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"Chinese Virus" and Consumer Discrimination:

Does exposure to information on global crises

stimulate Anti-Asian consumer behavior?

by

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Abstract

Geopolitical events have broad impacts on individuals around the world during times of crisis. For example, discrimination against Asian Americans following the onset of the COVID-19 pandemic has generated increased awareness as the media places blame on Asians for the spread of the virus. Prior literature has established that negative language against minority groups, such as anti-Asian speech, can perpetuate negative stereotypes and xenophobia. However, few studies have examined the effects of broader information on COVID-19's origins in a marketing context; specifically, on how language surrounding the origins of the virus can alter consumers' purchasing decisions and result in avoidance of Asian products. In this research, I investigated how exposure to information placing blame on China for COVID-19's and other geopolitical events affected consumer aversion toward products from Asian origins as well as discriminatory attitudes against Asians/Asian Americans. The study found that exposure to information placing blame on China for current events produced a significant effect on discrimination against Chinese goods, which translated to discrimination toward Asian goods broadly. While there were few spillover effects into products from other Asian countries, the findings highlight the subconscious effect that negative information can have on consumer purchasing decisions as well the notable effect of information about other countries on discrimination against products originating from those locations.

Contents

Introduction

   Historically, geopolitical and macroenvironmental events have been associated with an increase in the discrimination of minority groups across the United States. From blaming Latino populations for the 2009 H1N1 flu outbreak (McCauley et al., 2013) to boycotting French products in response to France's opposition to the war in Iraq (Chavis & Leslie, 2009), both individuals of minority descent and products with international origins have faced negative bias in times of crises. In recent years, an increase in Anti-Asian racism and violence during the COVID-19 pandemic has gained widespread awareness. Throughout the pandemic, hate crimes and incidents of bias toward Asians and Asian-Americans increased drastically, and vandalism targeted at Asian small businesses also ran rampant (Tessler et al., 2020). More than 30% of Americans have witnessed someone placing blame on Asians for the pandemic, and in the month following the onset of the pandemic in the U.S., more than 1500 cases of anti-Asian harassment were documented (Ellerbeck, 2020). While these trends have brought about increased awareness and research on Anti-Asian discrimination, few studies have researched the effect of such discriminatory practices in a behavioral marketing context. The purpose of this research is to address the extent to which exposing individuals to information on the origins of COVID-19 and other geopolitical events, such as surveillance efforts, affects not only affects individuals' attitudes toward Asians and Asian Americans but also their inclinations toward purchasing products with Asian origins.

Literature Review

   Broadly, prior literature has established that Asian Americans continue to hold a "perpetual foreigner" stereotype, and even native-born Asian Americans are often perceived to be less American than White Americans (Cheryan & Monin, 2005). Studies have also examined

the negative effects of anti-Asian rhetoric and discrimination on individuals. For instance, anti-Asian workplace communication can negatively affect Asian employee outcomes, leading to emotional exhaustion and decreased work engagement (Jun & Wu, 2021). Experienced discrimination also contributed to greater emotional distress and avoidant behavioral coping in Asian Americans, and observed media discrimination, such as targeted language and negative portrayals in media, also increased their emotional distress (Chiang et al., 2022). In the context of COVID-19, studies found that Asian-Americans are still treated as perpetual foreigners in the U.S. and that in the face of a public health crisis, non-Asian individuals tend to dissociate themselves from the origins of the virus and engage in "othering," or blaming Asians for the onset of the disease (Li & Nicholson Jr, 2020). Even more relevantly, emphasizing the connection between COVID-19 and China increased negative attitudes toward Asian Americans and general xenophobia, and this pattern is central for establishing the connection between COVID-19 priming and discriminatory attitudes toward Asians in my research (Dhanani & Franz, 2021).

However, while prior literature has clarified some connections between the pandemic and discrimination against Asians, few researchers have considered the effects of the pandemic on a marketing and consumer behavior level. In general, research on how stereotypes toward countries may affect consumer attitudes toward specific products or services has been inconclusive. Research conducted by Hong and Wyer in the 1980s established that consumers have greater preferences for products originating from their own nation, a phenomenon later termed "consumer nationalism." However, because my research utilizes a U.S. subject pool but not U.S.-manufactured products, it is unclear how this preference may unfold in consumer choices. On a similar note, consumers tend to hold biases against everyday products from

minority-owned businesses; however, they perceive ethnic products from minority ventures as more authentic (Liu et al., 2020). Yet other researchers have also argued that objective product quality, rather than country of origin, is responsible for creating variations in consumer product perceptions, and that the country of origin's effect is simply a byproduct of quality differences (Agrawal & Kamakura, 1999). The multitude of diverse findings among these studies highlight the need for additional input on ethnic and minority products and consumer choices.

Determining whether any existing product discrimination can be overgeneralized to all products from a certain region can also contribute to understanding around how consumers mentally group products from certain locations. Recently, additional research found that during the COVID-19 pandemic, the boycott of Chinese goods negatively influenced the brand image and valuation of foreign products in general (Ltifi, 2020), a finding that is relevant for my study as I examine the overgeneralization effects of COVID-19 salience on products from other East Asian countries. Similar overgeneralization effects also occurred in the restaurant industry, as both Chinese and non-Chinese Asian restaurants suffered from reductions in traffic during the pandemic, an indication of consumers' tendencies for ethnic misidentification and outgroup homogeneity (Huang et al., 2023). Finally, Airbnb hosts with distinctly Asian names were found to experience greater declines in number of guests, compared to hosts with distinctively White names, demonstrating additional forms of discrimination within the service sector (Luca et al., 2022). Beyond these studies, however, given the recency of the pandemic, little research has examined the impact of COVID-19 through a marketing and specifically consumer choice perspective, comprising a clear gap in the literature regarding its implications.

Therefore, the primary goal of this study was to examine consumer bias against Chinese products and other Asian products following priming subjects with information on the origins of

the COVID-19 virus. Given that exposure to other negative geopolitical events in the past have also influenced consumer preferences toward goods from countries perpetrating those events, the study also aimed to test consumer aversion toward Asian products as a result of exposure to other information, such as surveillance news. Subjects read two newspaper articles related to either COVID-19 or the common flu, then one newspaper article about countries' usage of surveillance technology. They then engaged in a choice exercise to determine their level of aversion for products of Chinese origins, other East Asian origins, and non-Asian origins. After responding to several free response questions about reasons for selecting certain products, they finally answered a series of questions about their attitudes toward Asians Americans in the United States. This four-step design aimed to gain comprehensive insights into ways in which current events and geopolitical factors may influence consumer decision-making from multiple angles.

Hypotheses

- H1a: Priming subjects with information placing blame on China (for COVID-19 and for surveillance) will discourage the purchase of Chinese products, compared to priming subjects with similar information on other non-Asian countries.

  - H1b: Priming subjects with information placing blame on China will discourage the purchase of products from other Asian countries, such as Malaysia, Indonesia, Singapore, and Thailand.

- H2: Priming subjects with information placing blame on China will correlate with more negative attitudes towards Asians/Asian Americans.

- H3: The degree of aversion toward Asian products is moderated by individual demographic factors, such as race and political leaning. For example, politically conservative individuals are expected to be affected more by information priming.

Methodology

Participants

A total of 600 subjects were recruited through Amazon Mechanical Turk (MTurk). 13 subjects were removed due to the failure of comprehension checks or incomplete responses, leaving a total of 587 responses in the final sample (298 condition, 289 control, 51.7% male). Among the participants, 431 identified as White/Caucasian, 49 identified as Asian/Pacific Islander, 44 identified as Black/African American, 33 identified as Hispanic, 1 identified as Native American, and 29 selected multiple races, other, or no response. Furthermore, 303 (51.6%) identified as liberal or somewhat liberal, 164 (27.9%) identified as conservative or somewhat conservative, and 120 (20.4%) identified as moderate.

Subject Priming

Subjects read a total of four news articles, beginning with a dummy article on dogs and owners' emotions intended to conceal the study's purpose. Subjects in the experimental condition then read two brief news articles on COVID-19 and its origins, one of which broadly discussed the virus' origins out of Wuhan, referring to the virus as the "Chinese virus" (Appendix 1). The second article postulated that the virus is the result of a lab leak in China, using language implying that the lab leak "killed millions worldwide." The final article focused on the "Chinese spy balloon" and utilized language that suggests that China has utilized surveillance technology on the U.S. continuously. Overall, the articles aimed to create the impression of placing blame on China for the negative effects of geopolitical events around the world while mimicking language seen in the news in the past several years.

Control subjects began by reading two similarly-worded articles on the seasonal flu virus, which stated that the virus broke out in New York and that a Maryland laboratory was the source

of the virus. They then read an article on the U.S. shooting down an Iranian drone, which was intended to read similarly to the balloon article without placing blame on any Asian countries. None of these articles mentioned China or other Asian countries. A 30-second timer was placed on each article page to ensure all subjects thoroughly read the excerpt, and a brief comprehension question was presented after each article. Subjects that failed two or more comprehension checks, provided invalid free response answers, or failed to answer questions required for data collection were removed from the dataset.

Product Choice Exercise

After reading the articles, subjects engaged in a series of choice exercises to measure their aversion toward Asian products (Appendix 2). They viewed a neutral image of a generic product (black automobile, black headphones, black backpack, chocolate car), captioned with the brand name and location of origin (China, another Asian country, or a "Western" country). A listing of the product's qualities and customer ratings was also included with each picture—three different brand origins and informational profiles were generated and randomly displayed. Overall, the information displayed in each profile only contained minor differences among each other and were intended to create similar impressions on the subject.

The subject was presented with all three profiles for each product to rate. Two dummy products (masks and hand sanitizer) were also included to help prevent subjects from guessing the goals and direction of the hypothesis. Therefore, the subject responded to a total of 14 product choice questions (three questions for each of four product types, plus two dummy questions), and all questions were randomized among each other. To rate the product, they simply answered the question "Based on this information, how likely are you to purchase this product?" using a 9-point Likert scale ranging from Very unlikely (1) to Very likely (9).

Free Response Questions

Following the product choice exercise, subjects also responded to two free-response questions (Appendix 3). The first question asked subjects about the factors they considered most heavily to assess their likelihood of purchasing each product, and the second question asked about the influence of brand origin on their purchasing decision. Subjects were prevented from returning to previous questions once answered to preclude them from changing answers based on the presented free response questions. These questions allowed for qualitative analysis on subjects' rationales for preferring or avoiding certain products.

Discriminatory Attitudes Measures

Finally, subjects answered a series of standard demographics questions, followed by five questions on their attitudes toward Asians/Asian-Americans. The questions were pulled from the Attitudes toward Asian Americans (ATA) scale (Ho & Jackson, 2001) and the Scale of Anti-Asian American Stereotypes (SAAAS) (Lin et al., 2005) and were intended to gauge subjects' negative stereotypes and beliefs toward Asians and Asian Americans (Appendix 4). Dummy questions replacing "Asian Americans" with other races and ethnicities, such as "Hispanic Americans" and "European Americans," were included as well, and the display order of questions was randomized. Subjects indicated their level of agreement with the statements on a 9-point Likert scale ranging from Strongly Disagree to Strongly Agree. Results were analyzed for differences between the experiment and control groups' attitudes toward Asians.

Data Analysis

To test the hypothesis, the data analysis measured the effects of the priming by assessing the level of difference between the group primed with articles placing blame on China and the group primed with the control article. From the cleaned data, subjects' level of preferences for

the four types of products across different national origins (Chinese, non-Chinese Asian, non-Asian) were extracted, with higher scores indicating greater preferences for a product. These scores were then combined into one cumulative dataset to determine overall statistical significance across all product types. Responses toward each of the four individual products were also tested for significance. Subjects' levels of negative attitudes toward Asians/Asian Americans were also aggregated based on their responses to the attitude questions and combined into an average score across the five questions measuring anti-Asian sentiment, with a higher average score indicating more negative attitudes. Results from the "dummy" questions on attitudes toward other races and the "dummy" choice exercises were not used in the analysis, and free response questions were qualitatively examined for patterns.

For the product choice results, two linear regression models were conducted in R using the felm() function to determine the effect of Chinese origins, broader Asian origins, and non-Chinese Asian origins on product ratings. Using a regression test allows for variance reduction and the ability to cluster standard errors depending on individuals' tendency to answer questions using a certain range or portion of the scale's scores. Furthermore, as each respondent submits multiple interconnected ratings that may not conform to other models' assumptions of independence, standard errors are clustered to provide standardization. The linear regression test provides a method to estimate standard errors more precisely and discern smaller effects and more subtle patterns in the data. Additional data cuts were also used to test for the impact of demographic factors, such as race, education, and political leaning, on product ratings. Summaries of the results provide information about the strength and direction of the relationships between product origin and ratings, which allow the variables to be assessed for statistical significance and the interactions to be interpreted.

With regard to negative attitudes toward Asians, a two-sample t-test was utilized to examine differences between the condition and control groups' degree of negative stereotyping. I performed t-tests using average scores aggregated across the five questions as well as individual analyses for responses to each question. Averages and variances were summarized for each question and for overall averages, and one-tail p-values were used to evaluate statistical significance.
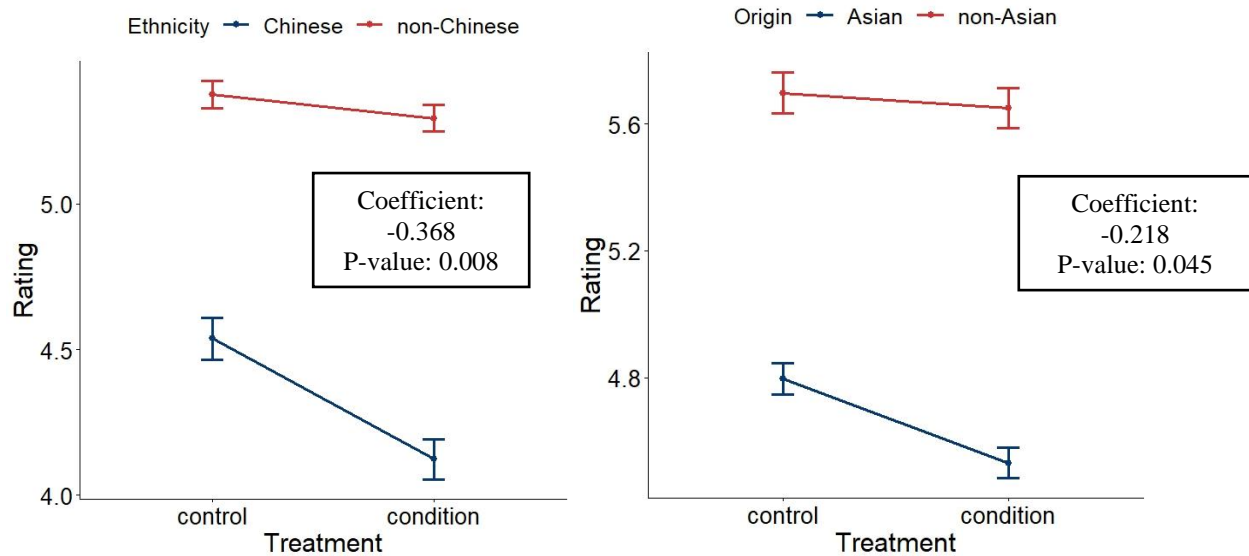
Results

Table 1-2 show descriptive statistics and correlations among all variables. Linear regressions were evaluated at the α = 0.05 significance level. The "Estimate" in the output summary refers to the estimated coefficient—the effect size of each variable on the outcome variable in the linear regression model, taking experimental condition into account. Positive values indicate the tendency for one experimental group to be more likely to purchase a given product than another, and negative values indicate an aversion toward purchasing a product compared to the other experimental group. The "Cluster S.E." statistic refers to the standard error of the estimates, adjusted for clustering of the independent variable. It indicates the level of precision in the estimate and helps determine the statistical significance of the estimate.

Overall, when consumer preferences for all products were evaluated in aggregate, there was a statistically significant effect of the experimental manipulation on Chinese products (Coeff. estimate = -0.369, p = 0.008) and on Asian products more broadly (Coeff. = -0.218, p = 0.045). However, no statistically significant effect existed for the non-Chinese Asian group (Coeff. = -0.067, p = 0.485), suggesting that aversion toward Chinese products following exposure to information dominated the effect size in producing a negative effect toward Asian products more broadly, and that spillover effects toward other Asian products were not present.

Table 1: Regression Descriptive Statistics—All Product Types, Aggregate

	Product origin		
	Chinese	Broad Asian	Non-Chinese Asian
Coefficient	-0.368 **	-0.218 *	-0.067
Cluster S.E.	0.140	0.109	0.096
p-value	0.008	0.045	0.485

* Significant at the 0.05 level, ** Significant at the 0.01 level

When results are examined at the individual product level, the effect of the experimental manipulation on Chinese (Estimate = -0.443, p = 0.002) and Asian cars broadly (Estimate = -0.351, p = 0.013) was statistically significant, as was aversion toward backpacks originating in China (Estimate = -0.436, p = 0.007) (Table 2). The manipulation's effect on chocolate originating from China was borderline significant (Estimate = -0.290, p = 0.054). Results for Non-Chinese Asian products by themselves were generally not statistically significant across product types.

Table 2: *Regression Descriptive Statistics—Preferences for Products Accounting for*

Experimental Condition Effects

Product	Origin	Descriptive Statistics: Regression	p-value
Cars	China	Estimate: -0.443 Cluster S.E.: 0.146	p = 0.002 **
Cars	Broad Asian	Estimate: -0.351 Cluster S.E.: 0.142	p = 0.013 *
Cars	Non-Chinese Asian	Estimate: 0.092 Cluster S.E.: 0.111	p = 0.408
Headphones	China	Estimate: -0.171 Cluster S.E.: 0.156	p = 0.272
Headphones	Broad Asian	Estimate: -0.169 Cluster S.E.: 0.146	p = 0.248
Headphones	Non-Chinese Asian	Estimate: 0.002 Cluster S.E.: 0.125	p = 0.986
Backpack	China	Estimate: -0.436 Cluster S.E.: 0.161	p = 0.007 **
Backpack	Broad Asian	Estimate: -0.263 Cluster S.E.: 0.167	p = 0.116
Backpack	Non-Chinese Asian	Estimate: 0.173 Cluster S.E.: 0.122	p = 0.154
Chocolate	China	Estimate: -0.290 Cluster S.E.: 0.150	p = 0.054
Chocolate	Broad Asian	Estimate: -0.088 Cluster S.E.: 0.142	p = 0.536
Chocolate	Non-Chinese Asian	Estimate: 0.202 Cluster S.E.: 0.122	p = 0.099

* Significant at the 0.05 level, ** Significant at the 0.01 level

There was no statistically significant effect of demographics, such as gender, income, education, and political leaning, on likelihood to purchase Chinese products, non-Chinese Asian products, or Asian products in general. However, for individuals identifying as White, there was a statistically significant effect of the experimental manipulation on Chinese products (Estimate = -0.375, p = 0.017), and a borderline significant effect on broad Asian products (Estimate = -0.237, p = 0.057), demonstrating the strong effect of priming on White-identifying individuals' tendency to avoid certain products, compared to other races and ethnicities. There was no effect on non-Chinese Asian products (Estimate = -0.099, p = 0.372) (Table 3).

Table 3: Regression Descriptive Statistics—Race as a moderator

	Product origin		
	Chinese	Broad Asian	Non-Chinese Asian
Coefficient	-0.375 *	-0.237	-0.099
Cluster S.E.	0.158	0.124	0.111
p-value	0.017	0.057	0.372

* Significant at the 0.05 level, ** Significant at the 0.01 level

With regard to negative attitudes toward Asians/Asian Americans, subjects in the experimental group (M = 2.378, Variance = 3.105) also did not display more negativity in their attitudes compared to subjects in the control group (M = 2.433, Variance = 3.229), as p = 0.351 for average negativity scores across all five questions. Interestingly, although none of the results for each individual question were statistically significant either, the p-value for Question 5 ("Asian-Americans are out to drain American resources") was lowest at p = 0.217.

	Experimental Group	**Control Group**
Mean (out of 9)	2.37	2.41
Variance	3.11	3.23
p = 0.351		

(Higher scores indicate more negative attitudes)

Discussion

The results from the analysis demonstrate that priming individuals with information on geopolitical events that places blame on China does indeed correlate with more negative attitudes toward Chinese products, supporting Hypothesis 1a. Priming produced a significant effect across

all products in aggregate, indicating that exposure to such information may cause consumers to shun Chinese products and that location of origin was in fact taken into consideration when choosing products. Product discrimination as a result of information intake, therefore, was supported by the study, suggesting that during future geopolitical events, brand originating in the country under discussion may need to adopt cautionary measures to avoid becoming linked too closely with the national origin, and consequently the political crisis. The patterns also highlight the susceptibility of consumer choices to external influences, which often may take place at a subconscious level. The postulation that consumers do indeed place blame on the country in question is supported by many of the free response answers, in which respondents expressed an unwillingness to purchase products from China due to the perception that they were unsafe or unsanitary. Some responses directly commented on China's role in COVID-19, suggesting that it was top-of-mind for many respondents. On the other hand, many respondents also indicated that location of origin did not play a major role in their purchasing decision, yet the results of their choices suggest otherwise. These patterns may demonstrate that some consumers may even be unaware of the impact that the information created on their purchasing behaviors, and even though they personally may not consciously consider location of origin as an important decision factor, they still may be influenced subconsciously by the rhetoric.

Hypothesis 1b predicted that priming subjects with information placing blame on China will discourage the purchase of products from other Asian countries, such as Malaysia, Indonesia, Singapore, and Thailand. While Asian products broadly did face consumer aversion, this effect was primarily dominated by a disinclination towards Chinese products, and results for products from other Asian countries were generally not statistically significant. These results paint a somewhat optimistic picture that suggest strong spillover effects may not exist for

consumer products broadly, but the possibility that other types of products and services, such as those that are more clearly identifiable as ethnically Asian, may face different effects cannot be ruled out, warranting the need for additional research.

Hypothesis 2 predicted that the priming individuals with information on China would correlate with more negative attitudes toward Asians and Asian Americans. The results did not support this prediction, as exposure to information did not have any correlation with the level of negative attitudes in individuals toward Asians. Interestingly, while the results show that there were no significant differences between the experimental group and control group in their levels of discriminatory attitudes toward Asians, the average negative attitudes for the control group were actually slightly higher than the group primed with the articles. These results demonstrate that priming subjects with such information does not automatically lead them to discriminate blatantly against Asians, and the product choice effects must be explained by some other factor other than general sentiments toward the ethnic group. Furthermore, it is possible that priming individuals with biased information may have led to reversal, in which individuals believe that the articles wrongly accused Asians of spreading the virus or contributing to unfortunate political events. Such emotions may decrease the presence of negative sentiments toward Asians, causing the experimental group to have lower average negative attitude scores. However, although at face value, it appears that these individuals are not biased against Asian Americans, social desirability bias may influence the results. Individuals may be unwilling to state their true opinions in such a setting or may not wish to appear outwardly hostile toward any ethnic group, which may also contribute to insignificant results.

Hypothesis 3 predicted that individuals' demographics, such as race, income, gender, and political leaning, would moderate their willingness to purchase products from Asian

backgrounds. At the individual demographic level, political leaning, income, education level, and gender were not statistically significant in predicting product discrimination, demonstrating that individuals across these demographic categories all tended to shun Chinese products and Asian products broadly. However, individuals self-identifying as White did demonstrate greater avoidance of Chinese products compared to individuals from other races. This pattern suggests that minorities, such as individuals of African American, Hispanic, or Asian backgrounds, could be less prone to discriminate against products from specific ethnic origins, demonstrating a level of tolerance toward products from other ethnicities that may not be present in their White counterparts.

Although the study was conducted under careful manipulation of the variables while keeping other factors constant, several limitations may have been present in the experimentation process. The product choice questions in the study always involved one Chinese product, one product from either Thailand, Indonesia, Malaysia, or Singapore, and one non-Asian product. The rationale behind avoiding other East Asian origins, such as Korea and Japan, was the general perception that products originating there are of higher quality, and we hoped to control for quality of production as a confound. Consequently, the results of the study may be difficult to generalize to products from these two countries given that they were not included in the survey. Additionally, the manipulations in this study purposely emphasized placing blame on China for spreading the virus and for surveillance, whereas news articles typically utilize more subtle language. This discrepancy may potentially lead to a stronger effect than a true real-world portrayal of such events. Finally, a larger sample size could also better confirm our results and shed light on more nuanced effects.

Future research could aim to investigate whether other forms of language containing

ethnic biases, such as political speech and news focused specifically on product manufacturing and consumption, affect product ratings. Such insights could build on these results to determine whether geopolitical or current events portrayed in a distinct manner could also affect sentiments and purchasing decisions. Additionally, future studies could examine whether changing the perceived "Asian-ness" of a product, such as packaging colors and patterns or pronounceability of the brand name, without directly manipulating the brand origin, could affect desire to purchase a product. Such subtle interactions can shed light on less evident consumer behavior and examine unconscious consumer biases and the potential role that exposure to information plays. Finally, the moderating effects of other variables, such as cultural openness, concern for health and sanitation, and degree of nationalist sentiments, on product choice can also be tested. These characteristics may also influence whether individuals are willing to support products from other nations, especially in times of crisis.

Significance and Implications

In this research, I investigated consumer discrimination against Asian products as a result of the portrayal of COVID-19 and Chinese surveillance. Since the beginning of the pandemic, politicians and the media in Western countries have described the origins of the virus in an accusing and often politicized manner, utilizing ethnic-specific phrases such as "Chinese virus" and generalizing criticism to all Asians as a collective. As tensions intensified, increasingly news sources started to report on other geopolitical events using similar language eliciting blame and negativity, such as "Chinese Spy Balloon". The words "Chinese" and "Asian" have even come to possess a negative connotation, causing these groups to become increasingly marginalized as they face rampant hate crimes and violence across the United States. Given that previous research has not yet examined the impact of negative portrayals of Asian countries on consumer

behavior, this study aims to contribute to the literature by adding to the broad range of negative impacts that such language may bring.

Through this experimental study, I demonstrated that language that blames China for global crises can contribute to the increased levels of discriminatory attitudes toward Chinese and Asian products broadly. The results shed light on the conscious or subconscious impacts of such language on the public's consumption decisions across a variety of products, from automotives to chocolate. While American consumers may feel a sense of nationalism and a need to support American products, such discriminatory practices may hinder free trade as consumers are socialized to shun Asian products and businesses, undermining economic competition in a protectionist manner. These attitudes can also encourage consumers to become less tolerant of goods originating internationally, and although business could potentially serve as a tool to ameliorate tensions between countries during political crises, the presence of this connection between political language and purchasing decisions may paint a less optimistic picture toward utilizing commerce to strengthen relationships between countries.

Furthermore, although the research at hand did not demonstrate that exposure to language placing blame on Asians directly leads to increases in discriminatory attitudes toward Asians, consumer product choices hint at a subconscious influence on individual decisions. These negative attitudes may unconsciously build up over time to change individual behaviors on a more significant scale, even if they do not directly manifest in blatant discrimination. Furthermore, if similar patterns continue and consumption becomes increasingly localized, international trade may also diminish, which would likely lead to higher prices that would ultimately reduce consumer well-being. Companies based in Asia as well as Asian-owned small

businesses in the United States alike will have reduced incentives to compete in the market, which can also result in declines in product diversity and choices for consumers.

The relationships established in this research are notable in that they shed light on potential broader economic trends as individuals form stereotypes about Asian products due to media portrayals and political rhetoric. They demonstrate a consistent disinclination toward purchasing products from China and Asia more broadly across consumers from a variety of demographics, highlighting the pervasiveness of the product discrimination as a result of information exposure. These consumption choices can perpetuate declines in product diversity in the future, which not only harms the economy and international trade but also leads to greater levels of unreceptiveness to Asian businesses on a large-scale level.

Conclusion

The prevalence of Anti-Asian rhetoric and racism in recent years in the context of the pandemic has brought about increased awareness and research on the topic, and the present research aims to contribute to the literature by establishing a direct relationship between exposure to the origins of COVID-19 and the avoidance of Asian products. This research informs consumer behavior patterns and reasons consumers may avoid products of certain origins, which can have implications for how ethnic businesses may choose to market their products. It also demonstrates that the prevailing portrayal of COVID-19's origins, as well as the criticism of the political actions of Asian countries, not only present tensions on a macroeconomic level but also influence individuals' willingness to purchase a diversity of products, which can change macroeconomic and commercial trends in the future.

Appendix 1: Sample news articles for priming subjects

Article 1
Condition:
Headline: Public health officials warn of surge in cases of COVID-19 virus originating from Wuhan, China

On March 20th, the state confirmed 9,298 new COVID-19 cases overnight, bringing the total to 25,795. COVID-19 is believed to have originated in the Chinese city of Wuhan late last year before spreading to more than 50 other countries. The virus is tied to a Chinese seafood market, where the virus most likely jumped from a caged wild animal into people, causing a huge COVID-19 outbreak beginning in December last year.

The estimates are based on data collected from a surveillance network that counts flu-related hospitalizations in parts of 13 states scattered around the country, covering about 27 million people, or 8.5 percent of the nation's population.

"We are very actively pursuing methods to forecast what could be happening in the short term and when cases might peak," Dr. Alicia Fry from the C.D.C.'s public health division said. "We won't know for several more weeks whether it's peaked."

Comprehension Check: Which of the following locations is the COVID-19 virus tied to?
A university campus, a seafood market, a suburban mall

Control:
Headline: Public health officials warn of surge in cases of H3N2 seasonal flu virus originating from New York

On January 20th, the state confirmed 9,298 new cases of H3N2 seasonal flu overnight, bringing the total to 25,795. The H3N2 flu virus is believed to have originated in New York, NY late last year before spreading to other states.

The estimates are based on data collected from a surveillance network that counts flu-related hospitalizations in parts of 13 states scattered around the country, covering about 27 million people, or 8.5 percent of the nation's population.

"We are very actively pursuing methods to forecast what could be happening in the short term and when cases might peak," Dr. Alicia Fry from the C.D.C.'s public health division said. "We won't know for several more weeks whether it's peaked."

Comprehension Check: Which of the following locations is the H3N2 virus tied to?
New York, San Francisco, London

Condition:
Headline: Lab Leak in China Most Likely Caused COVID-19 Pandemic Killing Millions
Worldwide

The Covid-19 pandemic that has killed millions worldwide "was most likely the result of a research-related incident" in China, and not natural transmission of a virus from animal to human, a new report by members of the Senate health committee concludes.

An outbreak at a seafood market in Wuhan had initially been thought to be the source of the virus, but some scientists and Chinese public-health officials now see it as an example of community spread rather than the place where the first human infection occurred, the 2021 intelligence community report said. China has repeatedly denied a lab leak was involved, and suggested a U.S. lab may have been the virus's origin.

Intelligence officials caution that finding an answer about the source of the virus may be difficult or even impossible given Chinese opposition to further research. Scientists say there is a responsibility to explain how a pandemic that has killed almost seven million people started, and learning more about its origins could help researchers understand what poses the biggest threats of future outbreaks.

Comprehension Question: Which of the following conclusions does the report make about the origin location of COVID-19?
A Chinese laboratory, a French university, a Mexican factory

Control:
Headline: H2N2 Flu Virus Potentially Tied to Research Incident in Bethesda, Maryland

The H2N2 virus strain that has killed millions worldwide "was most likely the result of a research-related incident" in Bethesda, Maryland and not natural transmission, a new report by members of the Senate health committee concludes.

An outbreak at a school in Brooklyn, New York had initially been thought to be the source of the virus, but some scientists and public health officials now see it as an example of community spread rather than the place where the first human infection occurred, the Senate report said. The NIH has repeatedly denied a lab leak was involved.

Government officials caution that finding an answer about the source of the flu strain may be difficult or even impossible. Scientists say there is a responsibility to explain how a flu strain that has killed almost seven million people started, and learning more about its origins could help researchers understand what poses the biggest threats of future outbreaks.

Comprehension Question: Which of the following locations is the H2N2 flu strain tied to?
A factory in San Jose, a laboratory in Maryland, a mall in Dallas

Article 3
Condition:
<u>Headline:</u> Chinese Spy Balloon Collecting U.S. Communications Shot Down

*Earlier this month, the United States shot down a **Chinese spy balloon** that had travelled over a large swath of North America. According to the Biden Administration, the balloon was "part of a larger Chinese surveillance-balloon program," which the White House argued had violated the sovereignty of nations all over the world. The balloon carried sensors for **collecting intelligence and communications**, and was also equipped with multiple antennas, including an array likely capable of pinpointing the location of communications, U.S. officials said.*

*A spy balloon might be the most tangible sign of Chinese aggression, but it's hardly the first. For years, China has been **stealing American data and technology** with little to no consequences. There is little doubt that the Chinese aircraft violated U.S. airspace seeking to monitor military sites. Yet the Chinese government accused the U.S. of overreacting, and signalled that it views the response as a sign of American decline.*

Comprehension Question: Which of the following objects did the Chinese spy balloon carry?
Sensors for collecting intelligence, sensors for gathering rainfall data, sensors for collecting planet motion data

Control:
<u>Headline:</u> U.S. Shoots Down Iranian Surveillance Drone over Northeast Syria

Earlier this month, United States forces in Syria shot down an Iranian-manufactured drone as it attempted to gather intelligence over a base in northeast Syria, the United States military's Central Command said in a statement Monday.

US forces are occasionally targeted by pro-Iranian groups in Syria, and it is not the first time the Conoco site has been fired on. In January, two rockets were fired toward the base but did not cause any damage or casualties.

Western powers are increasingly concerned about Iran's drone program, particularly with regard to the supply of "kamikaze" drones to Russia for use in their war against Ukraine. According to Tuesday's report, US officials believe Tehran is rapidly improving the effectiveness of its drones through real-world use in Ukraine.

Comprehension Question: Which of the following countries did the drone that was shot down belong to?
Afghanistan, Jordan, Iran

Appendix 2: Product choice exercises

Information displayed:
Brand: Hongyan Automotive
Brand Origin: Shandong, China

Vs.

Brand: Manneung Automotive
Brand Origin: Gyeongsang, South Korea

Vs.
Brand: Berliet Automotive
Brand Origin: Lyon, France

Profile 1:
- Miles Per Gallon: 29.5
- Features: Highway driving assist, blind spot view monitor, Apple Carplay
- Price: $15,128

Customer reviews
- Value Rating: 5/5
- Performance Rating: 4/5
- Safety Rating: 4/5

Profile 2:
- Miles Per Gallon: 27.5
- Features: Highway driving assist, blind spot view monitor, Apple Carplay
- Price: $14,929
Customer reviews
- Value Rating: 4/5
- Performance Rating: 5/5
- Safety Rating: ⅘

Profile 3:
- Miles Per Gallon: 28.9
- Features: Highway driving assist, blind spot view monitor, Apple Carplay
- Price: $15,133
Customer reviews
- Value Rating: 4/5
- Performance Rating: 4/5
- Safety Rating: 5/5

Imagine that you are planning to purchase a new car. Based on this information, how likely are you to purchase this product?

[Likert Scale: 1-9, Very unlikely to very likely]

Information displayed:
Brand: Xiangyin Electronics
Brand Origin: Guangdong, China

Vs.

Brand: Harang Electronics
Brand Origin: Busan, South Korea

Vs.
Brand: Kettner Electronics
Brand Origin: Saarland, Germany

Profile 1:
- Battery life: 35 hours
- Features: Bluetooth connection, built in microphone, noise-cancelling
- Price: $27.99

Customer reviews:
- Sound Quality Rating: 5/5
- Comfort Rating: 3/5
- Value Rating: 4/5

Profile 2:
- Battery life: 39 hours
- Features: Bluetooth connection, built in microphone, noise-cancelling
- Price: $29.29

Customer reviews:
- Sound Quality Rating: 4/5
- Comfort Rating: 5/5
- Value Rating: 3/5

Profile 3:
- Battery life: 37 hours
- Features: Bluetooth connection, built in microphone, noise-cancelling
- Price: $28.69

Customer reviews:
- Sound Quality Rating: 3/5
- Comfort Rating: 5/5
- Value Rating: 4/5

Imagine that you are planning to purchase a new set of headphones. Based on this information, how likely are you to purchase this product?
[Likert Scale: 1-9, Very unlikely to very likely]

Information displayed:
Brand: Xiaogu Fashion
Brand Origin: Jiangsu, China

Vs.

Brand: Shinamiya Fashion
Brand Origin: Osaka, Japan

Vs.
Brand: Santo Lindo
Brand Origin: Baja California, Mexico

Profile 1:
- Features: Padded shoulder straps, padded laptop pocket
- Material: Water-repellant nylon
- Price: $19.69

Customer reviews:
- Value Rating: 4/5
- Quality Rating: 4/5
- Style Rating: 3/5

Profile 2:
- Features: Padded shoulder straps, internal laptop pocket
- Material: Water-repellant nylon
- Price: $18.99

Customer reviews:
- Value Rating: 5/5
- Quality Rating: 4/5
- Style Rating: 4/5

Profile 3:
- Features: Multi-compartment design, internal tablet sleeve
- Material: Water-repellant coating; Polyester
- Price: $19.99

Customer reviews:
- Value Rating: 3/5
- Quality Rating: 5/5
- Style Rating: 4/5

Imagine that you are planning to purchase a new backpack. Based on this information, how likely are you to purchase this product?

[Likert Scale: 1-9, Very unlikely to very likely]

Information displayed:
Brand: Nuofan Chocolate
Brand Origin: Zhejiang, China

Vs.

Brand: Yuraku Seika
Brand Origin: Tokyo, Japan

Vs.
Brand: Ricolino Chocolate
Brand Origin: Baja California, Mexico

Profile 1:
Nutritional information: Calories=220; Total fat = 13g; Saturated Fat=8g; Total Sugars=20g
Price: $1.89

Profile 2:
Nutritional information: Calories=210; Total fat = 14g; Saturated Fat=7.5g; Total Sugars=21g
Price: $1.99

Profile 3:
Nutritional information: Calories=230; Total fat = 14g; Saturated Fat=8.5g; Total Sugars=19g
Price: $1.87

Imagine that you are craving chocolate. You walk into the nearest convenience store, and they have this chocolate bar in stock. Based on this information, how likely are you to purchase this product?
[Likert Scale: 1-9, Very unlikely to very likely]

Appendix 3: Free response questions

Please answer the following questions:

1. What factors did you consider most heavily to assess your likelihood of

    purchasing each product? Please select the top three factors.

    1. Product characteristics (Price, features)

    2. Customer ratings

    3. Brand origin preferences

    4. Health/Sanitation concerns

    5. Product quality concerns

    6. Product reliability concerns

    7. Other: *Include text box for response*

2. To what extent did brand origin play a role in your likelihood of purchasing each

    product, and why?

Appendix 4: Questions measuring attitudes toward Asian Americans

Measured questions:
- Asian-Americans are taking jobs that belong to U.S.-born Americans
- Asian-Americans should have stayed in their own countries where they belong
- Generally, Asian-Americans look out only for themselves
- Asian-Americans should not represent the United States
- Asian-Americans are out to drain American resources

Dummy questions:
- Hispanic-Americans are taking jobs that belong to U.S.-born Americans
- European-Americans are taking jobs that belong to U.S.-born Americans
- Generally, African Americans look out only for themselves
- Generally, Hispanic-Americans look out only for themselves
- European-Americans should have stayed in their own countries where they belong
- Hispanic-Americans should have stayed in their own countries where they belong
- Hispanic-Americans should not represent the United States
- African Americans should not represent the United States
- Hispanic-Americans are out to drain American resources

Appendix 5: Dummy exercises throughout study

<u>Dummy questions:</u>

6-point Likert scale: Strongly Disagree, Moderately Disagree, Slightly Disagree, Slightly Agree, Moderately Agree, Strongly Agree

- The best way to prevent the spread of the COVID-19 virus is to wear a mask
- Social distancing during the COVID-19 pandemic was important to me
- I believe that it was important to follow COVID-19 health guidelines throughout the pandemic
- During the COVID-19 pandemic, I washed my hands frequently
- The COVID-19 pandemic is still a serious concern today

<u>Dummy choice exercises:</u>

Brand: Luosh Masks
Brand Origin: Georgia, USA

Customer reviews:
- Price Rating: 3/5
- Quality Rating: 4/5
- Design Rating: 5/5

Brand: Neptune Wellness Solutions
Brand origin: Quebec, Canada
Customer reviews:
- Price Rating: 5/5
- Value Rating: 4/5
- Quality Rating: 3/5

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