Looking Hateworthy: An Investigation of the Relationship Between Chinese Phenotypicality and COVID-19-Related Prejudice and Discrimination

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Abstract
Throughout the COVID-19 pandemic, there have been an increasing number of hate crimes perpetrated against Chinese and non-Chinese Asian Americans. Some hate incidents suggest that Chinese Asian Americans have been mainly targeted followed by non-Chinese Asian Americans. The present study examined the influence of victim Chinese phenotypicality (CP) and participant individual differences on COVID-19-related prejudice and discrimination. Participants were presented with a mock news story detailing a restaurant employee (varying in CP) who tested positive for COVID-19 but went to work despite warnings to quarantine and allegedly spread COVID-19 to other employees and customers. CP was manipulated through photographs embedded within the mock news story of the employee (White (control) vs. Low CP vs. High CP). After reading the news story, participants completed measures of prejudice and discrimination endorsement along with measures of individual differences. Results revealed that CP influenced prejudice and support for discrimination, but only for individuals with certain characteristics (e.g., low income). The findings highlight individual difference characteristics among perpetrators of prejudice and discrimination against Asian Americans, in addition to phenotypic variations among those who may be victims of hate related to the COVID-19 pandemic.

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Although Chinese individuals and Chinese Americans are not to blame for the pandemic, COVID-19 was first discovered in China. Perhaps because of the location of this discovery, there has been an increasing number of hate behaviors (e.g., shunning) targeted against Chinese (Yellow Horse et al., 2021) as well as non-Chinese Asian Americans (Ruiz et al., 2020). While Chinese and non-Chinese Asian Americans have been increasingly likely to encounter hate events during the pandemic, Chinese Americans have experienced a majority of hate incidents against Asian Americans (43.5%), followed by Korean (16.8%), Filipino (9.1%), Japanese (8.6%), Vietnamese (8.2%), and other Asian Americans (Yellow Horse et al., 2021). This is a disproportionate majority as Chinese Americans only comprise of 24% of the Asian population in the United States (Budiman & Ruiz, 2021).

According to the Stop AAPI Hate organization, of the total anti-China rhetoric reported by Asian Americans, roughly half have been directed at Chinese Americans, with the other half targeted toward non-Chinese Asian Americans, involving phrases like “f**k China” and “the Chinese invented the virus” (Borja et al., n.d.; Ren & Feagin, 2021, p. 750). Thus, anti-China bias appears to be largely targeted at Chinese Americans rather than Asian Americans more broadly. What could explain this disparity? It is possible that perpetrators are more likely to express anti-Chinese sentiment towards Asian Americans who appear to be higher in Chinese phenotypicality (CP), the appearance of being Chinese.

To our knowledge, there is no psychological literature examining the association between Chinese phenotypicality and COVID-19-associated prejudice and discrimination. However, related research investigating the effect of Asian phenotypicality on racism found that Asian phenotypicality in Asian males is negatively associated with attractiveness in Westerners (Thai et al., 2020; Wilkins et al., 2011). Other research suggests that first-generation Asian females with smaller eyes experience more blatant racism (e.g., called names such as “chink”) than later-generation Asian females with smaller eyes (Lee & Thai, 2015, p. 245). Thus, research suggests that Asian Americans experience prejudice (e.g., rated less attractive) and discrimination (e.g., receiving blatantly racist comments) related to their appearance.
Other studies find that racial phenotypicality is related to prejudice and discrimination among other groups (e.g., Black Americans; Eberhardt et al., 2006). For instance, individuals are prone to make more negative judgments about those with more Afrocentric features (e.g., dark skin), perceiving them as being more criminal and aggressive than those with less Afrocentric features (Kleider-Offutt et al., 2017). Relatedly, individuals with more Afrocentric features are more likely to receive harsher criminal sentences (Blair et al., 2004) and to be sentenced to death (Eberhardt et al., 2006) than those with less Afrocentric features.

Overall, racial phenotypicality is often associated with prejudice and discrimination in legal and non-legal settings. That is, the more a person is phenotypic of a certain group, the more likely they are to experience prejudice and discrimination. This effect is replicated across Black, Latino (e.g., Alcalá & Montoya, 2018), and Asian American groups. Similarly, phenotypicality could be related to the experience of prejudice and discrimination among Asian Americans and may extend beyond race into specific ethnicities (i.e., Chinese). In this case, the more Chinese an individual appears, the more likely they may be to experience COVID-19-related hate. We test this possibility in the present study.

**The Relation Between Individual Difference Characteristics and Expressions of Hate**

While many people hold biases against Asian Americans, most do not explicitly discriminate in order to avoid appearing prejudiced in the eyes of others and themselves (Crandall & Eshleman, 2003). Few will go as far as to commit crimes driven by hatred (DOJ, 2020). Given hate expressions are atypical in the general population, it is important to identify personal attributes (e.g., xenophobia) that may be associated with committing these transgressions.

**Xenophobia.** Xenophobic fear of Asian Americans is deeply rooted in U.S. history. References to Asian Americans as a disease date back to the concept of the “Yellow Peril” in the 1800s to mid-1900s, when Americans felt that their culture, values, and existence were being contaminated and threatened by early Chinese immigrants (Tessler et al., 2020). This resulted in restrictions on Chinese immigration, labeling Asians as perpetual foreigners, and violent mob-related attacks against Asian Americans (Kanda & Gokani, 2019; Tessler et al., 2020).

With the onset of COVID-19, xenophobia has similarly shaped Americans’ beliefs and attitudes toward Asian individuals and Asian Americans. Recent research shows that strong xenophobic beliefs are associated with increased worry about contracting diseases like COVID-19 (Faulkner et al., 2004; Reny & Barreto, 2020). Additionally, people who are worried about catching COVID-19 are less likely to support policies for granting undocumented immigrants citizenship, show less appreciation for diversity in the United States, and are more likely to avoid foreigners compared to those less worried about contracting COVID-19 (Daniels et al., 2021; Reny & Barreto, 2020).
This suggests xenophobia may trigger fear of COVID-19, which manifests in negative attitudes and behaviors. Given the U.S.’ historic mistreatment of Asian Americans, and extant research on COVID-19-related xenophobia, we expected xenophobia to have an exacerbating effect on the treatment of Asian Americans during the pandemic (Lantz & Wenger, 2022). Specifically, we hypothesized that those with strong xenophobic beliefs may express more fear-driven prejudice and discrimination against Asian Americans high in Chinese phenotypicality.

**Stereotype content and income.** The Stereotype Content Model suggests that people’s impressions of different groups vary based on perceptions of warmth (e.g., friendly) and competence (e.g., intelligent; Fiske et al., 2002). Research has shown that Asian Americans are perceived as high in competence because of their high achievements, but low in warmth because they are seen as the “other” or an out-group (Fiske et al., 2002). These perceptions of low warmth and high competence place Asian Americans in a precarious position, as this combination is associated with feelings of envy towards Asians and other groups perceived similarly (Glick, 2005). In turn, envy can breed negative attitudes and beliefs toward specific groups (Akiba et al., 2021).

Consequently, negative beliefs toward specific groups can translate into discriminatory behavior. For instance, Lin et al. (2005) examined how undergraduate students’ perceptions of warmth and competence of Asian Americans would predict their everyday self-reported interactions with Asian Americans and interest in Asian cultural events. Those with more negative attitudes about Asians (i.e., perceptions of low sociability and high competence) were less likely to socialize with Asians, have Asian friends, choose an Asian roommate, and participate in Asian cultural events than those with less negative attitudes.

In the most extreme cases, such negative attitudes may lead to scapegoating (Glick, 2005). It has been theorized that Jewish people have historically experienced egregious violence as a consequence of being perceived as high in competence (e.g., admired for their financial prowess) but low in warmth, especially during times of economic hardship. When Germany experienced a devastating economic downturn, Germans channeled their frustration toward Jewish individuals, which led to mass genocide (Glick, 2005). Scapegoating regarding Asian Americans during the COVID-19 pandemic may relate to the expression and perpetration of hate behaviors and crimes against Chinese and non-Chinese Asian Americans.

Due to the economic recession in the United States, the saliency of China’s involvement in COVID-19, and the stereotype content of Asian Americans (low warmth and high competency), some Americans may blame the current pandemic and economic hardship on Asians, particularly Chinese-Americans. If so, this connection should be especially true for low-income individuals who have experienced the greatest financial hardship during the pandemic. Thus, we suspected that people who evaluate Asian Americans as high in competence but low in warmth, and/or those with low income, will be more inclined to express negative sentiments about Chinese Americans.

**Political orientation.** Former President Donald Trump, as well as other conservative politicians, have blamed the pandemic on China, using phrases like the “Wuhan Virus”
(Livingston, 2021). On the opposite end, liberal politicians have disapproved of this rhetoric, noting that such language is racist and stigmatizing (Livingston, 2021). Conservatives have claimed their rhetoric is aimed at China’s government, and that no Asian Americans should be attacked (Scott, 2021). Despite these claims, past research has shown that conservatives tend to express more prejudice towards ethnic groups than liberals (e.g., Prezza et al., 2008). In addition, during the pandemic, politically conservative individuals were more likely to dehumanize Asian Americans (Markowitz et al., 2021) and to blame them for being victims of hate crimes (Yamawaki et al., 2021). Thus, conservative-leaning individuals may be more inclined to display prejudice and discrimination, particularly when interacting with Asian Americans high in Chinese phenotypicality.

**Study Overview**

The purpose of the present study was to investigate the psychological underpinnings of COVID-19-related prejudice and discrimination against Asian Americans. Specifically, we were interested in determining if Chinese phenotypicality and certain individual characteristics could explain why Chinese Americans experienced the brunt of the anti-Asian hate along with Asian Americans of non-Chinese descent. To do this, we conducted an experiment examining the relationship between CP and COVID-19-related prejudice and discrimination in the context of a news story detailing a young employee accused of spreading COVID-19 to patrons and co-workers. We predicted that participants would report higher levels of prejudice and discrimination against a High CP compared to a Low CP employee, and that prejudice and discrimination would be greater for a Low CP compared to a White employee. In addition, we anticipated that this effect would be strongest for participants high in xenophobia, those holding negative beliefs about Asian Americans (i.e., low warmth and high competence), among individuals reporting low income, and those identifying as conservative.

**Method**

**Pilot Studies**

In the main study, we used a news story of an employee to manipulate CP. This news story included a photograph of the employee (varying in CP) and a vignette. To ensure these stimuli would work as intended, photographs and the news story were piloted.

**Photograph pilot.** A pilot study was conducted to select photographs of Asian females who were rated high and low in CP as well as photographs for a control condition (White females) to be used for the phenotypic manipulation in the news story for our main study. We chose female photographs because most expressions of hate during the pandemic have been targeted at Asian American women (Ren & Feagin, 2021). This targeted hate suggests Asian American women may be more susceptible
to prejudice and discrimination than Asian American men. Therefore, to potentially maximize the strength of our manipulation, we utilized Asian women photographs.

**Participants.** Fifty participants were recruited from Prolific (an online participant pool where individuals complete surveys for monetary compensation), including 20 females, 29 males, and one other, who ranged from 18 to 59 years old ($M = 32.66, SD = 9.16$). Sixty-six percent identified as White, 14% identified as Asian, 12% identified as Black, 6% identified as Hispanic/Latinx, and 2% identified as Multiracial.

**Materials.** Photographs for the pilot test were sourced from the Chicago Face Database (CFD; Ma et al., 2015). Photographs from the CFD were previously rated on qualities such as babyfacedness, attractiveness, and various emotional expressions, like anger and sadness (Ma et al., 2015). To hold all other factors (except for the CP manipulation) relatively constant, we chose a sample of photographs rated similarly on a Likert scale assessing characteristics outside the scope of the phenotype manipulations. Importantly, photographs were chosen for which more than 50% of people rated the individual as Asian or White. Sixteen Asian female photographs were chosen for pilot testing. Five White and five Latina female photographs were also compiled from the CFD based on the same criteria and included in the pilot as distractors.

**Measures.** Participants were asked to report the perceived race of the subject in each photograph (e.g., Asian, African American/Black) and to specify the ethnicity associated with the subject’s race. For example, if the participant indicated that the subject was Asian, they then reported the perceived ethnicity of the subject (e.g., Chinese, Korean).

**Procedure.** Prolific participants completed the pilot study via Qualtrics, an online survey tool. Participants were asked questions regarding the race and ethnicity of the subject in each of the 26 selected photographs (16 Asian, five White, and five Latina female photographs), which were randomly presented. After answering the questions about the photographs, participants provided demographic information and were paid $2.38 for completing the study.

**Results.** We selected a stimulus sample of three photographs of Asian women rated high in CP (ranging from 43% to 46% of participants rating the photograph as Chinese) and three photographs of Asian women rated low in CP (ranging from 7% to 12% of participants).¹ Three photographs of White females (from the pool of five) were chosen based on darker hair color as to keep hair color constant across conditions.

**Vignette pilot.** The mock news story was pilot tested to ensure that it would not bias responses to our measures of interest above and beyond the influence of our main phenotypical manipulation.

**Participants.** Fifty participants were recruited from Prolific, including 22 females, 27 males, and one other, who ranged from 18 to 81 years old ($M = 38.32, SD = 15.36$). Sixty-four percent identified as White/European, 20% identified as Asian, 10% identified as African American/Black, 2% identified as Hispanic/Latinx, and 2% identified as Multiracial.

**Materials.** The mock news story described a female restaurant worker who went to work despite testing positive for COVID-19 and being instructed to quarantine. At
work, the restaurant worker allegedly spread COVID-19 to customers and other employees. The mock news story was formatted to look like a Facebook post from a legitimate news outlet. The aim of the news story was to create a realistic and relatable scenario. The employee’s circumstances meant that they would be in contact with restaurant patrons’ food, other employees, and possibly vulnerable patrons. Previous research has suggested that there may be COVID-19-related prejudice in restaurants, specifically an aversion to Chinese restaurants compared to non-Chinese restaurants (Reny & Barreto, 2020), which informed the scenario used in the current study.

**Measures.** Negative emotional reactions and hate behaviors were assessed in this pilot. We later added measures of xenophobia and negative beliefs about Asians in the main study.

**Emotional Reactions.** Prejudice was operationalized by the assessment of participants’ hostile emotions (Tapias et al., 2007). Two subscales of the Positive and Negative Affect Schedule Expanded Form were used to measure hostility and sadness (Watson & Clark, 1994). Hostility was measured using six items (e.g., angry, hostile). Sadness, a distractor measure, was appraised on five items (e.g., sad, blue). Six items from Marteau and Bekker’s (1992) State-Trait Anxiety Inventory were used to measure anxiety (e.g., tense, worried). All items were assessed on a scale from 1 (very slightly or not at all) to 5 (extremely). Participants were told, “Indicate to what extent you feel this emotion right now as a result of reading the news story.”

**Hate Perceptions.** Discrimination was operationalized as the unfair treatment of certain groups (APA, 2019), which includes hate incidents and crimes. Hate incidents are expressions of hate that are not illegal (e.g., shunning), whereas hate crimes are illegal (e.g., assault; DOJ, n.d.). We examined the endorsement of discrimination. Seven hate expressions were chosen from incidents and crimes reported by statistics (Borja et al., n.d.) and news reports (Melendez, 2020). Hate crimes included spitting, shoving, punching, and knifing, whereas hate incidents included shunning, refusal of service, and verbal harassment (DOJ, n.d.). Participants were asked how appropriate and serious these expressions of hate would be if perpetrated against the employee on a scale from 1 (extremely inappropriate / not at all serious) to 7 (extremely appropriate / very serious), respectively. From these ratings, we created four composite variables: hate incident and crime appropriateness and hate incident and crime seriousness.

**Procedure.** Prolific participants completed this pilot via Qualtrics. Participants were first tasked with reading the news story. Next, they reported their emotional reactions to the news story and rated the appropriateness and seriousness of the hate incidents and crimes. There was no photo of the employee, nor information about the employee’s race. Lastly, participants provided demographic information and were compensated $2.38 for completing the pilot study.

**Results.** The results indicated that participants’ emotional reactions hostility ($M = 2.64, SD = 0.96$) and anxiety ($M = 2.37, SD = 0.92$) did not notably deviate from the midpoint (3) on the 5-point scale. The same was the case for hate incident appropriateness ($M = 3.19, SD = 1.45$) and seriousness ($M = 3.33, SD = 1.46$), as well as hate crime appropriateness ($M = 2.70, SD = 1.26$) and seriousness ($M = 4.75, SD = 1.17$),
as they did not deviate notably from the midpoint (4) on a 7-point scale. Thus, there was no evidence of floor or ceiling effects.

**Main Study**

**Design.** The study utilized a three-cell between-subjects design: White vs. Low CP vs. High CP.

**Participants.** Prior research indicated a medium-sized effect \( (f^2 = 0.23) \) of Asian phenotypicality on prejudice (Wilkins et al., 2011). To estimate power for this effect, we selected the ANOVA option in G*power, which revealed a sample size of approximately 186 participants to power a main effects model with three groups at 80% power and an alpha level of 0.05 (Faul et al., 2007). Two-hundred and seventy-two U.S. participants were recruited and paid $3.17 through Prolific. Sixty-four participants were excluded for failing manipulation check questions (e.g., “What was the race of the restaurant employee?”); Final N = 208, which exceeded the power estimate.\(^3\)

The final sample included 103 females, 96 males, and 9 non-binary individuals who ranged from 18 to 90 years old \( (M = 32.95, SD = 12.08) \), 69.71% of which identified as White/European, 10.58% as Asian, 9.13% as African American/Black, 5.77% as Hispanic/Latinx, 0.96% as American Indian/Alaska Native, 2.4% as Multiracial, and 1.44% as another unlisted race. On average, the participants reported being left leaning \( (M = 2.96, SD = 1.79) \) and reported a median household income of $50,000 to $59,999.

**Materials.** **News Story Vignette.** The piloted mock news story vignette was used in the current study.

**Photo Manipulation.** A photo of the employee, who was either low/high CP or White (selected from pilot testing) was embedded within the news story.\(^4\)

**Measures**

**Preliminary Measures.** **Bot, Attention, and Manipulation Checks.** ReCAPTCHA, a bot detection software, was used to preclude bots from taking the survey. Attention check questions (e.g., “…people paying attention…chose option 3…” ) were embedded in the survey to prevent random responses. The manipulation check questions asked participants to recall the race and gender of the restaurant employee. For the Asian female conditions (high and low CP), 48 participants were excluded for misidentifying the employee’s gender, race, or both, whereas for the White female (control) condition, 16 participants were excluded for misidentifying the employee’s gender, race, or both. We recruited additional replacement participants so that the final sample size was relatively equal across the White (control; \( n = 71 \)), Low CP (\( n = 67 \)), and High CP (\( n = 70 \)) conditions.

**Social Desirability.** Greenberg and Weiss’ (2012) social desirability scale (\( \alpha = 0.79 \)) was used to control for socially desirable responses. The scale contained 13
statements (e.g., “...willing to admit it when I make a mistake”), in which participants indicated if each statement was true or false. Higher endorsement indicates more socially desirable responses.

**Demand Characteristics.** Demand characteristics refer to a participant’s beliefs about a researcher’s hypothesis and how they may unduly influence survey responses. To control for these beliefs, participants completed the 4-item (α = 0.94) Perceived Awareness of the Research Hypothesis Scale (Rubin, 2016). Each item (e.g., “I knew what the researchers were investigating...”) was rated on a scale from 1 (strongly disagree) to 7 (strongly agree). Higher scores indicate greater demand characteristics in participants.

**Outcome Measures. Emotional Reactions.** As in the pilot study, hostility (α = 0.93), sadness (a distractor; α = 0.77), and anxiety (α = 0.81) were measured.

**Hate Perceptions.** As in the pilot study, hate incident (α = 0.76) and crime (α = 0.79) appropriateness, and hate incident (α = 0.77) and crime (α = 0.75) seriousness were measured.

**Moderator Measures. Negative Beliefs About Asian Americans.** The Anti-Asian American Stereotypes scale (α = 0.93) was used to measure participants’ stereotype content of Asian Americans (Lin et al., 2005). The scale items were organized based on two factors: competence (including 12 items; e.g., “Working all the time”) and unsociability (including 13 items; e.g., “Not very vocal”). The themes were appraised on a 1 (strongly disagree) to 7 (strongly agree) scale. Higher scores indicate stronger perceptions of Asian Americans as more competent and less sociable.

**Xenophobia.** Reny and Barreto’s (2020) 6-item xenophobia scale (α = 0.92) was used to assess fear of immigrants (e.g., “I am afraid that our own culture will be lost with an increase in immigration”). The scale ranged from 1 (strongly disagree) to 7 (strongly agree), with higher numbers indicating more adherence to xenophobic beliefs.

**Political Orientation.** A single-item measure, used in previous studies (e.g., Michalski & Nunez, 2022), identified participants’ position on a political spectrum ranging from 1 (extremely liberal) to 7 (extremely conservative). Higher scores indicated greater conservatism.

**Income.** Household income was appraised on a single-item, 12-point scale ranging from 1 (less than $10,000) to 12 ($150,000 or more). A point increase in the scale represented a $10,000 interval increase in income (e.g., 2 = $10,000 to $19,999; 3 = $20,000 to $29,999).

**Procedure**

Survey materials were disseminated via Qualtrics. After consent, participants read a presumably real news article about a situation involving a restaurant employee who allegedly spread COVID-19 to others at work. The news article contained a photograph of either a White (control), High CP, or Low CP employee, which varied by condition. After reading
the news article, participants completed measures assessing their emotional reactions (e.g., hostility) to the story and their perceived appropriateness and seriousness of hate incidents (e.g., shunning) and crimes against the employee (e.g., punching). Next, participants were randomly presented with measures of negative beliefs about Asian Americans and xenophobia. Thereafter, participants completed measures of social desirability and demand characteristics, as well as manipulation checks. Lastly, participants provided demographic information (including political orientation and income) and were compensated $3.17.

**Analytic Approach**

Using R for our primary analyses, we tested for the interactions between CP and the hypothesized moderators on hostility, anxiety, and perceptions of hate incidents through multiple linear regressions. We also tested for the interactions between CP and the hypothesized moderators on the binary outcomes, perceptions of hate crime appropriateness and seriousness, through binary logistic regressions. Significant interactions were probed using simple slopes and Johnson-Neyman intervals when necessary.5

**Data Preparation and Screening**

Perceptions of hate crime appropriateness and seriousness had severe positive and negative skews, respectively. Most participants acknowledged that hate crimes were extremely inappropriate and very serious. We attempted to fix the skews using Box-Cox transformations, but these variables were incorrigible. As a result, we dichotomized these outcome variables such that 1 = not extremely inappropriate or not very serious (i.e., any value on the Likert scale that was not 1 [extremely inappropriate] or 7 [very serious]) and 0 = extremely inappropriate or very serious. We removed 1 outlier from a participant who scored high on xenophobia (> 1.5 interquartile range). All other statistical assumptions were satisfied. Lastly, there were two missing data points from the same participant (one from anxiousness and one from social desirability). They were handled through casewise deletion in analyses.

We controlled for the potential effects of social desirability and demand characteristics by incorporating them as covariates in all statistical models. CP was coded so that 0 = White employee, 1 = Low CP employee, and 2 = High CP employee. For all simple slopes analyses, high scores were +1 SD, and low scores were −1 SD, with the moderator variables centered at 0. In situations where + or −1 SD of the moderator did not detect where the effect was significant, we used the Johnson-Neyman interval, in which the moderator was not centered at 0.

**Results**

**Primary Analyses**

There were no main effects of CP on prejudice (hostility and anxiety) or endorsement of discrimination (perceptions of hate incidents and crimes) in models with and
without the hypothesized moderators (see Tables 1–3). Therefore, we focused on reporting results of the hypothesized interactions, below.6

Prejudice. Prejudice was operationalized as negative emotional reactions (i.e., hostility and anxiety). We hypothesized that hostility and anxiety would be higher in the High CP than White (control) condition, with perceptions of the Low CP employee falling in between (High CP > Low CP > White). In addition, low income, high xenophobia,
Table 2. Unstandardized Coefficients and Standard Errors for Linear Regression Analyses With CP (Chinese Phenotypicality), Moderators, and CP × Moderators Predicting Hate Incident Appropriateness and Seriousness.

| Moderator | All variables | Reference group = White | Reference group = Low |
|-----------|---------------|-------------------------|-----------------------|
|           |               | Versus Low | Versus High | Versus White | Versus High |
|           |               | b | SE | b | SE | b | SE | b | SE |
| Xeno      | CP            | −0.13 | 0.24 | −0.09 | 0.24 | 0.13 | 0.24 | 0.04 | 0.24 |
| Xeno      | −0.17 | 0.13 | − | − | 0.08 | 0.12 | − | − |
| CP * Xeno | 0.24 | 0.18 | 0.35 | 0.18 | −0.24 | 0.18 | 0.11 | 0.18 |
| Neg       | CP            | −0.08 | 0.24 | −0.07 | 0.24 | 0.08 | 0.24 | 0.01 | 0.24 |
| Neg       | −0.23 | 0.20 | − | − | −0.15 | 0.20 | − | − |
| Neg * CP  | 0.08 | 0.28 | 0.18 | 0.27 | −0.08 | 0.28 | 0.10 | 0.28 |
| Income    | CP            | −0.08 | 0.24 | −0.02 | 0.24 | 0.08 | 0.24 | 0.06 | 0.24 |
| Income    | −0.05 | 0.05 | − | − | 0.03 | 0.05 | − | − |
| Income * CP | 0.07 | 0.07 | −0.09 | 0.07 | −0.07 | 0.07 | −0.17 | 0.07 |
| Conserv   | CP            | −0.06 | 0.24 | −0.06 | 0.24 | 0.06 | 0.24 | 0.001 | 0.24 |
| Conserv   | −0.19 | 0.09 | − | − | −0.04 | 0.09 | − | − |
| Conserv * CP | 0.15 | 0.13 | 0.19 | 0.13 | −0.15 | 0.13 | 0.05 | 0.13 |

| Moderator | All variables | Reference group = White | Reference group = Low |
|-----------|---------------|-------------------------|-----------------------|
|           |               | Versus Low | Versus High | Versus White | Versus High |
|           |               | b | SE | b | SE | b | SE | b | SE |
| Xeno      | CP            | 0.05 | 0.25 | 0.32 | 0.25 | −0.05 | 0.25 | 0.26 | 0.25 |
| Xeno      | 0.28 | 0.14 | − | − | −0.04 | 0.13 | − | − |
| CP * Xeno | −0.32 | 0.19 | −0.28 | 0.19 | 0.32 | 0.19 | 0.04 | 0.18 |
| Neg       | CP            | 0.02 | 0.25 | 0.29 | 0.25 | −0.02 | 0.25 | 0.27 | 0.25 |
| Neg       | 0.33 | 0.20 | − | − | 0.23 | 0.21 | − | − |
| Neg * CP  | −0.10 | 0.29 | −0.16 | 0.28 | 0.10 | 0.29 | −0.07 | 0.29 |
| Income    | CP            | −0.01 | 0.24 | 0.26 | 0.24 | 0.01 | 0.24 | 0.27 | 0.25 |
| Income    | 0.13 | 0.05 | − | − | −0.08 | 0.05 | − | − |
| Income * CP | −0.21 | 0.07 | −0.04 | 0.07 | 0.21 | 0.07 | 0.17 | 0.07 |
| Conserv   | CP            | −0.02 | 0.25 | 0.26 | 0.25 | 0.02 | 0.25 | 0.28 | 0.25 |
| Conserv   | 0.23 | 0.10 | − | − | 0.10 | 0.10 | − | − |
| Conserv * CP | −0.13 | 0.14 | 0.31 | 0.14 | 0.13 | 0.14 | −0.18 | 0.14 |

Note. Statistically significant predictors \((p < .05)\) are bolded.
xeno = xenophobia; neg = negative beliefs about Asians; income = participant’s income; conserv = conservatism.
Table 3. Unstandardized Coefficients and Standard Errors for Logistic Regression Analyses With CP (Chinese Phenotypicality), Moderators, and CP x Moderators Predicting Hate Crime Seriousness and Appropriateness (Dichotomous Outcomes).

| Moderator | All variables | Hate crime seriousness |             |             | Hate crime appropriateness |             |             |
|-----------|---------------|------------------------|-------------|-------------|----------------------------|-------------|-------------|
|           |               | Reference group = White| Versus Low  | Versus High  | Reference group = Low      | Versus White| Versus High  |
|           |               |                        | b           | SE          |                             | b           | SE          |
| Xeno      | CP            | 0.04                   | 0.38        | 0.25        | 0.39                       | -0.04       | 0.38        |
| Xeno      |               | -0.34                  | 0.21        |             |                             | 0.15        | 0.20        |
|           | CP x Xeno     | 0.49                   | 0.29        | 0.57        | 0.31                       | 0.08        | 0.31        |
| Neg       | CP            | 0.12                   | 0.38        | 0.26        | 0.38                       | -0.12       | 0.38        |
| Neg       |               | -0.55                  | 0.33        |             |                             | -0.40       | 0.35        |
|           | Neg x CP      | 0.15                   | 0.48        | 0.53        | 0.45                       | -0.15       | 0.48        |
| Income    | CP            | 0.18                   | 0.39        | 0.25        | 0.38                       | -0.18       | 0.39        |
| Income    |               | -0.01                  | 0.08        |             |                             | 0.09        | 0.08        |
|           | Income x CP   | 0.11                   | 0.12        | 0.08        | 0.12                       | -0.11       | 0.12        |
| Conserv   | CP            | 0.17                   | 0.40        | 0.27        | 0.39                       | -0.17       | 0.40        |
| Conserv   |               | -0.38                  | 0.15        |             |                             | -0.19       | 0.15        |
|           | Conserv x CP  | 0.19                   | 0.21        |             |                             | -0.19       | 0.21        |

Note. Statistically significant predictors ($p < .05$) are bolded.

xeno = xenophobia; neg = negative beliefs about Asians; income = participant’s income; conserv = conservatism.
negative anti-Asian beliefs, and conservatism were hypothesized to exacerbate this relationship. There was partial support for our hypothesized interactions (see Table 1).

**Hostility.** Partially consistent with our hypotheses, there was a significant interaction between CP (specifically High CP versus White [reference group]) and xenophobia and negative beliefs about Asian Americans. Interactions with income and political orientation were not significant. Despite the interaction, there was no significant effect of the High CP (versus White) employee condition on feelings of hostility at low, average, and high levels of xenophobia (see Table 4). As a result, we calculated a Johnson-Neyman interval, which indicated that the High CP versus White employee condition had a significant effect ($\alpha = 0.05$) on feelings of hostility for people who scored outside of $-0.81$ to 5.19 on xenophobia. Specifically, those who scored higher than 5.19 on the xenophobia scale felt higher levels of hostility viewing the High CP photo. In addition, the High CP (versus White) employee significantly provoked feelings of hostility for participants who held stronger negative beliefs about Asian Americans (+1 SD), but not for participants who held average or weaker (−1 SD) negative beliefs (see Table 4). Lastly, contrary to hypotheses, there were no significant interactions between the Low CP versus White contrast and hypothesized moderators.

Partially in line with our hypothesis, there was a significant interaction between CP (High versus Low CP [reference group]) and negative beliefs about Asian Americans. Exposure to the High CP employee aroused marginally significant feelings of hostility for individuals who held strong negative beliefs about Asian Americans, but not for those with average or weak negative beliefs (see Table 4). However, the Johnson-Neyman interval indicated that the High (versus Low) CP condition had a significant effect ($\alpha = 0.05$) on feelings of hostility for people who scored outside 1.24 to 5.76 on the stereotype content scale. Thus, those who scored higher than 5.76 on the negative beliefs felt higher levels of hostility as a result of seeing the High CP employee.

**Anxiety.** Mostly in support of our hypotheses, there were significant interactions between CP (specifically High CP versus White [reference group]) and xenophobia, negative beliefs about Asian Americans, and political orientation. The interaction with income was not significant. The High (versus White) CP condition elicited more anxiety when participants were highly xenophobic, held negative beliefs about Asian Americans, and were conservative—but not in individuals who were average or low in xenophobia, negative beliefs, or conservatism (see Table 4). Inconsistent with our predictions, the Low CP versus White [reference group] contrast did not have significant interactions with any of the hypothesized moderators.

Partly in line with our predictions, there were significant interactions between CP (specifically High versus Low CP [reference group]) and negative beliefs about Asian Americans and political orientation. Interactions with income and xenophobia were not significant. Exposure to the High CP employee elicited anxiety in participants with high levels of negative beliefs and conservative leanings. Participants in the High CP employee condition also reported low feelings of anxiety when they held low
Table 4. Simple Slopes for the Interactive Effect of High CP (Chinese Phenotypicality) × Moderators on Hostility (a), Anxiety (b), Hate Incident Appropriateness (c), and Hate Incident Seriousness (d).

| Hostility                  | Interaction model | b   | SE  | B   | SE  | b   | SE  |
|----------------------------|-------------------|-----|-----|-----|-----|-----|-----|
|                            |                   | −1 SD Mean (0) + 1 SD |
|                            |                   | b    | SE  | b    | SE  |
| White as the reference group| High CP * xeno    | −0.39 | 0.26 | 0.03 | 0.19 | 0.44 | 0.28 |
|                            | High CP * neg     | −0.47 | 0.26 | 0.04 | 0.19 | 0.56 | 0.26 |
| Low as the reference group | High CP * neg     | −0.41 | 0.27 | 0.05 | 0.19 | 0.51 | 0.26 |

| Anxiety                    | Interaction model | b   | SE  | b   | SE  | b   | SE  |
|----------------------------|-------------------|-----|-----|-----|-----|-----|-----|
|                            |                   | −1 SD Mean (0) + 1 SD |
|                            |                   | b    | SE  | b    | SE  |
| White as the reference group| High CP * xeno    | −0.16 | 0.20 | 0.25 | 0.14 | 0.65 | 0.21 |
|                            | High CP * neg     | −0.27 | 0.19 | 0.24 | 0.14 | 0.75 | 0.20 |
|                            | High CP * conserv | −0.11 | 0.19 | 0.26 | 0.14 | 0.62 | 0.21 |
| Low as the reference group | High CP * neg     | −0.43 | 0.20 | 0.10 | 0.14 | 0.62 | 0.20 |
|                            | High CP * conserv | −0.35 | 0.21 | 0.07 | 0.14 | 0.49 | 0.20 |

| Hate incident appropriateness | Interaction model | b   | SE  | b   | SE  | b   | SE  |
|--------------------------------|-------------------|-----|-----|-----|-----|-----|-----|
|                                |                   | −1 SD Mean (0) + 1 SD |
|                                |                   | b    | SE  | b    | SE  |
| Low as the reference group     | High CP * income  | 0.67 | 0.34 | 0.16 | 0.24 | −0.67 | 0.38 |

| Hate incident seriousness      | Interaction model | b   | SE  | b   | SE  | b   | SE  |
|--------------------------------|-------------------|-----|-----|-----|-----|-----|-----|
|                                |                   | −1 SD Mean (0) + 1 SD |
|                                |                   | b    | SE  | b    | SE  |
| White as the reference group   | Low CP * income   | 0.71 | 0.34 | −0.01 | 0.24 | −0.73 | 0.36 |
| Low as the reference group     | High CP * income  | −0.31 | 0.34 | 0.27 | 0.25 | 0.85  | 0.34 |

Note. Statistically significant (p < .05) simple slopes are bolded. xeno = xenophobia; neg = negative beliefs about Asians; conserv = conservatism; income = household income. Any moderated effects not detected using simple slopes were further probed using the Johnson-Neyman Technique.
negative beliefs, but not in those with average levels of negative beliefs, or average or low levels of conservatism (see Table 4).

**Endorsement of discrimination.** Endorsement of discrimination was defined as the perceived appropriateness and seriousness of hate incidents (not illegal) and crimes (illegal) committed against the employee. We hypothesized participants would perceive hate incidents and crimes as less serious (High < Low CP) and more appropriate (High > Low CP) when perpetrated against the High than Low CP employee, and less serious (Low CP < White) and more appropriate (Low CP > White) for the Low CP than White employee. Moreover, we predicted that low income, high xenophobia, negative beliefs of Asian Americans, and conservatism would exacerbate this relationship. There was some support for our predictions. Recall, appropriateness (0 = extremely inappropriate, 1 = not extremely inappropriate) and seriousness (0 = very serious; 1 = not very serious) were dichotomized.

**Hate Incident Appropriateness.** Divergent from our predictions, there were no significant interactions between CP (specifically High or Low CP versus White [reference group]) and the hypothesized moderators.

In line with predictions, there was a significant interaction between CP (specifically High versus Low CP [reference group]) and income, but the interactions with negative beliefs about Asian Americans, xenophobia, and political orientation were not significant. Despite the interaction, High CP had no impact on participants’ perceived appropriateness of hate incidents for high, low, and average income (see Table 4). However, a Johnson-Neyman interval indicated a significant effect of High CP on the perceived appropriateness of hate incidents for those who scored outside 2.99 to 12.19 on the income scale: participants with lower income (i.e., < 2.99) were more willing to say that the hate incident was appropriate against the High CP employee.

**Hate Incident Seriousness.** There was a significant interaction between CP (specifically Low CP versus White [reference group]) and income, but the interactions with negative beliefs about Asian Americans, political orientation, and xenophobia were not significant. However, inconsistent with predictions, the interaction revealed that participants with a low income believed that the hate incidents were more serious when it was committed against the Low CP employee. Also unexpectedly, participants with high income believed that hate incidents were less serious when it was committed against the Low CP employee. At average income, participants did not believe that hate incidents were less serious when committed against the Low CP employee (see Table 4). Finally, divergent with predictions, the High CP versus White contrast did not have any significant interactions with the hypothesized moderators.

There was a significant interaction between CP (specifically High versus Low CP [reference group]) and income, but interactions with xenophobia, negative beliefs, and political orientation were not significant. Participants with high income were more willing to say that the hate incidents against the High (versus Low) CP employee were serious. Participants with average and low income were not more willing to say the hate incident was serious.
Hate Crime Appropriateness. In line with hypotheses, there was a significant interaction between CP (specifically Low CP versus White) and xenophobia, but interactions with income, negative beliefs about Asian Americans, and political orientation were not significant. As participants’ xenophobia increased, they were 75% more likely to believe that hate crimes against Low CP employee were not extremely inappropriate, \( b = 0.55, SE = 0.27, z = 2.00, p = .04, \exp(\beta) = 1.73, 95\% \text{ CI}_{\exp(\beta)} [1.02, 2.99] \). Contrary to hypotheses, there was no interaction between the High CP versus White contrast and the hypothesized moderators. Incompatible with our predictions, there were no significant interactions with the High versus Low CP contrast and the hypothesized moderators.

Hate Crime Seriousness. In line with our hypothesis, there was a significant interaction between CP (specifically High CP versus White) and political orientation, but interactions with income, xenophobia, and negative beliefs about Asian Americans were not significant. As participants’ conservatism increased, they were 59% more likely to say that hate crimes were not very serious, \( b = 0.46, SE = .22, z = 2.08, p = .04, \exp(\beta) = 1.59, 95\% \text{ CI}_{\exp(\beta)} [1.04, 2.51] \). Inconsistent with our hypothesis, there were no significant interactions with the Low CP versus White contrast and the hypothesized moderators. Finally, in disagreement with our predictions, there were no significant interactions with CP (specifically High CP versus Low CP) and the hypothesized moderators.7

Exploratory Analyses

Finally, we analyzed whether participant race, sex, and age would moderate the effects of CP across our outcomes of interest. Given that we did not make any a priori hypotheses about these analyses, we deemed them to be exploratory.

Whether participants identified as Asian did not significantly impact any of the outcomes. However, White participants expressed less anxiety towards the White employee versus the Low CP employee, \( b = -0.81, SE = 0.33, t = 2.46, p = .01 \), and perceived the hate incidents as more appropriate against the High CP employee compared to the White employee, \( b = 1.32, SE = 0.50, t = 2.67, p = .008 \).

Regarding sex, male (versus female) participants expressed greater hostility after seeing the High CP employee in comparison to the White employee, \( b = 0.68, SE = 0.29, t = 2.37, p = .02 \).

Participant age was positively related to anxiety for those viewing the High CP employee compared to the White employee, \( b = 0.59, SE = 0.20, t = 2.84, p = .005 \).8

Discussion

The purpose of the present study was to understand the nuances of hate expression against Asian Americans during the pandemic. Overall, CP influenced participants’ prejudice and endorsement of discrimination towards the Asian employee, but only for those with certain attributes. The relationship between CP and prejudice was largely dependent on negative beliefs about Asian Americans. Those with more
negative beliefs expressed greater levels of hostility and anxiety toward the High CP compared to either the Low CP or White employees. Xenophobia and conservativism were also predictive of prejudice against the High CP employee, but not in every context; those reporting higher levels of xenophobia expressed more hostility and anxiety only for the High CP versus White (but not Low CP) employee comparison. Further, conservative participants expressed anxiety, but not hostility, for the High CP versus Low CP or White employee comparison. This suggests that negative beliefs about Asian Americans are predictive of prejudice across contexts, whereas the effects of xenophobia on feelings of hostility and anxiety are specific to the High CP versus White comparison. Additionally, conservatives may feel anxious (but not hostile) when they encounter High (versus White and Low) CP individuals, suggesting that fear is the main driver of their prejudice.

Income had the most reliable effect on hate incident endorsement. In line with Scapegoat Theory, low-income participants perceived hate incidents against the High CP (versus White CP) employee to be more appropriate. However, high-income individuals were inclined to see hate incidents as more serious against the High (versus Low) CP employee and less serious against the Low CP (versus White) employee. Scapegoat Theory does not account for the behaviors shown by high-income individuals (Glick, 2005). Thus, it is unclear why high-income people show more compassion for High than Low CP people. It could be an anomaly in the data.

Finally, xenophobia and conservatism played key roles in perceptions of hate crime appropriateness and seriousness. Those high in xenophobia were more likely to say that hate crimes against the Low CP versus White employee were not extremely inappropriate, and those identifying as more conservative were more likely to say that hate crimes against the High CP versus White employee were not very serious. Given few people were willing to endorse hate crimes as indicated by the skew in these distributions, this study identifies the characteristics of the few who are more willing to say hate crimes are not completely serious or inappropriate.

Theoretical Implications

There has been a dearth of research on how phenotypicality influences prejudice and discrimination toward Asian Americans. The few existing studies on this topic have focused on physical attraction toward Asian Americans (e.g., Thai et al., 2020; Wilkins et al., 2011). The current study builds on this literature by exploring how the appearance of Asian Americans (specifically CP) could evoke negative emotional reactions and support for discrimination, especially within the context of an ongoing pandemic. Further, past studies on phenotypicality have only examined Asians and other racial groups (e.g., Latinos) as a monolith. The fact that certain Asian photographs were rated as more Chinese than others, and that there were significant differences in the outcomes based on these distinctions, implies that individuals’ perceptions of Asian phenotypicality may be nuanced. Future research should examine the impact of perceived variations in phenotypicality on prejudice against particular ethnic groups.
Furthermore, the results suggest that the negative effects of CP are related, in part, to xenophobia, negative beliefs about Asian Americans, low income, and conservative orientations. These findings support a number of existing theories and research on various individual characteristics that may be associated with those who harm the Asian American population. First, the moderating role of xenophobia on the effect of CP on anxiety and hostility provides further evidence for the notion that some people still see Asians as “perpetual foreigners” who are to be feared (Tessler et al., 2020). Second, the moderating role of anti-Asian beliefs on the effect of CP on hostility and anxiety bolsters the theory that people react negatively to groups who are perceived to be high in competence and low in warmth during times of hardship (Glick, 2005). By this logic, lower-income individuals, who struggle more than others during economic hardship, may show greater approval of scapegoating in the form of hate-related incidents. Finally, although conservatives may claim that their blame of China (e.g., “China Virus”) is not fueled by negative sentiment towards Asians Americans, the moderating role of conservatism on the effect of CP on anxiety implicates that these terms may be driven by fear-based prejudice, which could lead to further violence and hate crimes (Gover et al., 2020).

Societal Implications

In May 2021, the COVID-19 Hate Crimes Act was passed. This law was intended to increase community resources to facilitate the reporting of hate crimes and provide grants to fund state programs dedicated to responding to hate crimes (Sprunt, 2021). Despite this law coming to pass, hate crimes continue to be committed against Asian Americans (Yellow Horse et al., 2021). Thus, more needs to be done to reduce expressions of hate, hate incidents, and hate crimes.

The present findings imply that those who are xenophobic, hold negative beliefs against Asian Americans, and conservative are more likely to hold hostile and anxious feelings towards High CP Asian individuals. At an institutional level, politicians have contributed to the anti-Chinese anxiety by using phrases like “China virus” (Gover et al., 2020). To reduce prejudice and xenophobic sentiment, the WHO (2015) suggests that the names of viruses should not be referred to specific cultures or regions. Moreover, research suggests that xenophobia could be reduced if Asian Americans are labeled as victims rather than threats (De Poli et al., 2017). Therefore, public figures should frame Asian Americans as victims of hate crimes rather than causes of disease, call the virus by its proper name (COVID-19), and publicly recognize that Asian Americans have been victimized. Perhaps by acknowledging that Asian Americans have been victimized, hate crimes will be perceived as more serious and inappropriate. This may increase prosecution and hate crime reporting from the Asian community, both rates which are low to begin with (Lynch, 2021; Zhang et al., 2021).

In the current study, low-income individuals were more likely to believe that hate incidents were appropriate for the High CP employee. One explanation for this effect is the Scapegoat Theory (Glick, 2005): hardship triggers support for the victimization of successful outsiders (i.e., low warmth and high competence). If this is the case, it
may be beneficial to assist those who are financially struggling during the pandemic. Government programs like the CARES Act, which provides economic assistance for the needy, should help relieve financial burden. Relieving financial burden would not necessarily eliminate prejudice but could mitigate hardship, which in turn, might reduce the expression of prejudice (e.g., aggression). Justification-Suppression Theory posits people are more likely to express prejudice if they have justifications for doing so (Crandall & Eshleman, 2003). Some people may be frustrated by pandemic-related financial hardship and associate their burden with Asians who, in their minds, caused the pandemic. Economic assistance could help alleviate financial frustrations, and thereby, reduce financially driven hateful acts targeted at Asian Americans.

**Limitations**

The current study is not without limitations. The specific scenario of a restaurant employee spreading COVID-19 to others may limit the generalizability of our findings. For example, we cannot say for sure what participants would think if the employee spread COVID-19 at a different job, or if they did not know the employee had COVID-19. We also cannot say for sure if the opinions of participants would remain consistent, with less severe variants like Omicron and ever-changing COVID guidelines. Thus, future research should attempt to replicate the CP effect found here across different scenarios.

In the photograph pilot, we sought to obtain photographs that were high and low in CP from a pool of Asian faces. However, pilot participants did not report that any of the photographs looked overwhelmingly Chinese (the highest perceptions ranged from 43% to 46%). The lack of an overwhelming majority could be a product of participants’ inconsistent conceptions of what individuals from different backgrounds look like. Despite this potential limitation, participants in the current study still expressed greater prejudice and endorsed more discrimination for the high CP than the low CP or White employee.

For perceptions of hate crimes, we dichotomized continuous outcomes to fix incorrigible skew. Artificially dichotomizing continuous outcome variables may pose some statistical problems, such as loss of information and incorrect inferences about statistical significance (Iselin et al., 2013). Nonetheless, we believe that the skew itself is informative: It suggests that only a few people are willing to endorse discrimination, despite the substantial spikes in hate.

**Conclusion**

In the present study, we aimed to understand the nuances of hate expressions against Asian Americans during the COVID-19 pandemic. We found that people who were more xenophobic and conservative, and held negative beliefs experienced more hostility and/or anxiety when they encountered Asian targets high in CP. Given that prejudice could be an antecedent for the expression of hate (APA, n.d.), efforts could be focused on reducing bias (e.g., using the correct term for COVID-19) so that these
individuals do not react in a prejudiced manner in encounters with Asian Americans. In addition, due to the roles of income, conservatism, and xenophobia on perceptions of hate crimes and incidents, it would be important to continue to assist people who have been financially struggling during the pandemic and to consider the ramifications of discrimination endorsement on whether hate crimes are prosecuted and reported.

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**Notes**

1. See OSF link for the percentages of participants who perceived each Asian photograph to be Chinese: [https://osf.io/2mh37/?view_only=c62466a8294349dfa5f5322a956a7f91](https://osf.io/2mh37/?view_only=c62466a8294349dfa5f5322a956a7f91).
2. See OSF link for full news story vignette: [https://osf.io/2mh37/?view_only=c62466a8294349dfa5f5322a956a7f91](https://osf.io/2mh37/?view_only=c62466a8294349dfa5f5322a956a7f91).
3. This data was collected from May 27, 2021, to May 30, 2021.
4. Each photo was edited so that the color of the employee’s t-shirt color was black, consistent with a typical restaurant employee’s uniform. See OSF link for access to photos: [https://osf.io/2mh37/?view_only=c62466a8294349dfa5f5322a956a7f91](https://osf.io/2mh37/?view_only=c62466a8294349dfa5f5322a956a7f91).
5. The Johnson-Neyman technique, like simple slopes, indicates at what value a moderator and predictor interact to significantly influence an outcome. However, instead of specifying an arbitrary value for the moderator (i.e., + or − 1 SD), the Johnson-Neyman interval indicates the precise value of the moderator at which the predictor becomes significant. Thus, when an arbitrarily chosen point on the moderator fails to reveal where the predictor is significant (i.e., simple slopes), a Johnson-Neyman interval can be utilized.
6. See OSF link for detailed statistics on main effects without the hypothesized moderators and interaction plots: [https://osf.io/2mh37/?view_only=c62466a8294349dfa5f5322a956a7f91](https://osf.io/2mh37/?view_only=c62466a8294349dfa5f5322a956a7f91).
7. We also examined the interaction between CP and the hypothesized moderators on perceptions of employee blame for spreading COVID-19 and the appropriateness of firing the employee. The interactions were not predictive of these outcomes. See OSF link for detailed statistics: [https://osf.io/2mh37/?view_only=c62466a8294349dfa5f5322a956a7f91](https://osf.io/2mh37/?view_only=c62466a8294349dfa5f5322a956a7f91).
8. See OSF link for statistics on main effect and interaction terms: [https://osf.io/2mh37/?view_only=c62466a8294349dfa5f5322a956a7f91](https://osf.io/2mh37/?view_only=c62466a8294349dfa5f5322a956a7f91).
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