Supplement for

Anxiety Symptom Severity and Implicit and Explicit Self-As-Anxious Associations in a Large Online Sample of U.S. Adults: Trends From 2011 to 2022

Section S1: Method Notes

1.1 Deviations from Pre-Registration

Two changes to the expression used in the COVID-19 confirmatory analyses were made since the pre-registration was published. First, the expression specified in the pre-registration included a second instance of the eq2, which was removed to aid parameter estimation. Second, the b_5 term was constrained to -1 to aid parameter estimation. The originally planned expression was as follows:

$$Y = b_0 + b_1 t + b_2 a + \left(eq_2 + (b_3 + b_4 a - eq2) * e^{b_5 (t - c_t)}\right) postcovid + covariates$$

Regarding outliers, we ultimately decided *not* to exclude anxiety symptom severity, explicit association, and age scores based on median absolute deviations. This change was based on advice from a quantitative psychologist co-author (S. Boker, personal communication, February 19, 2024) and considering that removing "outliers" in this way would exclude many participants (whose responses on these variables may very well be valid). For example, removing participants whose age is three median absolute deviations about the median would have excluded all participants age 39.8 years or older. For BIAT scores, we only excluded values for participants who responded too quickly (>10,000 ms) on >10% of trials or who made errors on >30% of trials overall. We did not additionally exclude based on response time and error rate within critical blocks, consistent with current recommendations for BIAT scoring (Nosek et al., 2013).

To calculate values for strength of explicit association of self (vs. others) as anxious, the question regarding "self" was subtracted from the question regarding "others." In the preregistration, we mistakenly specified that we would subtract the question regarding "others" from the question regarding "self."

Regarding model covariates, self-reported religious affiliation was not included as a covariate in models due to its inclusion preventing model convergence. Sex assigned at birth was removed as a covariate from the COVID-19 confirmatory model for anxiety symptom severity due its inclusion preventing model convergence.

For the exploratory generalized additive models, we ultimately used the mgcv package (vs. the gam package, which was specified in the pre-registration). The mgcv package was used, because it is more flexible and has more documentation available regarding plotting model estimates.

We planned to compare model fit between the confirmatory (SEM) and exploratory (GAM) models via the Akaike Information Criterion (AIC). However, given the final versions of the models have drastically different degrees of freedom due to differences in how sample demographics over time are controlled for (i.e., via covariates in the SEM models and via generating yearly sampling weights for the GAM models), we believe this comparison is no longer meaningful. For transparency, we report the outcome of this comparison in in Table S6, but we do not interpret this comparison in the main text as planned.

1.2 Dummy Coding for COVID-19 Confirmatory Model Covariates

The following dummy codes were used for categorical covariates in the COVID-19 confirmation confirmatory models to reduce the number of parameters estimated (as *not* dummy coding covariates proved too computationally intensive for these models). Codes were chosen to produce relatively even counts between 0 and 1, and with 0 representing (when possible) identities with more power and privilege based on the ADDRESSING framework (Hays, 2008). This coding was chosen to potentially capture maximal variation in outcome variables, because systems of oppression (e.g., racism, sexism) affecting those with marginalized identities are linked with greater risk of mental health problems (e.g., anxiety). Because effects of specific covariates were not interpreted in this study, we believe accounting for variance in this way is permissible, though we acknowledge it is not ideal with respect to inclusion and equity. When possible, and particularly when effects of specific demographic variables are interpreted in research, it is recommended to keep demographic categories as granular as possible, and to contextualize findings within systems of power, privilege, and oppression (Gillborn et al., 2018).

Covariate	Levels Recoded to 0	Levels Recoded to 1	Levels Recoded to NA
Gender	Male	Female, Non-Binary or Other	Prefer not to answer
Sex assigned at birth	Male	Female, Other	Prefer not to answer, Data not available
Race	White/European origin	Black/African origin, Multiracial, East Asian, South Asian, American Indian/Alaska Native, Native Hawaiian/Pacific Islander, Other or Unknown	Prefer not to answer
Ethnicity	Not Hispanic or Latino	Hispanic or Latino, Unknown	Prefer not to answer
Educational attainment	Some college, Associate's degree, Bachelor's degree, Some graduate school, Master's degree, M.B.A., J.D., M.D., Ph.D., Other advanced degree	Elementary school, Junior high school, Some high school, High school graduate	Prefer not to answer
Relationship status[a]	Single	In a relationship, Married, Engaged, Civil Union, Domestic partnership, Open relationship, Separated, Divorced, Widowed, Other	Prefer not to answer
Country of primary citizenship	U.S.A.	All other countries[b]	Prefer not to answer

What brought the participant to the website	Assignment for school	Assignment for work, Mention in a news story, Mention or link at a non-news Internet site, My Internet search for this topic or a related topic, Recommendation of a friend of co-worker, Other	Prefer not to answer

[a]Participants could select all options that apply for the relationship status question. If a participant selected "Single" on its own or in combination with any other option(s), their relationship status variable was recoded as 0.
[b]Over 200 options were available to participants, so the complete list is not included here, to maintain the table's legibility.

1.3 Measuring Subjective Socioeconomic Status

Subjective socioeconomic status was measured via the MacArthur Scale of Subjective Social Status, Adult Version (Adler et al., 2000). Scores range 1 to 10, with higher scores representing higher subjective socioeconomic status relative to others in one's country. Scores were entered as continuous variables in models (whereas all other covariates were entered as categorical variables or dummy coded to 0 or 1, depending on the model). See below for a screenshot of what participants viewed. In the current sample, $M = 5.72$, $SD = 1.59$.

Think of this ladder as representing where people stand in your country:

At the **top** of the ladder are those who are the best off—those who have the most money, the most education, and the most respected jobs. At the **bottom** are the people who are the worst off—who have the least money, least education, and least respected jobs or no jobs. The higher up you are on this ladder, the closer you are to the people at the very top; the lower you are, the closer you are to the people at the very bottom.

Where would you place yourself on this ladder?

Select the number below that represents the rung (step) where you think you stand at this time in your life, relative to other people in your country.

10
9
8
7
6
5
4
3
2
1

Submit

Decline to Answer

Table S1

Missingness By Outcomes

Outcome	Scores Imputed from Mean of Available Items: *n* (%)	Scores Missing: *n* (%)
Anxiety Symptom Severity	229 (0.2)	4,551 (4.6)
Strength of Implicit Association of Self (vs. Others) as Anxious	-	20,997 (21.0)
Strength of Explicit Association of Self (vs. Others) as Anxious	-	2,195 (2.20)

Table S2

Effects of Time-by-Age Interaction and Time on Outcomes from June 2011 to March 2020 Not Controlling for Changes in Sociodemographic Characteristics

Predictor	*b* (*SE*)	95% CI[a]	*df*	*t*	*p*
Anxiety Symptom Severity					
Time x Age[b]	-0.09 (0.01)	[-0.12, -0.05]	71,290	-4.92	<.001***
Time	0.03 (0.01)	[0.02, 0.04]	71,292	4.22	<.001***
Implicit Association Strength					
Time x Age	-0.00 (0.00)	[-0.32, 0.10]	59,057	-1.53	.126
Time	0.01 (0.00)	[0.00, 0.01]	59,059	7.20	<.001***
Explicit Association Strength					
Time x Age	-0.02 (0.01)	[0.01, 0.04]	73,678	-2.31	.021*
Time	0.01 (0.00)	[-0.00, 0.01]	73,680	1.56	.118

Note. Effects of predictors on outcomes were estimated with linear regression models with available sociodemographic variables entered as covariates and raking-generated sampling weights based on 2020 Census demographics applied. Effects of Time were estimated in separate models that did not include Time x Age interaction.

[a]95% CIs were computed assuming normality.

[b]Age was coded as 0 = 18-25 years, 1 = 26+ years.

*p < .05. **p < .01. ***p < .001.

Table S3

Mean Sample Age by Calendar Year

Calendar Year	***M* Sample Age (Years)**
2011	30.47
2012	31.87
2013	28.01
2014	27.32
2015	27.12
2016	27.04
2017	26.70
2018	26.93
2019	27.19
2020	26.15
2021	25.64
2022	27.01

Table S4

COVID-19 Confirmatory Model Parameter Estimates—All Parameters

Parameter	Estimate	*SE*	95% CI lower bound[a]	95% CI upper bound[a]
Anxiety Symptom Severity[b] (*df* = 955,570)				
Intercept (b_0)	7.83	0.22	7.40	8.27
Time (b_1)	0.00	0.01	-0.02	0.02
Age (b_2)	-1.26	0.11	-1.47	-1.05
COVID-19 Spike Magnitude (b_3)	-0.07	0.69	-1.43	1.28
Age difference in COVID-19 Spike Magnitude (b_4)	-0.07	0.69	-1.43	1.28
Difference in Equilibrium Point After (vs. Before) March 13, 2020 (eq2)	-0.22	0.99	-2.17	1.73
$b_{broughtwebsite}$	-0.33	0.16	-0.65	-0.02
$b_{citizenship}$	-0.13	0.04	-0.20	-0.05
$b_{education}$	0.51	0.06	0.39	0.62
$b_{ethnicity}$	0.43	0.04	0.35	0.52
b_{gender}	0.39	0.04	0.31	0.47
b_{race}	-0.17	0.07	-0.31	-0.02
$b_{relstatus}$	-0.28	0.13	-0.53	-0.04
b_{ses}	-0.44	0.01	-0.47	-0.42
cov(age, broughtwebsite)	0.07	0.00	0.06	0.07
cov(age, citizenship)	0.01	0.00	0.01	0.01
cov(age, education)	-0.03	0.00	-0.03	-0.03
cov(age, ethnicity)	-0.03	0.00	-0.04	-0.03
cov(age, gender)	0.03	0.00	0.03	0.03
cov(age, postcovid)	-0.01	0.00	-0.01	0.00
cov(age, race)	-0.03	0.00	-0.03	-0.02
cov(age, relstatus)	0.06	0.00	0.06	0.06
cov(age, ses)	0.09	0.00	0.09	0.10
cov(citizenship, broughtwebsite)	0.01	0.00	0.00	0.01
cov(education, broughtwebsite)	-0.02	0.00	-0.02	-0.02
cov(education, citizenship)	0.00	0.00	0.00	0.00
cov(education, relstatus)	-0.02	0.00	-0.02	-0.02
cov(education, ses)	-0.04	0.00	-0.05	-0.04
cov(ethnicity, broughtwebsite)	-0.05	0.00	-0.05	-0.04
cov(ethnicity, citizenship)	0.01	0.00	0.00	0.01
cov(ethnicity, education)	0.01	0.00	0.01	0.01
cov(ethnicity, relstatus)	-0.02	0.00	-0.02	-0.02
cov(ethnicity, ses)	-0.10	0.00	-0.11	-0.09
cov(gender, broughtwebsite)	0.01	0.00	0.01	0.02
cov(gender, citizenship)	0.00	0.00	0.00	0.00
cov(gender, education)	-0.01	0.00	-0.01	-0.01
cov(gender, ethnicity)	0.00	0.00	0.00	0.00
cov(gender, race)	0.00	0.00	0.00	0.00

cov(gender, relstatus)	0.03	0.00	0.03	0.03
cov(gender, ses)	-0.01	0.01	-0.03	0.00
cov(postcovid, broughtwebsite)	-0.02	0.00	-0.03	-0.01
cov(postcovid, citizenship)	-0.03	0.00	-0.03	-0.03
cov(postcovid, education)	0.00	0.00	0.00	0.00
cov(postcovid, ethnicity)	0.01	0.00	0.01	0.01
cov(postcovid, gender)	0.01	0.00	0.01	0.01
cov(postcovid, race)	0.00	0.00	0.00	0.00
cov(postcovid, relstatus)	0.00	0.00	-0.01	0.00
cov(postcovid, ses)	-0.02	0.01	-0.03	0.00
cov(race, broughtwebsite)	-0.05	0.00	-0.06	-0.05
cov(race, citizenship)	0.02	0.00	0.02	0.02
cov(race, education)	0.01	0.00	0.01	0.01
cov(race, ethnicity)	0.05	0.00	0.05	0.06
cov(race, relstatus)	-0.03	0.00	-0.04	-0.03
cov(race, ses)	-0.09	0.01	-0.11	-0.08
cov(relstatus, broughtwebsite)	0.04	0.00	0.03	0.04
cov(relstatus, citizenship)	0.01	0.00	0.01	0.01
cov(ses, broughtwebsite)	0.20	0.01	0.19	0.22
cov(ses, citizenship)	0.05	0.01	0.03	0.06
cov(ses, relstatuss)	0.11	0.00	0.10	0.12
cov(time, age_dich)	-0.05	0.00	-0.06	-0.05
cov(time, broughtwebsite)	-0.22	0.04	-0.29	-0.14
cov(time, citizenship)	-0.17	0.00	-0.18	-0.16
cov(time, education)	0.03	0.00	0.02	0.03
cov(time, ethnicity)	0.07	0.00	0.06	0.07
cov(time, gender)	0.07	0.01	0.06	0.08
cov(time, postcovid)	0.84	0.01	0.83	0.85
cov(time, race)	0.05	0.00	0.04	0.06
cov(time, relstatus)	-0.01	0.03	-0.07	0.04
cov(time, ses)	-0.16	0.09	-0.34	0.01
M_{age}	0.81	0.00	0.80	0.81
$M_{\text{broughtwebsite}}$	0.53	0.01	0.51	0.56
$M_{\text{citizenship}}$	0.18	0.00	0.18	0.19
$M_{\text{education}}$	0.08	0.00	0.08	0.08
$M_{\text{ethnicity}}$	0.25	0.00	0.25	0.25
M_{gender}	0.52	0.00	0.51	0.52
$M_{\text{postcovid}}$	0.21	0.00	0.21	0.22
M_{race}	0.36	0.00	0.36	0.36
$M_{\text{relstatus}}$	0.75	0.01	0.73	0.77
M_{ses}	6.09	0.03	6.02	6.16
M_{time}	6.03	0.01	6.01	6.05
var(age)	0.16	0.00	0.15	0.16
var(anxiety_symptom_severity)	13.43	0.09	13.26	13.60
var(broughtwebsite)	0.26	0.00	0.25	0.26
var(citizenship)	0.15	0.00	0.15	0.15

var(education)	0.07	0.00	0.07	0.07
var(ethnicity)	0.19	0.00	0.19	0.19
var(gender)	0.25	0.00	0.25	0.25
var(postcovid)	0.17	0.00	0.17	0.17
var(race)	0.23	0.00	0.23	0.23
var(relstatus)	0.19	0.00	0.19	0.19
var(ses)	2.75	0.02	2.70	2.80
var(time)	8.16	0.04	8.08	8.24
Implicit Association Strength (*df* = 964,136)				
Intercept (b_0)	-0.12	0.01	-0.15	-0.09
Time (b_1)	0.00	0.00	0.00	0.01
Age (b_2)	-0.10	0.01	-0.11	-0.09
COVID-19 Spike Magnitude (b_3)	-0.07	0.16	-0.38	0.24
Age difference in COVID-19 Spike Magnitude (b_4)	-0.07	0.16	-0.38	0.24
Difference in Equilibrium Point After (vs. Before) March 13, 2020 (eq2)	0.32	0.22	-0.11	0.75
$b_{broughtwebsite}$	-0.02	0.01	-0.03	0.00
$b_{citizenship}$	-0.02	0.00	-0.03	-0.01
$b_{education}$	0.03	0.01	0.02	0.04
$b_{ethnicity}$	0.01	0.00	0.00	0.02
b_{gender}	0.10	0.03	0.03	0.17
b_{race}	-0.04	0.00	-0.04	-0.03
$b_{relstatus}$	-0.03	0.01	-0.04	-0.01
b_{ses}	-0.04	0.00	-0.04	-0.03
b_{sex}	-0.11	0.03	-0.18	-0.04
cov(age_dich, ethnicity)	-0.03	0.00	-0.04	-0.03
cov(age, broughtwebsite)	0.07	0.00	0.06	0.07
cov(age, citizenship)	0.01	0.00	0.01	0.01
cov(age, education)	-0.03	0.00	-0.03	-0.03
cov(age, gender)	0.03	0.00	0.03	0.03
cov(age, postcovid)	-0.01	0.00	-0.01	-0.01
cov(age, race)	-0.03	0.00	-0.03	-0.02
cov(age, relstatus)	0.06	0.00	0.06	0.06
cov(age, ses)	0.10	0.00	0.09	0.10
cov(age, sex)	0.03	0.00	0.03	0.03
cov(citizenship, broughtwebsite)	0.01	0.00	0.00	0.01
cov(education, broughtwebsite)	-0.02	0.00	-0.02	-0.02
cov(education, citizenship)	0.00	0.00	0.00	0.00
cov(education, relstatus)	-0.02	0.00	-0.02	-0.02
cov(education, ses)	-0.04	0.00	-0.05	-0.04
cov(ethnicity, broughtwebsite)	-0.05	0.00	-0.05	-0.04
cov(ethnicity, citizenship)	0.01	0.00	0.00	0.01
cov(ethnicity, education)	0.01	0.00	0.01	0.01
cov(ethnicity, relstatus)	-0.02	0.00	-0.02	-0.02
cov(ethnicity, ses)	-0.10	0.00	-0.11	-0.09

cov(gender, broughtwebsite)	0.01	0.00	0.01	0.02
cov(gender, citizenship)	0.00	0.00	0.00	0.00
cov(gender, education)	-0.01	0.00	-0.01	-0.01
cov(gender, ethnicity)	0.00	0.00	0.00	0.00
cov(gender, race)	0.00	0.00	0.00	0.00
cov(gender, relstatus)	0.03	0.00	0.03	0.03
cov(gender, ses)	-0.02	0.01	-0.03	-0.01
cov(gender, sex)	0.25	0.00	0.24	0.25
cov(postcovid, broughtwebsite)	-0.02	0.00	-0.03	-0.01
cov(postcovid, citizenship)	-0.03	0.00	-0.03	-0.03
cov(postcovid, education)	0.00	0.00	0.00	0.00
cov(postcovid, ethnicity)	0.01	0.00	0.01	0.01
cov(postcovid, gender)	0.01	0.00	0.01	0.01
cov(postcovid, race)	0.00	0.00	0.00	0.00
cov(postcovid, relstatus)	0.00	0.00	-0.01	0.00
cov(postcovid, ses)	-0.02	0.01	-0.04	-0.01
cov(postcovid, sex)	0.01	0.00	0.01	0.01
cov(race, broughtwebsite)	-0.05	0.00	-0.06	-0.05
cov(race, citizenship)	0.02	0.00	0.02	0.02
cov(race, education)	0.01	0.00	0.01	0.01
cov(race, ethnicity)	0.05	0.00	0.05	0.06
cov(race, relstatus)	-0.03	0.00	-0.04	-0.03
cov(race, ses)	-0.09	0.00	-0.10	-0.09
cov(relstatus, broughtwebsite)	0.04	0.00	0.03	0.04
cov(relstatus, citizenship)	0.01	0.00	0.01	0.01
cov(ses, broughtwebsite)	0.20	0.01	0.19	0.22
cov(ses, citizenship)	0.05	0.01	0.04	0.06
cov(ses, relstatus)	0.11	0.00	0.10	0.12
cov(sex, broughtwebsite)	0.01	0.00	0.01	0.02
cov(sex, citizenship)	0.00	0.00	0.00	0.00
cov(sex, education)	-0.01	0.00	-0.01	-0.01
cov(sex, ethnicity)	0.00	0.00	-0.01	0.00
cov(sex, race)	0.00	0.00	0.00	0.00
cov(sex, relstatus)	0.03	0.00	0.03	0.03
cov(sex, ses)	-0.01	0.01	-0.02	0.00
cov(time, age)	-0.05	0.00	-0.06	-0.05
cov(time, broughtwebsite)	-0.22	0.04	-0.29	-0.15
cov(time, citizenship)	-0.17	0.00	-0.18	-0.16
cov(time, education)	0.03	0.00	0.02	0.03
cov(time, ethnicity)	0.07	0.00	0.06	0.07
cov(time, gender)	0.07	0.00	0.06	0.08
cov(time, postcovid)	0.84	0.00	0.83	0.85
cov(time, race)	0.05	0.00	0.04	0.06
cov(time, relstatus)	-0.02	0.03	-0.07	0.04
cov(time, ses)	-0.18	0.09	-0.37	0.01
cov(time, sex)	0.07	0.01	0.06	0.09

M_{age}	0.81	0.00	0.80	0.81
$M_{broughtwebsite}$	0.54	0.02	0.51	0.57
$M_{citizenship}$	0.18	0.00	0.18	0.19
$M_{education}$	0.08	0.00	0.08	0.08
$M_{ethnicity}$	0.25	0.00	0.25	0.25
M_{gender}	0.52	0.00	0.51	0.52
$M_{postcovid}$	0.21	0.00	0.21	0.22
M_{race}	0.36	0.00	0.36	0.36
$M_{relstatus}$	0.75	0.01	0.73	0.77
M_{ses}	6.12	0.04	6.05	6.20
M_{sex}	0.51	0.00	0.51	0.52
M_{time}	6.03	0.01	6.01	6.05
var(age)	0.16	0.00	0.15	0.16
var(broughtwebsite)	0.26	0.00	0.25	0.26
var(citizenship)	0.15	0.00	0.15	0.15
var(education)	0.07	0.00	0.07	0.07
var(ethnicity)	0.19	0.00	0.19	0.19
var(gender)	0.25	0.00	0.25	0.25
var(iat)	0.17	0.00	0.17	0.17
var(postcovid)	0.17	0.00	0.17	0.17
var(race)	0.23	0.00	0.23	0.23
var(relstatus)	0.19	0.00	0.19	0.19
var(ses)	2.75	0.02	2.70	2.80
var(sex)	0.25	0.00	0.25	0.25
var(time)	8.16	0.04	8.09	8.23
Explicit Association Strength (df = 985,201)				
Intercept (b_0)	1.94	0.06	1.83	2.05
Time (b_1)	0.00	0.00	-0.01	0.01
Age (b_2)	-0.38	0.03	-0.43	-0.33
COVID-19 Spike Magnitude (b_3)	-0.15	0.25	-0.65	0.34
Age difference in COVID-19 Spike Magnitude (b_4)	-0.15	0.25	-0.65	0.34
Difference in Equilibrium Point After (vs. Before) March 13, 2020 (eq2)	0.58	0.26	0.07	1.09
$b_{broughtwebsite}$	0.05	0.03	-0.02	0.12
$b_{citizenship}$	-0.09	0.02	-0.13	-0.04
$b_{education}$	-0.02	0.03	-0.08	0.04
$b_{ethnicity}$	0.06	0.02	0.02	0.10
b_{gender}	-0.18	0.03	-0.24	-0.12
b_{race}	-0.36	0.02	-0.40	-0.33
$b_{relstatus}$	-0.22	0.03	-0.29	-0.16
b_{ses}	-0.18	0.01	-0.20	-0.16
b_{sex}	0.65	0.03	0.59	0.71
cov(age, broughtwebsite)	0.07	0.00	0.06	0.07
cov(age, citizenship)	0.01	0.00	0.01	0.01
cov(age, education)	-0.03	0.00	-0.03	-0.03

cov(age, ethnicity)	-0.03	0.00	-0.04	-0.03
cov(age, gender)	0.03	0.00	0.03	0.03
cov(age, postcovid)	-0.01	0.00	-0.01	-0.01
cov(age, race)	-0.03	0.00	-0.03	-0.02
cov(age, relstatus)	0.06	0.00	0.06	0.06
cov(age, ses)	0.09	0.00	0.09	0.10
cov(age, sex)	0.03	0.00	0.03	0.03
cov(citizenship, broughtwebsite)	0.01	0.00	0.00	0.01
cov(education, broughtwebsite)	-0.02	0.00	-0.02	-0.02
cov(education, citizenship)	0.00	0.00	0.00	0.00
cov(education, relstatus)	-0.02	0.00	-0.02	-0.02
cov(education, ses)	-0.04	0.00	-0.05	-0.04
cov(ethnicity, broughtwebsite)	-0.05	0.00	-0.05	-0.04
cov(ethnicity, citizenship)	0.01	0.00	0.00	0.01
cov(ethnicity, education)	0.01	0.00	0.01	0.01
cov(ethnicity, relstatus)	-0.02	0.00	-0.02	-0.02
cov(ethnicity, ses)	-0.10	0.00	-0.11	-0.09
cov(gender, broughtwebsite)	0.01	0.00	0.01	0.02
cov(gender, citizenship)	0.00	0.00	0.00	0.00
cov(gender, education)	-0.01	0.00	-0.01	-0.01
cov(gender, ethnicity)	0.00	0.00	0.00	0.00
cov(gender, race)	0.00	0.00	0.00	0.00
cov(gender, relstatus)	0.03	0.00	0.03	0.03
cov(gender, ses)	-0.02	0.01	-0.03	0.00
cov(gender, sex)	0.25	0.00	0.24	0.25
cov(postcovid, broughtwebsite)	-0.02	0.00	-0.03	-0.02
cov(postcovid, citizenship)	-0.03	0.00	-0.03	-0.03
cov(postcovid, education)	0.00	0.00	0.00	0.00
cov(postcovid, ethnicity)	0.01	0.00	0.01	0.01
cov(postcovid, gender)	0.01	0.00	0.01	0.01
cov(postcovid, race)	0.00	0.00	0.00	0.00
cov(postcovid, ses)	-0.02	0.01	-0.04	-0.01
cov(postcovid, sex)	0.01	0.00	0.01	0.01
cov(postovid, relstatus)	0.00	0.00	-0.01	0.00
cov(race, broughtwebsite)	-0.05	0.00	-0.06	-0.05
cov(race, citizenship)	0.02	0.00	0.02	0.02
cov(race, education)	0.01	0.00	0.01	0.01
cov(race, ethnicity)	0.05	0.00	0.05	0.06
cov(race, relstatus)	-0.03	0.00	-0.03	-0.03
cov(race, ses)	-0.09	0.00	-0.10	-0.08
cov(relstatus, broughtwebsite)	0.04	0.00	0.03	0.04
cov(relstatus, citizenship)	0.01	0.00	0.01	0.01
cov(ses, broughtwebsite)	0.20	0.01	0.19	0.21
cov(ses, citizenship)	0.05	0.01	0.04	0.06
cov(ses, relstatus)	0.11	0.00	0.10	0.12
cov(sex, broughtwebsite)	0.01	0.00	0.01	0.02

cov(sex, citizenship)	0.00	0.00	0.00	0.00
cov(sex, education)	-0.01	0.00	-0.01	-0.01
cov(sex, ethnicity)	0.00	0.00	-0.01	0.00
cov(sex, race)	0.00	0.00	0.00	0.00
cov(sex, relstatus)	0.03	0.00	0.03	0.03
cov(sex, ses)	-0.01	0.01	-0.02	0.00
cov(time, age)	-0.05	0.00	-0.06	-0.05
cov(time, broughtwebsite)	-0.22	0.03	-0.29	-0.16
cov(time, citizenship)	-0.17	0.00	-0.18	-0.16
cov(time, education)	0.03	0.00	0.02	0.03
cov(time, ethnicity)	0.07	0.00	0.06	0.07
cov(time, gender)	0.07	0.00	0.06	0.08
cov(time, postcovid)	0.84	0.00	0.83	0.85
cov(time, race)	0.05	0.00	0.04	0.06
cov(time, relstatus)	-0.02	0.03	-0.06	0.03
cov(time, ses)	-0.19	0.07	-0.33	-0.05
cov(time, sex)	0.07	0.01	0.06	0.09
M_{age}	0.81	0.00	0.80	0.81
$M_{\text{broughtwebsite}}$	0.54	0.01	0.51	0.57
$M_{\text{citizenship}}$	0.18	0.00	0.18	0.19
$M_{\text{education}}$	0.08	0.00	0.08	0.08
$M_{\text{ethnicity}}$	0.25	0.00	0.25	0.25
M_{gender}	0.52	0.00	0.51	0.52
$M_{\text{postcovid}}$	0.21	0.00	0.21	0.22
M_{race}	0.36	0.00	0.36	0.36
$M_{\text{relstatus}}$	0.75	0.01	0.73	0.77
M_{ses}	6.12	0.03	6.06	6.18
M_{sex}	0.51	0.00	0.51	0.52
M_{time}	6.03	0.01	6.01	6.05
var(age)	0.16	0.00	0.15	0.16
var(broughtwebsite)	0.26	0.00	0.25	0.26
var(citizenship)	0.15	0.00	0.15	0.15
var(education)	0.07	0.00	0.07	0.07
var(ethnicity)	0.19	0.00	0.19	0.19
var(explicit)	5.53	0.03	5.48	5.58
var(gender)	0.25	0.00	0.25	0.25
var(postcovid)	0.17	0.00	0.17	0.17
var(race)	0.23	0.00	0.23	0.23
var(relstatus)	0.19	0.00	0.19	0.19
var(ses)	2.73	0.02	2.69	2.78
var(sex)	0.25	0.00	0.25	0.25
var(time)	8.16	0.04	8.09	8.23

Note. Parameters were estimated with structural equation models with available sociodemographic variables entered as covariates and raking-generated sampling weights based on 2020 Census demographics applied. Parameters estimates represent terms in the following

expression: $Y = b_0 + b_1 t + b_2 a + \left(eq_2 + (b_3 + b_4 a) * e^{b_5 (t - c_t)}\right) postcovid + covariates$, with b_5 fixed at -1.

[a]95% CIs were computed assuming normality.

[b]Sex assigned at birth was *not* included as a covariate in this model due to its inclusion causing errors in estimating parameters.

Table S5

COVID-19 Confirmatory Model Parameter Estimates Not Controlling for Sociodemographic Characteristics

Parameter	Estimate (*SE*)	95% CI[a]
Anxiety Symptom Severity[b] (*df* = 394,616)		
Intercept (b_0)	5.36 (0.04)	**[5.28, 5.45]**
Time (b_1)	0.02 (0.01)	**[0.01, 0.03]**
Age (b_2)	-1.86 (0.03)	**[-1.92, -1.80]**
COVID-19 Spike Magnitude (b_3)	-0.29 (0.07)	**[-0.42, -0.15]**
Age difference in COVID-19 Spike Magnitude (b_4)	-0.29 (0.07)	**[-0.42, -0.15]**
Difference in Equilibrium Point After (vs. Before) March 13, 2020 (eq2)	0.58 (0.09)	**[0.41, 0.76]**
Implicit Association Strength (*df* = 376,057)		
Intercept (b_0)	-0.36 (0.04)	**[-0.37, -0.35]**
Time (b_1)	0.01 (0.00)	**[0.00, 0.01]**
Age (b_2)	-0.15 (0.00)	**[-0.15, -0.14]**
COVID-19 Spike Magnitude (b_3)	-0.25 (0.12)	**[-2.33, -0.02]**
Age difference in COVID-19 Spike Magnitude (b_4)	0.09 (0.12)	[-0.14, 2.45]
Difference in Equilibrium Point After (vs. Before) March 13, 2020 (eq2)	0.37 (0.25)	[-0.12, 0.86]
Explicit Association Strength (*df* = 397,122)		
Intercept (b_0)	0.80 (0.02)	**[0.75, 0.85]**
Time (b_1)	0.01 (0.00)	**[0.01, 0.06]**
Age (b_2)	-0.41 (0.02)	**[-0.44, -0.37]**
COVID-19 Spike Magnitude (b_3)	-0.08 (0.12)	**[-0.31, -0.57]**
Age difference in COVID-19 Spike Magnitude (b_4)	-0.08 (0.12)	**[-0.31, -0.57]**
Difference in Equilibrium Point After (vs. Before) March 13, 2020 (eq2)	0.37 (0.08)	**[0.21, 0.53]**

Table S6

Akaike Information Criterion (AIC) Values and Number of Model Parameters for Confirmatory vs. Exploratory Models

Model	Number of Parameters	*AIC*
Anxiety Symptom Severity		
Confirmatory (SEM)	92.00	1,769,960.7
Exploratory (GAM)	20.47	624,456.2
Implicit Association Strength		
Confirmatory (SEM)	106.00	1,281,435.2
Exploratory (GAM)	16.29	168,448.1
Explicit Association Strength		
Confirmatory (SEM)	106.00	1,643,560.4
Exploratory (GAM)	14.59	551,752.2

Table S7

Additional Participant Demographic Characteristics Not Included in Main Text

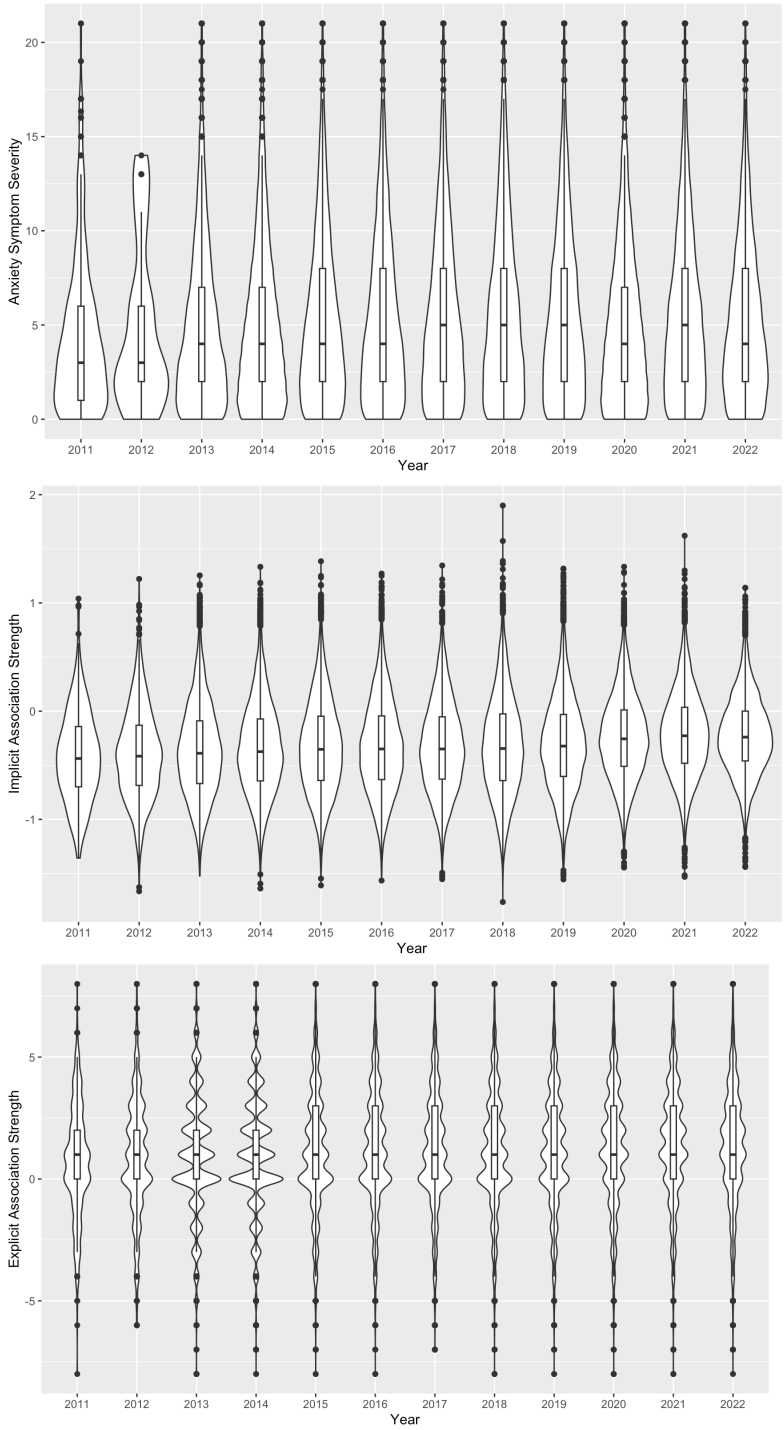
Characteristic	*n*	*%*
Country of primary citizenship[a]		
U.S.A.	85,647	85.7
Canada	8,726	8.7
Some other country	5,031	5.03
Prefer not to answer	569	0.6
Relationship status[b]		
Single	12,917	12.9
In a relationship	9,607	9.6
Married	5,406	5.4
Engaged	754	0.8
Civil Union	14	0.0
Domestic partnership	191	0.2
Open relationship	92	0.1
Separated	145	0.1
Divorced	370	0.4
Widowed	63	0.1
Other	339	0.3
Prefer not to answer	1,345	1.3
Data not available	68,730	68.7

[a]Over 200 options were available to participants. Due to space limitations, only countries endorsed by >1% of the sample were included in the table. All others are combined under ("Some other country"). All participants were U.S. residents.

[b]This question was added in August 2019, so values for participants prior to August 2019 were not captured. Percentages total over 100.0, because participants were able to select all options that applied.

Figure S1

Yearly Distributions in Outcome Variables



Note. Data from the anxiety symptom severity measure was not collected from January 13, 2012, to April 1, 2013, so limited data are available for this measure in 2012.

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