



Supplementary Information for

Highly public anti-Black violence is associated with poor mental health days for Black Americans

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Supplementary Information (SI) Text

SI Measures

State psychological distress. Due to the relatively low Google search volume for suicide terms—resulting in missing data and unreliable estimates for less populated areas (i.e., states) (1)—we used only the depression and anxiety terms when computing state-level psychological distress. Google Trends data for individual states were downloaded on separate days until we had at least ten values for each weekly observation. Similar to data collection for national psychological distress terms, we used two overlapping intervals to obtain weekly observations from January 1, 2012 to December 30, 2017. Reliability of weekly observations was high when averaging across time series (ICC = .97 for depression; ICC = .96 for anxiety), even when restricting calculations to the ten least populated states (where ICCs were 0.93). State-level relative search volume for anxiety and depression were moderately correlated ($r = .48$), and so we elected to examine both the psychological distress composite and depression and anxiety outcomes separately.

SI Analysis Plan

When fitting models to state panel data, we used state fixed effects linear regression models. We included first order autoregressive effects, seasonal effects, annual lags (i.e., 52-week), and state monthly unemployment in all models. Given that results from the national time series suggested our Google Trends measure is a weak indicator of population psychological distress, we reported findings with state psychological distress here as exploratory tests.

To examine heterogeneity in racial violence effects as a function of state-of-occurrence, we modeled racial incidents categorized by level of national interest. That is, we used search interest terciles to classify incidents as low, medium, or high interest, and coded a dummy variable for each interest tercile representing whether an incident occurred (e.g., 1 = week of high interest incident/s, 0 = no high interest incident). A few incidents within interest terciles occurred in the same week, such that estimates represent one or more incidents for each interest tercile. In the first model, we modeled national exposure to low, medium, and high interest racial incidents. Second, we added time-varying indicators for the state-of-occurrence for low, medium, and high interest incidents. With state fixed effects included, findings indicate whether associations between racial violence incidents and distress are larger in the state where the incident occurred when accounting for the national exposure. Third, we modeled lags for low, medium, and high-interest racial incidents and the states where they occurred to test whether psychological distress was higher in the following three weeks (both nationally and in the state-of-occurrence). In a final model, we add racial composition, measured as percent of state residents who are Black, as a modifier of the effects of racial incidents. We assume that Black Americans are more likely to experience distress due to shared racial identity with victims (2), and thus adverse effects on state psychological distress would be larger in states with a higher share of Black Americans.

SI Results

Validity of national psychological distress. To consider whether our Google Trends measure was a valid indicator of national psychological distress, we tested average poor mental health days for the full national BRFSS sample as a predictor. In particular, using time series models, we estimated the association between the BRFSS-derived national average poor mental health days and national psychological distress. First, we modeled the association between same-week assessments for the two measures. Next, as the BRFSS item references the past 30 days, we tested whether BRFSS observations in the same week (W0) and three following weeks (W1-W3) predicted national psychological distress (observations for four and five weeks later [W4, W5] were also included but expected to be non-significant). ARMA (1,1) disturbances and volume of news-related searches including the term suicide were included in both models. Results indicated that poor mental health days in the past 30 days was not significantly associated with national psychological distress measured in the same week ($B =$

0.15 SD units for every 1 additional poor mental health day, 95% CI: -0.33, 0.64). However, when including lead variables for subsequent BRFSS observations, average national poor mental health days in the past 30 days measured in the same-week and following three weeks were associated with national psychological distress at $p < .10$ (W0: B = 0.42, 95% CI: -0.05, 0.88; W1: B = 0.57, 95% CI: 0.08, 1.05; W2: B = 0.93, 95% CI: 0.33, 1.54; W3: B = 0.84, 95% CI: 0.10, 1.58). Consistent with expectations, average poor mental health days from four and five weeks later were not significant predictors (W4: B = -0.05, 95% CI: -0.55, 0.45; W5: B = 0.17, 95%CI: -0.33, 0.67). When substituting poor mental health days specific to the Black sample, none of the W0-W3 observations of poor mental health days were associated with national psychological distress, indicating that national distress measured from Google search patterns may not serve as a good proxy for distress among smaller population groups (in this case, Black Americans).

State weekly panel data. Regression results using weekly state psychological distress and state fixed effects are included in Table S10. Relative to weeks when no racial incident occurred, state psychological distress was higher in weeks with at least one medium-interest incident (B = 0.18 SD units, 95% CI: 0.14, 0.22, see Model S1a). In contrast, state psychological distress was lower in weeks with at least one high-interest racial incident (relative to no-incident weeks; B = -0.14, 95% CI: -0.19, -0.10). As shown in Model S1b, psychological distress was not significantly higher in states where the racial incident occurred, although the estimate was in the same direction as national exposure to high-interest incidents and suggested the decrease in psychological distress was ~75% larger for incident states relative to others. When lags for the prior three weeks of national and state-specific exposure to racial incidents by interest tercile were included, estimates indicated state psychological distress was higher following national exposure to medium-interest incidents (all estimates were significant) but decreased following high-interest incidents (same-week, lag 2, and lag 3 were significant at $p < .05$). However, lags for state-of-occurrence were not significant.

State percentage of Black residents did not moderate effects of low-, medium-, or high-interest incidents when predicting state-level psychological distress (all p values $> .10$). We considered both continuous codings and three categories (<10%; 10-<20%; >20%) for the percent of non-Hispanic Black state residents.

Models reported above were also conducted using depression and anxiety outcomes separately rather than as a composite. Results were generally consistent for both outcomes relative to their averaged composite (i.e., psychological distress), including significant estimates for medium- and high-interest incidents, non-significant state-of-occurrence effects, and non-significant state racial composition interactions.

Table S1. Google Trends terms for national psychological distress.

Distress category	Search terms
Suicidality	how to suicide -squad -robin kill myself
Depression	depression + depressed
Anxiety	anxious + anxiety

Note. Negative keywords are included to exclude searches that referenced the movie Suicide Squad or comedian Robin Williams due to their high share of searches during the study period. Multiple times series for each term were downloaded to improve reliability, with pooled averages for each suicidality term coming from at least ten values and depression and anxiety from at least three.

Table S2. List of high publicity incidents of racial violence included in study.

Search term ^a	Type ^b	Incident date	Nine-week cumulative search interest ^c	News coverage (# of stories)
Michael Brown	Unarm	8/9/14	172.7	8210
Michael Brown	Legal	11/24/14	157.7	10108
Freddie Gray	Arm	4/19/15	161.9	6034
Freddie Gray	Legal	5/23/16	16.5	1239
Alton Sterling	Arm	7/5/16	161.4	3733
Alton Sterling	Legal	5/2/17	8.0	181
Eric Garner	Legal	12/3/14	115.4	6091
Eric Garner	Unarm	7/17/14	23.3	1063
Philando Castile	Arm	7/6/16	77.0	2847
Philando Castile	Legal	6/16/17	43.1	783
Dylann Roof	Hate	6/17/15	53.1	3457
Keith Scott	Arm	9/20/16	34.8	1470
Korryn Gaines	Arm	8/1/16	30.8	116
Walter Scott	Unarm	4/4/15	26.6	1318
Walter Scott	Legal	12/5/16	3.7	283
Tamir Rice	Legal	12/28/15	22.5	702
Tamir Rice	Unarm	11/22/14	21.6	1237
Terence Crutcher	Unarm	9/16/16	13.8	1022
Terence Crutcher	Legal	5/17/17	3.4	97
Jordan Edwards	Unarm	4/29/17	10.8	241
Christian Taylor	Unarm	8/7/15	6.8	284
Samuel Dubose	Unarm	7/19/15	6.6	705
John Crawford	Unarm	8/5/14	6.5	255
Jamar Clark	Unarm	11/15/15	5.5	664
Jamar Clark	Legal	3/30/16	4.5	226
Tony Robinson	Unarm	3/6/15	4.6	698
Eric Harris	Unarm	4/2/15	4.3	500
Jonathan Ferrell	Unarm	9/14/13	4.3	122
Kajiem Powell	Arm	8/19/14	4.2	78
Akai Gurley	Unarm	11/20/14	3.0	347
Sylville Smith	Arm	8/13/16	3.0	306
Ezell Ford	Unarm	8/11/14	2.7	196
Alfred Olango	Unarm	9/27/16	2.4	207
Delrawn Small	Unarm	7/4/16	2.1	102
Tyre King	Unarm	9/14/16	2.0	93
Darrien Hunt	Unarm	9/12/14	1.3	94
Anthony Hill	Unarm	3/9/15	1.1	72
Rumain Brisbon	Unarm	12/2/14	1.1	64
Deborah Danner	Arm	10/18/16	1.0	144
Quintonio Legrier	Arm	12/26/15	1.0	647

Search term ^a	Type ^b	Incident date	Nine-week cumulative search interest ^c	News coverage (# of stories) ^d
Paul O'Neal	Arm	7/28/16	0.9	269
Jerame Reid	Unarm	12/30/14	0.9	55
James Jackson	Hate	3/20/17	0.6	164
Bettie Jones	Unarm	12/26/15	0.4	589
David Joseph	Unarm	2/8/16	0.3	63
Darrius Stewart	Unarm	7/17/15	0.3	44
Larry Jackson	Unarm	7/26/13	0.3	66
Jimmie Sanders	Unarm	5/21/17	0.1	45
Chad Robertson	Unarm	2/8/17	0.1	60

^a Name of victim (or perpetrator for hate crimes) as entered in Google Trends.

^b Unarm = police killing of unarmed Black person; arm = police killing of armed Black person; legal = news of legal decisions resulting in no indictment or conviction for officer involved in one of the high publicity police killings; hate = hate crime murder of Black person.

^c Cutoffs for search interest terciles were <2.5; 2.5 - 13; and >13.

Table S3. Correlation matrix for key study variables.

	1.	2.	3.	4.
1. Google national psychological distress ^a	-			
2. BRFSS national poor mental health days ^a	.07	-		
3. BRFSS Black sample poor mental health days ^a	-.01	.28	-	
4. Number of weekly racial incidents	.00	.11	.08	-
5. Search interest in racial incidents (log ₁₀)	-.04	-.04	.08	.44

Correlations in bold significant at $p < .05$.

^aTo reduce bias from autocorrelation in reported correlation coefficients, we residualized for AR(1) disturbances.

Table S4. Time series regression models testing associations between high publicity racial violence and mental health outcomes, 2012-2017.

Predictor variables	<u>National psych. distress</u>		<u>Black poor mental health days</u>			
	<u>Models 1a^a</u>		<u>Model 2a</u>		<u>Model 2c^b</u>	
	B	[95% CI]	B	[95% CI]	B	[95% CI]
Racial incidents (ref. = none)						
One incident	0.20	[0.01, 0.38]	0.02	[-0.14, 0.18]	0.03	[-0.10, 0.15]
Two+ incidents	-0.19	[-0.57, 0.20]	0.31	[0.08, 0.54]	0.26	[0.10, 0.43]
News searches for suicide	0.00	[-0.01, 0.01]				
Monthly unemployment	0.09	[-0.29, 0.47]	-0.10	[-0.43, 0.24]	-0.07	[-0.37, 0.24]
Season (ref. = winter)						
Spring	0.16	[-0.01, 0.33]	0.09	[-0.05, 0.23]	0.04	[-0.08, 0.17]
Summer	-0.17	[-0.46, 0.13]	0.02	[-0.12, 0.16]	0.01	[-0.11, 0.14]
Fall	0.25	[-0.04, 0.53]	0.02	[-0.11, 0.15]	0.04	[-0.08, 0.16]
Year (ref. = 2013)						
2014	0.25	[-0.06, 0.57]	-0.07	[-0.22, 0.07]	-0.08	[-0.21, 0.05]
2015	0.32	[0.06, 0.57]	-0.09	[-0.23, 0.04]	-0.08	[-0.20, 0.04]
2016	0.60	[0.25, 0.96]	-0.14	[-0.28, 0.00]	-0.06	[-0.19, 0.07]
2017	0.96	[0.50, 1.43]	0.08	[-0.06, 0.22]	0.00	[-0.12, 0.13]
Percent depression (10%)					1.10	[0.85, 1.34]
Percent female (10%)					-0.07	[-0.22, 0.07]
<u>Autocorrelation parameters</u>						
AR(1)	0.56	[0.21, 0.92]	0.07	[-0.07, 0.21]	0.04	[-0.12, 0.20]
MA(1)	-0.25	[-0.60, 0.10]				
52-week lag	0.56	[0.32, 0.79]	0.16	[0.03, 0.29]	0.06	[-0.06, 0.19]
	Model 1b ^a		Model 2b		Model 2d ^b	
Log ₁₀ (national interest in racial incidents)	0.04	[-0.21, 0.29]	0.13	[0.05, 0.22]	0.13	[0.05, 0.21]
News searches for suicide	0.00	[0.00, 0.01]				
Monthly unemployment	0.10	[-0.27, 0.48]	-0.09	[-0.41, 0.23]	-0.06	[-0.35, 0.23]
Season (ref. = winter)						
Spring	0.18	[0.00, 0.36]	0.08	[-0.05, 0.22]	0.03	[-0.09, 0.16]
Summer	-0.16	[-0.47, 0.14]	-0.02	[-0.16, 0.12]	-0.02	[-0.14, 0.10]
Fall	0.26	[-0.05, 0.57]	0.01	[-0.11, 0.14]	0.03	[-0.09, 0.15]
Year (ref. = 2013)						
2014	0.27	[-0.02, 0.56]	-0.11	[-0.25, 0.04]	-0.11	[-0.24, 0.02]
2015	0.34	[0.07, 0.61]	-0.13	[-0.27, 0.01]	-0.12	[-0.24, 0.00]
2016	0.62	[0.24, 1.00]	-0.17	[-0.31, -0.04]	-0.08	[-0.21, 0.05]
2017	1.01	[0.53, 1.50]	0.06	[-0.07, 0.20]	0.00	[-0.12, 0.12]
Percent depression (10%)					1.11	[0.86, 1.36]
Percent female (10%)					-0.05	[-0.19, 0.10]
<u>Autocorrelation parameters</u>						
AR(1)	0.60	[0.23, 0.97]	0.04	[-0.09, 0.17]	0.01	[-0.14, 0.16]
MA(1)	-0.29	[-0.65, 0.08]				
52-week lag	0.54	[0.29, 0.78]	0.16	[0.03, 0.29]	0.07	[-0.05, 0.18]

Note. Estimates are unstandardized and robust 95% confidence intervals shown.

Table S5. Time series models testing associations between high publicity racial violence and individual psychological distress indicators, 2012-2017.

Predictor variables	Depression depressed		Anxiety anxious		Kill myself		How to suicide	
	B	[95% CI]	B	[95% CI]	B	[95% CI]	B	[95% CI]
High publicity racial incident (ref.=none)								
One incident	0.19	[-0.06, 0.45]	0.07	[-0.01, 0.15]	0.25	[-0.04, 0.54]	0.06	[-0.10, 0.22]
Two+ incidents	-0.38	[-0.90, 0.14]	0.00	[-0.17, 0.18]	-0.15	[-0.76, 0.46]	0.06	[-0.15, 0.27]
Log ₁₀ (national interest in racial incidents)	0.07	[-0.31, 0.45]	-0.01	[-0.09, 0.06]	0.01	[-0.32, 0.35]	0.04	[-0.08, 0.17]

Note. Estimates for each column come from separate models. Estimates are unstandardized and robust 95% confidence intervals shown. All models adjust for monthly unemployment (first differenced), news-related search volume for suicide, season and year fixed effects, ARMA (1,1) disturbances, and 52-week lags.

Table S6. Time series models testing lagged effects of high publicity racial violence on mental health outcomes, 2012-2017.

Predictor variables	<u>National psychological distress^a</u>		<u>Black poor mental health days^b</u>	
	B	[95% CI]	B	[95% CI]
<u>Racial violence incidents (ref.=none)</u>				
One incident	0.10	[-0.07, 0.26]	0.01	[-0.11, 0.14]
Lag 1	-0.18	[-0.36, -0.01]	-0.04	[-0.15, 0.07]
Lag 2	-0.12	[-0.28, 0.03]	-0.05	[-0.16, 0.06]
Lag 3	-0.22	[-0.38, -0.06]	0.02	[-0.11, 0.14]
Two+ incidents	-0.08	[-0.37, 0.21]	0.26	[0.09, 0.43]
Lag 1	0.38	[-0.43, 1.19]	0.05	[-0.12, 0.22]
Lag 2	0.14	[-0.26, 0.55]	0.03	[-0.28, 0.34]
Lag 3	-0.12	[-0.31, 0.06]	0.19	[-0.07, 0.46]
<u>Autocorrelation parameters</u>				
AR(1)	0.77	[0.51, 1.02]	0.02	[-0.13, 0.17]
MA(1)	-0.43	[-0.67, -0.20]		
52-week lag	0.54	[0.31, 0.77]	0.04	[-0.07, 0.16]
<u>Log₁₀(national interest in racial incidents)</u>				
Lag 1	-0.10	[-0.28, 0.08]	-0.04	[-0.16, 0.07]
Lag 2	-0.13	[-0.26, 0.01]	0.01	[-0.11, 0.14]
Lag 3	0.03	[-0.12, 0.18]	0.08	[-0.03, 0.19]
<u>Autocorrelation parameters</u>				
AR(1)	0.65	[0.31, 0.98]	0.00	[-0.14, 0.14]
MA(1)	-0.33	[-0.64, -0.01]		
52-week lag	0.53	[0.29, 0.77]	0.06	[-0.05, 0.17]

Note. Estimates are unstandardized and robust 95% confidence intervals shown. All models adjust for monthly unemployment (first differenced), season and year fixed effects, and 52-week lags. Estimates for each panel are modeled separately, as divided by the horizontal line.

^a Includes news-related search volume for suicide.

^b Further adjusted for percent of female respondents and prevalence of depressive disorders.

Table S7. Falsification tests using poor mental health days among the White BRFSS sample.

Predictor variables	<u>White poor mental health days</u>			
	<u>Model 3a</u>		<u>Model 3c^a</u>	
	B	[95% CI]	B	[95% CI]
<u>Racial violence incidents (ref.=none)</u>				
One incident	0.03	[-0.02, 0.07]	0.01	[-0.03, 0.05]
Two+ incidents	0.07	[-0.02, 0.16]	0.07	[-0.03, 0.16]
<u>Autocorrelation parameters</u>				
AR(1)	0.43	[0.06, 0.80]	0.50	[0.18, 0.82]
MA(1)	-0.25	[-0.58, 0.08]	-0.32	[-0.57, -0.07]
52-week lag	0.14	[0.00, 0.28]	0.07	[-0.05, 0.18]
	<u>Model 3b</u>		<u>Model 3d^a</u>	
Log ₁₀ (national interest in racial incidents)	0.00	[-0.03, 0.04]	0.01	[-0.02, 0.04]
<u>Autocorrelation parameters</u>				
AR(1)	0.44	[0.05, 0.82]	0.50	[0.17, 0.84]
MA(1)	-0.26	[-0.61, 0.08]	-0.32	[-0.58, -0.07]
52-week lag	0.15	[0.00, 0.29]	0.07	[-0.04, 0.19]

Note. Estimates are unstandardized and robust 95% confidence intervals shown. All models adjust for monthly unemployment (first differenced), and season and year fixed effects.

^a Further adjusted for percent of female respondents and prevalence of depressive disorders among weekly samples of White BRFSS respondents.

Table S8. Sensitivity tests with potential confounding variables.

Predictor variables	<u>Black poor mental health days</u>			
	<u>Model 2e</u>		<u>Model 2g</u>	
	B	[95% CI]	B	[95% CI]
Racial violence incidents (ref.=none)				
One incident	0.02	[-0.10, 0.14]	0.01	[-0.12, 0.14]
Two+ incidents	0.25	[0.07, 0.42]	0.26	[0.09, 0.42]
Number of Black homicide victims	0.07	[0.00, 0.14]		
Search interest in riots (log ₁₀)			0.12	[0.00, 0.23]
<u>Autocorrelation parameters</u>				
AR(1)	0.03	[-0.13, 0.18]	0.03	[-0.13, 0.19]
52-week lag	0.05	[-0.07, 0.17]	0.07	[-0.05, 0.19]
	Model 2f		Model 2h	
Log ₁₀ (national interest in racial incidents)	0.12	[0.05, 0.20]	0.12	[0.03, 0.21]
Number of Black homicide victims	0.06	[0.00, 0.13]		
Search interest in riots (log ₁₀)			0.05	[-0.09, 0.20]
<u>Autocorrelation parameters</u>				
AR(1)	0.00	[-0.14, 0.15]	0.01	[-0.14, 0.16]
52-week lag	0.06	[-0.06, 0.17]	0.07	[-0.05, 0.18]

Note. Estimates are unstandardized and robust 95% confidence intervals shown. All models adjust for monthly unemployment (first differenced), season and year fixed effects, percent of female respondents, and prevalence of depressive disorders.

Table S9. Sensitivity tests separating national interest in high publicity racial incidents by type as predictors of mental health outcomes.

	<u>National psychological distress</u>		<u>Black poor mental health days</u>			
	<u>Models 1c^a</u>		<u>Models 2i</u>		<u>Model 2j^b</u>	
	B	[95% CI]	B	[95% CI]	B	[95% CI]
<u>Incident types (log₁₀[national interest])</u>						
Police killings of unarmed Black persons	0.42	[-0.20, 1.05]	0.08	[-0.07, 0.23]	0.03	[-0.10, 0.16]
Police killings of armed Black persons	-0.28	[-0.51, -0.06]	0.05	[-0.06, 0.17]	0.08	[-0.02, 0.17]
Decisions not to indict or convict the officer involved	-0.10	[-0.36, 0.16]	0.17	[0.03, 0.30]	0.21	[0.09, 0.33]
Hate crime murders of Black persons	-0.17	[-0.45, 0.10]	0.10	[-0.22, 0.42]	0.05	[-0.22, 0.32]
<u>Autocorrelation parameters</u>						
AR(1)	0.26	[-0.21, 0.72]	0.04	[-0.09, 0.17]	0.00	[-0.14, 0.15]
MA(1)	-0.01	[-0.43, 0.41]				
52-week lag	0.55	[0.30, 0.79]	0.16	[0.03, 0.28]	0.06	[-0.06, 0.17]

Note. Estimates are unstandardized and robust 95% confidence intervals shown. Models adjusted for monthly unemployment (first differenced), and season and year fixed effects.

^aIncludes news-related search volume for suicide.

^bIncludes percent of female respondents and prevalence of depressive disorders.

Table S10. State fixed effects regression models testing racial incidents by interest tercile as predictors of state weekly psychological distress.

	<u>Model S1a</u>		<u>Model S1b</u>		<u>Model S1c</u>	
	B	[95% CI]	B	[95% CI]	B	[95% CI]
Low-interest incident (low)	0.00	[-0.04, 0.04]	0.00	[-0.04, 0.04]	0.01	[-0.03, 0.06]
Lag 1 of low					0.04	[0.00, 0.09]
Lag 2 of low					-0.08	[-0.13, -0.04]
Lag 3 of low					-0.12	[-0.17, -0.08]
State-of-occurrence for low			-0.01	[-0.29, 0.26]	-0.02	[-0.30, 0.27]
Lag 1 of state-of-occurrence					-0.01	[-0.31, 0.29]
Lag 2 of state-of-occurrence					0.06	[-0.24, 0.36]
Lag 3 of state-of-occurrence					-0.02	[-0.31, 0.27]
Medium-interest incident (med)	0.18	[0.14, 0.22]	0.18	[0.14, 0.22]	0.20	[0.15, 0.24]
Lag 1 of med					0.05	[0.01, 0.10]
Lag 2 of med					0.07	[0.02, 0.11]
Lag 3 of med					0.07	[0.03, 0.12]
State-of-occurrence for med			-0.03	[-0.30, 0.25]	-0.02	[-0.30, 0.27]
Lag 1 of state-of-occurrence					0.07	[-0.23, 0.37]
Lag 2 of state-of-occurrence					-0.15	[-0.45, 0.15]
Lag 3 of state-of-occurrence					-0.12	[-0.41, 0.17]
High-interest incident (high)	-0.14	[-0.19, -0.10]	-0.14	[-0.18, -0.10]	-0.13	[-0.18, -0.09]
Lag 1 of high					0.04	[0.00, 0.09]
Lag 2 of high					-0.10	[-0.15, -0.05]
Lag 3 of high					-0.13	[-0.17, -0.08]
State-of-occurrence for high			-0.11	[-0.38, 0.16]	-0.17	[-0.46, 0.12]
Lag 1 of state-of-occurrence					-0.22	[-0.53, 0.08]
Lag 2 of state-of-occurrence					0.07	[-0.23, 0.37]
Lag 3 of state-of-occurrence					0.04	[-0.24, 0.33]

Note. Estimates are unstandardized and robust 95% confidence intervals shown. All models adjust for state fixed effects, state monthly unemployment (first differenced), season and year fixed effects, 52-week lags, and AR(1) disturbances. Models are estimated using the xtregar command in Stata (3).

Table S11. ARMA time series diagnostic models.

	<u>AIC</u>	<u>BIC</u>
Autocorrelation parameters	National psychological distress	
AR(1)	403.16	413.84
AR(1), MA(1)	396.31	410.55
AR(1), MA(1), 52-week lag	314.60	332.40
AR(1 4), MA(1), 52-week lag	314.70	336.06
	Poor mental health days among Black BRFSS respondents	
AR(1)	207.61	218.29
AR(1), MA(1)	208.00	222.25
AR(1), 52-week lag	200.13	214.37
AR(1 4), 52-week lag	202.03	219.83
	Poor mental health days among White BRFSS respondents	
AR(1)	-275.87	-265.19
AR(1), MA(1)	-322.10	-307.86
AR(1), MA(1), 52-week lag^a	-324.34	-306.54
AR(1 4), MA(1), 52-week lag	-324.75	-303.38

Note. Smaller values for Akaike and Bayesian information criterion (AIC and BIC, respectively) are preferred. Bold font indicates our preferred model.

^aAlthough comparison of AIC and BIC to a model without the 52-week lag suggests comparable model fit, we prefer to include the 52-week lag for greater comparability to models fit with Black BRFSS respondents.

References

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