The Dilemma of Mask-Wearing: Association Between Mask-Wearing Adherence, Discrimination, and Anxiety in Asian Americans During the Early Stages of COVID-19

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Abstract

Mask-wearing effectively reduced the spread of COVID-19; however, it paradoxically amplifies the risks of COVID-19-related harassment among Asian Americans. This study explored mask-wearing adherence, COVID-19-related discrimination, and mental health among Asian Americans and analyzed 5, 056 Asian respondents. Our findings indicated that mask-wearing was associated with a) COVID-19-related discrimination and b) an elevated risk of COVID-19-related anxiety. These findings highlight the need for culturally sensitive counseling interventions and targeted mental health policies.

Keywords: mask wearing, discrimination, anxiety, Asian Americans, COVID-19 pandemic

The coronavirus disease (COVID-19) significantly affected the longevity and well-being of the population of the United States (US; Mueller et al., 2021). Amidst the backdrop of the COVID-19 pandemic, a concerning surge in incidents of discrimination and hatred targeted at

Asians and individuals of Chinese descent has been observed (Cheah et al., 2020; Misra et al., 2020).

The repercussions of these incidents have reverberated through the mental health of Asian Americans, casting a shadow over their well-being (Lozano et al., 2022; Misra et al., 2020). Within this complex context, Asian Americans grapple with a nuanced predicament concerning mask-wearing. When masks function as a safeguard against infection, they have inadvertently contributed to an increased vulnerability to potential harassment (Choi, 2021; Ma & Zhan, 2020; Ren & Feagin, 2020). Yet, the intricate interplay between this discrimination and its impact on the relationship between mask-wearing and mental health within a comprehensive framework has not been explored. To address this gap, our study aimed to unravel the complex between mask-wearing, discrimination, and mental health among Asian Americans. Specifically, we examined whether mask-wearing adherence during social activities is linked to COVID-19-associated discrimination (CAD), and the extent to which this relationship contributes to mental health outcomes. In unveiling the far-reaching consequences of mask-wearing on mental health through the lens of discrimination, our research endeavors to fill a void within the current body of literature.

Xenophobia and Discrimination Amidst the COVID-19 Pandemic

The COVID-19 outbreak precipitated an upsurge in xenophobia and discrimination that disproportionately affected Asian Americans (Cheah et al., 2020). Labeling the virus with derogatory terms like the "China plague" attributed blame not only to Chinese Americans but also unfairly encompassed Asians in general (Litam, 2020; Lozano et al., 2022; Tessler et al., 2020; Yu et al., 2023). Alarmingly, data from the Pew Research Center revealed that 40% of Americans witnessed discriminatory acts against Asian Americans since the onset of the pandemic, with about one-third experiencing derogatory behaviors (Ruiz et al., 2020). This pervasive discrimination also hinted at the prevalence of vicarious racism against Asian Americans (Cheah et al., 2020).

In the existing literature, COVID-19-associated discrimination encompasses unadjusted treatment and stigmatization based on the perceived or actual ties to the virus (Ma & Zhan, 2020; Ren & Feagin, 2020). This can take the form of exclusion, verbal abuse, physical harassment, or service denial due to pandemic-related fears, stereotypes, or misunderstanding. Targets may include virus patients, specific regions, ethnicities, healthcare workers, and others affected. The xenophobia hate crimes and discrimination derived from COVID-19 included Asians being stabbed, poured acid, and punched in the face (Lee & Yadav, 2020). According to Lantz and Wenger's survey analysis of 575 Asian Americans, 61.7% of the respondents experienced bias victimization or some Asians they knew were the victims due to xenophobia during COVID-19. Scholars discovered a significant finding between Caucasian and African American respondents regarding the fear of losing culture due to the growth of Asian immigration and jobs taken away by Asian immigrants (Lantz & Wenger, 2023). In a research study by Cheah et al. (2020), 31.7% of the 543 Chinese-American parents and 45.7% of their 230 children reported being tormented by COVID-19 ethnic discrimination. Additionally, 88.5% of the parents and 91.9% of the youth experienced at least one occasion of vicarious COVID-associated racism and discrimination in person. Our study occupies a unique standpoint within this landscape, specifically focusing on Asian Americans in the United States.

Mask-Wearing and Its Unintended Consequences

Amid the COVID-19 pandemic, health authorities recommended preventive measures, including social distancing, hygiene practices, and mask-wearing (Hearne & Niño, 2021). On January 21, 2021, President Joe Biden mandated mask-wearing in Federal buildings (Executive order on promoting COVID-19 safety, 2021). However, there were substantial variations in the prevalence of wearing masks (Hearne & Niño, 2021). Researchers validated over 82 variably attacks against Asian individuals were face mask-wearing related (Ren & Feagin, 2020). Although East Asians had worn face masks for varied reasons even before COVID-19, such as air pollution protection or sun protection (Ma & Zhan, 2020), mask-wearing subsequently became associated with COVID-19 discrimination and violence against Asian immigrants (Liu et al., 2020; Ma & Zhan, 2020). Ren and Feagin (2020) found that Asians with a mask were framed as the source of disease transmission.

Asian Americans' Anxiety and Trauma Associated with Discrimination

A robust finding showed that racial discrimination jeopardized the physical and mental health of people of color (Alvarez et al., 2016; Paradies, 2006). The increase in discrimination against Asian Americans related to COVID-19 can have a detrimental mental health impact (Lozano et al., 2022; Misra, et al., 2020). In a research study on 543 Chinese-American parents and youth, one-fourth of the participants experienced depression and anxiety triggered by Covid-19-related discrimination (Cheah et al., 2020). Taken all together, mask-wearing appeared to affect Asian Americans' discriminatory experience and trigger their mental health issues.

Purpose of the Present Study and Hypotheses

In the present study, we examined the effects of mask-wearing on the mental health of Asian Americans in the context of discrimination. To the best of our knowledge, our study is the first to test this mediation framework during the pandemic. We posed two hypotheses: First, adherence to make-wearing in daily social activities would be related to increased COVID-19-associated discrimination and mental health issues for Asian Americans. Second, adherence to mask-wearing in daily social activities is indirectly linked to mental health problems through COVID-19-associated discrimination among Asian Americans. By exploring the effects of mask-wearing on mental health through discrimination, our study aimed to fill a crucial gap in the existing literature. Our findings are valuable for public health policymakers and mental health practitioners, providing insights into the psychological impacts of the pandemic on Asian Americans.

Theoretical Framework

According to Goffman (2014), stigma is characterized by prejudicial and undesirable social identity, with tribal stigma specifically associated with race and nation. Individuals operate on assumptions and display stigmas through discrimination such as rationalizing the animosity. As a result, stigmatized individuals often feel uneasy in social situations and tend to internalize those stigmatized identities. Goffman's stigma theory offers valuable insights into

comprehending the potential relationship between mask-wearing, COVID-19-associated discrimination, and mental health. Amid the U.S. pandemic, mask-wearing can exacerbate stigmatization, with individuals wearing masks potentially being perceived as "contaminated" or "dangerous" and being viewed as possible virus carriers (Sotgiu & Dobler, 2020). Consequently, this may culminate in discrimination, social avoidance, or even exclusion, triggering emotions of shame, humiliation, and a deterioration in mental health. Building upon Goffman's stigma theory as the theoretical framework, we investigated the relationships between mask-wearing adherence, discrimination, and anxiety along with depression among Asian Americans during the early stage of the pandemic.

Methods

Data and Sample

The parent study protocol gained approval from the University of Southern California Center's Institutional Review Board (IRB). The present study qualified for exemption at the researchers' university due to the use of secondary data without identifiable information. Data access approval was granted by the USC Center. The study employed data from the Understanding American Study (UAS), a comprehensive survey on COVID-19-related attitudes and behaviors obtained through random household selection via the U.S. Postal Service Computerized Delivery Sequence (Kapteyn et al., 2020). Starting April 1, 2020, a new wave of the UAS survey has been filed biweekly. Our study focused on 14 survey waves (Wave 8 to 21) spanning from June 2020 to January 2021, excluding the initial seven waves due to the absence of a key variable in our analysis, specifically the discrimination variable. The final analytical sample included 5,056 Asian American and Asian immigrant respondents who completed surveys after excluding 831 cases with missing covariate information.

Measures

Mask-Wearing Adherence

The study measured the frequency of mask-wearing during different activities. Participants who have engaged in activities such as grocery shopping, outside exercise, close contact with non-household members, gathering with more than 10 people, indoor religious service, etc. were asked how often they wore a mask in each activity (*0* = never, *1* = rarely, *2* = sometimes, *3* = most of the time, *4* = always). We averaged the frequency of mask-wearing across those activities so that higher values indicate greater *mask-wearing adherence*. The number of social activities was controlled in the analysis.

COVID-19-Associated Discrimination

Respondents were asked about the experiences derived from other's prejudice assuming that they had COVID-19 (yes/no), including being treated with less courtesy and respect than others, receiving poorer services at restaurants or stores, identifying people acting as if people were afraid of them, being threatened or harassed. CAD was identified if the respondents had at least one of those experiences.

Mental Health

Mental health was measured using the Patient Health Questionnaire (PHQ-4 with good reliability and validity in clinical and non-clinical samples (Löwe et al., 2010). Internal consistency of the PHQ-4 items in the data was excellent, with Cronbach alpha of 0.91 for overall mental health. PHQ-4 evaluated depression with the following items, "feeling depressed" and "having little interest in doing things"; Cronbach alpha = 0.89) as well as anxiety with the following two items, "feeling anxious" and "not being able to stop worrying" (Cronbach alpha = 0.90; Löwe et al., 2010). For each item, responses ranged from "*0*" (not at all) to "*3*" (nearly every day). We analyzed three outcome measures constructed PHQ-4, whether the respondent reported any *anxiety* (0/1), any *depression* (0/1), and *overall distress severity* based on PHQ-4 total scores of those questions. We modeled overall mental distress that was grouped into *normal* (0-1), *mild* (3-5), *moderate* (6-8), and *severe* (9-12; Kroenke et al., 2009).

Covariates

Additional covariates were comprised of social activities such as grocery shopping, outdoor exercise, going out to a bar or club, the COVID-19 infection status, pre-existing depression symptoms, anxiety before March 10, 2020, the state-level contextual factors, and a mandate face mask (CUSP COVID-19 U.S. State Policy Database). Due to the zero infection status of the COVID-19 dataset, the infection status variable was dropped in analyses. We adjusted the everyday discrimination scale (Williams et al., 1997) that measured the frequency with which respondents experienced unfair treatment because the everyday discrimination scale is expected to address the prospect of positive omitted variable bias, the correlation between everyday discrimination and COVID-19-related discrimination, and its adverse mental health consequence. Finally, sociodemographic characteristics included age, sex, education, income, working status, U.S. citizenship, and immigrant status. The weighted descriptive statistics and measures for all these variables were reported (see Table 1).

Table 1

Weighted Descriptive Statistics of All Variables Included in the Analysis, UAS (*n* = 5,056)

Variables	Mean%	SD
Adherence to mask-wearing (0-4)	2.65	1.09
COVID-19-associated discrimination (0/1)	8.56%	1.92
Mental health		
Anxiety (0/1)	43.77%	
Depression (0/1)	38.51%	
PHQ-4 (depression and anxiety)		
Normal (0-2)	69.38%	
Mild (3-5)	19.51%	
Moderate (6-8)	5.79%	
Severe (9-12)	5.31%	
Everyday discrimination scale (0-4)	0.23	0.6
No. of social activities (1-9)	3.53	1.44
State-level mandates for wearing face masks in public	78.56%	
Anxiety disorder/depression before March10, 2020 (0/1)	15.82%	
Sociodemographic characteristics		
Age		
18-34years old	30.48%	
35-44 years old	23.75%	
45-54 years old	19.10%	
55-64 years old	13.70%	
65+ years old	12.87%	
Gender		
Male (0/1)	53.54%	
Education		
≤high school	15.31%	
Some college	10.17%	
≥ College degree	75.41%	
Household income		
≤ $24,999	16.27%	
$25,000-$49,999	17%	
$50,000-$74,999	18..14%	
≥ $75,000	48.83%	
U.S. citizenship (0/1)	84.00%	
Immigrant status		
Non-immigrant	3.16%	
1st generation immigrant	55.12%	
2nd generation immigrant	34.42%	
3rd generation immigrant	6.93%	
Unknown	0.47%	

Statistical Analyses

We began our analysis with a binary logistic regression where CAD was regressed on the level of adherence to mask-wearing, controlling for sociodemographic characteristics and the everyday discrimination scale (Model 1). Then we expanded the model (Model 2) by including COVID-19-related factors such as infection status, frequency of social activities, and two contextual measures. The subsequent phase of analysis predicted mental health outcomes, estimating two models each for anxiety, depression, and overall mental distress. In Model 1, mask-wearing was the main independent variable, adjusted for other background factors. We

further incorporated CAD into Model 2 to assess its impact. To address non-comparability issues arising from coefficient changes across nested non-linear models, we employed the Karlson-Holm-Breen (KHB) method (Karlson et al., 2012; StataCorp, 2019). This method standardized effects to the same scale, encompassing direct, indirect, and total effects. Our analyses incorporated survey weights to reflect sample selection probabilities and align with sociodemographic characteristics and Census regions. Robust standard errors were clustered to account for non-independence within the same state.

Results

Table 1 presents descriptive statistics for all variables. Among 5,056 Asian Americans, 9% reported CAD experiences. On average, the mean adherence level to mask-wearing was 2.65, with a standard deviation of 1.09. In simpler terms, this indicates that, on average, Asian American participants sometimes wear masks. Additionally, 43.77% of the respondents expressed feelings of anxiety and 38.51% experienced depression for several days or longer in the past two weeks. Based on the categorical PhQ-4 scores, 31% (69.38% normal) of the respondents experienced at least mild mental distress (see Table 1).

Association Between Mask-Wearing and COVID-19 Everyday Discrimination

Multivariate logistic regression was performed to apprehend the association between mask-wearing adherence and COVID-19-associated discrimination in Asian Americans (see Table 2).

Table 2

Logistic Regressions Results Predicting COVID-Associated Discrimination, UAS (N = 5,056)

VARIABLES	Model 1 OR	Model 2 OR
Adherence to mask-wearing	1.349* (1.028-1.770)	1.456* (1.070-1.981)
Everyday discrimination scale	7.625*** (5.553-10.470)	8.402*** (6.033-11.702)
No. of social activities		1.311* (1.059-1.622)
State-level mandates for wearing face masks in public		2.84 (0.796-10.128)
Constant	0.048*** (0.008 - 0.285)	0.004*** (0.000 - 0.051)

Note. Understanding American Study (UAS), Robust 95% confidence intervals are in parentheses.
*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$
All models adjusted for age, gender, working status, citizenship, education, immigration status, household income, and survey waves.

Controlling for everyday discrimination scale, COVID-19-related background factors, sociodemographic characteristics, and Model 1, Model 2 of Table 2 showed an increase of one unit in mask-wearing adherence significantly associated with a 45.6% increase of COVID-19-associated discrimination (*OR* = 1.456, 95% CI [1.070,1.981], *p* < .05) in Model 2 of Table 2. The overall predicted probability of CAD was 1.3% for those who never wore a mask throughout social activities, in contrast to 5.7%, for those who consistently wore a mask (see Figure 1).

Figure 1

Predicted Probability of COVID-19-Associated Discrimination by Mask-Wearing Adherence in Asian Americans
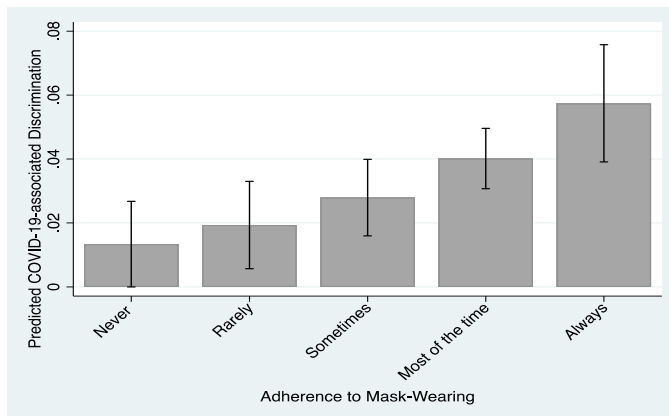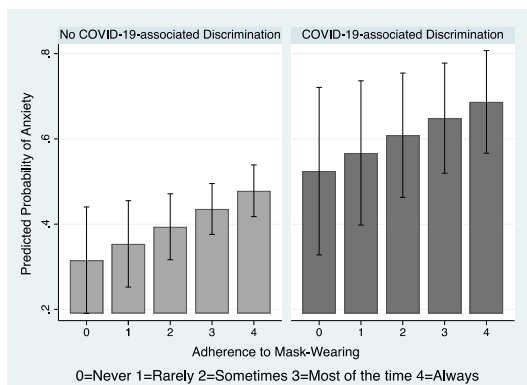

Note. Figure 1 is based on estimates derived from model 2 of Table 3 adjusting for all study covariates.

Mask-Wearing, COVID-19-Related Discrimination, and Mental Health

Table 3 showed logistic regression estimates that evaluate the associations between mask-wearing adherence, perceived COVID-19-associated discrimination, and mental health outcomes, adjusting for other covariates. The final row of Table 3 indicates the extent to which the association between mask-wearing adherence and mental health outcomes was accounted for by CAD in Asian Americans. The first set of columns in Table 3 contained adjusted odds ratios from the logistic regression models of anxiety. As shown in Model 1 of Table 3, the association between mask-wearing adherence and anxiety was significant [$OR = 19.8$, 95% CI [1.027-1.398], $p < 0.05$]. Adding CAD in Model 2 reduced the association between mask-wearing adherence and anxiety by 7.36%. The overall predicted probability of feeling anxious was 43.1%. As shown in Figure 2, the probability of feeling anxious for those who never wore a mask and never encountered any COVID-19 discrimination was 31.5%, while it was much higher, 68.6% for those who wore a mask almost every time and experienced CAD.

Figure 2

Predicted Probability of Anxiety across Adherence to Mask-Wearing and COVID-19-Associated Discrimination in Asian American

Note: Figure 2 is based on estimates derived from model 2 of Table 3 adjusting for all study covariates.

Table 3

Logistic Regressions Results Predicting Anxiety, Depression, and Mental Distress, UAS (N = 5,056)

VARIABLES	Anxiety		Depression		Overall Mental Distress	
	Model 1 OR	Model 2 OR	Model 1 OR	Model 2 OR	Model 1 OR	Model 2 OR
Adherence to mask-wearing	1.198*	1.188*	1.113	1.108	1.107	1.099
	(1.027-1.398)	(1.020-1.383)	(0.953-1.299)	(0.949-1.294)	(0.945-1.297)	(0.938-1.287)
COVID-19-associated discrimination		2.394**		1.406		1.661*
		(1.356-4.224)		(0.784-2.523)		(1.103-2.502)
Everyday discrimination scale	2.385***	1.898***	2.233***	2.035***	1.981***	1.740***
	(1.786-3.183)	(1.329-2.711)	(1.731-2.880)	(1.425-2.905)	(1.655-2.370)	(1.418-2.134)
No. of social activities	1.013	1.008	1.003	1.001	0.959	0.956
	(0.904-1.136)	(0.898-1.131)	(0.905-1.112)	(0.903-1.109)	(0.854-1.078)	(0.851-1.075)
Pre-mental health before March 2020	4.260***	4.329***	4.702***	4.735***	4.451**	4.496**
	(2.175-8.345)	(2.192-8.548)	(2.032-10.882)	(2.037-11.004)	(1.674-11.832)	(1.692-11.945)
State-level No. COVID confirmed cases	0.993	0.992	0.996	0.996	0.988	0.988
	(0.953-1.033)	(0.952-1.034)	(0.952-1.043)	(0.952-1.043)	(0.945-1.033)	(0.945-1.034)
State mask mandates	1.226	1.186	1.394	1.376	1.405	1.386
	(0.607-2.475)	0.585-2.404)	(0.629-3.091)	(0.619-3.058)	(0.775-2.547)	(0.757-2.537)
/cut1			()		0.775	0.761
					(0.085-7.092)	(0.083-6.942)
/cut2					3.908	3.851
					(0.418-36.551)	(0.416-35.634)
Constant	0.615	0.622	1.57	1.581	10.128*	10.010*
	(0.071-5.312)	(0.071-5.439)	(0.134-18.330)	(0.133-18.807)	(1.112-92.239)	(1.109-90.341)
M 2-M1 % ⊿ Adherence to mask-wearing	7.36%*		4.96%		6.74%+	

Note. Understanding American Study (UAS), Robust 95% confidence intervals are in parentheses.

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$

All models adjusted for age, gender, working status, citizenship, education, immigration status, household income, and survey waves.

The second and third sets of columns in Table 3 reported odds ratios from the logistic regression models of depression and ordinal logistic regression models of overall mental distress, respectively. Mask-wearing adherence was not significantly associated with depression. The last set of columns in Table 3 revealed that COVID-19-associated discrimination was related to greater mental distress ($OR = 1.661$, 95% CI [1.103-2.502], $p < .05$), while the positive association between adherence to mask-wearing and overall mental distress failed to reach statistical significance. Our mediational analysis showed that adherence to mask-wearing was indirectly associated with mental distress via CAD. As shown in the final row of Table 3, 7.76% of the association between mask-wearing and mental distress was accounted for by CAD.

Discussion

Our findings revealed that mask-wearing adherence among Asian Americans, at a level of 2.65 (sometimes or more), was relatively lower when considering the cultural norm of mask-wearing among Asians. However, it is worth noting that this adherence rate still exceeds that of the general U.S. population, which stands at 1.92 (rarely; see Table 1). This behavior suggested

that Asian Americans might intentionally forgo mask-wearing to prevent possible CAD. The stigma attached to mask-wearing could prompt stigmatized individuals to distance themselves from their cultural practices and conform to the prevailing norms in the United States (Goffman, 2014; Ma & Zhan, 2020). Internalizing this stigma, Asian Americans might have experienced discomfort wearing masks in public, prompting them to strategically avoid mask-wearing to prevent potential harassment and ensure a sense of security (Choi, 2021; Ma & Zhan, 2020).

The findings suggested that Asian Americans would avoid mask-wearing to prevent possible CAD, which is in line with Goffman's stigma theory. Social stigma would make the stigmatized individuals shy away from their tribal culture and accept the stigmatized identity (Goffman, 2014). Participants may feel compelled to shield the shamed alienation (Goffman, 2014). It appeared that Asian Americans consciously or unconsciously adopted the tribal stigma and felt insecure or uncomfortable wearing masks in public, which may lead them to reduce mask-wearing in an attempt to fit into the mainstream culture (Choi, 2021; Ma & Zhan, 2020).

Regarding mental health, over 40% of respondents reported feelings of anxiety or depression throughout the study period. This validates a positive association between adherence to mask-wearing in daily social activities and mental health problems during the COVID-19 pandemic. Asian Americans tend to put aside their negative perceptions and emotions to conform to social desirability and rate mutual or normal on a Likert scale [Authors, mask for blind review]. However, it is astonishing that 43.77% and 38.51% of the respondents disclosed feeling anxious or depressed during the pandemic, instead of reporting no abnormal symptoms. The results highlighted that Asian American participants experienced heightened anxious feelings and depressive symptoms exacerbated by the pandemic (Lozano et al., 2022), which soared their declaration of experiencing mental distress.

Association Between Mask-Wearing and CAD

The study outcomes established a compelling link between adhering to mask-wearing and experiencing COVID-19-associated discrimination, aligning with prior research (Ma & Zhan, 2020). Plausibly, the heightened visibility of mask-wearing, especially early in the pandemic, unintentionally drew attention to Asians, potentially increasingly discriminatory incidents. This visibility contributed to stigmatization and intensifying discriminatory behaviors (Betsch et al., 2020; Cole, 2020; Ma & Zhan, 2020). Furthermore, pandemic-induced fear and uncertainty could worsen preexisting biases and blame attribution, analogous to past outbreaks such as H1N1 and SARS (Eichelberger, 2007; McCauley et al., 2013). Unfair targeting of Asians might arise due to the virus' association with specific geographic regions or ethnic backgrounds, resulting in discriminatory treatment. Lastly, mask-wearing might foster a sense of "otherness," leading to avoidance or exclusion (Bavel et al., 2020; Fritsche et al., 2017).

Mask-Wearing and Mental Distress

The results indicated a seemingly low report rate of CAD (only 9% of the participants reported experiencing discrimination) but a high report rate of mental distress (40% of the participants reported symptoms of CAD anxiety and depression). The 9% report rate was still higher compared to the overall rates of CAD in the data of 6%. The results suggested that Asian Americans concealed feelings of CAD or underreported CAD. According to Goffman (2014), stigmatized individuals would feel unsure about how others perceive them and shield the

alienation and stigma in social situations. The Asian American participants might be hesitant to report that they were discriminated against by others due to this phenomenon and social desirability. Without concrete evidence, Asian American participants might lack the confidence to state the display of unfairness or prejudice against them. Goffman (2014) noted that individuals would rationalize discrimination and animosity as well as normalize stigma. This could explain the low report rate of CAD and the high report rate of accumulated distress. It is possible that the accumulated suppression of negative emotions has aggregated the participants' symptoms of depression and anxiety and negatively affected their mental distress.

Asian American participants who wear masks and encounter CAD are twice as likely to report anxiety compared to their counterparts who opted not to wear masks and never encounter CAD (68.6% v.s. 31.5%). This suggests that mask-wearing and CAD pose a mental health risk for Asian Americans. This situation is related to public and private selves. Wearing a mask in public creates a discrepancy between one's public identity (mask-wearer) and private identity (self). This dissonance can contribute to stress and anxiety. Furthermore, a mediational analysis revealed that the negative effects of wearing a mask on anxiety levels were partially due to its correlation with CAD. Essentially, while adherence to mask-wearing is acknowledged as effective for preventing physical illness, it paradoxically appears to be linked to a detrimental impact on the mental health of Asian Americans during the pandemic partly due to their discriminatory encounters. Notably, recent studies have also observed similar unintended consequences on mental health resulting from preventive health behaviors across various social and ideological groups (Kwon, 2022; Schnabel & Schieman, 2021).

The relation between mask-wearing and depression as well as anxiety indicated a significant detrimental effect on anxiety, not depression. One possible explanation for this null finding in depression is that there may be a time lag effect in light of the different symptoms of anxiety and depression. Recent research indicated that people tended to experience anxiety and stress in response to feelings of threats and uncertainty about the future in the initial stage of the pandemic, while symptoms of depression may gradually emerge as individuals experienced more severe feelings of grief and loss in later stages of the pandemic (Hollenstein et al., 2021).

Limitations

Several limitations warrant consideration. First, the study focused exclusively on US-born Asian Americans and Asian immigrants, potentially excluding valuable insights from Asian international students and non-permanent Asian residents. These groups might experience a higher level of discrimination partly due to their noticeable Asian heritage (Ma & Zhan, 2020; Yu et al., 2023). Therefore, the findings may not fully represent the experience of these individuals. Another limitation lies in the reliance on self-reported data for the key variables of the study. This reliance introduces the possibility of social desirability bias, where participants may underreport unfavorable social responses (Ryan et al., 2021). It is plausible that such bias influenced participants' responses regarding discriminatory experience, potentially leading to an underestimation of its prevalence and impact. Furthermore, while we can identify associations and patterns, we cannot infer a causal relationship between mask-wearing, discrimination, and mental health. The findings underscore the need for further research to fully comprehend the complex interplay of these factors. Lastly, it is important to note that this study focuses on the early stages of the pandemic. As mask-wearing norms and prevalence may have evolved in later

stages, it becomes crucial to investigate potential shifts in the relationship patterns using more current data.

Implications

By delving into the realm of insecurity and tribal stigma related to the COVID-19 pandemic, counselors can help individuals overcome the insecurity and societal stigma associated with the COVID-19 pandemic. Counselors can encourage Asian Americans to externalize the stigmatized identity and examine how it alters their responses, reactions, and attitudes toward the pandemic. Counselors can use miracle questions to explore how they would respond differently to the pandemic and mask-wearing if they were not Asian Americans. This would help them externalize and defeat stigmatized identity. By exploring how these negative perceptions affect their attitudes and reactions, individuals can learn to cope with pandemic-related stress and anxiety. Specifically, tailored coping strategies can help Asian Americans manage their mental health during public health crises, particularly when it comes to wearing masks and discriminatory experiences. This research highlights the complex factors involved and highlights the significance of implementing specific measures to support the mental well-being of Asian Americans during pandemic-induced challenges and stressors.

Future Research

There are at least future research considerations in relation to the dilemma of mask-wearing among Asian Americans. First, a longitudinal study of the continued real or perceived feelings of discrimination from Asian Americans who feel the need to wear face masks post-COVID-19. Second, longitudinal studies utilizing the Patient Health Questionnaire (PH1-4) could be conducted over a three-year period to determine the annual rate of change related to mental health of Asian Americans who were polled. Third, an international expansion of the study could be conducted and do a comparative analysis of perceptions of Asian people in countries such as Canada, Mexico, the United Kingdom, etc. to be compared with Asian Americans.

Conclusion

The impact of COVID-19-associated stressors, particularly discrimination, on Asian Americans remains an insufficiently explored area. The pandemic has exposed Asian Americans to stressors stemming from anti-Asian stigma and discrimination, with potentially enduring implications for their mental health. Our study highlights that mask-wearing, often seen as a protective measure of physical health, can paradoxically heighten anxiety and exacerbate discrimination among Asian Americans due to associated stigma and demoralizing connotations. This is especially concerning given the tendency within Asian American collective cultures and social identities to downplay the experience of discrimination (Li et al., 2021).

Data Availability Statement

The data that support the findings of this study are available in the *Understanding America Study* (*UAS*) data pages. See http://uasdata.usc.edu/

Disclosure Statement

No conflict of interest exists.

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