

Exposure to the US Criminal Legal System and Well-Being: A 2018 Cross-Sectional Study

Ram Sundaresh, MS, Youngmin Yi, MA, Brita Roy, MD, MPH, Carley Riley, MD, MPP, Christopher Wildeman, PhD, and Emily A. Wang, MD, MAS

Objectives. To assess the association between exposure to the US criminal legal system and well-being.

Methods. We used data from the 2018 Family History of Incarceration Survey, a nationally representative cross-sectional study of family incarceration experience ($n = 2815$), which includes measures of participants' own criminal legal system exposure, including police stops, arrests, and incarceration. We measured well-being across 5 domains—physical, mental, social, spiritual, and overall life evaluation—and analyzed trends in well-being by criminal legal system exposure using logistic regression.

Results. Exposure to police stops, arrests, and incarceration were each associated with lower well-being in every domain compared with those not exposed. Longer durations of incarceration and multiple incarcerations were associated with progressively lower well-being. Those who were stopped and frisked by the police had low well-being similar to that of those who had been incarcerated multiple times.

Conclusions. Any exposure to police contact or incarceration is associated with lower well-being in every domain. More involved exposure is associated with even lower well-being.

Public Health Implications. Jail diversion and broader criminal justice reform may improve population-level well-being by reducing police contact and incarceration. (*Am J Public Health.* 2020;110:S116–S122. doi:10.2105/AJPH.2019.305414)

The United States has a massive criminal legal system.^{1–7} Contact with this system ranges from police stops to incarceration in jail and prison, all of which have expanded in recent decades.^{1–4} The US prison population has more than tripled since the 1970s, with a system that now incarcerates almost 2.3 million individuals—the largest incarcerated population in the world.⁵ An additional 4.5 million individuals are supervised in the community on parole and probation,⁶ with a large community police force that has grown steadily since the passage of the 1994 Violent Crime Control and Law Enforcement Act.^{2,4,7}

Incarceration has been substantively linked to negative mental health outcomes during imprisonment, and having a history of incarceration has been linked to a worsening of chronic medical conditions, substance use disorders, mental health disorders, and even preventable deaths following release.^{5,8,9}

However, even transient exposure to the criminal legal system may have negative implications for our nation's health and well-being.

There is a growing body of research that highlights how contact with the police or living in a highly policed neighborhood is associated with worse mental health and psychological distress. A survey of 1261 young men in New York City revealed that individuals who reported more police contact also reported more trauma and anxiety symptoms.¹⁰ Other studies have also shown similar associations between aggressive

policing or use of force and poor mental health.^{11–13} Further studies have shown that having a criminal record, even in the absence of being incarcerated, is associated with poor health outcomes.¹⁴ For instance, those on probation have a higher age-standardized mortality than does the general population.¹⁵ One plausible reason is the collateral consequences of a criminal conviction, such as legal restrictions that limit or prohibit people with criminal records from accessing employment, housing, education, voting, and other opportunities.

Exposure to the criminal legal system likely affects broader well-being, which is a person's holistic condition encompassing physical health as well as emotional, social, and spiritual components. Well-being is a critically important indicator of individual- and population-level social welfare, and recently developed measures of well-being based on self-reported life evaluation have been found not only to be informative as valid measures of well-being but also to be strongly associated with key indicators of population health, such as life expectancy.¹⁶

Although there is some evidence that exposure to the criminal legal system affects well-being, the relationship has not been as closely studied in national population-based studies, leaving important questions on the full range of possible law enforcement and criminal justice system interactions and their consequences for well-being.

We examined the association between one's exposure to the criminal

ABOUT THE AUTHORS

Ram Sundaresh is a medical student at the Yale School of Medicine, New Haven, CT. Youngmin Yi is a PhD candidate in the Department of Sociology, Cornell University, Ithaca, NY. Brita Roy and Emily A. Wang are with the Department of Internal Medicine, Yale School of Medicine. Carley Riley is with the Cincinnati Children's Hospital Medical Center, University of Cincinnati College of Medicine, Cincinnati, OH. Christopher Wildeman is with the Department of Policy Analysis & Management, Cornell University.

Correspondence should be sent to Ram Sundaresh, 35 Cottage Street, New Haven, CT 06511 (e-mail: ram.sundaresh@yale.edu). Reprints can be ordered at <http://www.ajph.org> by clicking the "Reprints" link.

This article was accepted September 30, 2019.

doi: 10.2105/AJPH.2019.305414

legal system—including police stops, arrests, and incarceration—and his or her well-being. We hypothesized that exposure to police stops, arrests, and incarceration would be associated with lower levels of well-being, with those who have been incarcerated multiple times having the lowest levels of well-being. We also hypothesized that social support and financial well-being would moderate the trajectories of recovery of well-being after incarceration.

METHODS

We used data from the Family History of Incarceration Survey (FamHIS), a nationally representative cross-sectional study originally designed to measure the national prevalence of family incarceration.¹⁷ FamHIS investigators worked with the National Opinion Research Center (NORC) to recruit a baseline sample of 4041 adults. Participants completed a brief screening tool that assessed incarceration experience in the immediate family. From this baseline sample, NORC recruited 1806 respondents with immediate family incarceration experience and 1009 respondents without immediate family incarceration to participate in the full FamHIS questionnaire, which includes items on one's own incarceration, police contact, and well-being. This set of 2815 respondents constitutes the full sample used for this study and yielded a survey response rate of 69.7%.

The FamHIS data include a set of sampling weights, WEIGHT2, that adjusts the full-survey sample of 2815 to be representative of the US household adult population. WEIGHT2 accounts for the recruitment sampling into the baseline sample of 4041, and the stratified subsampling into the final FamHIS sample on the basis of family incarceration experience. This benchmarks the full-survey sample of 2815—including the items on one's own criminal legal system involvement—to the US household adult population. Full details on sampling and weighting methods are detailed in Appendix Section A (available as a supplement to the online version of this article at <http://www.ajph.org>).

Independent Variable

The main predictor of interest is respondents' exposure to the criminal legal system, with 3 types of exposure that capture a range in the intensity of contact: stops by the police, arrests, and incarcerations for at least 1 night. Respondents who reported being stopped by police were asked whether they were also searched or physically "frisked" as part of the police stop. Those who reported being incarcerated for at least 1 night were surveyed for additional details about their incarceration experience, including when they were last released from incarceration (< 1 year ago, 1–5 years ago, 6–10 years ago, or > 10 years ago), how many times they had been incarcerated (once or more than once), and the duration of their only or most recent incarceration spell (1 day, 2 days to 1 month, between 1 month and 1 year, 1–5 years, 6–10 years, or > 10 years). We used a dichotomous summary measure of any criminal legal system exposure to tabulate respondents who reported having experienced any police stop, arrest, or incarceration.

Dependent Variables

The outcome of interest was self-reported life evaluation, a measure of overall well-being that originated in the 100 Million Healthier Lives (100MLives) initiative.¹⁸ This broader initiative evaluated and designed the 100MLives Adult Well-Being Assessment,¹⁸ a set of reliable and validated quantitative tools included in the FamHIS questionnaire that measures well-being overall and by specific domains.^{19–22} Self-reported life evaluation was measured using the Cantril self-anchoring striving scale,¹⁹ which was used in the 100MLives initiative and has been used extensively in other research on national well-being in the United States and other countries.²³ Participants were asked to rank their current life satisfaction and future life prospects on scales from 0 to 10, using an image of a ladder to help visualize and conceptualize the scale (Figure B, available as a supplement to the online version of this article at <http://www.ajph.org>). Responses of current life satisfaction greater than or equal to 7 and future life prospects greater than or equal to 8 were classified as a "thriving" life evaluation,²⁴ the main outcome of interest in these analyses. An increase of 1 SD in the current life satisfaction score is estimated

to be associated with a 1.5-year longer life expectancy.¹⁶

The measured domains of well-being were physical health, mental health, social support, spiritual well-being, and financial well-being. Physical health, mental health, and social support were self-rated on 5-point Likert scales. Spiritual well-being was measured using a 7-point Likert scale that evaluated respondents' sense of purpose and life meaning. Financial well-being was measured using an 11-rung ladder similar to the Cantril self-anchoring scale.

Responses were categorized as "thriving," "surviving," or "suffering" in life evaluation and in each domain of well-being using the 100MLives scoring system (Table A, available as a supplement to the online version of this article at <http://www.ajph.org>). For analyses of factors shaping postincarceration life evaluation, scales of social support and financial well-being were dichotomized into "high" and "low" categories corresponding, respectively, with "thriving" (social support scale ≥ 4 ; financial well-being scale ≥ 7) and "not thriving" for those measures.

Covariates

FamHIS included the following covariates, which were included in these analyses: respondent age, gender, race/ethnicity, education level, income, housing type, employment status, marital status, and history of drug or alcohol addiction.

Statistical Analyses

The analysis of our cross-sectional data began with a comparison of unadjusted patterns of well-being and criminal legal system exposure. We first compared proportions of respondents scored as thriving, surviving, or suffering on each well-being measure by criminal legal system exposure. We used the Kruskal–Wallis test to assess trends in well-being across types of criminal legal system exposure. To explore the possibility of these associations being driven by other covariates, we used 3 nested multivariate logistic regression models to estimate adjusted associations between criminal legal system exposure and the odds of a thriving life evaluation. First, we accounted for the key sociodemographic characteristics of age, gender, race/ethnicity, and education level. Next, we adjusted for

social and economic factors: employment status, housing type, marital status, and household income. Finally, we adjusted for respondents' addiction history. We estimated this set of models for each of the 3 types of criminal legal system exposure. We determined final model specifications using tests for collinearity, using a variance inflation factor cutoff of 2.0.

We also explored the potential dose dependence of these associations with time in 2 dimensions: duration of incarceration and time since last incarceration. First, we estimated age-adjusted trends in life evaluation across categories of duration of incarceration and across time points since release from incarceration. We then stratified the trends across time points since release by dichotomized levels of financial well-being and social support.

All statistical tests were 2-sided, with an α level of 0.05. We conducted all analyses in R version 3.5.1 (R Foundation for Statistical Computing, Vienna, Austria)²⁵ and weighted them using FamHIS-specified weights to adjust the analytic sample to the US household adult population.

RESULTS

About 57% of men and 31% of women had any criminal legal system exposure. Individuals with any criminal legal system exposure were more likely to be Black ($P < .001$), to live in lower-income households ($P < .001$), and to have had a history of drug or alcohol addiction ($P < .001$) compared with those without exposure to the criminal legal system (Table 1).

Police Stops

Twenty-nine percent of respondents had ever been stopped by the police and 16% had ever been stopped and frisked by the police (Table 1). In unadjusted trends (Tables 2 and 3) compared with respondents not stopped by the police, those who had ever been stopped by the police had 0.59 (95% confidence interval [CI] = 0.44, 0.80) times the odds of a thriving life evaluation, and those who were stopped and frisked by the police had 0.45 (95% CI = 0.34, 0.62) times the odds of thriving, with a dose-response association

(P for trend $< .001$). Those who were stopped and frisked by the police had low rates of thriving similar to the rates of individuals who had been incarcerated multiple times (Table 2). The fully adjusted models reflect a slight attenuation in these associations, although they remain statistically significant (Table 3).

Arrests

Thirty-one percent of respondents had ever been arrested, which is a more intense type of criminal legal system exposure than are police stops. In unadjusted trends (Tables 2 and 3), individuals who had been arrested had 0.59 (95% CI = 0.47, 0.74) times the odds of thriving compared with those with no prior arrests. This association was somewhat attenuated in magnitude with covariate adjustment but remained statistically significant with the inclusion of social, demographic, and economic characteristics in the multivariate models; however, it was no longer statistically significant after adjusting for respondents' history of addiction (Table 3).

Incarceration

Twenty-three percent of individuals had ever been incarcerated for at least 1 night. In unadjusted trends (Tables 2 and 3), history of a single incarceration (odds ratio [OR] = 0.67; 95% CI = 0.48, 0.93) or multiple incarcerations (OR = 0.50; 95% CI = 0.37, 0.69) were each associated with a dose-dependent lower odds of thriving (P for trend $< .001$) compared with those without incarceration experience, an association that remained statistically significant after adjusting for demographic characteristics. However, these associations were no longer statistically significant with the addition to the model of economic and social contextual factors or history of addiction (Table 3).

Longer incarceration spells were associated with roughly progressively lower proportions of age-adjusted thriving life evaluation (Figure 1a) and well-being across all domains (Figure A, available as a supplement to the online version of this article at <http://www.ajph.org>). However, those with the longest incarceration spells (> 1 year) were more likely to be thriving than were those with the second longest duration of incarceration (1 month to 1 year) on all measures.

Greater time since release was associated with progressively higher proportions of age-adjusted thriving life evaluation (Figure 1b). When stratified by levels of social support (Figure 1b), respondents sampled less than 1 year since release had similar proportions of age-adjusted thriving, regardless of level of social support. However, in comparisons across groups sampled temporally further from their last incarceration, those with high social support were progressively more likely to be thriving, whereas proportions thriving among those with low social support remained statistically stable. For respondents who had been released for more than 10 years, 85% were thriving among those with high levels of social support, but only 19% among those with low levels of social support. When stratified by financial well-being (Figure 1b), there were persistent differences in probabilities of age-adjusted thriving between those with high versus low levels of financial well-being, but there was no statistically significant trend across categories of time since release within the same strata of financial well-being.

In addition to the life evaluation measure of overall well-being, criminal legal system exposure was associated with a progressively lower proportion of thriving in every domain of well-being (Table Ba–c). Physical health and social well-being were especially low among those with exposures to the system. In sensitivity analyses, the progressive drop across life evaluation and each domain with exposures to police stops or arrests persisted after selecting for individuals with no incarceration history.

DISCUSSION

In the first, to our knowledge, nationally representative study of its kind, we found that each of the 3 types of criminal legal system exposure is associated with lower proportions of thriving in overall life evaluation and in every domain of well-being. There is some evidence of dose-dependent well-being associations with variation in criminal legal system exposure intensity, for example, in associations with police stops with and without searches or with single versus multiple incarcerations. Taken together, these

TABLE 1—Study Demographics by Exposure to the Criminal Legal System (CLS): Family History of Incarceration Survey (FamHIS): United States, 2018

Variable	No CLS Exposure (n = 1584), No (%)	Any CLS Exposure (n = 1229), No (%)	Overall (n = 2815), No (%)	P
Age, y				< .001
18–24	101 (10.8)	81 (12.0)	182 (11.2)	
25–34	340 (18.1)	310 (22.0)	651 (19.6)	
35–54	431 (29.5)	436 (34.5)	868 (31.5)	
55–64	298 (16.5)	232 (18.3)	530 (17.2)	
65–74	262 (15.8)	135 (10.6)	397 (13.8)	
≥ 75	152 (9.3)	35 (2.6)	187 (6.7)	
Gender				< .001
Women	1013 (61.9)	457 (35.9)	1472 (51.7)	
Men	571 (38.1)	772 (64.1)	1343 (48.3)	
Race/ethnicity				.006
Non-Hispanic Black	171 (9.8)	226 (15.1)	397 (11.9)	
Hispanic	246 (17.6)	165 (14.2)	411 (16.2)	
Non-Hispanic White	1046 (63.1)	717 (62.4)	1765 (62.8)	
Non-Hispanic Native American	7 (0.5)	19 (1.1)	26 (0.7)	
Non-Hispanic other	114 (8.9)	102 (7.2)	216 (8.3)	
Household income, \$				< .001
≤ 24 999	292 (18.8)	366 (30.3)	659 (23.4)	
25 000–49 999	436 (25.9)	346 (26.9)	782 (26.2)	
50 000–74 999	299 (18.4)	203 (15.8)	503 (17.4)	
75 000–99 999	233 (14.9)	134 (11.0)	367 (13.3)	
≥ 100 000	324 (22.0)	180 (16.0)	504 (19.6)	
Housing type				.004
Single-family home	1154 (75.1)	792 (66.2)	1946 (71.6)	
Apartment	372 (21.0)	368 (27.5)	742 (23.6)	
Mobile home/trailer/boat/RV/van	58 (3.8)	69 (6.3)	127 (4.8)	
Employment status				.09
Working	931 (57.7)	748 (59.1)	1680 (58.2)	
Not working, seeking job	82 (6.6)	102 (10.0)	184 (7.9)	
Not working, not seeking job	446 (27.5)	304 (24.1)	751 (26.2)	
Not working, other	125 (8.2)	75 (6.8)	200 (7.6)	
Education				< .001
No HS diploma	81 (8.2)	107 (14.5)	188 (10.7)	
HS graduate or GED	303 (27.8)	262 (30.0)	566 (28.7)	
Some college	650 (26.1)	579 (30.3)	1229 (27.7)	
Bachelor's degree or above	550 (38.0)	281 (25.3)	832 (33.0)	
Marital status				.002
Never married	328 (23.2)	329 (28.1)	658 (25.1)	
Married or living with partner	933 (58.0)	604 (48.7)	1538 (54.3)	
Widowed, divorced, or separated	323 (18.9)	296 (23.2)	619 (20.6)	
History of addiction				< .001
Yes	113 (7.0)	384 (29.3)	497 (15.6)	
No	1425 (93.0)	791 (70.7)	2216 (84.4)	

Note. GED = general equivalency diploma; HS = high school. CLS exposure includes police stops, arrests, and incarceration. Proportions are adjusted for sample weights to be nationally representative of the US household population. Two respondents from the overall FamHIS sample were missing all CLS data, leaving 2813 respondents with any CLS exposure data.

TABLE 2—Trends in Life Evaluation by Criminal Legal System (CLS) Exposure: Family History of Incarceration Survey, United States, 2018

CLS Exposure	Life Evaluation			No.	P for trend
	Thriving, %	Surviving, %	Suffering, %		
Overall	63.3	34.1	2.7	2813	
Missing all CLS data				2	
Police stops					< .001
Not stopped	67.5	30.2	2.3	1987	
Stopped only	55.1	40.1	4.9	384	
Stopped and frisked	48.5	48.7	2.8	440	
Missing data				4	
Arrests					< .001
Not arrested	66.7	30.8	2.4	1929	
Arrested	54.1	42.6	3.3	877	
Missing				9	
Incarceration					< .001
Not incarcerated	65.7	31.6	2.7	2163	
Incarcerated once	56.3	41.5	2.3	311	
Incarcerated multiple times	49.0	48.0	3.0	331	
Missing data				10	

Note. Proportions are adjusted for sample weights to be nationally representative of the US household population. Of the full Family History of Incarceration Survey sample of n = 2815, a total of 2813 respondents had any CLS exposure data available.

findings provide additional evidence supporting the negative associations between one’s exposure to the criminal legal system and a holistic measure of well-being.

Contrary to our initial hypothesis, the negative association between exposure to police stops with searches and odds of a thriving life evaluation was similar in magnitude to the association estimated for those

who experienced multiple incarcerations, illustrating the extent to which even lower-level contact with the criminal legal system is negatively associated with quality of life. These associations between police contact and well-being persisted in our sensitivity analyses that excluded formerly incarcerated individuals, suggesting that this association is driven by factors independent of incarceration.

Our results highlight the continued need for improved understanding of other types of criminal legal system exposure—such as police stops—which may be less severe but potentially harmful to health.^{10–13,26–28} There are more than 2.5 million street stops by the police each year in the United States, with about 9% involving searches and 3% involving use of force, even though at least 85% of stops do not result in either a ticket or an arrest.²⁸ Aggressive policing practices such as stop and frisk are associated with worse health outcomes, with increased risks of exposure to physical, psychological, and sexual violence,²⁶ and are associated with higher levels of anxiety and trauma.¹⁰ Our study is the first, to our knowledge, to show associations with a more holistic measure of well-being that includes physical health. Future studies can better characterize how exposure to police stops is associated with decreased well-being

TABLE 3—Adjusted Associations Between Criminal Legal System (CLS) Exposure and Life Evaluation: Family History of Incarceration Survey, United States, 2018

CLS Exposure	Thriving, No.	Not Thriving, No.	Model 1, ^a OR (95% CI) or P for Trend	Model 2, ^b OR (95% CI) or P for Trend	Model 3, ^c OR (95% CI) or P for Trend	Model 4, ^d OR (95% CI) or P for Trend
Police stops			<.001	<.001	<.001	.006
Never stopped	1247	695	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)
Stopped	209	169	0.59 (0.44, 0.80)	0.60 (0.44, 0.83)	0.63 (0.46, 0.87)	0.65 (0.46, 0.90)
Stopped and frisked	204	229	0.45 (0.34, 0.62)	0.49 (0.35, 0.67)	0.54 (0.39, 0.76)	0.60 (0.42, 0.86)
Arrests						
Never arrested	1204	682	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)
Arrested	453	411	0.59 (0.47, 0.74)	0.68 (0.54, 0.87)	0.76 (0.59, 0.97)	0.81 (0.62, 1.07)
Incarceration			<.001	.008	.11	.4
Never incarcerated	1333	785	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)
Incarcerated once	164	140	0.67 (0.48, 0.93)	0.77 (0.56, 1.07)	0.84 (0.6, 1.18)	0.85 (0.6, 1.21)
Incarcerated multiple times	160	167	0.5 (0.37, 0.69)	0.61 (0.44, 0.89)	0.73 (0.50, 1.07)	0.84 (0.56, 1.26)

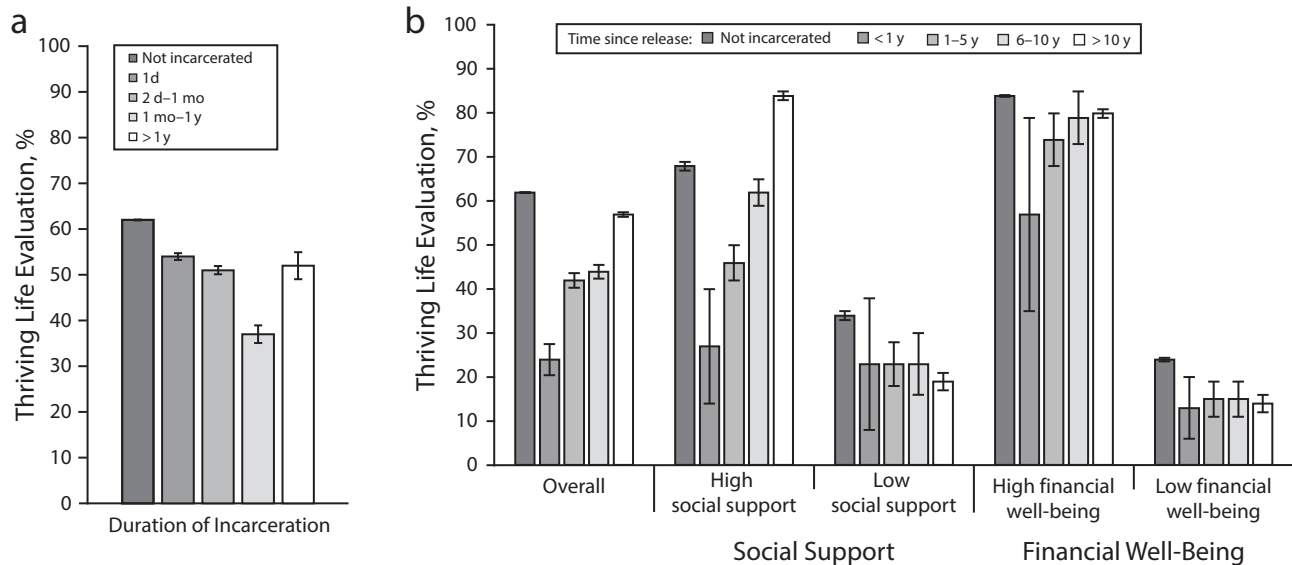
Note. CI = confidence interval; OR = odds ratio. Regressions are adjusted for sample weights to be nationally representative of the US household population. Employment status and age were collinear, so we excluded employment status from these models.

^aUnadjusted.

^bAdjusted for age + gender + race + education level.

^cAdjusted for model 2 + household income + home type + marital status.

^dAdjusted for model 3 + history of addiction.



Note. Well-being was measured by the proportion of respondents with a thriving life evaluation. Proportions are age-adjusted. Levels of social support and financial well-being are defined by the 100 Million Healthier Lives scoring system.¹⁸

FIGURE 1—Well-Being by (a) Duration of Incarceration and (b) Time Since Release From Incarceration Stratified by Levels of Social Support and Financial Well-Being: Family History of Incarceration Survey, United States, 2018

and identify potential mechanisms that promote the recovery of well-being, especially in overpoliced communities.

Finally, our findings underscore the importance of financial well-being and social support as important factors that are likely important in the recovery of well-being after incarceration. Our multivariate analyses show that the association between prior incarceration and well-being is attenuated after controlling for economic and social factors such as household income, marital status, and addiction history. Although our cross-sectional data cannot disentangle the temporality of the interplay between addiction, incarceration, and well-being, when seen together with our analyses of trends in well-being across time points among formerly incarcerated individuals, our data suggest that broader social and financial factors may be important mediators or modifiers of this association. This is consistent with previous studies on the role of social support for postrelease mental health and the role of financial security in facilitating successful reentry.²⁹ Future studies can better characterize the role of addiction in the relationship between incarceration and well-being and can explore interventions that improve social support and financial

well-being among formerly incarcerated individuals.

Limitations and Strengths

These findings are primarily limited by the self-reported and cross-sectional nature of the data. FamHIS study measures are vulnerable to recall bias and social desirability bias, which are challenges faced by many key data sources on incarceration and its relation to health.³⁰ Additionally, because this was a cross-sectional study, the findings cannot address the temporality of criminal legal system exposures and well-being, much less causal effects.

Furthermore, community-level spatial factors are likely important drivers of well-being and were not included in the FamHIS. Finally, although the FamHIS draws on the nationally representative NORC panel, which allows inference to the broad population of all US noninstitutionalized adults, this address-based panel excludes individuals who were homeless or institutionalized at the time of data collection. Although the lack of currently incarcerated individuals in the study sample should not affect inferences about formerly incarcerated individuals, the lack of individuals experiencing homelessness or

otherwise institutionalized individuals in the FamHIS may skew these data. This is a shared challenge of research on the consequences of criminal legal system exposure, as no nationally representative data capturing well-being and including these groups are currently available.³¹

Some limitations of these analyses point to potentially important avenues for future research. The FamHIS data do not allow distinguishing jail and prison contexts and also do not allow longitudinal observation over time with respect to duration or frequency of incarceration. Future exploration of variation in well-being across incarceration contexts and longitudinally over time is therefore important, especially for elucidating the role of addiction in our observed associations.

Nonetheless, our study design is strengthened by our use of a large, nationally representative study sample with high-quality sampling methods and low levels of missing data to ensure representative distributions of age, gender, race/ethnicity, and income. Our findings are compelling with their strong associations, dose gradients with degree of criminal legal system exposure, and consistency across all measures of well-being. Lastly, we used a robust measure of well-being to

provide novel insight into the effects of the criminal legal system.

Public Health Implications

These analyses point to some key implications for public health and policy reform. First, this study corroborates the previously documented role of incarceration as a strong social and structural determinant of well-being in a nationally representative sample, further highlighting the importance of interventions that prevent incarceration. Second, our findings suggest the importance of social support and financial well-being in promoting well-being and the need for policy reforms that support the social, financial, and health outcomes of this vulnerable population.^{8,32,33} Finally, our findings on the strong relationship between lower-level police contact and well-being highlight the need for more research on the individual- and community-level effects of police contact on health and well-being. Empirically measuring well-being and lived experience can provide novel insights for health policy decisions and criminal justice reform efforts, with an aim to fostering thriving in every domain of life. **AJPH**

CONTRIBUTORS

R. Sundaresh originated the research question and analysis design, conducted the data analysis, and coordinated the writing of the article. Y. Yi, B. Roy, C. Wildeman, and E. A. Wang participated in analysis design. Y. Yi supervised data analysis. Y. Yi and E. A. Wang developed the original questionnaire. B. Roy and C. Riley developed the outcome measure. C. Wildeman designed, developed, and implemented the original questionnaire. C. Wildeman and E. A. Wang coordinated data acquisition. E. A. Wang supervised the data analysis and the writing of the article. All authors participated in writing the article.

ACKNOWLEDGMENTS

The FamHIS was funded by FWD.us. R. Sundaresh was supported for this study by the Moser Research Fellowship Award.

Note. The opinions expressed here are those of the authors and do not necessarily reflect or endorse the views of FWD.us.

CONFLICTS OF INTEREST

C. Riley and B. Roy receive funding from the Institute for Health Care Improvement and from Heluna Health to support their efforts in developing and implementing the measurement framework for the 100 Million Healthier Lives initiative. The measure of well-being used in this study was originally developed for 100 Million Healthier Lives. The remaining authors have no conflicts of interest to report.

HUMAN PARTICIPANT PROTECTION

The Yale School of Medicine institutional review board classified this study as exempt from further review because we used preexisting de-identified data.

REFERENCES

- Dumont DM, Brockmann B, Dickman S, Alexander N, Rich JD. Public health and the epidemic of incarceration. *Annu Rev Public Health*. 2012;33:325–339.
- Brame R, Turner MG, Patemoster R, Bushway SD. Cumulative prevalence of arrest from ages 8 to 23 in a national sample. *Pediatrics*. 2012;129(1):21–27.
- Kyckelhahn T. State corrections expenditures, FY 1982–2010. 2012. Available at: <https://www.bjs.gov/content/pub/pdf/scfy8210.pdf>. Accessed April 25, 2019.
- Hickman M, Reaves B. Local police departments, 2003. 2006. Available at <https://www.bjs.gov/content/pub/pdf/lpd03.pdf>. Accessed April 25, 2019.
- Wildeman C, Wang EA. Mass incarceration, public health, and widening inequality in the USA. *Lancet*. 2017;389(10077):1464–1474.
- Kaeble D, Cowhig M. Correctional populations in the United States, 2016. 2018. Available at: <https://www.bjs.gov/content/pub/pdf/cpus16.pdf>. Accessed April 25, 2019.
- Burch AM. Sheriff's office personnel, 1993–2013. 2016. Available at: <https://www.bjs.gov/content/pub/pdf/sop9313.pdf>. Accessed April 25, 2019.
- Freudenberg N, Heller D. A review of opportunities to improve the health of people involved in the criminal justice system in the United States. *Annu Rev Public Health*. 2016;37:313–333.
- Binswanger IA, Stern MF, Deyo RA, et al. Release from prison—a high risk of death for former inmates. *N Engl J Med*. 2007;356(2):157–165.
- Geller A, Fagan J, Tyler T, Link BG. Aggressive policing and the mental health of young urban men. *Am J Public Health*. 2014;104(12):2321–2327.
- DeVylder JE, Jun HJ, Fedina L, et al. Association of exposure to police violence with prevalence of mental health symptoms among urban residents in the United States. *JAMA Netw Open*. 2018;1(7):e184945.
- Sewell AA, Jefferson KA, Lee H. Living under surveillance: gender, psychological distress, and stop-question-and-frisk policing in New York City. *Soc Sci Med*. 2016;159:1–13.
- Bor J, Venkataramani AS, Williams DR, Tsai AC. Police killings and their spillover effects on the mental health of black Americans: a population-based, quasi-experimental study. *Lancet*. 2018;392(10144):302–310.
- Fobian AD, Froelich M, Sellers A, Cropsey K, Redmond N. Assessment of cardiovascular health among community-dwelling men with incarceration history. *J Urban Health*. 2018;95(4):556–563.
- Wildeman C, Goldman AW, Wang EA. Age-standardized mortality of persons on probation, in jail, or in state prison and the general population, 2001–2012. *Public Health Rep*. 2019;134(6):660–666.
- Arora A, Spatz E, Herrin J, et al. Population well-being measures help explain geographic disparities in life expectancy at the county level. *Health Aff (Millwood)*. 2016;35(11):2075–2082.
- Enns PK, Yi Y, Comfort M, et al. What percentage of Americans have ever had a family member incarcerated? Evidence from the Family History of Incarceration Survey (FamHIS). *Socius*. 2019;5:1–45.
- Stiefel MC, Riley CL, Roy B, Ramaswamy R, Stout S. 100 Million Healthier Lives Measurement System: progress to date. 2016. Available at: https://www.100mlives.org/wp-content/uploads/2016/03/FINAL_100MHL-Measurement-Framework-Report_2016-03-17.pdf. Accessed April 10, 2019.
- Cantril H. *The Pattern of Human Concerns*. New Brunswick, NJ: Rutgers University Press; 1965.
- Hays RD, Schalet BD, Spritzer KL, Cella D. Two-item PROMIS(R) global physical and mental health scales. *J Patient Rep Outcomes*. 2017;1(1):2.
- Porter NM, Garman ET. Money as part of a measure of financial well-being. *Am Behav Sci*. 1992;35(6):820–826.
- Diener E, Wirtz D, Tov W, et al. New well-being measures: short scales to assess flourishing and positive and negative feelings. *Soc Indic Res*. 2010;97(2):143–156.
- Gallup-Sharecare. State of American well-being, 2017 community well-being rankings. 2018. Available at: https://wellbeingindex.sharecare.com/wp-content/uploads/2018/03/Gallup-Sharecare-State-of-American-Well-Being_2017-Community-Rankings_vFINAL.pdf. Accessed April 10, 2019.
- Gallup. Understanding how Gallup uses the Cantril Scale: development of the “thriving, struggling, suffering” categories. Available at: <https://news.gallup.com/poll/122453/understanding-gallup-uses-cantril-scale.aspx>. Accessed March 6, 2019.
- R Foundation for Statistical Computing. R: a language and environment for statistical computing. Version 3.5.1. 2013. Available at: <http://www.R-project.org>. Accessed August 20, 2018.
- Cooper H, Moore L, Gruskin S, Krieger N. Characterizing perceived police violence: implications for public health. *Am J Public Health*. 2004;94(7):1109–1118.
- Edwards F, Lee H, Esposito M. Risk of being killed by police use of force in the United States by age, race-ethnicity, and sex. *Proc Natl Acad Sci U S A*. 2019;116(34):16793–16798.
- Davis E, Whyde A, Langton L. Contacts between police and the public. 2018. Available at: <https://www.bjs.gov/content/pub/pdf/cpp15.pdf>. Accessed April 10, 2019.
- Woods LN, Lanza AS, Dyson W, Gordon DM. The role of prevention in promoting continuity of health care in prisoner reentry initiatives. *Am J Public Health*. 2013;103(5):830–838.
- Geller A, Jaeger K, Pace GT. Surveys, records, and the study of incarceration in families. *Ann Am Acad Political Soc Sci*. 2016;665(1):22–43.
- Wang EA, Macmadu A, Rich JD. Examining the impact of criminal justice involvement on health through federally funded, national population-based surveys in the United States. *Public Health Rep*. 2019;134(1 suppl):22S–33S.
- Cloud D. *On Life Support: Public Health in the Age of Mass Incarceration*. New York, NY: Vera Institute of Justice; 2014.
- Norris RJ. Assessing compensation statutes for the wrongly convicted. *Crim Justice Policy Rev*. 2012;23(3):352–374.

Copyright of American Journal of Public Health is the property of American Public Health Association and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.