Racial Discrimination and Mental Health Among Asian Americans During the COVID-19 Pandemic

Teresa Toguchi Swartz[1]

Claire M. Kamp Dush[1,2]

Xiaowen Han[1,2]

Miranda N. Berrigan[2,3]

Wendy D. Manning[4]

Katie Nguyen[1]

[1]Department of Sociology, The University of Minnesota Twin Cities

[2]Minnesota Population Center, The University of Minnesota Twin Cities

[3]Department of Human Sciences and Institute for Population Research, The Ohio State University

[4]Department of Sociology and Center for Family and Demographic Research, Bowling Green State University

Abstract

The COVID-19 pandemic has had devastating, multidimensional effects on people throughout American society. At the same time, racism spread alongside the virus and as China was blamed as the origin of COVID-19, Asian Americans became targets of widespread racism and discrimination. In this study we aim to document the racism experienced by Asians and Asian Americans during the pandemic, and explore how these experiences impacted Asian American mental health and well-being. Using the National Couples' Health and Time Study's Asian American oversample, we investigate the relationship between experiences of discrimination and COVID stress and mental health outcomes during the pandemic (anxiety, depression, suicidal ideation, and life satisfaction). We also consider potential mediating factors including racial/ethnic identity centrality, community support, and social support. We find that among Asian American respondents, higher levels of reported discrimination and COVID stress were significantly associated with more depressive symptoms and anxiety, lower life satisfaction, and higher odds of suicidal ideation. For the potential mediators, we find that higher social support was significantly associated with better mental well-being and may buffer some negative impacts of discrimination and COVID stress on mental health.

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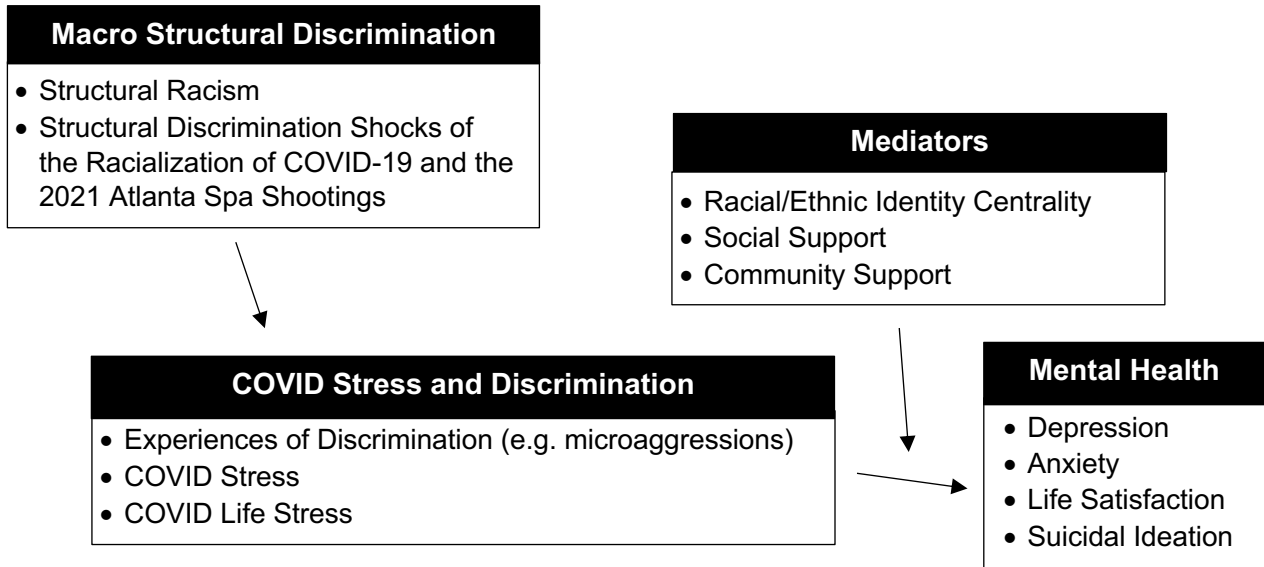
The COVID-19 pandemic has upended the lives of Americans, profoundly affecting the health, security, and well-being of those living in the United States, as it has for people around the globe. U.S. unemployment reached 14.8%, 38% of Americans were food insecure, and many have experienced mental health declines (Congressional Research Service, 2021; Reading Turchioe et al., 2021; Wolfson & Leung, 2020). Accompanying this devastating pandemic has been a rise in xenophobia and anti-Asian racism. Political rhetoric racializing COVID-19 as the "China Virus" has reinforced and escalated anti-Asian sentiment and violence. While anti-Asian racism has had a long history in the United States, Asian and Asian Americans have reported experiencing more discrimination than before the pandemic. Between March 2020 through June 2021, 9081 anti-Asian hate incidents were reported in the U.S., including reports from every state documenting instances of discriminatory acts against Asian and Asian American individuals, businesses, and organizations (Yellow Horse et al., 2021). High-profile incidents including the Atlanta spa shootings and attacks on Asian elders in many areas of the U.S. have contributed to racial trauma and grief among Asian Americans. The rise in Asian American discrimination is concerning for many reasons, including that racism is a known social determinant of health (Le et al., 2020). At the same time, the "model minority" stereotype perpetuates a view that Asian Americans are devoid of serious problems and not in need of social science attention or policy concerns (Shih et al., 2019). Racism experienced by Asian and Asian Americans has been largely hidden even though it has been a continuous and defining feature of American life (Lee, 2020). This project documents the experiences of Asian Americans during the pandemic, and aims to understand the stress and mental health impacts of racial discrimination and violence for Asian and Asian Americans in the U.S. during COVID.

Despite being perceived as fully integrated and highly successful in American society, some research has found that Asian Americans have significant mental health issues and high rates of suicidal ideation and behaviors (Shih et al., 2019). These are not only hidden due to social science inattention to Asian Americans, but also because when Asian Americans are included in analysis, they are often treated as homogeneous and monolithic, despite the fact that the pan-ethnic racial group includes a wide diversity in terms of socioeconomic status, nativity, education level, ethnic and regional origins, language, and racialized experiences. Indeed, a major shortcoming of research on Asian Americans is that it often fails to use disaggregated data, and thus obscures important differences within the group (Le et al., 2020; Lee and Water 2020; Wu et al., 2021). Other research suggests that like Black and Latinx Americans, Asian Americans fare as well or better than white Americans on many mental health measures despite experiencing long-standing racism (Erving et al., 2019; Gallo et al., 2009; Keyes, 2009). By focusing exclusively on within group differences among Asian Americans, we are able to begin to parse out the ways in which the stress from the pandemic and racism have affected different subgroups of Asian Americans and what factors have contributed to both strengths and vulnerabilities in mental health and well-being among Asian persons in the United States. Our theoretical model in shown in Figure 1.

Using an oversample of Asian Americans from nationally representative data collected during the pandemic, we ask:

- **What predicts experiences of COVID stress and discrimination among Asian Americans during the pandemic?**
- **How do experiences with COVID stress and discrimination among Asian Americans affect mental health?**
- **What are some of the important strengths and vulnerabilities among Asian Americans that mediate the effects of COVID stress and discrimination on mental health?**

Figure 1. Mechanistic Mediators of Structural Discrimination in the Context of COVID and Heightened Anti-Asian Racism Framework

Macro Structural Discrimination
- Structural Racism
- Structural Discrimination Shocks of the Racialization of COVID-19 and the 2021 Atlanta Spa Shootings

Mediators
- Racial/Ethnic Identity Centrality
- Social Support
- Community Support

COVID Stress and Discrimination
- Experiences of Discrimination (e.g. microaggressions)
- COVID Stress
- COVID Life Stress

Mental Health
- Depression
- Anxiety
- Life Satisfaction
- Suicidal Ideation

Methods

This analysis uses the Asian American subsample of the National Couples' Health and Time Study (NCHAT). NCHAT is a study of same- and different-gender couples collected from September 2020 to April 2021. NCHAT respondents were primarily recruited from the Gallup Panel, a probability-based nationally representative panel of approximately 100,000 individuals. Additional sexual minority respondents were recruited from other population-representative Gallup samples. To be included in the study, respondents had to be between the ages of 20 to 60, living with a spouse/partner, and able to read English or Spanish. Given the uptick in racial violence against Asian Americans, NCHAT purposively collected an oversample of Asian Americans to meaningfully examine discrimination, racial violence, stress, and health during the pandemic from a population-representative sample of Asian Americans. The dataset includes survey data from 3,642 main respondents and 1,515 partner respondents. Our Asian American sample includes 326 main respondents who self-identified as at least one of the seven listed Asian ethnicities in the survey: Asian Indian, Chinese, Filipino/a/x, Japanese, Korean, Vietnamese, Other Asian.

Measures

COVID Stress and Discrimination. Four indicators of COVID-19 and Discrimination are initially dependent variables and then serve as key independent variables in analyses estimating mental health. *Discrimination.* Respondents were asked "In your day-to-day life over the past month, how often did any of the following things happen to you?" and included nine domains, including "You were treated with less respect than other people" and "You were threatened or harassed" on a scale of 1 (never) to 5 (very often) (Meyer et al., 2016; Williams et al., 1997). A sum of the 9-items was taken (α = .85), with a higher value indicating more frequent experiences of microaggressions. <u>COVID-19 Stress</u> was measured by the mean of 3-items (α = .89), assessing stress about 1) yourself getting coronavirus, 2) your partner getting coronavirus, and 3) your parents, siblings, or other family members getting coronavirus on a 5-point scale from not at all stress to very stressed. <u>COVID Life Stress</u> was measured by asking, "To what extent has your life been affected or disrupted by the coronavirus situation?" on a 4-point scale from not at all to a great deal. Respondents answered five questions about <u>Healthcare Discrimination</u> by indicating their agreement with items including "When seeking healthcare … I worry about being negatively judged, I worry that diagnoses of me/my health may be negative because of who I am" on a scale from strongly disagree to strongly agree (α = .85) (Abdou & Fingerhut, 2014). Responses were averaged with higher scores indicating more discrimination

Mental Health. _Depression_ was measured using the 10-item CES-D Short Form (Andresen et al., 1994). Respondents were asked how often they felt certain ways (e.g., lonely, depressed) in the past seven days on a 3-point scale from Rarely or none of the time (less than 1 day) to Most or all of the time (5-7 days). The items were summed (α = .87). _Anxiety_ was measured using the 7-item Generalized Anxiety Disorder measure (Spitzer et al., 2006; Tiirikainen et al., 2019). Respondents were asked how often they were bothered by seven different problems in the past seven days (e.g., not being able to stop or control your worrying) on a 4-point scale from not at all to nearly every day. The items were summed (α = .92). Respondents reported their current and future _Life Satisfaction_ on 11-point scales from the worst possible life (0) to the best possible life (10). These items were summed to create an overall measure of life satisfaction(Cantril, 1965). Respondents reported if they had _Suicidal Ideation_ since the start of the coronavirus pandemic.

Mediators. _Community support race_ was measured by respondents reporting whether the city or area where they live was a good place (5) or not a good place (1) to live for individuals who are racial and ethnic minorities (Meyer et al., 2016; Poll, 2008). _Community support LGB_ was measured by respondents reporting the city or area where they live is a good place (5) or not a good place (1) to live for individuals who are gay, lesbian, or bisexual (Meyer et al., 2016; Poll, 2008). _Social Support_ was measured by two questions (Procidano & Heller, 1983), "How much do you rely on each of the following people for emotional support … I rely on my family for emotional support, I rely on my friends for emotional support." Responses ranged from 1 'Not at all' to 5 'A great deal' (r =.29, p < .001). _Racial/Ethnic Identity Centrality_ Respondents reported the extent to which their racial/ethnic identity is central to their identity on a 1 (strongly disagree) to 5 (strongly agree) scale.

Sociodemographic Variables. _Asian Region_ is a 4-category variable constructed from respondent's report of Asian ethnicities. Respondents identified as either "Chinese," "Japanese," or "Korean" were coded as "East Asian," "Asian Indian" as "South Asian," and "Filipino" and "Vietnamese" as "Southeast Asian." Those who identified with multiple Asian ethnicities across these three regions and those who selected "Other Asian" were coded in the fourth category "Other Asian and multiregion." _Multiracial Asian_ is a dichotomous variable indicating whether the main respondent was identified with at least one other racial/ethnic group than Asian ethnicities, including "white", "Black or African American," "American Indian or Alaska Native," "Native Hawaiian," "Guamanian or Chamorro," "Samoan," "Other Pacific Islander," and "Some other race." A dichotomous indicator for _foreign born_ was constructed if the main respondent was born outside of the United States. _Asian Street Race_ is a dichotomous indicator constructed if the main respondent selected "Asian" to the multi-select question asking, "If you were walking down the street, what race and/or ethnicity do you think people who do not know you personally would assume you are based on what you look like?"(López et al., 2018). _Education_ was divided into three categories: high school degree or less, some college or post-high school education, and a Bachelor's degree or more. Respondents reported their current _employment status_, including full-time, part-time, and unemployed. _Household income_ was top coded at the 95% level and was logged due to the skewed nature of the variable. _Age_ was constructed using the respondent's birth month and year and the month and year they completed the survey. Respondents reported their _Party Affiliation_ including Republican, Democrat, and Other Party. Respondents reported if they were legally _married_ to their spouse/partner. _Couple type_ was constructed using the respondent's gender identity and their reports of their partner's gender identity. Respondents were coded as being in a same-gender couple if their gender identity matched their partner's gender identity (e.g., men with men (including trans men) and women with women (including trans women). Respondents completed a household roster and reported demographic characteristics of all members of their household. A dichotomous indicator for interracial couples was constructed if the main respondent's race and ethnicity did or did not match their spouse/partner's race and ethnicity. Respondents reported their gender identity from five options, including Woman, Man, Trans Woman, Trans Man, and some other gender identity. For these analyses, Women and Trans Women, and Men and Trans Men, were grouped together. Respondents answered the following question about their sexual identity, "What do you consider yourself to be? Select all that apply" with eleven responses including heterosexual or straight, gay or lesbian, bisexual, same-gender-loving, queer, pansexual, omnisexual, asexual, don't know, questioning, and "something else," with an option to specify. We coded respondents into four mutually exclusive categories heterosexual, gay/lesbian, bisexual (including queer, pan, and omni), and other/multiple sexual identities. We created a code for the number of _household children_ under the age of 18 living in their household, including grandchildren, which ranged from 0 to 7. Categories were collapsed to be 0,

1, and 2 or more. *Month of survey* spanned from September 2020 through March 2021 and were included as dummy variables although these variables are not shown in the tables to save space.

Results

Analyses were conducted in STATA 16.0. We present descriptive statistics for all study variables in Table 1. Next, we present ordinary least squares regression results for models predicting COVID stress and discrimination. We then present nested ordinary least square regression models for continuous measures of mental health outcome in Tables 2 through 4 and Table 6. We present logistic regression results in Table 5 for the dichotomous indicator of suicidal ideation. All analyses are weighted, and we used the subpopulation command to accurately estimate standard errors of the estimates. All models were checked for multicollinearity prior to performing the analyses by checking variance inflation factors. All variance inflation factors were under 10, indicating that there is no multicollinearity within models.

As shown in Table 1, discrimination and healthcare discrimination were below their midpoint, but COVID stress and COVID life stress were above their midpoint. The mental health measures of depression and anxiety were below their midpoints on average. Approximately 13% of the sample reported suicidal ideation since the start of the coronavirus pandemic. Life satisfaction was above the midpoint. Just under half of the Asian sample identified as East Asian (47%), followed by South Asian (21%), Southeast Asian (17%), and Other Asian or Multiregion (16%). Thirty percent of the sample was born outside of the U.S. Thirty-five percent of the sample also held another racial identity. Fifty-eight percent of the sample identified as men, 40% identified as women, and 2% identified as another gender identity. About 80% were married and the average age was 42. Half of the sample had no children. Approximately 60% of the sample was in an interracial couple. A majority had a college education and worked full-time. Most respondents identified as heterosexual and were in different-gender relationships. Community support in terms of race and sexual identity, social support, and racial/ethnic identity centrality were above the midpoint.

Table 2 includes ordinary least squares regression results predicting discrimination, COVID stress, COVID life stress, and healthcare discrimination. Respondents who were Other Asian or multiregion reported higher COVID stress than East Asian respondents. Respondents with higher income reported less discrimination COVID stress. Those who identified as women reported more COVID stress than men and those in a same-gender or non-binary couples reported more COVID stress than those in a different-gender relationship. Turning to discrimination, respondents with higher income reported less discrimination. Respondents in a non-binary couple reported less discrimination than respondents in different-gender relationships. Respondents with more education (some college or college +) reported more COVID life stress than respondents with high school or less education. Respondents who were not employed reported more COVID life stress than respondents who worked full-time. For healthcare discrimination, respondents who were South Asian reported more experiences of healthcare discrimination. Those in same-gender couples reported more healthcare discrimination compared to man-woman heterosexual couples. Republican respondents reported less healthcare discrimination than Democrats.

The Role of COVID stress and Discrimination on Mental Health Outcomes

Asian region and sociodemograpic main effects. Nested ordinary least square and logistic regression results for depression, anxiety, suicidal ideation, and life satisfaction are reported in tables 3, 4, 5, and 6. In Model 1 predicting depression, respondents who reported higher household income reported less depressive symptoms. Republican respondents reported less depressive symptoms than democratic respondents. In Model 1 predicting anxiety, Southeast Asian respondents reported more anxiety than East Asian respondents. Women reported more anxiety than men, and respondents with higher incomes reported less anxiety. In Model 1 predicting suicidal ideation, respondents with some college reported less suicidal ideation than respondents with high school or less educational attainment. Respondents who were not employed reported more suicidal ideation than respondents who were employed full-time. Respondents who were Republican or Other political party reported less suicidal ideation than Democrat respondents. Bisexual respondents reported more suicidal ideation than heterosexual respondents. In Model 1 predicting life satisfaction, respondents with higher income reported more

life satisfaction. Older respondents reported less life satisfaction. Republican respondents reported more life satisfaction than Democratic respondents. Respondents in non-binary relationships reported more life satisfaction than respondents in different-gender relationships. Respondents with an Other sexual identity reported less life satisfaction than heterosexual respondents.

COVID stress and discrimination models. Next, we added COVID stress, discrimination, COVID life stress, and healthcare discrimination to the models. More discrimination, COVID stress, and healthcare discrimination were associated with significantly higher depressive symptoms and anxiety symptoms. Discrimination and COVID stress were associated with significantly lower life satisfaction. Discrimination was associated with significantly higher odds of reporting suicidal ideation.

Mediator variables models. The final set of models included the mediator variables of community support race, community support LGB, social support, and race/ethnicity identity centrality. More discrimination and healthcare discrimination remained significantly associated with more depressive symptoms. However, with the addition of the mediating variables, the association between COVID stress and depressive symptoms became non-significant. Specifically, more social support was protective and associated with less depressive symptomology. Turning to the models predicting anxiety, more discrimination and COVID stress remained significantly associated with more anxiety symptoms. However, with the addition of the mediating variables, the association between healthcare discrimination and depressive symptoms became non-significant. Again, more social support was protective and associated with less anxiety symptomology. The addition of mediating variables in the suicidal ideation models did not change the association between more discrimination and increased suicidal ideation. In the models predicting life satisfaction, the association between more discrimination and COVID stress and less life satisfaction became non-significant when the mediators were added to the model. Specifically, more social support was associated with more life satisfaction.

Thus, there is some evidence that these mediator pathways, especially social support, could be candidates for further study as we seek to alleviate the negative impact of the pandemic and discrimination on mental health.

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Table 1. Descriptive Statistics for All Study Variables (weighted mean/percent in parentheses)

	Mean or percent	SD	Min.	Max.	% Missing
Discrimination	13.65 (13.85)	5.00	9	37	2.45%
COVID-19 Stress	8.77 (8.34)	3.50	3	15	0.61%
COVID Life Stress	3.16 (3.13)	0.79	1	4	0.31%
Healthcare Discrimination	2.55 (2.50)	1.06	1	5	0
Depression	8.62 (8.51)	6.27	0	28	3.07%
Anxiety	12.03 (11.87)	5.22	7	28	1.84%
Suicidal Ideation	12.92% (12.03%)	-	-	-	0.31%
Life Satisfaction	15.25 (15.33)	2.86	3	20	0
Community Support Race	3.81 (3.86)	1.05	1	5	0
Community Support LGB	3.85 (3.87)	1.06	1	5	0.31%
Social Support	3.19 (3.17)	1.05	1	5	0
Racial/Ethnic Identity Centrality	3.66 (3.65)	1.12	1	5	0.31%
Asian Regions					
East Asia	46.93% (43.71%)	-	-	-	0
South Asia	20.86% (22.84%)	-	-	-	0
Southeast Asia	16.56% (17.46%)	-	-	-	0
Other Asian or Multiregion	15.64% (15.99%)				
Foreign Born	28.94% (41.06%)	-	-	-	1.53%
Multirace Asian	34.36% (22.90%)	-	-	-	0
Asian Street Race	69.54% (73.70%)	-	-	-	0.31%
Education					
High school or less	1.53% (1.69%)	-	-	-	0
Some College	11.66% (13.11%)	-	-	-	0
College +	86.81% (85.20%)	-	-	-	0
Employment					
Full-time	70.55% (70.56%)	-	-	-	0
Part-time	9.20% (9.15%)	-	-	-	0
Employed but not working	3.68% (3.61%)	-	-	-	0
Unemployed	16.56% (16.68%)	-	-	-	0
Household income (log)	11.83 (11.80)	1.28	-0.69	13.12	0
Age	42.05 (40.31)	9.60	20	60	0
Party Affiliation					
Democrat	61.85% (60.21%)	-	-	-	0.31%
Republican	12.92% (14.56%)	-	-	-	0.31%
Independent	22.15% (22.21%)	-	-	-	0.31%
Other Party	3.08% (3.03%)	-	-	-	0.31%
Married	80.31% (84.19%)	-	-	-	0.31%
Interracial Couple	61.35% (57.73%)	-	-	-	0
Gender					
Man/Trans Man	58.28% (55.47%)	-	-	-	0
Woman/Trans Woman	39.88% (43.98%)	-	-	-	0
Other Gender Identity	1.84% (0.55%)	-	-	-	0
Sexual Identity					
Exclusively Heterosexual	75.77% (95.76%)	-	-	-	0
Exclusively Gay or Lesbian	9.20% (0.75%)	-	-	-	0
Bisexual (plus queer, pan, omni)	6.44% (1.12%)	-	-	-	0
Other Identity	8.59% (2.37%)	-	-	-	0
Couple Type					
Man-Woman	85.89% (98.45%)	-	-	-	0
Same-Gender	11.96% (0.99%)	-	-	-	0
Non-Binary	2.15% (0.56%)	-	-	-	0
Household Children <18					
0	52.15% (44.62%)	-	-	-	0
1	20.25% (22.21%)	-	-	-	0

2 or more	27.61% (33.17%)	-	-	-	0
Month of Survey					
September	11.66%	-	-	-	0
October	1.23%	-	-	-	0
November	3.07%	-	-	-	0
December	3.99%	-	-	-	0
January	6.44%	-	-	-	0
February	1.23%	-	-	-	0
March	63.19%	-	-	-	0
April	9.20%	-	-	-	0

Table 2. Ordinary Least Squares Regression for Discrimination and COVID Stress

	Discrimination		COVID-19 Stress		COVID Life Stress		Healthcare Discrimination	
	B	SE	B	SE	B	SE	B	SE
Asian Regions								
South Asia	-0.63	(0.93)	-0.08	(0.62)	-0.25	(0.15)	0.05	(0.20)
Southeast Asia	0.47	(0.92)	-0.02	(0.63)	0.02	(0.16)	0.40*	(0.21)
Other Asian or multiregion	0.48	(0.91)	1.46*	(0.70)	-0.19	(0.17)	0.17	(0.22)
Foreign Born	0.60	(0.83)	1.29*	(0.52)	0.01	(0.12)	-0.05	(0.16)
Multiracial Asian	-0.27	(0.83)	0.55	(0.66)	-0.02	(0.15)	0.04	(0.20)
Asian Street Race	-0.29	(0.77)	0.07	(0.60)	-0.03	(0.14)	0.25	(0.17)
Centrality of Racial/Ethnic Identity	0.27	(0.45)	0.01	(0.23)	0.09	(0.06)	0.05	(0.09)
Education (ref: High School)								
Some College	-4.04	(2.84)	-0.51	(1.45)	1.02***	(0.28)	-0.02	(0.31)
College+	-1.88	(2.88)	0.82	(1.41)	1.14***	(0.28)	0.19	(0.30)
Employment (ref: Full-Time)								
Part-Time	-0.40	(0.92)	1.04	(0.89)	0.09	(0.19)	-0.06	(0.28)
Employed but not working	2.40	(1.77)	1.43	(1.18)	0.08	(0.22)	0.24	(0.25)
Not Employed	0.79	(0.92)	-0.40	(0.65)	0.40*	(0.16)	0.33	(0.16)
Household Income(logged)	-0.62**	(0.24)	-0.40*	(0.16)	0.02	(0.04)	-0.11	(0.05)
Age	-0.02	(0.03)	0.04	(0.02)	0.01	(0.01)	0.01	(0.01)
Party Affiliation (ref: Democrat)								
Republican	-0.25	(1.02)	-1.18	(0.81)	-0.27	(0.18)	-0.49*	(0.24)
Independent	-0.03	(0.92)	-0.19	(0.57)	0.06	(0.14)	-0.35	(0.20)
Other party	3.41	(2.60)	-2.82	(1.61)	0.29	(0.30)	0.27	(0.46)
Married	-2.48	(1.27)	-0.70	(0.74)	-0.26	(0.15)	-0.25	(0.23)
Couple Type (ref: Man/Woman)								
Same-Gender	-0.29	(2.16)	2.16*	(1.02)	0.17	(0.26)	0.73*	(0.31)
Non-binary	-8.40*	(3.35)	4.01*	(1.78)	0.18	(0.36)	1.28	(0.39)
Interracial Couple	-1.16	(0.93)	-0.76	(0.52)	0.00	(0.12)	0.01	(0.16)
Gender (ref: Man/Trans man)								
Woman/Trans woman	1.07	(0.73)	1.52**	(0.47)	0.03	(0.12)	0.18	(0.16)
Other gender identity	5.65	(3.39)	-3.12	(2.30)	-0.48	(0.46)	-1.37*	(0.63)
Sexual Identity (ref: Exclusively Heterosexual)								
Exclusively Gay or Lesbian	-1.30	(2.19)	1.04	(1.21)	-0.31	(0.28)	-0.32	(0.36)
Bisexual (plus queer, pan, omni)	-0.17	(2.57)	0.56	(1.47)	0.42	(0.30)	0.12	(0.33)
Other Identity	3.43	(2.83)	2.48	(1.34)	0.17	(0.24)	-0.07	(0.26)
Household Children <18 (ref: 0)								
1	-0.72	(0.81)	-0.00	(0.61)	0.26	(0.16)	0.05	(0.19)
2 or more	0.74	(0.76)	-0.52	(0.54)	0.15	(0.14)	0.03	(0.16)
Month of Survey	Yes		Yes		Yes		Yes	
Constant	25.44	(5.35)	9.68	(3.18)	1.61	(0.65)	2.78	(0.89)
N	310		317		318		318	
F	6.59***		427.30***		17.72***		29.54***	
R-squared	0.195		0.198		0.155		0.155	

Note: *$p < .05$ ** $p < .01$ ***$p < .001$
Source: National Couples' Health and Time Study

Table 3. Ordinary Least Squares Regression Results for Depression

	Model 1		Model 2		Model 3	
	B	SE	B	SE	B	SE
Discrimination			0.41***	(0.08)	0.40***	(0.08)
COVID Stress			0.22*	(0.11)	0.20	(0.11)
COVID Life Stress			-0.35	(0.49)	-0.17	(0.49)
Healthcare discrimination			0.73*	(0.36)	0.70*	(0.36)
Community Support Race					-0.12	(0.60)
Community Support LGB					0.06	(0.52)
Social Support					-1.28**	(0.41)
Centrality of Racial/Ethnic Identity					0.19	(0.35)
Asian Regions (ref: East Asia)						
South Asia	0.33	(1.07)	0.59	(0.99)	0.55	(1.03)
Southeast Asia	0.52	(1.11)	-0.33	(0.93)	-0.67	(0.93)
Other Asian or multiregion	0.88	(1.20)	0.02	(1.11)	-0.09	(1.08)
Foreign Born	-0.77	(0.94)	-1.07	(0.76)	-1.16	(0.76)
Multiracial Asian	-0.92	(1.07)	-0.78	(0.99)	-0.63	(0.95)
Asian Street Race	-1.11	(1.09)	-1.08	(1.01)	-1.34	(1.00)
Education (ref: High School)						
Some College	0.64	(3.01)	2.49	(2.14)	2.84	(1.95)
College+	2.12	(2.97)	2.42	(2.05)	3.02	(1.95)
Employment (ref: Full-Time)						
Part-Time	-0.51	(1.42)	-0.73	(1.24)	-1.40	(1.21)
Employed but not working	0.97	(1.65)	-0.43	(1.27)	-0.34	(1.34)
Not Employed	2.33	(1.44)	2.01	(1.24)	1.16	(1.22)
Household Income(logged)	-0.83***	(0.23)	-0.36*	(0.16)	-0.40*	(0.16)
Age	-0.04	(0.04)	-0.05	(0.04)	-0.05	(0.04)
Party Affiliation (ref: Democrat)						
Republican	-2.97*	(1.34)	-2.43*	(1.13)	-2.33*	(1.17)
Independent	-1.35	(0.96)	-0.95	(0.80)	-1.05	(0.81)
Other party	1.48	(3.98)	0.62	(3.07)	1.22	(2.72)
Married	-0.13	(1.23)	1.39	(1.00)	1.23	(0.94)
Couple Type (ref: Man/Woman)						
Same-Gender	0.55	(2.43)	-0.06	(2.18)	-0.15	(2.06)
Non-binary	-7.23	(3.88)	-5.05	(2.92)	-5.82*	(2.79)
Interracial Couple	0.27	(0.91)	0.83	(0.78)	0.28	(0.77)
Gender (ref: Man/Trans man)						
Woman/Trans woman	0.75	(0.88)	0.23	(0.76)	1.15	(0.80)
Other gender identity	3.22	(5.27)	2.26	(4.32)	1.83	(4.08)
Sexual Identity (ref: Exclusively Heterosexual)						
Exclusively Gay or Lesbian	1.92	(2.90)	2.04	(2.64)	1.91	(2.53)
Bisexual (plus queer, pan, omni)	3.60	(2.92)	3.46	(2.47)	3.35	(2.31)
Other Identity	4.35	(2.55)	2.26	(1.25)	3.62*	(1.51)
Household Children <18 (ref: 0)						
1	-1.88	(1.07)	-1.87	(0.98)	-1.40	(0.97)
2 or more	-0.80	(0.96)	-1.24	(0.87)	-0.83	(0.86)
Month of Survey	Yes		Yes		Yes	
Constant	21.08	(4.78)	6.27	(4.37)	9.36	(4.88)
N	311		305		304	
F	7.70***		13.09***		11.87***	
R-squared	0.19		0.37		0.40	

Note: * p<0.05 **p<0.01 ***p<0.001
Source: National Couples' Health and Time Study

Table 4. Ordinary Least Squares Regression Results for Anxiety

	Model 1		Model 2		Model 3	
	B	SE	B	SE	B	SE
Discrimination			0.32***	(0.07)	0.30***	(0.07)
COVID Stress			0.33***	(0.10)	0.29**	(0.10)
COVID life stress			-0.46	(0.36)	-0.40	(0.36)
Healthcare discrimination			0.59*	(0.29)	0.55	(0.28)
Community Support Race					-0.22	(0.48)
Community Support LGB					-0.27	(0.42)
Social Support					-0.87**	(0.31)
Centrality of Racial/Ethnic Identity					-0.00	(0.27)
Asian Regions (ref: East Asia)						
South Asia	0.44	(0.84)	0.56	(0.77)	0.52	(0.81)
Southeast Asia	2.73**	(0.91)	2.13**	(0.72)	1.92**	(0.70)
Other Asian or multiregion	1.24	(0.95)	0.43	(0.92)	0.51	(0.95)
Foreign Born	-0.25	(0.78)	-0.77	(0.64)	-0.84	(0.61)
Multiracial Asian	0.52	(0.87)	0.52	(0.74)	0.65	(0.73)
Asian Street Race	-0.07	(0.70)	-0.08	(0.67)	-0.05	(0.68)
Education (ref: High School)						
Some College	-0.36	(2.30)	1.52	(1.80)	2.22	(1.87)
College+	0.48	(2.23)	0.91	(1.74)	1.78	(1.85)
Employment (ref: Full-Time)						
Part-Time	-1.37	(1.16)	-1.53	(0.93)	-2.21*	(0.95)
Employed but not working	-0.32	(1.43)	-1.65	(1.06)	-1.66	(1.02)
Not Employed	-0.15	(0.90)	-0.27	(0.78)	-0.81	(0.79)
Household Income(logged)	-0.62**	(0.19)	-0.18	(0.16)	-0.18	(0.17)
Age	-0.04	(0.03)	-0.05	(0.03)	-0.05	(0.03)
Party Affiliation (ref: Democrat)						
Republican	-0.53	(0.96)	0.01	(0.84)	-0.05	(0.91)
Independent	0.19	(0.90)	0.59	(0.69)	0.65	(0.68)
Other party	2.27	(2.77)	2.01	(1.84)	2.47	(1.72)
Married	-0.15	(1.08)	1.11	(0.73)	1.02	(0.71)
Couple Type (ref: Man/Woman)						
Same-Gender	-1.05	(2.17)	-1.86	(1.96)	-1.96	(1.97)
Non-binary	-0.15	(4.02)	0.82	(2.94)	-0.05	(2.80)
Interracial Couple	-0.86	(0.70)	-0.29	(0.63)	-0.85	(0.62)
Gender (ref: Man/Trans man)						
Woman/Trans woman	2.25**	(0.72)	1.48*	(0.65)	2.17**	(0.67)
Other gender identity	-4.10	(3.78)	-4.18	(3.01)	-3.14	(3.03)
Sexual Identity (ref: Exclusively Heterosexual)						
Exclusively Gay or Lesbian	4.36	(2.42)	4.30	(2.26)	4.64*	(2.22)
Bisexual (plus queer, pan, omni)	3.57	(2.55)	3.52	(2.30)	3.46	(2.31)
Other Identity	5.43	(3.39)	3.42	(2.10)	3.93	(2.06)
Household Children <18 (ref: 0)						
1	-0.93	(0.81)	-0.80	(0.74)	-0.56	(0.72)
2 or more	-0.30	(0.75)	-0.43	(0.65)	-0.14	(0.65)
Month of Survey	Yes		Yes		Yes	
Constant	19.07	(4.16)	6.14	(3.51)	10.44	(4.05)
N	314		306		304	
F	39.45***		41.59***		37.70***	
R-squared	0.19		0.40		0.43	

Note: * p<0.05 **p<0.01 ***p<0.001
Source: National Couples' Health and Time Study

Table 5. Logistic Regression Results for Suicidal Ideation

	Model 1			**Model 2**			**Model 3**		
	OR	B	SE	OR	B	SE	OR	B	SE
Discrimination				1.18**	0.17**	(0.06)	1.18*	0.17*	(0.07)
COVID-19 Stress				0.90	-0.11	(0.09)	0.87	-0.14	(0.09)
COVID life stress				1.22	0.20	(0.43)	1.13	0.12	(0.47)
Healthcare discrimination				0.87	-0.13	(0.30)	0.82	-0.20	(0.31)
Community Support Race							0.52	-0.66	(0.35)
Community Support LGB							1.03	0.03	(0.32)
Social Support							0.70	-0.36	(0.31)
Centrality of Racial/Ethnic Identity							1.01	0.01	(0.33)
Asian Regions									
South Asia	0.73	-0.31	(0.85)	0.72	-0.33	(0.85)	0.55	-0.61	(0.81)
Southeast Asia	1.76	0.56	(0.71)	1.60	0.47	(0.72)	1.64	0.49	(0.69)
Other Asian or multiregion	0.69	-0.36	(0.84)	0.79	-0.24	(0.85)	0.95	-0.05	(0.93)
Foreign Born	0.34	-1.09	(0.64)	0.28	-1.29	(0.71)	0.19*	-1.66*	(0.84)
Multiracial Asian	0.59	-0.52	(0.73)	0.65	-0.43	(0.77)	0.49	-0.71	(0.91)
Asian Street Race	1.19	0.18	(0.64)	1.24	0.22	(0.69)	1.35	0.30	(0.72)
Education (ref: High School)									
Some College	0.04*	-3.27*	(1.46)	0.14	-1.95	(1.37)	0.75	-0.29	(1.79)
College+	0.54	-0.61	(1.02)	1.19	0.17	(1.19)	10.49	2.35	(1.77)
Employment (ref: Full-Time)									
Part-Time	2.74	1.01	(0.88)	3.31	1.20	(0.94)	2.55	0.93	(0.90)
Employed but not working	0.36	-1.03	(0.78)	0.19	-1.68	(1.07)	0.11	-2.18	(1.35)
Not Employed	5.90**	1.77**	(0.64)	6.22*	1.83*	(0.79)	6.79*	1.92*	(0.85)
Household Income(logged)	0.85	-0.17	(0.21)	0.93	-0.07	(0.23)	0.89	-0.12	(0.22)
Age	0.98	-0.02	(0.03)	0.97	-0.03	(0.04)	0.97	-0.03	(0.04)
Party Affiliation (ref: Democrat)									
Republican	0.06**	-2.78**	(1.04)	0.04*	-3.11*	(1.27)	0.02*	-4.09*	(1.75)
Independent	0.22	-1.51	(0.81)	0.18*	-1.72*	(0.81)	0.25	-1.39	(0.81)
Other party	0.13*	-2.07*	(1.00)	0.04**	-3.30**	(1.13)	0.16	-1.86	(1.13)
Married	0.37	-0.98	(0.69)	0.55	-0.59	(0.68)	0.51	-0.67	(0.67)
Couple Type (ref: Man/Woman)									
Same-Gender	0.92	-0.08	(1.29)	1.83	0.61	(1.31)	1.84	0.61	(1.48)
Non-binary	1	0.00	(.)	1	0.00	(.)	1	0.00	(.)
Interracial Couple	1.16	0.14	(0.58)	1.12	0.11	(0.62)	0.65	-0.43	(0.67)
Gender (ref: Man/Trans man)									
Woman/Trans woman	0.61	-0.49	(0.56)	0.55	-0.60	(0.61)	0.63	-0.47	(0.53)
Other gender identity	1	0.00	(.)	1	0.00	(.)	1	0.00	(.)
Sexual Identity (ref: Exclusively Heterosexual)									
Exclusively Gay or Lesbian	0.20	-1.63	(1.50)	0.15	-1.90	(1.71)	0.16	-1.85	(1.99)
Bisexual (plus queer, pan, omni)	13.77*	2.62*	(1.24)	17.28*	2.85*	(1.21)	17.95*	2.89*	(1.33)
Other Identity	8.47	2.14	(1.31)	5.75	1.75	(1.14)	4.53	1.51	(1.28)
Household Children <18 (ref: 0)									
1	0.50	-0.70	(0.88)	0.60	-0.51	(0.94)	0.93	-0.07	(0.99)
2 or more	1.67	0.51	(0.67)	1.39	0.33	(0.69)	1.30	0.26	(0.76)
Month of Survey		Yes			Yes			Yes	
Constant	45.71	3.82	(3.07)	0.76	-0.27	(3.47)	20.89	3.04	(4.04)
N		298			289			287	
F		1.74**			2.07***			1.81**	

Note: * p<0.05 **p<0.01 ***p<0.001
Source: National Couples' Health and Time Study

Table 6. Ordinary Least Squares Regression Results for Life Satisfaction

	Model 1		Model 2		Model 3	
	B	SE	B	SE	B	SE
Discrimination			-0.09*	(0.04)	-0.08	(0.04)
COVID Stress			-0.16*	(0.07)	-0.14	(0.07)
COVID life stress			0.42	(0.29)	0.36	(0.28)
Healthcare discrimination			-0.34	(0.19)	-0.34	(0.19)
Community Support Race					0.07	(0.27)
Community Support LGB					0.05	(0.26)
Social Support					0.58**	(0.18)
Centrality of Racial/Ethnic Identity					0.02	(0.16)
Asian Regions (ref: East Asia)						
South Asia	-0.60	(0.54)	-0.65	(0.55)	-0.69	(0.53)
Southeast Asia	0.53	(0.50)	0.77	(0.49)	0.93	(0.48)
Other Asian or multiregion	-0.78	(0.67)	-0.41	(0.60)	-0.42	(0.57)
Foreign Born	0.33	(0.43)	0.49	(0.40)	0.50	(0.40)
Multiracial Asian	0.37	(0.53)	0.36	(0.49)	0.24	(0.47)
Asian Street Race	-0.05	(0.47)	-0.03	(0.47)	-0.09	(0.49)
Education (ref: High School)						
Some College	0.59	(1.38)	-0.30	(1.28)	-0.49	(1.24)
College+	0.24	(1.32)	-0.08	(1.21)	-0.41	(1.19)
Employment (ref: Full-Time)						
Part-Time	0.15	(0.75)	0.21	(0.73)	0.52	(0.72)
Employed but not working	0.19	(1.07)	0.63	(1.12)	0.61	(1.13)
Not Employed	-1.13	(0.68)	-1.35*	(0.65)	-0.99	(0.63)
Household Income(logged)	0.44**	(0.15)	0.25*	(0.12)	0.26	(0.14)
Age	-0.06**	(0.02)	-0.05*	(0.02)	-0.05*	(0.02)
Party Affiliation (ref: Democrat)						
Republican	1.47*	(0.71)	1.23	(0.63)	1.24	(0.64)
Independent	0.75	(0.47)	0.52	(0.46)	0.51	(0.46)
Other party	-0.46	(1.64)	-0.61	(1.41)	-0.84	(1.34)
Married	1.15	(0.68)	0.69	(0.65)	0.75	(0.63)
Couple Type (ref: Man/Woman)						
Same-Gender	1.28	(1.34)	1.65	(1.39)	1.69	(1.39)
Non-binary	5.12**	(1.69)	5.18**	(1.58)	5.56***	(1.61)
Interracial Couple	-0.02	(0.42)	-0.19	(0.38)	0.10	(0.37)
Gender (ref: Man/Trans man)						
Woman/Trans woman	-0.15	(0.39)	0.16	(0.37)	-0.32	(0.40)
Other gender identity	-4.23	(2.43)	-4.44*	(2.10)	-4.59*	(2.10)
Sexual Identity (ref: Exclusively Heterosexual)						
Exclusively Gay or Lesbian	-1.16	(1.31)	-1.00	(1.33)	-1.13	(1.34)
Bisexual (plus queer, pan, omni)	-2.80	(1.69)	-2.86	(1.59)	-2.85	(1.52)
Other Identity	-1.76*	(0.74)	-1.02	(0.79)	-1.61	(0.91)
Household Children <18 (ref: 0)						
1	0.39	(0.48)	0.38	(0.44)	0.22	(0.45)
2 or more	0.05	(0.51)	0.12	(0.46)	-0.09	(0.45)
Month of Survey	Yes		Yes		Yes	
Constant	11.06	(2.66)	15.62	(2.50)	13.75	(2.96)
N	319		310		308	
F	8.06***		7.84**		9.58***	
R-squared	0.19		0.29		0.32	

Note: * p<0.05 **p<0.01 ***p<0.001
Source: National Couples' Health and Time Study