.34	1.27	0.39	1.22	1.16	0.61	1.45	1.36	0.31	1.61	1.51	0.27	1.10	0.89	0.08	0.93	0.79	0.23
	6-9 times	31	37	1.35	1.38	0.89	1.48	1.30	0.36	1.42	1.38	0.80	1.39	1.35	0.84	0.90	0.97	0.76	0.90	1.19	0.20
	> 10 times	15	10	1.20	1.50	0.40	0.87	0.80	0.90	1.20	1.20	1.00	1.73	1.40	0.16	0.87	0.60	0.60	1.20	0.60	0.15
Used Paper Straw Before	Yes (T Avg. rating: 6.10) (C Avg. rating: 5.90)	295	273	1.29	1.27	0.77	1.24	1.12	0.12	1.33	1.32	0.78	1.54	1.48	0.33	0.91	0.92	0.96	0.69	0.78	0.34
	No	32	28	1.19	1.14	0.79	0.78	1.00	0.42	1.50	1.21	0.12	1.56	1.43	0.34	0.91	0.61	0.26	0.41	0.39	0.97

Conclusion

Based on the negative attitudes towards paper straws after the ban on plastic straws in China, this research explored the impacts on the general public of the top-

down compulsory environmental policy. In terms of purchase choice, exposure to the details of the policy implementation increased subjects' acceptance of the dominant alternative, paper straws; it also caused some subjects to abandon the activity that generated the demand for straws altogether – in this study, drinking bubble tea. In terms of environmental attitudes, subjects generally demonstrated environmental concerns and were supportive of environmental protection; however, the level of that positivity diminished when the statements used to assess attitudes got involved the economic cost to individuals and the reduced convenience in daily life. Those findings did not change depending on whether or not policy details were provided, implying that the Chinese public is insensitive to policy from the perspective of environmental attitudes.

Multiple parties can gain insights from those results. First of all, for business owners affected by environmental policies, for example, those working in the bubble tea industry mentioned in this research, a larger and more targeted market research may be needed to determine the impact of the ban on people's willingness to buy bubble tea, and to take integrated consideration about the costs of various alternatives and customers' preferences for them, so that they can make sound business decisions with the aim of maximizing profits while complying with legal requirements. Second, researchers interested in the environmental attitudes of the Chinese people should be aware that they identify strongly with the broad concept of environmental protection, but this may not be as true for aspects that are closely related to them or that require tangible actions. The researchers could therefore adopt more radical statements in the Likert-type questions or ask about people's daily habits and actions related to the environment, to quantify in a more precise manner what the public's environmental preferences really are. Last but not least, for Chinese policymakers, the public's

recognition of environmental protection and acceptance of the negative effects of a policy is good news; this means the potential for more such efficient policies. In addition, the government can work on transforming this passive acceptance into active contributions.

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