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Testing three explanations for stigmatization of people of Asian descent during COVID-19: maladaptive coping, biased media use, or racial prejudice?

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ABSTRACT

Objective: To investigate factors associated with the stigmatization of people of Asian descent during COVID-19 in the United States and factors that can mitigate or prevent stigmatization.

Design: A national sample survey of adults ($N = 842$) was conducted online between May 11 and May 19, 2020. Outcome variables were two dimensions of stigmatization, responsibility and persons as risk. Hierarchical regression analyses were performed.

Results: Racial prejudice, maladaptive coping, and biased media use each explained stigmatization. Racial prejudice, comprising stereotypical beliefs and emotion toward Asian Americans, was a stronger predictor of stigmatization than maladaptive coping or biased media use. Fear concerning the ongoing COVID-19 situation and the use of social media and partisan cable TV also predicted stigmatization. Low self-efficacy in dealing with COVID-19, when associated with high estimated harm of COVID-19, increased stigmatization. High perceived institutional efficacy in the handling of COVID-19 increased stigmatization when linked to high estimated harm of COVID-19. On the other hand, high perceived collective efficacy in coping with COVID-19 was associated with low stigmatization. More indirect contacts with Asians via the media predicted less stigmatization.

Conclusions: Efforts to reduce stigmatization should address racial stereotypes and emotions, maladaptive coping, and biased media use by providing education and resources to the public. Fostering collective efficacy and media-based contacts with Asian Americans can facilitate these efforts.

1. Introduction

People of Asian descent have been stigmatized during the COVID-19 pandemic. In a poll of adult Americans in April of 2020, the research firm Ipsos (2020) found one-third had seen someone blaming Asian people for the COVID-19 epidemic. President Trump referred to it as the 'Chinese virus,' and an analysis of Twitter posts before and after

that reference found a nearly ten-fold increase in the use of the term at the national level (Budhwani and Sun 2020). The Ipsos (2020) data also found among those who said a specific group or organization was responsible, 66% blamed Chinese people. Earlier in 2020, the Federal Bureau of Investigation released a report warning hate crime incidents against Asian Americans likely will surge across the United States, due to the spread of coronavirus disease (Margolin 2020).

Caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), initial cases of COVID-19 appeared in December of 2019, when several patients in Wuhan, China were diagnosed with a form of viral pneumonia. An analysis of the backbone of SARS-CoV-2 indicated the virus occurred by natural evolution (Andersen et al. 2020), likely originating with bats and transmitting to humans via an intermediate host (Lu et al. 2020). At present, researchers are working to find a vaccine against the virus. While the initial misconstrued connection was made between the virus and China, the stigmatization has been directed to people of Asian descent as research (Pew Research Center 2020), news reports (e.g. Hong 2020; Margolin 2020), and other evidence (Asian Pacific Policy and Planning Council 2020) have indicated.

Stigma refers to disgrace or bodily signs exposing something bad about a person (Goffman 1963). As a product of social construction, stigma is a multifaceted construct but two of its main dimensions include persons as risk and responsibility (Goffman 1963; Katz 1979). Stigmatized persons and groups are perceived to pose risk to society, and responsible for causing the risk. When infectious diseases such as COVID-19 require concerted efforts to control and prevent the risk, stigmatization divides the public, deters the current control and future prevention efforts, and harms the group that is the target of stigmatization.

In this study, we developed and tested a conceptual model explaining the stigmatization of people of Asian descent. The model predicts stigmatization can be an outcome of coping mechanisms, biased media use, and racial prejudice. These three predictors represent differential perspectives about the motivational factors behind stigmatization. First, stigmatization is conceptualized as a coping mechanism of the stigmatizer who themselves are dealing with a harm, in this case COVID-19. Second, stigmatization is conceived as a response modeled after social information learned from the media, including mass media and social media. Finally, stigmatization is considered to emanate from racialized and stable beliefs and emotions about minority groups.

1.1. Coping mechanism explanation

We conceptualize stigmatization as a psychological defense mechanism of coping with stress. Coping refers to efforts to manage or reduce the internal and/or external demands created by stressful situations (Lazarus and Folkman 1984). Stressful events can involve a threat, a potential harm or loss of one's health and well-being. Important to this perspective is that efforts for coping are independent of the outcome of the efforts (Lazarus and Folkman 1984). Consequently, some coping efforts in high threat situations can be maladaptive, where coping is emotion-focused rather than problem-focused. In the former, people seek to regulate and enhance sense of control over their emotions, and these emotions may include anger, anxiety, and fear (Lazarus 1991).

Stress coping involves not only the appraisal of threat, but also the appraisal of resources (Lazarus and Folkman 1984). Specifically, in stressful situations, people first evaluate the magnitude of the harm, then they appraise the resources available to address it. Research has shown maladaptive coping with threatening situations can occur when individuals do not perceive themselves to have resources to deal with the threat (e.g. Rippetoe and Rogers 1987).

For a given threat, individuals can consider various resources and options, ranging from physical to psychological (Lazarus and Folkman 1984). A critical psychological resource can be efficacy beliefs. Self-efficacy, for example, refers to the belief that one has the abilities to act to manage a potential threat (Bandura 1986). Beyond self-efficacy, coping with societal risk issues such as COVID-19 requires collective efficacy and institutional efficacy (Cho and Kuang 2015). Collective efficacy is the belief that groups, large and small, can work together to achieve an intended outcome (Bandura 1997). Institutional efficacy concerns the confidence in the effectiveness and efficiency of organizations, which draws on the belief that societal institutions are fair, just, trustworthy, and predictable (e.g. Rothstein 2003). In the face of high threat, perceptions of low collective efficacy or institutional efficacy may lead to maladaptive coping responses (Cho and Kuang 2015), which may include stigmatization of others.

Generally, blaming others for difficult circumstances can be maladaptive as it leads to poor coping (Bullman and Wortman 1977). Spontaneous evaluation of harmful situations involves the assessment of the aspects that support the blaming of an individual or group (Alicke 2000). The recipients of this blame are frequently those who elicit less favorable expectations (Alicke 2000). As detailed below, as a racial minority, Asian Americans have been ascribed with negative beliefs and emotions. For these reasons, we expected high estimations of harm, low perceived efficacy, and high negative emotions would predict stigmatization. We further expected high estimation of harm coupled with low self-efficacy, collective efficacy, or institutional efficacy would lead to stigmatization of Asian Americans.

1.2. Biased media use explanation

The media can be a conduit of stigma communication by portraying health issues in certain ways (Smith 2007). Cultivation theory states members of the public form beliefs about society through exposure to television (Shanahan and Morgan 1999). In this study, we differentiate television channels by partisanship. Studies have reported the partisan chartertistics of the news coverage of cable channels (e.g. Feldman et al. 2012). With respect to effects, research found a positive association between exposure to Fox news and negative attitude toward Mexican immigrants (Gil de Zuniga, Correa, and Valenzuela 2012). Research also suggests Fox News may have influenced elected officials in the congress in their position-taking behavior (Clinton and Enamorado 2014).

In addition to mass media, social media have become channels of information and misinformation about health and political issues. Without the filtering convention of gatekeepers (e.g. editors) in traditional journalistic institutions, social media can purvey information that mainstream media may not disseminate. Social media may serve an 'information laundering' system in which communication of hate acquires legitimacy and enters mainstream culture via search engines and interfaced social networks

(Klein 2012). The architectures and affordances of social media, including persistence, searchability, and spreadability, may further facilitate communication of bigotry (Merrill and Akerlund 2018). For these reasons, we expected partisan cable television use and social media use would predict stigmatization.

1.3. Racial prejudice explanation

We further conceive stigmatization as a reflection of racial prejudice. Traditionally, research on stereotypical beliefs about racial minorities has focused on perceived inferiority, in which the White majority is superior and all minority groups are inferior (Sidanius and Pratto 1999). Recent research, however, rejected this unidimensional conceptualization of racial positioning in the United States.

Studies have shown racialization of Asian Americans takes on differential dimensions than that of other minority groups. Historically, exclusion was central to the formulation of the racism that Asian Americans have faced (Lee 2016). In contemporary America, the racialization of Asian Americans comprises two primary dimensions of civic ostracism and relative valorization (Kim 1999). In the ostracism dimension, Asian Americans have been constructed to be as alien or foreign, more than other minority groups. In a comparison of perceptions about racial groups, including African Americans, Asian Americans, and Latinos, Asian Americans were perceived to be more culturally foreign than others (Zou and Cheryan 2017).

On the other hand, the same study found Asian Americans were perceived to be less inferior than other groups (Zou and Cheryan 2017). This valorization of Asian Americans, however, is problematic for two main reasons. One, the valorization has served to discount the distinctive discrimination that Asian Americans have experienced (Kim 1999; Xu and Lee 2013). Two, perceived competence of Asian Americans (Lin et al. 2005) can evoke perceived threat from this group to the preexisting social and economic order, hierarchy, and resource distribution (Cottrell and Neuberg 2005; Cuddy, Fiske, and Glick 2007).

Furthermore, this perception of threat, stemming from perceived competence of Asian Americans, generates the racial emotion of envy (Cuddy, Fiske, and Glick 2007). Envy refers to the feeling that a person or group is undeserving of some perceived advantage and the desire to either strip them of the advantage or procure that advantage for oneself (Cohen-Charash 2009). This envy can be particularly volatile and promote active harm against derogated groups (Cuddy, Fiske, and Glick 2007). Therefore, we expected these racial beliefs and emotions to have played a role in the stigmatization.

1.4. Background variables

It can be expected these three explanatory factors operate in the backdrop of demographic and socioeconomic factors. Moreover, it was expected that individuals who have interacted with Asians directly or indirectly through the media would be less likely to stigmatize. These expectations were based on the contact hypothesis (Allport 1954) and the parasocial contact hypothesis (Schiappa, Gregg, and Hewes 2005). These hypotheses predict that direct interactions and parasocial interactions via mass media

can change beliefs about minority groups; especially if the contacts are positive and prolonged.

2. Methods

2.1. Overview

A nationwide survey of American adults aged 18 and older was conducted between May 11 and May 19 of 2020 ($N = 842$). The sample was from the national online panel of Dynata which includes approximately 3 million individuals with diverse demographic and socioeconomic characteristics. A metaanalysis using 90 independent samples and over 30,000 participants found that the validity of data from online panels and conventional sources converged (Walther et al. 2019). Participants' average age was 51.5 ($SD = 16.9$) and 56.6% of them were female. The racial composition of the sample was: White 64.7%, Black 16.1%, Hispanic 12.8%, and mixed race 4.6%. For the study purpose, those who reported their race as Asians were not included.

2.2. Measures

All items were measured on a Likert scale ranging from 1 'strongly disagree' to 5 'strongly agree' unless noted otherwise. Where appropriate, items were embedded within a set including other items to prevent sensitization and the order of the items was randomized.

Outcome variables. Stigmatization was operationalized to comprise two primary aspects: responsibility and persons as risk. To measure *responsibility*, three items using the same stem were given: '[Asian Americans/Asians/Chinese people] are responsible for the current COVID-19 situation' ($M = 2.08$, $SD = 1.10$, $α = .94$). *Persons as risk* was measured with the following three items: 'Asians in the U.S. pose COVID-19 risk,' 'I worry about contacts with Asians due to the COVID-19 virus risk they may pose,' and 'I'm concerned Asian Americans are a deterrent to controlling the COVID-19 situation' ($M = 2.40$, $SD = 1.08$, $α = .85$).

Perceived magnitude of harm (severity) of COVID-19 was assessed using four items including '[My living condition has been negatively affected/My job situation has been negatively affected/My income has been reduced/My mental wellness has been reduced] because of COVID-19″ ($M = 2.63$, $SD = 1.07$, $α = .79$).

Self-efficacy in coping with COVID-19 was assessed with two items including: 'I am confident I can protect myself from COVID-19 virus' and 'I am able to minimize the negative impact of the COVID-19 situation on various aspects of my life' ($M = 3.72$, $SD = .77$, $r = .68$).

Collective efficacy was measured with two items including: 'I feel that Americans can work together to effectively overcome the current COVID-19 crisis' and 'Working together, we can minimize the harms of COVID-19 to American society' ($M = 4.03$, $SD = .76$, $r = .73$).

Institutional efficacy was measured with two items including: 'I feel that the U.S. government can effectively handle the current COVID-19 situation' and 'I feel that the government has what it takes to overcome the COVID-19 situation' ($M = 3.05$, $SD = 1.20$, $r = .90$).

Emotions. To measure anger, anxiety, and fear, participants were asked how much did the current COVID-19 situation made them feel: angry, frustrated, aggravated ($M = 2.70$, $SD = 1.21$, $\alpha = .91$); anxious, nervous, tense ($M = 2.78$, $SD = 1.24$, $\alpha = .94$); fearful, afraid, scared ($M = 2.61$, $SD = 1.30$, $\alpha = .96$).

Media use. Participants were asked how often they saw COVID-19 news from CNN, Fox News, and MSNBC in the past 8 weeks. Because uses of CNN and MSNBC were highly correlated ($r = .80$), they were averaged to create an index ($M = 2.29$, $SD = 1.33$). Social media use was measured by asking participants how often they received COVID-19 news from Facebook, Instagram, Reddit, Twitter, and YouTube ($M = 1.94$, $SD = 1.05$, $\alpha = .84$). For both cable television and social media use, response scales ranged from 1 'never' to 5 'very often.'

Racial prejudice. Stereotypical beliefs and envy emotion were assessed. *Racial stereotypes* included inferiority, cultural foreignness, and competence, which were measured with six items including: 'In our society Asians are generally in low status' and 'Asians have an inferior status than other groups in the U.S.' (Zou and Cheryan 2017); 'Generally, Asians do not understand American culture' and 'Generally, Asians are outside of American identity' (Zou and Cheryan 2017); and 'Asian Americans seem to be striving to become number one' and 'In order to get ahead of others, Asian Americans can be overly competitive' (Lin et al. 2005). Principle axis factoring with varimax rotation showed that these six items comprised a single factor ($M = 2.44$, $SD = .85$, $\alpha = .87$). *Racial envy* was measured with four items developed on the basis of Cohen-Charash (2009): 'I resent that Asians in America have things that I don't have,' 'I don't feel it's right that Asians are doing better than me,' 'I wish sometimes I had what Asians have,' and 'Sometimes I feel envious of Asians' ($M = 1.81$, $SD = .92$, $\alpha = .91$).

Background variables. We measured age, sex, race, education level, political orientation, COVID-19 test status, and whether the state of residence has reopened. For *social contact*, participants were asked how many close Asian friends they have. The scale ranged from 1 'none' to 5 'four or more.' For *parasocial contact*, participants were asked how often they watch foreign language movies with English subtitles (1 'never' to 5 'very often').

Those who answered other than 'never' were asked a follow-up question about in which foreign language the movies were made. The alphabetical list of response options included 12 most spoken languages in the world ranging from Arabic to Russian. Japanese, Korean, and Mandarin Chinese represented the Asian languages in the list. Response including one of these languages was coded as 1.

2.3. Data analysis

Using hierarchical regression analyses, we employed a three-step approach. In the first step, we examined the associations between background variables and the outcome variables. In the second step, we investigated the contributions of the theoretical explanations of coping, media, and prejudice after controlling for the background variables. In the final step, we examined all three explanatory blocks' contributions while controlling for each other and the background variables. Data analysis was performed using statistical software R version 3.5.0.

3. Results

3.1. Background variables

Across the outcome variables of persons as risk (PAR) and responsibility, conservative political orientation and having been tested positive for COVID-19 (self, family, friends) predicted more stigmatization; older age and parasocial interaction with Asians predicted less stigmatization. For PAR, male sex was a positive predictor, while higher education was a negative predictor (see Tables 1–2).

3.2. Coping explanation

Asian Americans as risk. After controlling for background variables, higher estimated harm of COVID-19 and higher perceived effectiveness of the government's management of COVID-19 were associated with more PAR. Moreover, an interaction between harm and institutional efficacy indicated the association between harm and PAR was conditional on institutional efficacy. A simple slope analysis showed a positive slope of harm for those with high institutional efficacy ($b = .25$, $p < .001$), but a non-significant slope for those with low institutional efficacy ($b = .03$, $p = .61$). Put simply, the effect of harm on PAR was amplified when institutional efficacy was high. Figure 1 visualizes this interaction. High fear associated with the ongoing COVID-19 situation was related to high PAR. On the other hand, higher perceived

Table 1. Each explanation's contribution to stigmatization: Persons as risk.

		Person as Risk				
		Model 1	Model 2		Model 3		Model 4
1	Age	−.017***	−.008**		−.007**		−.005**
	Sex	.200**	.210**		.136		.018
	Race	−.058	−.108		−.012		−.031
	Education	−.051*	−.055*		−.055*		−.035
	Political orientation	.101**	.051		.076*		.053
	COVID-19 positive	.217*	.117		.093		.081
	State reopen	.085	.051		.099		.052
	Social interaction	.002	−.026		−.024		−.017
	Parasocial interaction	−.116*	−.100*		−.119*		−.037
	R^2 (%)	8.14***					
	Adj R^2 (%)	7.13***					
2	Harm		.138***	CNN/MSNBC	.015	Racial stereotype	.519***
	Self-efficacy		.095	Fox News	.127***	Racial envy	.388***
	Collective efficacy		−.328***	Social media	.306		
	Institutional efficacy		.228***				
	Harm * SE		.043				
	Harm * CE		.018				
	Harm * IE		.092***				
	Anger		−.066				
	Anxiety		.058				
	Fear		.146**				
	ΔR^2 (%)		14.71***		11.47***		38.95***
	R^2 (%)		22.85***		19.61***		47.09***
	Adj R^2 (%)		21.05***		18.43***		46.38***

Note: Sex: male = 1. Political orientation: conservative. State reopen: no = 1. Model statistics are presented in columns. Regression coefficients are unstandardized. SE: self-efficacy, CE: collective efficacy, IE: institutional efficacy. Model 1 includes only background variables; Model 2 includes background and coping variables; Model 3 includes background and media variables; Model 4 includes background and prejudice variables. *$p < .05$, **$p < .01$, ***$p < .001$.

Table 2. Each explanation's contribution to stigmatization: Responsibility.

|		Responsibility					
		Model 1	Model 2	Model 3		Model 4	
1	Age	−.011***	−.004		−.002		−.002
	Sex	.080	.081		.039		−.062
	Race	−.063	−.094		−.035		−.035
	Education	−.046	−.042		−.046		−.029
	Political orientation	.109**	.033		.088*		.060*
	COVID-19 positive	.245**	.139		.160		.142
	State reopen	−.059	−.090		−.051		−.087
	Social interaction	.005	−.017		−.012		−.007
	Parasocial interaction	−.185***	−.160**		−.192***		−.127**
	R^2 (%)	5.57***					
	Adj R^2 (%)	4.54***					
2	Harm		.083*	CNN/MSNBC	−.033	Racial stereotype	.519***
	Self-efficacy		.031	Fox News	.070*	Racial envy	.227***
	Collective efficacy		−.274***	Social media	.275***		
	Institutional efficacy		.268***				
	Harm * SE		−.038				
	Harm * CE		−.004				
	Harm * IE		.104***				
	Anger		−.007				
	Anxiety		−.043				
	Fear		.186***				
	ΔR^2 (%)		12.55***		6.28***		27.46***
	R^2 (%)		18.12***		11.85***		33.03***
	Adj R^2 (%)		16.2***		10.56***		32.13***

Note: Sex: male = 1. Political orientation: conservative. State reopen: no = 1. Model statistics are presented in columns. Regression coefficients are unstandardized. SE: self-efficacy, CE: collective efficacy, IE: institutional efficacy. Model 1 includes only background variables; Model 2 includes background and coping variables; Model 3 includes background and media variables; Model 4 includes background and prejudice variables. *$p < .05$, **$p < .01$, ***$p < .001$.

collective efficacy was associated with lower PAR. Older age and more education and parasocial interaction negatively predicted, while male sex positively predicted, PAR.
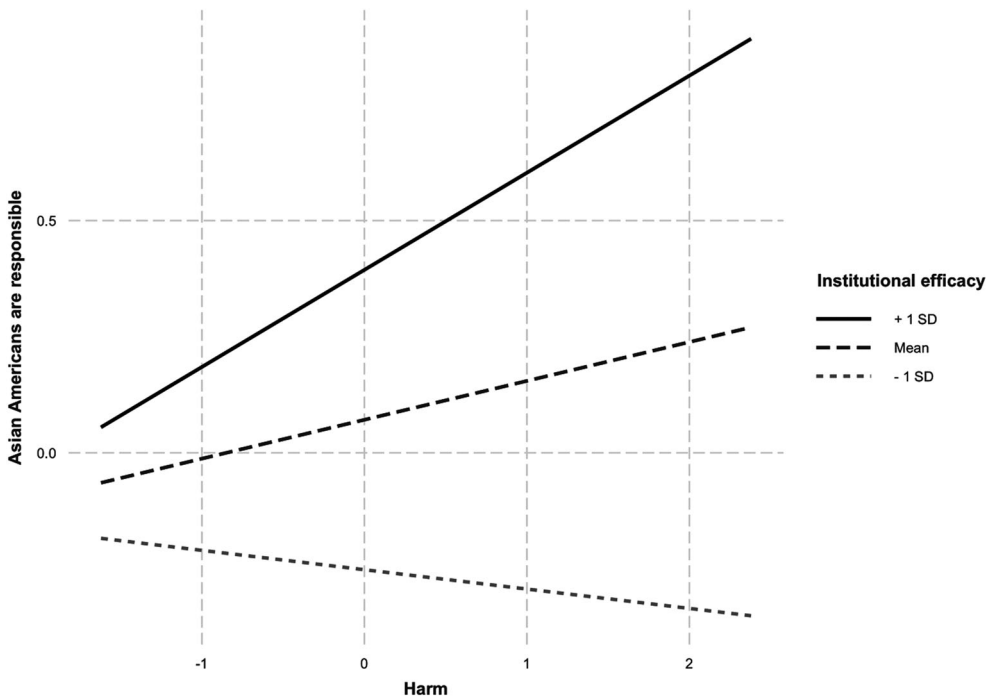
Asian Americans are responsible. After controlling for background variables, perceived institutional efficacy in handling COVID-19 and the feeling of fear concerning the ongoing COVID-19 situation positively predicted responsibility. An interaction between harm and institutional efficacy indicated the association between harm and responsibility was conditional on institutional efficacy. A simple slope analysis showed a positive slope of harm for those with high institutional efficacy ($b = .20$, $p < .001$), but a non-significant slope of harm for those with low institutional efficacy ($b = −.04$, $p = .39$). The harm effect on responsibility was amplified when institutional efficacy was high. Figure 2 visualizes this interaction. On the other hand, perceived collective efficacy in overcoming COVID-19 negatively predicted stigmatization. Parasocial interaction was a negative covariate.

3.3. Media explanation

Asian Americans as risk. After controlling for background variables, both exposures to Fox News and social media for COVID-19 information were positively associated with PAR. Exposure to CNN/MSNBC was unrelated to PAR. Older age, higher education, and more parasocial interaction were negative predictors, while conservative political orientation was a positive predictor, of stigmatization.
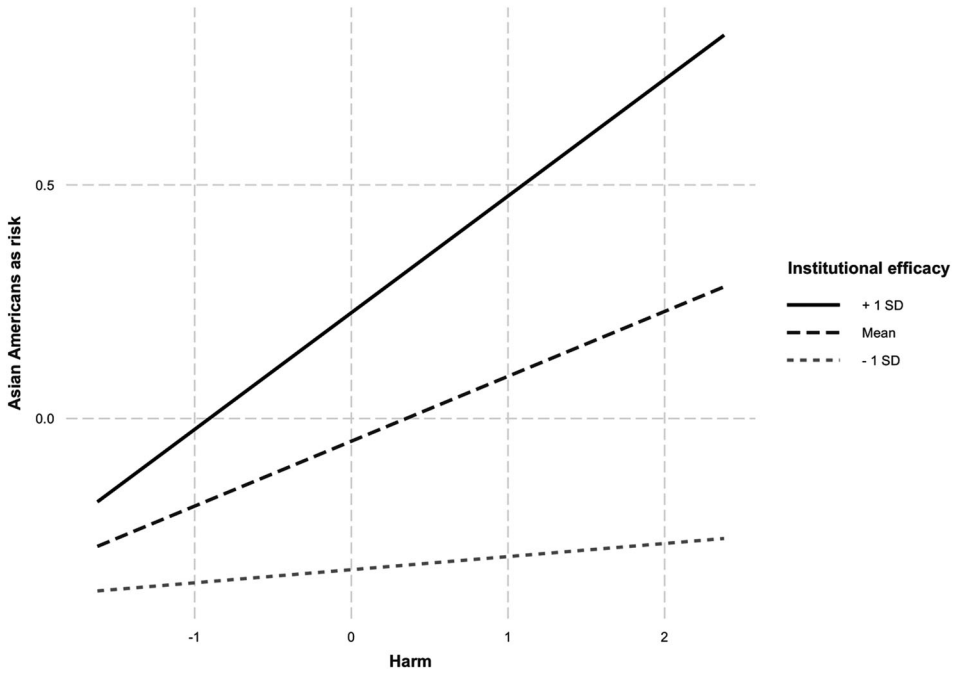
Figure 1. Perceived harm of COVID-19 interacted with institutional efficacy in dealing with COVID-19 to predict Asian Americans as Risk.

Figure 2. Perceived harm of COVID-19 interacted with institutional efficacy in dealing with COVID-19 to predict Asian Americans are Responsible.

Asian Americans are responsible. After controlling for background variables, exposure to Fox News and social media positively predicted responsibility. Conservative political orientation positively predicted, while parasocial interaction negatively predicted, responsibility.

3.4. Prejudice explanation

Asian Americans as risk. After controlling for background variables, racial beliefs (stereotypes) and emotion (envy) were positive predictors of PAR. Conservative political orientation was a positive predictor, while older age was a negative predictor.

Asian Americans are responsible. After controlling for background variables, racial stereotype beliefs and emotion of envy were positive predictors of responsibility. Conservative political orientation was a positive predictor, while older age was a negative predictor.

3.5. All explanations

As the final step, all predictors were entered into each of the regression equations predicting PAR and responsibility. Table 3 presents the details.

Table 3. Overall model predicting stigmatization: Persons as risk, responsibility.

| Block	Predictors	Outcome Variables	
		Persons as risk	Responsibility
Background	Age	−.001	.000
	Sex (male)	.037	−.047
	Race (White)	−.028	−.034
	Education	−.035	−.020
	Political orientation	.011	−.000
	Social interaction	−.032	−.013
	Parasocial interaction	−.037	−.116**
	COVID-19 positive	.030	.089
	State reopen	.048	−.102
	R^2 (%)	8.14***	5.57***
Coping	Harm	.039	.017
	Self-efficacy	.042	−.010
	Collective efficacy	−.134**	−.102*
	Institutional efficacy	.101***	.173***
	Harm * SE	−.019	−.085*
	Harm * CE	.014	−.022
	Harm * IE	.024	.050*
	Anxiety	−.010	−.098*
	Anger	−.058	−.002
	Fear	.112**	.165***
	ΔR^2 (%)	14.71***	12.55***
	R^2 (%)	22.85***	18.12***
Media	CNN/MSNBC	−.006	−.039
	Fox News	.059**	−.008
	Social Media	.077*	.070
	ΔR^2 (%)	4.9***	1.87***
	R^2 (%)	27.76***	19.99***
Prejudice	Racial stereotype	.462***	.474***
	Racial emotion	.325***	.199***
	ΔR^2 (%)	23.07***	17.79***
	R^2 (%)	50.83***	37.78***
	Adj R^2 (%)	49.37***	35.94***

Note: Political orientation: conservative. State reopen: no = 1. Regression coefficients are unstandardized. SE: self-efficacy, CE: collective efficacy, IE: institutional efficacy. *$p < .05$, **$p < .01$, ***$p < .001$.

Asian Americans as risk. Stereotypical racial beliefs about and the racial emotion of envy toward Asian Americans were strong positive predictors of PAR. After racial stereotypes and envy, fear concerning the ongoing COVID-19 situation was a positive predictor of PAR, while perceived collective efficacy in coping with COVID-19 was a negative predictor. Perceived institutional efficacy in handling COVID-19 was positively linked to PAR. Social media and Fox News uses for COVID-19 information were also positively associated with PAR. No background covariates remained significant.

Asian Americans are responsible. Stereotypical racial beliefs and the racial emotion of envy were positive predictors of responsibility. After racial stereotypes and envy, perceived institutional efficacy in handling COVID-19 and fear concerning the ongoing COVID-19 situation were positive predictors of responsibility. Perceived collective efficacy in handling COVID-19, on the other hand, was negatively associated with responsibility. Anxiety emerged as a negative predictor of stigmatization.

Two interactions, between harm and self-efficacy, and between harm and institutional efficacy, were significant. First, the association between harm and responsibility was conditional on self-efficacy. A simple slope analysis indicated a positive slope of harm for those with self-efficacy lower than 2.61 ($b = .11$, $p = .05$), but a non-significant slope of harm among those with high self-efficacy ($b = -.05$, $p = .29$). Put simply, the effect of harm on responsibility was amplified when self-efficacy was low. Figure 3 visualizes this interaction.

Second, the interaction between harm and institutional efficacy indicated the association between institutional efficacy and responsibility was conditional on harm. A simple
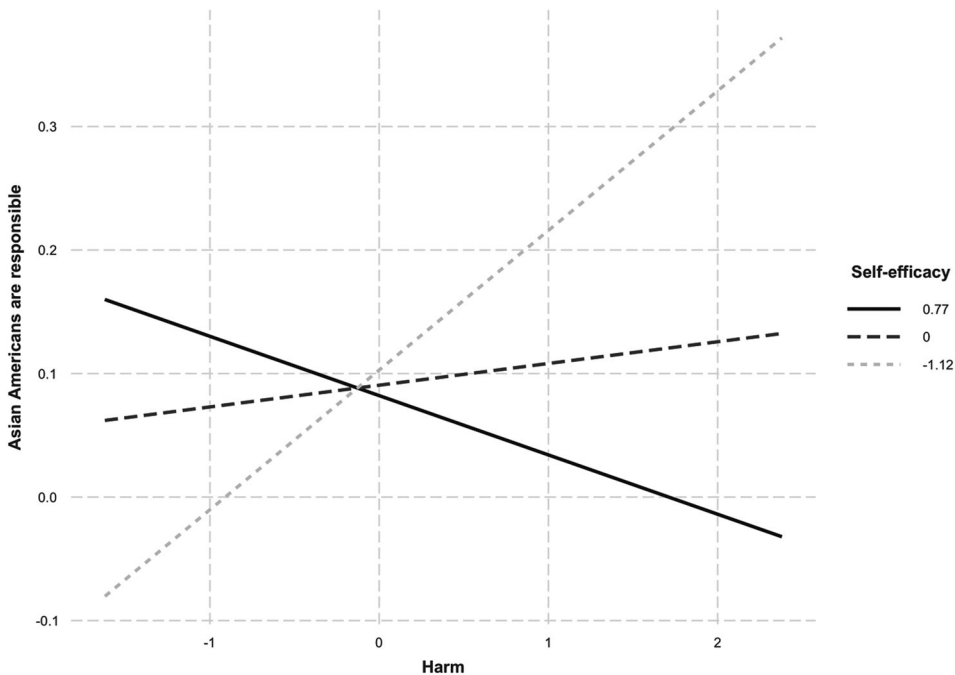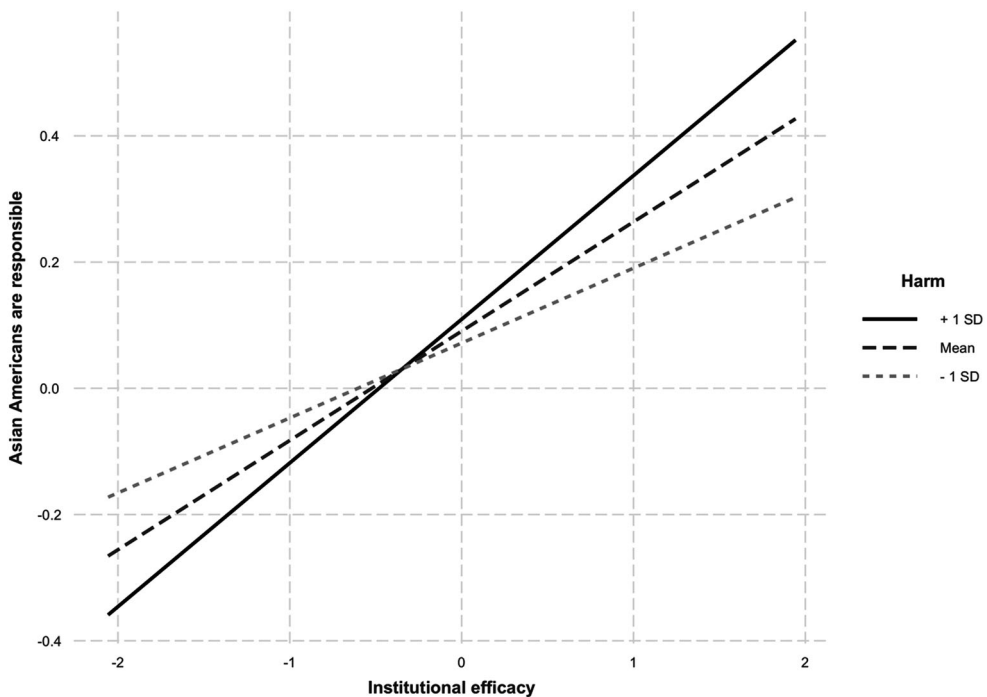

Figure 3. Perceived harm of COVID-19 interacted with self-efficacy in dealing with COVID-19 to predict Asian Americans are Responsible.

slope analysis showed the association between institutional efficacy and responsibility was positive across high and low harm, but the slope was steeper when harm was high ($b = .23$, $p < .001$) rather than low ($b = .12$, $p < .001$). The effect of institutional efficacy on responsibility was amplified when harm was high. Figure 4 visualizes this interaction. No other background variable remained significant, except for parasocial interaction.

4. Discussion

Overall, the results offer new perspectives on stigmatization. Results indicate that each of these conceptual perspectives, coping, the media, and prejudice, explains stigmatization, across the two dimensions of stigmatization: persons as risk (affective) and responsibility (cognitive). This conceptual framework explained a substantial portion of the variance across the dimensions, with the affective dimension explained more by the framework than the cognitive dimension of stigmatization. This explanatory framework was based on theory and research on coping (Lazarus and Folkman 1984; Alicke 2000; Cho and Kuang 2015), media effects (Shanahan and Morgan 1999), and racial beliefs (Lin et al. 2005; Zou and Cheryan 2017) and racial emotions (Cuddy, Fiske, and Glick 2007; Cohen-Charash 2009).

In support of the coping explanation, fear arising from the unfolding COVID-19 situation predicted stigmatization; when estimated harm of COVID-19 was high, low self-efficacy in dealing with it increased stigmatization. These results differ from the socio-functional threat perspective on stigma (Neuberg, Smith, and Asher 2000) in which

Figure 4. Perceived harm of COVID-19 interacted with institutional efficacy in in dealing with COVID-19 to predict Asian Americans are Responsible.

the threat posed by the stigmatized are a reason for stigmatization. In this coping perspective, threat is caused by a third entity (e.g. COVID-19), and minorities (e.g. Asian Americans) are blamed when resources are limited. In support of the media effects explanation, uses of social media and partisan cable television (Fox News) for COVID-19 news predicted stigmatization.

Importantly, of the three conceptual explanations, the strongest predictors of stigmatization were stereotypical beliefs about and the racialized emotion of envy toward Asian Americans. This explanation was more powerful than the maladaptive coping and social learning via media explanations. The significant association found between the general content of the racial prejudice and the specific stigmatizing beliefs concerning COVID-19 is striking. The general nature of the racial prejudice included beliefs of inferiority, cultural foreignness, competence of Asian Americans and the emotion of envy. The specific stigmatizing beliefs were that Asian Americans were COVID-19 risk and that they were responsible for the current COVID-19 situation. The general prejudice against Asian Americans appears to play a powerful role in the stigmatization of this group in the specific context of COVID-19. These findings connect preexisting racial prejudice with emergent stigmatization. Future research should continue to investigate this linkage and the functions of these racial beliefs and emotion and their scopes and boundaries.

Notably, findings suggest ideologically based motivation behind the stigmatization. High perceived institutional efficacy (i.e. confidence in the government's handling of COVID-19) was linked to higher stigmatization. Although unexpected, this finding makes sense because institutional efficacy is situation-specific beliefs. Perceived institutional efficacy of the Trump administration, for example, could differ from perceived institutional efficacy of the Bush administration, which could differ from that of the Clinton administration. During COVID-19, President Trump used the term 'Chinese virus' to refer to COVID-19 (Budhwani and Sun 2020). Future research should be mindful of this situational nature of perceived institutional efficacy and its role in influencing public response to risk situations. In the current polarized political climate, the positive association between perceived institutional efficacy and stigmatization may reflect ideologically-based endorsement of the government's handling of the crisis and equally ideologically-based othering and alienation of Asian Americans. These findings provide important implications for future research on stigmatization.

Results, fortunately, identified factors that can reduce stigmatization. High collective efficacy was associated with low stigmatization, suggesting that fostering collective efficacy can be an antidote to divisive communication on partisan cable television and social media. Unexpectedly, direct contacts with Asian Americans were not a significant predictor, but indirect, mediated contacts were. Consistent with the parasocial contact hypothesis (Schiappa, Gregg, and Hewes 2005), mediated contacts with outgroup members appear to increase the understanding of the outgroup members and positive attitudes toward them, thereby reducing the likelihood of stigmatization, more so than direct contacts. Movies are made to portray human conditions and drama up close; therefore, contacts with Asians through this medium might have afforded a better opportunity to understand the common humanity and emotions than direct contacts, which might be encumbered by routines and social normative expectations. These findings

inform efforts to reduce stigmatization. We developed a concise measure to assess para-social interaction in this study, which is proving to have predictive validity.

Lastly, the finding about the role of anxiety is informative. More anxiety was related to less responsibility beliefs (i.e. Asian Americans are responsible for COVID-19). Anxiety stems from uncertainty, and prior research found anxiety in the face of threat motivated information seeking (So, Kuang, and Cho 2016). In this study, it appears anxiety motivated more adaptive coping (which possibly could have included information seeking), resulting in less assignment of responsibility to Asian Americans.

4.1. Limitations

This study has a few limitations. It used a cross-sectional sample, which prohibits causal inferences. To avoid sensitization in examining the predictors of stigmatization, we did not ask the specific content of participants' social media exposure. Future research should improve these limitations. Although this study focused on this unprecedented pandemic of COVID-19, the conceptual frameworks and findings can be applicable and useful for future public health efforts in other domains. Future research should examine the impact of the stigmatization among the more vulnerable subgroups of Asian Americans. Data, for example, show that Asian American women have been harassed 2.3 time more than Asian American men (Asian Pacific Policy and Planning Council 2020).

4.2. Implications for public health

As fear, as well as estimated harm of COVID-19 coupled with low self-efficacy, predicted stigmatization, assisting the public cope with the COVID-19 pandemic with psychological and physical resources is crucial. The media bear the responsibility to ensure their coverage is factual and scientifically accurate, and public education efforts to correct misperceptions can be useful. Acknowledging and addressing racial stereotypes and emotions will be pivotal.

Fostering collective efficacy will be central to these efforts. Promoting intergroup interactions via mediated channels, especially for those who have limited opportunities for direct contact with racial minorities, can be useful for correcting misperceptions, improving understanding and knowledge about common humanity that connects us all. Together, the findings highlight the importance of preventing and mitigating the impacts of maladaptive coping, biased media use, and racial stereotypes in future public health risk and crisis situations.

Disclosure statement

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