



Examining Attitudes toward Asians throughout the COVID-19 Pandemic with Repeated Cross-Sectional Survey Experiments

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Abstract: This study examines how COVID-induced and general attitudes toward Asians have changed over the course of the pandemic using nationally representative survey experiments in 2020 and 2022. First, we measured COVID-induced anti-Asian attitudes as the effect of a treatment reminding respondents of the pandemic on whether respondents would be willing to live or work with someone who is East or South Asian. The results suggest that the COVID-19 treatment worsened attitudes toward East and South Asians in the social domain and toward East Asians in the economic domain in 2020, but not in 2022. Second, we measured change in general attitudes toward Asians by comparing the control group responses in 2020 and 2022. The results demonstrate that, over the same period, general attitudes toward Asians have not improved despite growing attention toward anti-Asian biases. This finding underscores the persistence of general negative attitudes toward Asians beyond the immediate context of the pandemic and the ongoing imperative to actively address deeply ingrained biases against Asians.

Keywords: COVID-19; anti-Asian bias; racial/ethnic bias; survey experiments

Replication Package: Study materials can be found at the Open Science Framework <https://osf.io/a6ewy/>

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THE COVID-19 pandemic magnified anti-Asian racism in the United States, as documented by self-reported hate incidents and perceived discrimination as well as survey experiments that capture public attitudes toward Asians (Lee and Ramakrishnan 2022, Stop AAPI Hate 2022, Strassle et al. 2022). For example, a nationally representative online survey experiment of 5,000 Americans, conducted at the height of the pandemic in August 2020, showed that when reminded of the health and economic consequences of COVID-19, respondents exhibited increased prejudice against East and South Asians in social and economic domains (Kaushal, Lu and Huang 2022, Lu et al. 2021). The outbreak of COVID-19 fueled backlash against Asians because of their perceived association with the origin of the pandemic, which was amplified by political rhetoric (Darling-Hammond et al. 2020, Karalis Noel 2020). Moreover, the virus threatened Americans' health and social and economic security, consequently triggering adaptive responses such as avoidance and discrimination.

A plethora of empirical research has detected surging anti-Asian sentiments at the height of the pandemic in the United States using data from 2020 and 2021 (Han, Riddell and Piquero 2023, Tessler, Choi and Kao 2020). An important yet

under-researched question, however, is whether COVID-19 continued to worsen attitudes toward Asians (*COVID-induced* anti-Asian attitudes) over the course of the pandemic recovery period.

Several significant transformations have occurred since the height of the pandemic. The United States, although severely devastated by the pandemic, has experienced a remarkable recovery and transition into a “new normal”. Over time, the public health, socioeconomic, and political crises brought about by COVID-19 have subsided. Thanks to vaccines, new medications, and increasing public immunity to the virus, the spread and deadliness of COVID-19 have decreased, quelling fear and anxieties about the virus (Christie et al. 2021). The economic fallout resulting from the pandemic has also subsided, as economic conditions have mostly returned to the pre-pandemic trajectory (Center on Budget and Policy Priorities 2023). Socially, society has reopened, with COVID-19 mitigation measures lifted and most Americans living a (near) normal social life (Gramlich 2022). Politically, racist rhetoric connecting Asian Americans with the virus and scapegoating them for the pandemic has receded (Biden 2021), which may have increasingly disassociated Asians from the coronavirus. As a result, the public’s view on COVID-19 has shifted, which is manifest in falling levels of concern about the health, economic, and social impact of the coronavirus (Jackson et al. 2022). These broad trends may have converged to attenuate the ability of COVID-19 to worsen attitudes toward Asians.

Extant research tracking the effect of COVID-19 over time is scarce, with Abascal, Makovi, and Xu (2023) a notable exception. The authors conducted a dictator game in May and October 2020 and found that discrimination against Chinese-born Americans decreased during the time period among certain groups. This study provides some initial evidence that COVID-induced anti-Asian attitudes may be fluid throughout the pandemic. To systematically investigate this question, we examined how the treatment effect of reminding respondents of the COVID-19 pandemic has changed during the pandemic recovery period.

Another important question is whether *general* attitudes toward Asians—beyond the immediate context of the pandemic—have changed throughout the pandemic in the United States. COVID-19 laid bare longstanding racism against Asian Americans, which has been shaped by many other factors outside the context of the pandemic (Elias et al. 2021). Since the onset of the pandemic, steps have gradually been taken to raise awareness and combat rising anti-Asian racism. Individuals, organizations, and advocacy groups have progressively rallied around and spoken out against anti-Asian discrimination that had largely gone unreported and unnoticed by the public before the pandemic (Namkung 2021). In 2021, the COVID-19 Hate Crimes Act, which explicitly addressed anti-Asian violence, was passed and enacted with rare bipartisan support (Sprunt 2021). Thus, general attitudes toward Asians arising largely outside the context of the pandemic may also have changed over time. The increasing attention paid to anti-Asian racism may lead the public to harbor more favorable attitudes toward Asians in general. We examined this second question by studying the change in attitudes toward Asians among the control group in 2020 and 2022.

In sum, given the important societal-level changes taking place throughout the pandemic, we systematically investigate trends in both COVID-induced and general attitudes toward Asians. We do so by collecting and analyzing two waves of survey experiments in 2020 and 2022, which span the rise of and recovery from the pandemic. We previously reported findings from the first wave (Kaushal, Lu and Huang 2022, Lu et al. 2021). The present article reports results from both waves to understand how these attitudes have changed amid the evolving contexts of the pandemic and racial/ethnic relations during this critical two-year period.

Methods

Data

We conducted two nationally representative online survey experiments, each with 5,000 American adults. We fielded the first wave between August 13 and August 31, 2020, and the second wave between August 11 and August 19, 2022. Study materials can be found at the Open Science Framework (<https://osf.io/a6ewy/>), including preregistration of research questions and design.

YouGov administered the surveys using a sample matching methodology to select representative samples, which is ideally suited for online surveys (Rivers 2007). YouGov maintains a large panel of respondents and routinely collects data on their basic demographic and socioeconomic characteristics, geographic locations, and political affiliations. The sampling framework allows for the collection of nationally representative samples. First, a random sample was drawn from the target population (US adults) based on the 2018 American Community Survey (referred to as target sample). One or more matching members from YouGov's panel were selected for each member of the target sample. The matching process involved using a large set of variables available for both the target population and the YouGov panel, including age, sex, race, education, employment, and region (Twyman 2008). The matched cases were weighted to the sampling frame using propensity scores to ensure their representativeness with respect to the US adult population. These procedures resulted in a sample that matched the profile of the target sample. Research shows that YouGov samples are of high quality, similar to other nationally representative surveys, and representative of the target population (Twyman 2008). According to the Pew Institute, YouGov consistently fares as a top performer among online survey companies (Kennedy et al. 2018).

Respondent participation in the survey was voluntary. Each respondent signed a consent form. The survey was designed to take about 15 minutes. To ensure a high level of quality, we applied a standard attention screener and dropped the small number of individuals who completed the survey too quickly or skipped too many questions. Each survey had a response rate of more than 42 percent (those who completed the interviews among all the invitees) and a cooperation rate of about 92 percent (those who completed the interviews among those who started the survey).

Experimental design

In each survey, we implemented a two-layer experiment. The top layer involved randomly exposing half of the respondents to a short text on the state of COVID-19 (COVID-19 treatment), followed by a set of questions regarding the economic and health-related impacts of COVID-19, after which the respondents completed survey questions (see Supplementary Note 1 for details). The main treatment condition increased the salience of the pandemic by priming the respondents to think about the pandemic, its broad global and U.S. impact, and its impacts on respondents' lives. In effect, we activated or intensified consideration of the adverse impact of COVID-19 and measured the effect of that reminder on attitudes toward racial/ethnic minorities.

The second layer involved randomly assigning respondents to racial/ethnic treatments within a vignette format. Each respondent read two separate vignettes – one in a social and one in an economic domain. The two vignette experiments were identical across the two waves and assignment to both treatment layers (COVID-19 and racial/ethnic) stayed the same within respondents across vignettes. Each vignette presented a hypothetical situation to examine prejudice and discriminatory intent against a racial/ethnic group using names to signal race/ethnicity (Crabtree et al. 2023, Gaddis 2017a, 2017b, Gaddis, Kreisberg and Crabtree 2022).

In the first vignette experiment, we investigated discrimination in the *social domain* of a roommate search and was adapted from Gaddis and Ghoshal (2020) (see Supplementary Note 2 for details). The vignette asked respondents to imagine that they were looking for a roommate in “The Big City” and placing an ad on a popular website. Each respondent then read a hypothetical email response to their ad, in which the name of the room-seeker was randomized to signal a particular race/ethnicity (the vignette was otherwise identical). After reading the vignette and email response, each respondent was presented with several questions and asked to respond on a scale of 0 to 10. Two questions captured each respondent's prejudice and discriminatory intent toward a given room-seeker: 1) “How likely are you to respond to this person?” (extremely unlikely to extremely likely) and 2) “How interested are you in living with this person?” (not at all interested to extremely interested).

The second vignette experiment was designed to study discrimination in the *workplace* and was adapted from Berdahl and Min (2012) (see Supplementary Note 3 for details). Each survey respondent was presented with a vignette that described a hypothetical employee. The vignettes were identical in all respects except for the names of the hypothetical employees, which were randomized to signal specific racial/ethnic groups. We used only male names to avoid differences in preferences on account of the gender of the coworker. Upon reading the vignette, each respondent was asked to rank their preference for having the hypothetical individual as a colleague, staff member (subordinate), or supervisor on a scale from 0 to 10 (extremely prefer to not at all prefer). We randomized the order of the questions (i.e., colleague, subordinate, and boss). Our experiment pertains to workplace prejudice and discrimination. Because workplace threats from COVID-19 and its consequences, whether economic or health-related, are more relevant for the work-

ing age population, we restricted our analysis sample to respondents aged 19–64 years.

We randomized the order in which the respondents saw the two vignettes. Each respondent was presented with only one name (racial/ethnic treatment) for each vignette to reduce social desirability bias. In the larger study, we included names corresponding to five main races and ethnicities (Whites, Blacks, Hispanics, East Asians, and South Asians) in the survey experiments. The coworker vignette uses only male names, whereas the roommate vignette uses female or male names matched with the respondent's gender. Because Asians have been especially vulnerable to COVID-induced racism, we focused on attitudes toward Asians in the present study. We also present attitudes toward Whites as a comparison, whom we hypothesize would not be affected by COVID-induced racial biases (i.e., no treatment effect toward Whites).

In essence, the treatment and control groups in our analyses consist of respondents who were randomly assigned to see White, East Asian, or South Asian names in the roommate and workplace vignettes. We focus on the comparison of the treatment and control group within each racial/ethnic group over time. We do not have sufficient power to test for the three-way interaction between race, treatment, and year. This is largely due to our study design that randomized each respondent to see only one name in order to reduce social desirability bias. Nonetheless, showing the treatment effect for a White name is informative as this particular result establishes a baseline for the general tendency of the public (i.e., social withdrawal) in response to COVID-19.

Results

Waning COVID-Induced Anti-Asian Attitudes

Overall, the results from the vignette experiments in 2022 demonstrate that the COVID-19 treatment – exposing respondents to a reminder of COVID-19 and its impacts – no longer consistently had a negative effect on attitudes toward Asians as it did in 2020.

The top panel of Figure 1 presents the treatment effect results of both the roommate and coworker vignette with regard to attitudes toward Whites in 2020 and 2022. The results do not reveal any significant treatment effect on attitudes toward Whites throughout the pandemic. This result suggests that there was no widespread (non-racialized) tendency of social withdrawal due to the pandemic.

The middle and bottom panel presents the treatment effect results with respect to attitudes toward South Asians and East Asians, respectively. In the roommate vignette (social domain), in 2020, individuals in the treatment group consistently exhibited greater prejudice and discriminatory intent against South and East Asian room-seekers than those in the control group. They were less likely to respond to and less interested in living with a hypothetical room-seeker who was East or South Asian. However, in 2022, the same treatment elicited effects that were close to zero and non-significant for South Asians. For East Asians, the treatment effect was just

outside standard statistical significance levels ($p=0.061$) for the question capturing discriminatory intent (“How likely are you to respond to this person?”).

In the workplace vignette (economic domain), the patterns were similar. The negative treatment effect of the COVID-19 priming disappeared entirely in 2022, compared to 2020. In 2020, priming COVID-19 salience significantly increased prejudicial responses toward East Asian co-workers and supervisors among working age respondents: compared to the control group, individuals in the treatment group expressed greater unwillingness toward working with, or being supervised by, East Asians. In comparison, by 2022, the treatment effect was non-significant across different coworker types and for both East and South Asian co-workers.

Additional analyses including interactions between treatment and a series of moderating factors suggest that the main results do not vary across population groups with different socioeconomic and political characteristics and from diverse social and political environments.

In summary, our results show that in 2020, a reminder of COVID-19 worsened attitudes toward East Asians in the workplace setting and toward both East and South Asians in the roommate setting. However, in 2022, these effects mainly were near zero, and only one treatment effect on attitudes toward East Asians was marginally significant. Thus, in our experiments, COVID-induced anti-Asian attitudes largely disappeared in 2022.

Persistent General Attitudes toward Asians

To examine potential changes in general attitudes (non-COVID related) toward Asians, we report mean differences in the prejudice and discriminatory intent questions for the control group in 2020 and 2022.

Figure 2 shows the mean differences in all scores for both the roommate and workplace setting for White, South Asian, and East Asian names. We see that attitudes toward Whites (top panel) have either remained similar or improved over time. Notably, when asked about the willingness to live with a White room-seeker, attitudes significantly improved in 2022 relative to 2020. This implies a broad shift toward greater openness in the American society over the course of the pandemic recovery period. In other vignette questions, the attitude change was not statistically significant for the White name.

In contrast, the mean differences across all scores were non-significant for South and East Asians. Hence, unlike attitudes toward Whites, general attitudes toward East and South Asians have not improved in the social and economic domains over the course of the pandemic and recovery period.

Overall, the absence of significant temporal improvement toward Asians, along with some improvement in general attitudes toward Whites, suggests the persistence of anti-Asian biases in American society outside the context of COVID-19. Thus, despite high-profile incidents and increased campaign by civil rights groups aimed at raising awareness about anti-Asian discrimination, we find no evidence of progress in improved attitudes and behaviors toward Asians.

The descriptive statistics of sample characteristics and the full regression results are included in the Supplemental Information Table S1-S3.

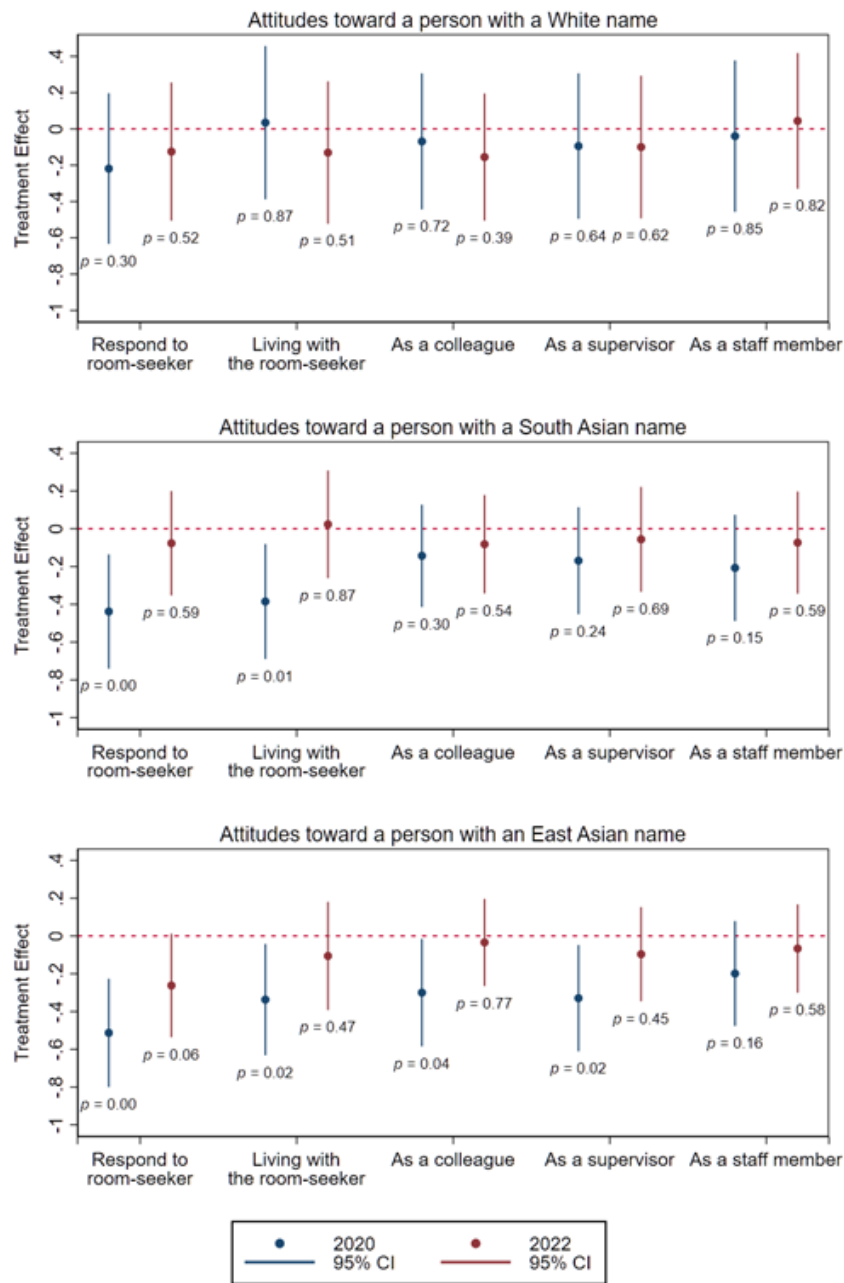


Figure 1: Treatment effects of the roommate and coworker experiments in 2020 and 2022. The impact of COVID-19 salience treatment on attitudes toward Whites and Asians in 2020 and 2022. Each point is based on a different linear regression model in a specific year and indicates the effect of the COVID-19 salience treatment and the 95% confidence interval. The analysis samples of both experiments exclude Asian respondents. The coworker experiment further excludes respondents aged 65 and older

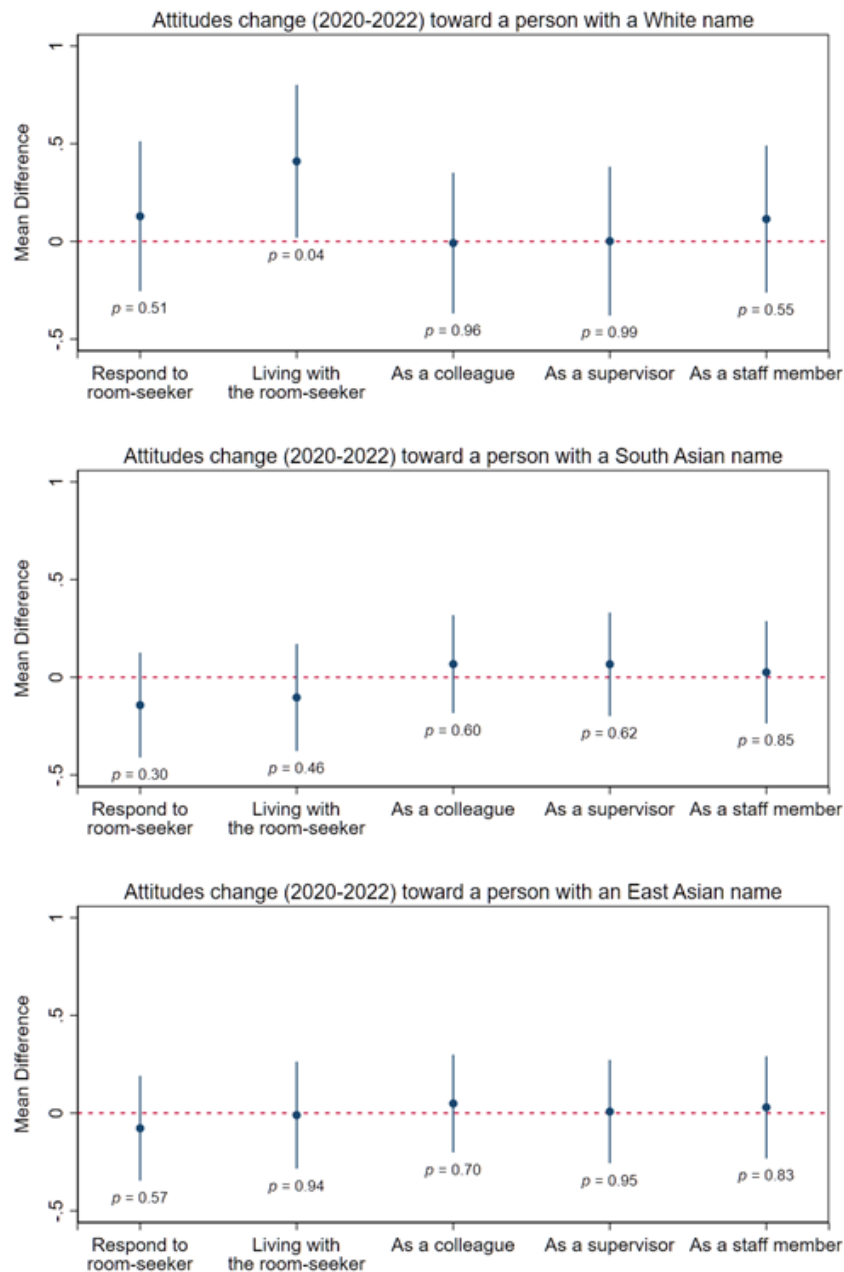


Figure 2: Control group mean score differences in August 2020 and 2022. Note: Differences in attitudes toward Whites and Asians among the control group respondents in 2020 and 2022. The mean difference and confidence interval of the difference are shown. The analysis samples of both experiments exclude Asian respondents. The coworker experiment further excludes respondents aged 65 and older. A positive mean difference indicates improved attitude in 2022 compared to 2020.

Conclusion and Discussion

This article traced public attitudes toward Asians in the United States in 2020 and 2022, during which the country recovered from the COVID-19 pandemic. The results show that in the summer of 2020, at the height of the pandemic, reminding respondents of the pandemic and its aftermath consistently and significantly worsened attitudes toward East and South Asians in the social domain and East Asians in the economic domain. In comparison, in the summer of 2022, almost 2.5 years into the pandemic when disease concerns had waned, our results show that *COVID-19-induced* anti-Asian attitudes had largely dissipated in the roommate and workplace settings.

These results document some evidence of the waning effect of COVID-19 in aggravating anti-Asian sentiments. COVID-19-induced anti-Asian attitudes seem to have been short lived. This finding demonstrates the malleability of public attitudes associated with the pandemic, which tend to diminish as pandemic fears recede and the public discourse surrounding the pandemic evolves. This finding is not entirely surprising. Similar patterns were documented in the context of other historical events. For example, the September 11 terrorists attacks increased labor market discrimination against Arabs and Muslims, but these adverse effects dissipated after 3 years (Kaushal, Kaestner and Reimers 2007). In the context COVID-19, a longitudinal survey of the U.S. population conducted in February and August of 2020 finds an increasing proportion of Americans identifying the usage of phrases such as “China-Flu” as racist (Kaushal et al. 2022). This trend suggests that as the understanding of the pandemic improves, public sentiments shift away from explicitly racist characterizations.

It is important to note that our vignette experiments focus on specific forms of interpersonal and workplace prejudice and discrimination that are common, yet less visible and often under-reported. Our study does not encompass extreme anti-Asian racism, including acts of violence and hate crimes, which may exhibit different patterns.

Our second main finding is more sobering. The attitudes of the control group, which reflects generalized attitudes toward Asians arising largely outside the context of COVID-19, did not improve over the same period. Hence, the diminishing severity of the pandemic and the growing awareness of anti-Asian racism have not fostered more favorable attitudes toward Asians more broadly, at least within the social and economic domains explored in our vignette experiments. This finding underscores the durability and deep roots of anti-Asian bias in American society. Such bias may be exacerbated by specific events and may manifest itself differently under distinct circumstances. But these situational effects tend to be temporary. In contrast, the broader, generalized form of anti-Asian bias is deeply entrenched. COVID-19 is likely just one of many contemporary factors shaping attitudes toward Asians, compounding the multitude of longstanding sources of anti-Asian bias. This emphasizes the ongoing imperative to actively combat anti-Asian racism and addressing its deeply ingrained roots in American society.

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