Couple Relationship Functioning and Mental Health During the COVID-19 Pandemic:

Evidence from the National Couples' Health and Time Study

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Abstract

We use population representative data from the National Couples' Health and Time Study ($n =$ 3,642) to examine mechanistic and demographic predictors of relationship functioning and mental health during the pandemic. Dyadic coping and partner social support were associated with less COVID relationship trouble, more couple satisfaction, and less negative interaction and relationship risk. Loneliness was associated with more COVID relationship trouble, less couple satisfaction, and elevated negative interaction and relationship risk. Housework satisfaction was associated with less COVID relationship trouble, higher couple satisfaction, and less negative interaction and relationship risk. Spouses reported less COVID relationship trouble and relationship risk than cohabitors. Bisexual+ and individuals with other or multiple sexual identities reported more relationship risk than heterosexuals. Individuals who reported more COVID relationship trouble, lower couple satisfaction, and higher negative interaction and relationship risk reported more depressive symptoms. Elevated negative interaction and relationship risk were associated with more anxious symptoms.

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The COVID-19 pandemic has seriously impacted the health and well-being of families all over the world, and its impact on intimate relationships is just beginning to be understood. In three US community samples, most couples appeared to have endured the pandemic relatively well (Walsh and Stephenson 2021, Weber et al. , Williamson 2020), but groups that were at higher risk of COVID-19 suffered disproportionately in terms of decreased relationship functioning (Walsh and Stephenson 2021, Weber et al.). In addition to the pandemic, anti-Black violence, as evidenced by the murders of George Floyd and Ahmaud Arbery, led to a global civil rights uprising along with racial trauma (Brodie, Perdomo and Silberholz 2021, Kamp Dush et al. 2021, Liu and Modir 2020, Waldron 2020). Asian Americans also experienced racial trauma as anti-Asian hate crimes and discrimination escalated due to both an assumption that the coronavirus had its origins in East Asia and long-standing marginalization and othering of Asian Americans (Gover, Harper and Langton 2020, Litam 2020, Man 2020, Ruiz, Menasce Horowitz and Tamir 2020, Tessler, Choi and Kao 2020). Americans who are Black and Latinx have more risk factors for COVID (e.g., living in densely populated neighborhoods, inability to work from home, elevated hypertension) (Alcendor 2020, Shah, Sachdeva and Dodiuk-Gad 2020, Webb Hooper, Nápoles and Pérez-Stable 2020) and COVID will reduce the life expectancy of Black and Latinx populations by two and three years, respectively, which is three to four times the reduction for white populations (Andrasfay and Goldman 2021). Thus, racial trauma and the trauma of the pandemic are intertwined. Understanding how socioeconomic and pandemic and racial trauma stressors were associated with relationship functioning is important as scholars look to understand the impact of the pandemic.

Relationship functioning is strongly associated with both mental and physical health outcomes (Kiecolt-Glaser, Gouin and Hantsoo 2010, Proulx, Helms and Buehler 2007) and has been identified as a key mediator between experiences of discrimination and stigma such as have been experienced during the pandemic, and psychopathology (Hatzenbuehler 2009). Sexual and gender minorities are a growing segment of the population; about 6% of adults in the US identify as lesbian, gay, bisexual, or transgender and 37% are married or cohabiting (Jones 2021). But sexual and gender minorities have higher rates of depression (Lewis 2009) and negative mental health (The National Academy of Sciences 2020). This risk has carried through to the pandemic. In community samples, sexual minorities reported more stress than heterosexual individuals (Hoyt et al. 2021, Peterson, Vaughan and Carver 2021). Higher scores on depression and anxiety symptoms have also been reported among sexual minorities (Moore et al. 2021) and our team's analysis of the National Couples' Health and Time Study data indicates that sexual and gender diverse populations reported higher COVID stressors and poorer mental health during the pandemic (Kamp Dush et al. 2021, Manning and Kamp Dush 2021). Poor relationship functioning could be a key mechanism underlying poor mental health outcomes during the pandemic.

Given the racist history of much health disparities research (Hardeman and Karbeah 2020, Williams 2019), it is critical to highlight that Black, Asian, and immigrant Latinx individuals have fared as well as or better on many mental health indicators than white individuals despite confronting long-standing discrimination and racism (Breslau et al. 2006, Erving, Thomas and Frazier 2019, Gallo et al. 2009, Keyes 2009, Lee, Lei and Sue 2000, Mezuk et al. 2013, Thomas Tobin et al. 2020) These findings have been referred to as a "paradox"

which introduces a racist lens (Doucet 2021) and diminishes important research about key social and individual resources available to marginalized groups that shape responses to stressors (Brown, Mitchell and Ailshire 2020, Pamplin and Bates 2021). Pattillo's Black Advantage Vision (Pattillo 2021) pushes scholars to challenge these determinations.

We examine relationship functioning and mental health during the COVID-19 pandemic in a novel sample of same and different-gender couples with oversamples of sexual minorities, and Black, Latinx, and Asian individuals. We examine four indicators of relationship functioning, including a COVID-specific indicator, as well as satisfaction, negative interaction, and risk. Further, we examine two indicators of mental health, both depressive and anxious symptoms. In addition to demographic indicators for gender and sexual identity, race and ethnicity, and marital status, we also examine four groups of potential mechanistic predictors that are associated both with relationship functioning and mental health. We examine socioeconomic status indicators including education, income, and employment. Further, we examine pandemic and racial trauma indicators including covid stress, racial trauma stress, and discrimination in the form of microaggressions. We also examine social support and dyadic coping indicators, including social support from friends and family as well as one's partner. We include loneliness as well. Finally, we examine a combined measure of housework satisfaction and stress. We use these mechanistic predictors to predict both relationship functioning during the pandemic, and mental health. An important note for this study is that all data are cross-sectional, and we are unable to draw any causal claims. That said, this study sample is a first of its kind, and one of the first US population representative studies to include family functioning indicators with constructs related to marginalization in a population representative sample.

Method

We use the National Couples' Health and Time Study (NCHAT) data that was fielded from September 2020 to April 2021. NCHAT is a nationally representative sample of 3642 respondents ages 20-60 years old who were married or cohabiting. The respondents were primarily members of the Gallup Panel, a probability-based nationally representative panel of over 110,000 individuals. Additional sexual minority respondents were recruited from other population-representative Gallup samples. Web-based surveys were completed in Spanish and English and respondents took on average 40 minutes to complete the survey. Preliminary analyses were weighted to be population representative.

Measures

Relationship Functioning

Four indicators of relationship functioning were initially dependent variables and then serve as key independent variables in analyses estimating mental health.

COVID Relationship Trouble was a measure of relationship trouble specific to the COVID-19 pandemic developed by Kamp Dush, Manning, and Berrigan. The three-item measure ($\alpha = .71$) included: "Our relationship will be stronger than ever after the coronavirus pandemic is over" (reverse coded); "The coronavirus pandemic is making me question my relationship;" and "After the coronavirus pandemic is over, we will probably break up, separate, or divorce" on a scale from 1 (strongly disagree) to 5 (strongly agree). Higher scores indicated higher COVID Relationship Trouble. The scale was standardized.

Couple Satisfaction Index (Funk and Rogge 2007) was measured as the sum of four items

(α = .89) including "Please indicate the level of happiness, all things considered, in your relationship" on a scale from 1 (extremely unhappy) to 7 (perfect); "I have a warm and comfortable relationship with my spouse/partner I have a warm and comfortable relationship with my spouse/partner" on a scale from 1 (not at all true) to 6 (completely true); "How rewarding is your relationship with your spouse/partner?" on a scale from 1 (not at all rewarding) to 6 (completely rewarding); and "In general, how satisfied are you with your relationship?" on a scale from 1 (not at all satisfied) to 6 (completely satisfied).

Negative Interaction Scale (Stanley 2002) was measured with the prefix "In the past week, how often did you and your spouse/partner experience each of the following situations?" and the following items were measured: "Little arguments escalated into ugly fights with accusations, criticisms, name calling, or bringing up past hurts;" "My spouse/partner criticized or belittled my opinions, feelings, or desires;" "My spouse/partner seemed to view my words or actions more negatively than I meant them to be;" and "When we argued, one of us withdrew…that is, did not talk about it anymore, or left the scene." The scaling was 1 (very rarely) to 5 (very often) and Chronbach's alpha was .84. The scale was standardized.

Relationship Risk was measured with three items (α = .86) from two different scales. The first item was from the Relationship Constraint scale (Stanley 1997): "I feel trapped or stuck in this relationship" on a scale from 1 (strongly disagree) to 5 (strongly agree). The two items from the Martial Risk Scale (Booth, Johnson and Edwards 1983) items included: "What do you think the chances are that you and your spouse/partner will eventually breakup or separate?" on a scale from 1 (very unlikely) to 6 (very likely); and "In the past week, how often have you thought your relationship might be in trouble?" on a scale from 1 (never) to 5 (very often). The scale was standardized.

Mental Health Dependent Variables.

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).

Mechanistic Variables

Socioeconomic Status. *Education* was coded into four categories: less than high school, high school degree, some college or post-high school education, and a college degree. 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.

Pandemic Stress and Discrimination. *COVID-19 stress* 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, orother family members getting coronavirus on a 5-point scale from not at all stress to very stressed. *Racial trauma stress* was measured by asking, "How has therecent movement for racial equity sparked by the killing of George Floyd

influenced your stress?" on a 4-point scale from not at all to a great deal. 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 (α = .85), 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). Higher values indicated more frequent experiences of *discrimination* (Meyer et al. 2016, Williams 1997).

   Social Support, Loneliness, and Dyadic Coping. *Social Support* was measured by three questions (Procidano and Heller 1983), "How much do you rely on each of the following people for emotional support … I rely on my partner 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). Due to a low alpha (α = .51), we created domain specific measures of social support for partner, family, and friends. *Loneliness* was measured using a sum of the 3-item R-UCLA Loneliness measure (Hughes et al. 2004). Respondents were asked how often they were bothered by three different problems (e.g., "How often did you feel that you lack companionship?") over the past seven days on a 5-point scale from never to very often (α = .84). *Dyadic coping* was measured by the Dyadic Coping Inventory (Bodenmann 2018) with the prefix: "How often do you experience each of the following situations with your spouse/partner?" and the items: "My spouse/partner shows empathy and understanding;" "My spouse/partner expresses that they are on my side;" "My spouse/partner helps me in stressful situations;" and "My spouse/partner helps me analyze situations so that I can better face problems." The scale was 1 (very rarely) to 5 (very often). Chronbach's alpha was .90.

   Work-Family Stress and Housework. *Household Work and Management Satisfaction* was a six-item measure that was standardized, but only included the four non-childcare related items for individuals without children under the age of 18 (α = .90 full scale; α = .86 excluding childcare items). For the first three items, the prefix was: "In the past week, how satisfied were you with the way you and your spouse/partner divided" and the three items included: "housework (e.g., loading the dishwasher, doing the laundry);" "childcare (e.g., putting the child to bed/waking the child up, helping child with homework);" and "household planning and management (e.g., meal planning, birthday and holiday planning, scheduling appointments, paying bills, etc.)." The scaling was from 1 (very dissatisfied) to 5 (very satisfied). For the next three items, the prefix was: "Overall, how stressed are you about the following?" and items included: "Dividing housework; "Dividing childcare;" and "Dividing household planning and management." The scaling was from 1 (Not stressed at all) to 5 (very stressed). We also measured work-family stress with two items, each examined individually. *Work impacting family stress* was measured by "How stressed are you about the impact of your work responsibilities on your family?" and *Family impacting work stress* was measured by "How stressed are you about the impact of your family responsibilities on your work?" Both were scaled from 1 (not stressed at all) to 5 (very stressed). We do not include these two items in this preliminary analysis due to missing data on these variables for the unemployed. We will consider these for PAA for the employed subgroup.

Demographic Indicators
   Respondents reported their *race/ethnicity*, coded as: non-Latinx White, non-Latinx Black, non-Latinx Asian, non-Latinx other race, non-Latinx Multirace, or Latinx. 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/pansexual/omnisexual, and other/multiple sexual identities. 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. _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 reported if they were legally _married_ to their spouse/partner. _Age_ was constructed using the respondent's birth month and year and the month and year they completed the survey. Respondents completed a household roster and reported demographic characteristics of all members of their household. We created a code for the number of _household children_ under the age of 18 and the variable was dichotomized to any children. 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. We also have 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 and a dichotomous indicator for _foreign born_ was constructed if the main respondent was born outside of the United States. We will include these indicators for PAA. We also plan to create an indicator of union duration as an indicator of marital duration and cohabiting duration.

Preliminary Analytic Plan

We first present descriptive statistics for all study variables (Table 1). Next, we present ordinary least squares regression results for models predicting relationship functioning (COVID Relationship Trouble, Couple Satisfaction, Negative Interaction, and Relationship Risk) from the mechanistic variables and the demographic characteristics (Table 2). We then present separate ordinary least squares models for depression (Table 3) and anxiety (Table 4). Due to collinearity among the relationship functioning variables, we present each relationship functioning indicator as a predictor of mental health in a separate model. COVID-19 stress is added to the second model. Model three adds racial trauma stress to the model. In results not shown, we control for survey month in all models. All models were weighted.

Preliminary Results

Preliminary Descriptive Statistics. Overall, 41% of couples neither agreed nor disagreed that their relationship would be stronger after the pandemic was over. In contrast, about 50% either agreed or strongly agreed that their relationship would be stronger. Only 8% disagreed or strongly disagreed that their relationship would be stronger after the pandemic was over. Over 60% of couples strongly disagreed that the pandemic was making them question their relationship, and 20% simply disagreed. About 11% neither agreed or disagreed, and about 5% agreed or strongly agreed that the pandemic was making them question their relationship. Thus, unsurprisingly, 75% of couples strongly disagreed that they may breakup after the pandemic, 13% disagreed, and 9% neither agreed or disagreed. Only just over 2% agreed or strongly agreed. In general, most cohabiting and married relationships in NCHAT appeared to weather the pandemic pretty well. That said, although couples were above the midpoint overall on the couple satisfaction index, the full range of the scale was used. Both negative interaction and

relationship risk were below the midpoint. NCHAT couple relationships were functioning relatively well, generally speaking.

Both depression and anxiety were below the midpoint as well. The sample was relatively highly educated, with 63% having a college degree. Most were employed full time, although 19% were unemployed and 3% were furloughed. Racial Trauma Stress and COVID-19 stress were both around the midpoint. Discrimination was relatively low. Dyadic coping and partner social support were well above the midpoint, and friends and family social support were as well. Loneliness was just below the midpoint. Housework satisfaction, which included reverse scored housework stress items, was above the midpoint.

The sample was about 60% white, 9% Black, 6% Asian, 20% Latinx, 6% multi-race, less than 1% American Indian and Pacific Islander, and about 1% other race. Gender identity was evenly split between men and women, and about 3% identified as another gender identity. The average age was 45. About a quarter of couples were in same-gender couples, and about 4% were in non-binary couples with the remainder in man-woman couples. About 75% of couples were married. Twenty-three percent of individuals identified as gay or lesbian, 14% as bisexual, and 8% as other or multiple sexual identities. Thirty-five percent had children under the age of 18 in the household. Thirty percent of couples were interracial and 9% were foreign born. One-third of interviews occurred in September 2020, with the second highest number of interviews occurring in January 2021.

Preliminary Results for Predictors of Relationship Functioning During the Pandemic. The ordinary least square regression results predicting relationship functioning during the pandemic are reported in Table 2. All models were highly significant and had little missing data. R^2 was high – between .46 and .66. Few socioeconomic status indicators were associated with relationship functioning. Individuals with college degrees reported lower couple satisfaction and higher relationship risk than individuals with a high school degree. Individuals with more income reporter higher couple satisfaction. Turning to pandemic-related measures and discrimination, racial trauma stress related to the murder of George Floyd was associated with less negative interaction, and discrimination was associated with more couple satisfaction but also more negative interaction. For social support, loneliness, and dyadic coping, in general, dyadic coping and partner social support were associated with less COVID relationship trouble, more couple satisfaction, less negative interaction (dyadic coping only), and less relationship risk. Friends social support was associated with less couple satisfaction and more relationship risk. Loneliness was associated with elevated COVID relationship trouble, less couple satisfaction, more negative interaction, and elevated relationship risk. For housework, housework satisfaction and lack of stress was associated with less COVID relationship trouble, higher couple satisfaction, less negative interaction, and lower relationship risk.

Turning to the demographic characteristics, Pacific Islanders reported higher couple satisfaction, and Latinx individuals reported more negative interaction and elevated relationship risk compared to white individuals. Women reported lower relationship risk than men. Older adults reported more COVID relationship trouble and lower couple satisfaction. Non-binary couples reported less negative interaction than man-woman couples. Married couples reported less COVID relationship trouble and lower relationship risk than cohabiting couples. Bisexual+ and individuals with other or multiple sexual identity reported more relationship risk than heterosexual individuals. Individuals with children under the age of 18 in their households reported more negative interaction than individuals with no children under the age of 18.

Preliminary Results for Relationship Functioning Predictors Relationship Functioning During the Pandemic. The ordinary least square regression results predicting depressive and anxious symptoms from relationship functioning during the pandemic are reported in Tables 2 (depression) and 3 (anxiety). For <u>depression</u>, even after accounting for socioeconomic status, pandemic-related and discrimination, social support, loneliness, and dyadic coping, and housework satisfaction and low stress predictors, each indicator of relationship functioning was significantly associated with depressive symptoms. Individuals who reported more COVID relationship trouble, lower couple satisfaction, more negative interaction, and higher relationship risk reported more depressive symptoms. Unemployment was positively associated with depressive symptoms, and income was negatively associated with depressive symptoms. Pandemic-related and discrimination predictors were associated with depressive symptoms. Racial-trauma stress related to the murder of George Floyd, COVID-19 stress, and discrimination all predicted elevated depressive symptoms. Partner social support actually increased the risk for depressive symptoms although perhaps partners were providing more social support due to the depression. Family social support was associated with less depressive symptoms. Loneliness was strongly associated with elevated depressive symptoms. Housework satisfaction was associated with fewer depressive symptoms. The Black mental health advantage in depression was clearly seen for Black individuals over white individuals. American Indians reported elevated depressive symptoms, and Pacific Islanders reported lower depressive symptoms over whites. Individuals who were a non-binary gender identity reported more depressive symptoms than men, and gay or lesbian, and bisexual+ individuals reported more depressive symptoms than heterosexual individuals.

Turning to <u>anxious symptoms</u>, there were fewer indicators of relationship functioning associated with anxious symptoms. Elevated negative interaction was associated with elevated anxious symptoms, and greater relationship risk was also associated with greater anxiety. No socioeconomic status indicators were associated with anxious symptoms. Again, the pandemic-related and discrimination predictors were strongly associated with mental health. Racial trauma stress related to the murder of George Floyd, COVID-19 stress, an discrimination were associated with elevated anxious symptoms. In terms of social support, loneliness, and dyadic coping, partner social support was again associated with elevated mental health problems, here in terms of elevated anxious symptoms. Again, partners could be trying to alleviate mental health problems through the provision of additional support. Friends social support was associated with fewer anxious symptoms, and loneliness was associated with more anxious symptoms. Again, housework satisfaction was associated with mental health; higher housework satisfaction was associated with fewer anxious symptoms.

In terms of demographic predictors, the Black advantage was again clear in these data; Black individuals reported fewer anxious symptoms than did white individuals. In one model, the coefficient for Pacific Islanders reached significance ($p < .05$) in terms of reporter fewer symptoms than white individuals. Women reported more anxious symptoms than men, and older adults reported fewer anxious symptoms than younger. Same-gender couples reported fewer anxious symptoms than man-woman couples. Gay or lesbian, and bisexual+ individuals reported more anxious symptoms than heterosexual individuals.

Future plans. For PAA, we plan to pursue several paths related to this research line. In addition to adding in indicators for interracial relationship, foreign born, and union duration, we plan to explore a potential latent variable of relationship functioning, which could simplify these models. Further, we want to examine key subgroups separately, such as dual earner

families, same-gender couples, women, and Black, Latinx, and Asian couples where we have sufficient oversamples in each racial category.

Overall, it is clear that relationships managed the pandemic relatively well, but also it is clear for those who did not that the pandemic could have serious implications for mental health. It also continues to be clear that pandemic-related stressors, including trauma related to the murder of George Floyd, discrimination, and COVID-19 stress, have serious implications for mental health, even after controlling for a hefty battery of other mechanistic indicators. Although these data are only cross-sectional at this point, these data represent some of the very first national estimates of relationship functioning for some of these key subgroups.

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Table 1. Descriptive Statistics (Unweighted).

	Mean or percent	SD	Min.	Max.
Relationship Functioning				
COVID Relationship Trouble	1.79	0.71	1	5
Couple Satisfaction	14.52	4.50	0	20
Negative Interaction	1.81	0.85	1	5
Relationship Risk	2.07	2.82	0	13
Mental Health				
Depression	8.47	6.37	0	30
Anxiety	12.04	5.22	7	28
Socioeconomic Status				
Education	-	-	-	-
Less than high school	1.30%	-	-	-
High school	16.61%	-	-	-
Some College	19.41%	-	-	-
College +	62.68%	-	-	-
Employment	-	-	-	-
Full-time	67.98%	-	-	-
Part-time	10.14%	-	-	-
Furloughed	2.97%	-	-	-
Unemployed	18.91%			
Household income (log)	11.48	1.49	-0.69	13.12
Pandemic and Discrimination				
Racial Trauma Stress	2.35	0.96	1	4
COVID-19 Stress	8.81	3.60	3	15
Discrimination	1.45	0.50	1	4.55
Social Support, Loneliness, and Dyadic Coping				
Dyadic coping	4.01	0.91	1	5
Partner Social Support	4.06	1.05	1	5
Friends Social Support	3.17	1.24	1	5
Family Social Support	3.11	1.17	1	5
Loneliness	2.10	0.97	1	5
Work-Family Stress and Housework				
Housework Satisfaction	3.93	0.98	1	5
Demographic Characteristics				
Race/Ethnicity	-	-	-	-
Non-Latinx white	59.17%	-	-	-
Non-Latinx Black	8.6%	-	-	-
Non-Latinx American Indian	0.28%			
Non-Latinx Asian	5.50%	-	-	-
Non-Latinx Pacific Islander	0.08			
Latinx	19.70%	-	-	-
Non-Latinx Multirace	5.47%	-	-	-
Non-Latinx Other Racial/Ethnic Identity	1.18%	-	-	-
Gender	-	-	-	-

Man/Trans Man	49.07%	-	-	-
Woman/Trans Woman	48.24%	-	-	-
Other Gender Identity	2.69%	-	-	-
Age	44.75	10.51	20.17	61
Couple Type	-	-	-	-
Different-gender	69.32%	-	-	-
Same-gender	26.80%	-	-	-
Non-binary	3.88%	-	-	-
Married (Cohabiting)	73.88%	-	-	-
Sexual Identity	-	-	-	-
Heterosexual	55.49%	-	-	-
Gay or Lesbian	22.79%	-	-	-
Bisexual+	13.81%	-	-	-
Other or multiple identities	7.9%	-	-	-
Any child in household	35.12%	-	-	-
Interracial Couple (Same race)	30.19%	-	-	-
Foreign Born (Native born)	9.45%	-	-	-
Month of Survey	-	-	-	-
September	33.63%	-	-	-
October	4.93%	-	-	-
November	10.00%	-	-	-
December	9.58%	-	-	-
January	21.25%	-	-	-
February	4.99%	-	-	-
March	12.58%	-	-	-
April	3.05%	-	-	-

Note. Reference category listed in parentheses. Standardized scales for COVID Relationship Trouble, Negative Interaction, Relationship Risk, Dyadic Coping, and Housework Satisfaction were used in all models; unstandardized scales are reported in this table.
Source: National Couples' Health and Time Study.

Table 2. Weighted Ordinary Least Squares Regression Results Predicting Relationship Functioning from Mechanistic Predictors and Demographic Characteristics.

	COVID Relationship Trouble		Couple Satisfaction		Negative Interaction		Relationship Risk	
	B	SE	B	SE	B	SE	B	SE
Socioeconomic Status								
Education (High school graduate excluded)								
Less than High School	0.15	0.09	-0.53	0.61	-0.18	0.09	-0.11	0.08
Some College	0.03	0.04	-0.23	0.18	-0.02	0.04	0.00	0.04
College +	0.06	0.04	-0.57 **	0.17	0.00	0.05	0.09 *	0.04
Employment Status (Full-time excluded)								
Part-time	-0.08	0.05	0.04	0.22	-0.01	0.05	0.01	0.06
Furloughed	0.12	0.09	-0.41	0.40	0.14	0.11	0.01	0.09
Not employed	-0.05	0.03	0.09	0.19	-0.01	0.04	-0.08	0.05
Income	0.00	0.00	0.00 **	0.00	0.00	0.00	0.00	0.00
Pandemic and Discrimination								
Racial Trauma Stress	0.01	0.02	-0.01	0.08	-0.04 *	0.02	-0.01	0.02
COVID-19 Stress	-0.02	0.01	0.05	0.07	0.02	0.01	-0.01	0.01
Discrimination	0.00	0.00	0.03 *	0.02	0.02 ***	0.00	0.00	0.00
Social Support, Loneliness, and Dyadic Coping								
Dyadic Coping	-0.35 ***	0.02	2.82 ***	0.13	-0.46 ***	0.03	-0.42 ***	0.03
Partner Social Support	-0.06 ***	0.02	0.56 ***	0.11	0.04	0.02	-0.08 ***	0.02
Friends Social Support	0.02	0.01	-0.18 **	0.06	0.01	0.01	0.04 **	0.01
Family Social Support	0.02	0.01	0.01	0.07	0.01	0.01	0.01	0.01
Loneliness	0.13 ***	0.02	-0.96 ***	0.09	0.16 ***	0.02	0.22 ***	0.02
Work-Family Stress and Housework								
Housework Satisfaction	-0.06 **	0.02	0.67 ***	0.10	-0.14 ***	0.02	-0.13 ***	0.02
Demographic Characteristics								
Race/Ethnicity (white excluded)								
Non-Latinx Black	-0.03	0.04	-0.05	0.21	-0.01	0.05	0.08	0.06

	(1)	SE	(2)	SE	(3)	SE	(4)	SE
Non-Latinx American Indian	-0.29	0.17	-0.45	0.53	-0.11	0.32	-0.32	0.24
Non-Latinx Asian	-0.05	0.05	0.23	0.25	0.00	0.07	-0.08	0.06
Non-Latinx Pacific Islander	0.17	0.18	4.97***	1.30	0.21	0.51	-0.06	0.18
Non-Latinx Other Race	-0.09	0.10	0.76	0.59	-0.07	0.11	-0.17	0.11
Latinx	-0.02	0.03	0.03	0.17	0.09*	0.04	0.08*	0.03
Non-Latinx Multi-race	0.01	0.06	-0.13	0.29	0.03	0.06	0.10	0.06
Gender Identity (Man/Trans-man excluded)								
Woman/Trans-woman	-0.05	0.03	0.03	0.14	-0.06	0.03	-0.08**	0.03
Other Gender Identity	0.21	0.20	-0.09	0.70	0.33	0.25	-0.09	0.30
Age	0.00**	0.00	-0.04***	0.01	0.00	0.00	0.00	0.00
Couple Type (Different-gender excluded)								
Same-gender	0.11	0.09	-0.30	0.48	0.05	0.07	-0.08	0.13
Non-binary	-0.17	0.14	-0.02	0.56	-0.48*	0.23	-0.10	0.24
Married	-0.19***	0.05	0.27	0.18	-0.06	0.05	-0.27***	0.05
Sexual Identity (Heterosexual excluded)								
Gay or Lesbian	-0.13	0.10	0.19	0.49	0.02	0.07	0.10	0.13
Bisexual+	0.02	0.09	0.06	0.33	-0.01	0.06	0.20*	0.08
Other or multiple sexual identities	0.14	0.13	-0.57	0.57	0.00	0.10	0.27*	0.13
Any child in household	-0.01	0.03	-0.16	0.15	0.08*	0.03	0.03	0.03
Constant	-0.41***	0.11	20.46***	0.64	-0.67***	0.13	-0.16	0.13
N	3506		3501		3511		3515	
F	43.79***		96.09***		44.27***		51.1***	
R²	0.46		0.66		0.48		0.57	

Note: *** p < .001; ** p < .01; * p < .05

Reference category listed in parentheses. Month of survey included but not shown. Standardized scales for COVID Relationship Trouble, Negative Interaction, Relationship Risk, Dyadic Coping, and Housework Satisfaction were used in all models.

Source: National Couples' Health and Time Study

Table 3. Weighted Ordinary Least Squares Regression Results Predicting Depressive Symptoms from Relationship Functioning, Mechanistic Predictors and Demographic Characteristics

	B	SE	B	SE	B	SE	B	SE
COVID Relationship Trouble	0.79***	0.24						
Couple Satisfaction			-0.14**	0.04				
Negative Interaction					0.46*	0.21		
Relationship Risk							0.69***	0.20
Socioeconomic Status								
Education (High school graduate excluded)								
Less than High School	0.06	0.61	0.12	0.64	0.27	0.57	0.26	0.56
Some College	0.12	0.29	0.14	0.29	0.14	0.28	0.16	0.29
College +	-0.47	0.27	-0.48	0.27	-0.40	0.26	-0.48	0.27
Employment Status (Full-time excluded)								
Part-time	0.38	0.35	0.35	0.35	0.33	0.35	0.32	0.35
Furloughed	1.01	0.73	1.07	0.74	1.06	0.71	1.12	0.72
Not employed	0.85**	0.32	0.84**	0.32	0.83*	0.33	0.89**	0.32
Income	0.00**	0.00	0.00*	0.00	0.00**	0.00	0.00**	0.00
Pandemic and Discrimination								
Racial Trauma Stress	0.63***	0.13	0.62***	0.13	0.63***	0.13	0.64***	0.13
COVID-19 Stress	0.71***	0.09	0.70***	0.09	0.69***	0.09	0.69***	0.09
Discrimination	0.93***	0.23	0.99***	0.23	0.85***	0.25	0.94***	0.23
Social Support, Loneliness, and Dyadic Coping								
Dyadic Coping	-0.02	0.23	0.09	0.27	-0.08**	0.25	0.00	0.23
Partner Social Support	0.39*	0.17	0.43**	0.16	0.33	0.16	0.40*	0.17
Friends Social Support	-0.38**	0.11	-0.40**	0.12	-0.38**	0.11	-0.40**	0.11
Family Social Support	-0.04	0.10	-0.02	0.10	-0.03	0.10	-0.02	0.10
Loneliness	2.91***	0.15	2.88***	0.15	2.94***	0.15	2.86***	0.15
Work-Family Stress and Housework								
Housework Satisfaction	-0.91***	0.19	-0.87***	0.19	-0.91***	0.18	-0.87***	0.19
Demographic Characteristics								

Race/Ethnicity (white excluded)								
Non-Latinx Black	-1.54***	0.31	-1.56***	0.31	-1.53***	0.31	-1.60***	0.31
Non-Latinx American Indian	5.70*	2.49	5.41*	2.49	5.50*	2.49	5.70*	2.45
Non-Latinx Asian	0.44	0.47	0.45	0.47	0.43	0.46	0.47	0.46
Non-Latinx Pacific Islander	-5.07***	1.42	-4.27**	1.57	-5.01***	1.27	-4.89***	1.38
Non-Latinx Other Race	-0.62	0.83	-0.58	0.84	-0.65	0.82	-0.57	0.82
Latinx	-0.32	0.25	-0.35	0.25	-0.42	0.25	-0.39	0.25
Non-Latinx Multi-race	-0.30	0.52	-0.32	0.51	-0.30	0.50	-0.36	0.51
Gender Identity (Man/Trans-man excluded)								
Woman/Trans-woman	0.10	0.21	0.07	0.21	0.07	0.21	0.11	0.21
Other Gender Identity	3.45*	1.66	3.32*	1.58	3.40*	1.56	3.60*	1.70
Age	-0.03**	0.01	-0.03**	0.01	-0.03**	0.01	-0.03**	0.01
Couple Type (Different-gender excluded)								
Same-gender	-1.88**	0.57	-1.82**	0.58	-1.82**	0.55	-1.73**	0.57
Non-binary	-1.18	1.52	-1.32	1.47	-1.12	1.39	-1.24	1.56
Married	-0.05	0.27	-0.19	0.27	-0.19	0.27	-0.03	0.26
Sexual Identity (Heterosexual excluded)								
Gay or Lesbian	1.93**	0.64	1.86**	0.64	1.81**	0.62	1.76**	0.64
Bisexual+	1.46**	0.47	1.51**	0.49	1.48**	0.47	1.34**	0.48
Other or multiple sexual identities	1.12	0.88	1.14	0.93	1.23	0.92	1.05	0.90
Any child in household	0.20	0.23	0.20	0.23	0.15	0.23	0.19	0.23
Constant	-1.08	0.98	1.41	1.51	-0.87	0.98	-1.26	0.96
N	3506		3501		3511		3515	
F	64.48***		63.6***		63.86***		64.14***	
R^2	0.54		0.54		0.54		0.54	

Note: *** $p < .001$; ** $p < .01$; * $p < .05$

Reference category listed in parentheses. Month of survey included but not shown. Standardized scales for COVID Relationship Trouble, Negative Interaction, Relationship Risk, Dyadic Coping, and Housework Satisfaction were used in all models.

Source: National Couples' Health and Time Study

Table 4. Weighted Ordinary Least Squares Regression Results Predicting Anxious Symptoms from Relationship Functioning, Mechanistic Predictors and Demographic Characteristics.

	B	SE	B	SE	B	SE	B	SE
COVID Relationship Trouble	0.04	0.03						
Couple Satisfaction			0.00	0.01				
Negative Interaction					0.08 ***	0.02		
Relationship Risk							0.06 *	0.03
Socioeconomic Status								
Education (High school graduate excluded)								
Less than High School	-0.06	0.08	-0.06	0.09	-0.04	0.08	-0.05	0.08
Some College	-0.03	0.04	-0.03	0.04	-0.02	0.04	-0.03	0.04
College +	-0.08	0.04	-0.08	0.04	-0.07	0.04	-0.08	0.04
Employment Status (Full-time excluded)								
Part-time	0.03	0.05	0.03	0.05	0.03	0.05	0.02	0.05
Furloughed	0.03	0.10	0.03	0.10	0.02	0.10	0.03	0.10
Not employed	0.02	0.04	0.02	0.04	0.02	0.04	0.02	0.04
Income	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pandemic and Discrimination								
Racial Trauma Stress	0.09 ***	0.02	0.09 ***	0.02	0.10 ***	0.02	0.09 ***	0.02
COVID-19 Stress	0.10 ***	0.02	0.10 ***	0.01	0.10 ***	0.01	0.10 ***	0.01
Discrimination	0.17 ***	0.03	0.17 ***	0.03	0.16 ***	0.03	0.17 ***	0.03
Social Support, Loneliness, and Dyadic Coping								
Dyadic Coping	-0.03	0.03	-0.03	0.04	0.00	0.03	-0.02	0.03
Partner Social Support	0.11 ***	0.02	0.11 ***	0.02	0.10 ***	0.02	0.11 ***	0.02
Friends Social Support	-0.06 **	0.02	-0.07 **	0.02	-0.06 **	0.02	-0.07 ***	0.02
Family Social Support	-0.01	0.01	0.00	0.01	-0.01	0.01	0.00	0.01
Loneliness	0.25 ***	0.02	0.25 ***	0.02	0.24 ***	0.02	0.24 ***	0.02
Work-Family Stress and Housework								
Housework Satisfaction	-0.10 ***	0.02	-0.10 ***	0.02	-0.09 ***	0.02	-0.10 ***	0.02
Demographic Characteristics								

	Model 1		Model 2		Model 3		Model 4	
Race/Ethnicity (white excluded)								
Non-Latinx Black	-0.28***	0.04	-0.29***	0.04	-0.28***	0.04	-0.29***	0.04
Non-Latinx American Indian	0.47	0.40	0.46	0.40	0.47	0.40	0.48	0.40
Non-Latinx Asian	-0.05	0.06	-0.06	0.06	-0.06	0.06	-0.05	0.06
Non-Latinx Pacific Islander	-0.49	0.28	-0.46	0.29	-0.50*	0.24	-0.48	0.28
Non-Latinx Other Race	-0.01	0.12	-0.01	0.12	-0.01	0.12	0.00	0.12
Latinx	-0.03	0.04	-0.03	0.04	-0.04	0.04	-0.04	0.04
Non-Latinx Multi-race	-0.12	0.07	-0.12	0.07	-0.12	0.07	-0.12	0.07
Gender Identity (Man/Trans-man excluded)								
Woman/Trans-woman	0.11***	0.03	0.11***	0.03	0.11***	0.03	0.11***	0.03
Other Gender Identity	0.35	0.21	0.40	0.21	0.33	0.19	0.36	0.21
Age	-0.01***	0.00	-0.01***	0.00	-0.01***	0.00	-0.01***	0.00
Couple Type (Different-gender excluded)								
Same-gender	-0.26**	0.09	-0.26**	0.09	-0.26**	0.08	-0.25**	0.09
Non-binary	-0.11	0.18	-0.12	0.18	-0.08	0.17	-0.11	0.19
Married	0.01	0.04	0.00	0.04	0.01	0.04	0.02	0.04
Sexual Identity (Heterosexual excluded)								
Gay or Lesbian	0.31***	0.09	0.31**	0.09	0.30***	0.09	0.30**	0.09
Bisexual+	0.17*	0.08	0.16*	0.08	0.17*	0.08	0.16*	0.08
Other or multiple sexual identities	0.22	0.13	0.23	0.13	0.23	0.13	0.21	0.13
Any child in household	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Constant	0.48***	0.12	0.55***	0.18	0.51***	0.12	0.47***	0.12
N	3506		3501		3511		3515	
F	28.05***		27.35***		28.36***		28.17***	
R^2	0.42		0.42		0.42		0.42	

Note: *** $p < .001$; ** $p < .01$; * $p < .05$

Reference category listed in parentheses. Month of survey included but not shown. Standardized scales for COVID Relationship Trouble, Negative Interaction, Relationship Risk, Dyadic Coping, and Housework Satisfaction were used in all models.

Source: National Couples' Health and Time Study