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Family member incarceration and mental health: Results from a nationally representative survey

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ABSTRACT

Research increasingly documents the repercussions of family member incarceration for health, but little is known about the relative health consequences of different types of family member incarceration (including parent, sibling, child, and romantic partner/co-parent incarceration) or demographic variation in the health consequences of family member incarceration. I used data from the Family History of Incarceration Survey (FamHIS), a nationally representative cross-sectional survey of U.S. adults (N = 2808), to estimate the association between family member incarceration history and mental health, net of covariates. Adjusted logistic regression models suggest three conclusions. First, immediate family member incarceration is positively associated with fair or poor mental health. Second, parent and sibling incarceration—but not child or romantic partner/co-parent incarceration—is positively associated with fair or poor mental health, but the different types of family member incarceration are not statistically different from one another. Third, the association between family member incarceration and fair or poor mental health is similar across race/ethnicity, gender, socioeconomic status, and incarceration history. These findings highlight that any family member incarceration—and not necessarily the type of family member incarceration—has repercussions for mental health, and that these associations are not contingent on demographic characteristics. Given the concentration of family member incarceration among people of color and the poor, this adverse experience may exacerbate population health inequalities.

1. Introduction

The rapid expansion of the U.S. criminal legal system over the past half century means that a substantial number of individuals have experienced incarceration and its attendant health consequences (Alexander, 2020; Massoglia & Pridemore, 2015; Pettit & Western, 2004). However, the currently and formerly incarcerated are not isolated individuals and are instead connected to families as parents, romantic partners and co-parents, siblings, and children (Wildeman et al., 2019). Recent research documents that 45% of U.S. adults have ever experienced the incarceration of an immediate family member including a parent, romantic partner, sibling, or child (Enns et al., 2019). Family member incarceration history is concentrated among vulnerable populations including people of color, those with low socioeconomic status, and those with their own incarceration history (Enns et al., 2019; Lee et al., 2015).

The stress process perspective, which highlights how the concentration of stressors among the most vulnerable can exacerbate population health disparities, suggests that incarceration is a stressor with deleterious consequences for mental health (Patterson et al., 2021; Pearlin, 1989; Pearlin et al., 1981). This perspective also highlights how these deleterious mental health consequences can extend beyond the individual directly experiencing the stressor (Pearlin et al., 1997; Turney, 2014). That is, the stressor of incarceration proliferates to have reverberating mental health consequences for those connected to the incarcerated, via pathways such as destabilized family economic wellbeing or impaired relationships between family members (Turney, 2014). An interdisciplinary body of research consistently documents the negative consequences of parental incarceration for indicators of children's and adolescents' mental health including depression, anxiety, and substance use (Johnson & Easterling, 2012; Lee et al., 2013; Murray et al., 2012; Poehlmann-Tynan & Turney, 2021; Roettger et al., 2011; Turney, 2017; Turney & Goodsell, 2018; Wildeman, 2010; Wildeman et al., 2018; Wildeman & Turney, 2014). A smaller body of research documents the mental health consequences of romantic partner and co-parent incarceration (Bruns & Lee, 2020; Wildeman et al., 2012), sibling incarceration (Tadros et al., 2020), and child incarceration (Goldman, 2019; Green et al., 2006; Sirois, 2020), or considers family member incarceration broadly (Brown et al., 2016; Fleming & Nurius, 2020; Gottlieb, 2016; Lee et al., 2014; Patterson et al., 2021).

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There are two opportunities to extend research on the relationship between family member incarceration history and mental health. First, though all types of family member incarceration history may be differentially associated with mental health, data limitations have precluded a simultaneous examination of the relative consequences of different types of family member incarceration, including parent, sibling, child, and romantic partner/co-parent incarceration. The lack of research on the repercussions of sibling incarceration, in particular, is a substantial oversight given that this is the most common type of family member incarceration (Enns et al., 2019). Second, despite good reason to expect that family member incarceration is differentially consequential across population subgroups, little research considers heterogeneity in the association between family member incarceration and mental health by demographic characteristics (e.g., race/ethnicity, gender).

In this paper, I use data from the Family History of Incarceration Survey (FamHIS), a recent nationally representative sample of all adults in the United States, to estimate the association between family member incarceration history and mental health. First, I examine the association between any family member incarceration history and mental health, adjusting for characteristics associated with family member incarceration (Enns et al., 2019; Johnson & Easterling, 2012). Second, I provide the first comprehensive accounting of how types of family member incarceration—including parent, sibling, child, and romantic partner/co-parent incarceration—is independently associated with mental health. Third, I estimate the association between family member incarceration and mental health separately across population subgroups including race/-ethnicity, gender, educational attainment, household income, and incarceration history. Taken together, considering both heterogeneity in the type of family member incarceration and heterogeneity in the consequences of family member incarceration is important for understanding the scope of incarceration's consequences for mental health.

2. Methods

2.1. Data source

I used data from the Family History of Incarceration Survey (FamHIS), a nationally representative cross-sectional survey of adults in the United States, to estimate the association between family member incarceration and mental health. This survey, collected in 2018 via NORC at the University of Chicago, was designed to estimate the prevalence of family member incarceration (Enns et al., 2019). The initial sample includes 4041 individuals, all of whom completed a screening questionnaire. Of this initial sample, survey researchers enrolled 2815 individuals to complete the full questionnaire (including 1806 with immediate family member incarceration and 1009 without immediate family member incarceration). Details of the sampling design have been described elsewhere (Enns et al., 2019).

The analytic sample comprised 2808 of the 2815 individuals who completed the full questionnaire (with 7 excluded due to missing data on the dependent variable). Missing data was uncommon, with <1% missing data on family member incarceration and 1% missing data on incarceration history. I imputed missing data, using the multivariate normal method, producing 20 data sets and pooling results across data sets (Allison, 2001). Results were robust to listwise deletion.

2.2. Measures

2.2.1. Fair or poor mental health

The dependent variable, fair or poor mental health, was a binary measure that captures the respondents' response to the following question (1 = *fair* or *poor*, 0 = *excellent, very good,* or *good*): "In general, how would you rate your mental health, including your mood and your ability to think?" This measure of self-reported mental health, though not a diagnostic indicator, is widely used in population-based surveys and is associated with mental disorders and commonly used mental health scales such as the Kessler Psychological Distress Scale (Ahmad et al., 2014; Mawani & Gilmour, 2010).

2.2.2. Family member incarceration

The independent variables included several indicators of family member incarceration. Respondents were asked the following: "Many people have been held in jail or prison for a night or more at some point in their lives. Please think about your immediate family, including parents; brothers; sisters; children; and your current spouse, current romantic partner, or anyone else you have had a child with. Please include step, foster, and adoptive family members. Confidentially and for statistical purposes only, have any members of your immediate family, not including yourself, ever been held in jail or prison for one night or longer?" Respondents answering affirmatively to this question were asked to identify their relationship(s) to the incarcerated individual(s). The first measure, any family member incarceration, was a binary variable indicating the respondent reported family member incarceration and identified the family member who had been incarcerated (Enns et al., 2019). This conservative measure, by requiring respondents to identify the family member who had been incarcerated, may underestimate the frequency of family member incarceration. Additionally, four binary variables indicated parent incarceration, sibling incarceration, child incarceration, and romantic partner/co-parent incarceration. These were not mutually exclusive, as respondents could report more than one type of family member incarceration.

2.2.3. Covariates

The multivariate analyses adjusted for demographic characteristics including race/ethnicity (white, Black, Hispanic, Native American, other race), gender, age (18–29 years, 30–39 years, 40–49 years, 50–59 years, 60–69 years, 70 years and older), and marital status (married, cohabiting, widowed, divorced or separated, never married). They also adjusted for socioeconomic characteristics including education (less than high school, high school or GED, some college, college) and household income ($0 to $24,999, $25,000 to $49,999, $50,000 to $74,999, $75,000 to $100,000, $100,000 or higher). A binary variable indicated the respondent was ever incarcerated.

2.3. Statistical analyses

The analyses proceeded in three stages, all of which used logistic regression models. Results that instead used partial proportional odds regression models, estimating an ordinal outcome variable (1 = *poor* to 5 = *excellent*), came to similar conclusions. Importantly, these observational data cannot be used to ascertain causal relationships between family member incarceration and mental health, a point I return to below.

In the first analytic stage, I used logistic regression to estimate fair or poor mental health as a function of any family member incarceration. I first estimated the unadjusted association to examine bivariate differences in mental health between those who do and do not experience family member incarceration. I then adjusted for individual-level characteristics associated with both family member incarceration and mental health. In the second analytic stage, I used logistic regression to estimate the relationship between type of family member incarceration—including parent, sibling, child, and romantic partner/co-parent—and mental health. I included all types of family member incarceration in the model, again estimating both unadjusted and adjusted models. In the third analytic stage, I used logistic regression to examine the association between family member incarceration and mental health across race/ethnic (white, Black, and Hispanic), gender (female and male), education (less than high school and high school or higher), income ($0 to $24,999 and $25,000 or greater), and incarceration history (ever incarcerated and never incarcerated) subgroups. I tested for statistically significant differences across groups (Paternoster et al., 1998). All analyses were weighted to adjust for the complex sampling design. These weights,

created by NORC, ensure the results are representative of the U.S. population of adults (Enns et al., 2019).

2.4. Sample

Table 1 presents descriptive statistics of the analytic sample. About one-seventh (13.6%) of respondents reported fair or poor mental health. Nearly half (45.1%) of respondents reported family member incarceration history. Sibling incarceration was most common, reported by more than one-fourth of respondents (27.7%), followed by parent incarceration (18.5%), romantic partner/co-parent incarceration (13.6%), and child incarceration (12.2%).

The demographic characteristics were similar to demographic characteristics of U.S. adults (Enns et al., 2019). The majority of respondents identified as white (62.8%), followed by Hispanic (16.2%), Black (12.0%), other race (8.2%), and Native American (0.8%). Slightly more than half of the sample was female (51.8%). The majority had a high school diploma or higher (with 28.8% having a high school diploma or GED, 27.8% having some college, and 32.8% having a college degree). Nearly one-quarter (23.5%) reported a household income of less than $25,000. Nearly one-fifth (18.9%) reported an incarceration history.

3. Results

3.1. Any family member incarceration

Table 2 presents estimates of the association between family member incarceration history and mental health. Model 1, the unadjusted model, shows that family member incarceration was positively associated with fair or poor mental health ($b = 0.479$, OR $= 1.61$, $p < .01$). In Model 2, which adjusted for characteristics associated with family member incarceration and mental health, the association was reduced by about one-third, but remained statistically significant. Family member incarceration was positively associated with mental health ($b = 0.327$, OR $= 1.39$, $p < .05$).

The covariates were consistent with expectations from previous research. Compared to white people, Hispanic people ($b = -0.479$, OR $= 0.62$, $p < .05$) were less likely to report fair or poor mental health. Compared to those ages 18 to 29, adults ages 70 and older ($b = -1.042$, OR $= 0.35$, $p < .01$) were less likely to report fair or poor mental health. Income was negatively associated with fair or poor mental health; compared to those with household incomes of less than $25,000, those with household incomes of $25,000 to $49,999 ($b = -0.703$, OR $= 0.50$, $p < .001$), $50,000 to $74,999 ($b = -0.728$, OR $= 0.48$, $p < .01$), $75,000 to $100,000 ($b = -0.699$, OR $= 0.50$, $p < .01$), and $100,000 or higher ($b = -0.888$, OR $= 0.41$, $p < .01$) were less likely to report fair or poor mental health. An incarceration history was not independently associated with fair or poor mental health ($b = 0.313$, OR $= 1.37$, *n.s.*), though auxiliary analyses that excluded family member incarceration showed a positive association between incarceration history and fair or poor mental health ($b = 0.389$, OR $= 1.48$, $p < .05$).

3.2. Specific types of family member incarceration

Table 3 presents estimates of the association between specific types of family member incarceration history and fair or poor mental health. Model 1, the unadjusted model, showed that parent incarceration ($b = 0.618$, OR $= 1.86$, $p < .001$)—but not sibling incarceration ($b = 0.106$, OR $= 1.11$, *n.s.*), child incarceration ($b = 0.175$, OR $= 1.19$, *n.s.*), or romantic partner/co-parent incarceration ($b = 0.190$, OR $= 1.21$, *n.s.*)—were positively associated with fair or poor mental health. In Model 2, the adjusted model, parent incarceration ($b = 0.338$, OR $= 1.40$, $p < .05$) and child incarceration ($b = 0.399$, OR $= 1.49$, $p < .05$) were positively associated with fair or poor mental health. Sibling incarceration ($b = 0.044$, OR $= 1.04$, *n.s.*) and co-parent incarceration ($b = 0.058$, OR $= 1.06$, *n.s.*) were not statistically significantly associated with fair or poor mental health. Tests for differences across coefficients shows that the magnitude of these four incarceration coefficients were not statistically different from one another. For example, the parent incarceration coefficient was similar in magnitude to the sibling incarceration coefficient ($p = .226$), child incarceration coefficient ($p = .817$), and co-parent incarceration coefficient ($p = .262$).

Table 1
Frequencies of variables included in analyses.

	%
Fair or poor mental health	13.6%
Any immediate family member incarceration	45.1%
Parent incarceration	18.5%
Sibling incarceration	27.7%
Child incarceration	12.2%
Coparent incarceration	13.6%
Race/ethnicity	
White	62.8%
Black	12.0%
Hispanic	16.2%
Native American	0.8%
Other race	8.2%
Female	51.8%
Age	
18 to 29	20.8%
30 to 39	17.8%
40 to 49	16.5%
50 to 59	17.1%
60 to 69	15.9%
70 and older	12.0%
Educational attainment	
Less than high school	10.6%
High school or GED	28.8%
Some college	27.8%
College	32.8%
Income	
$0 to $24,999	23.5%
$25,000 to $49,999	26.4%
$50,000 to $74,999	17.0%
$75,000 to $99,999	13.3%
$100,000 or higher	19.8%
Marital status	
Married	46.9%
Cohabiting	7.6%
Widowed	5.4%
Divorced or separated	15.0%
Never married	25.0%
Ever incarcerated	18.9%
N	2808

Notes: All analyses weighted to adjust for sampling design.

I considered more fine-grained types of family member incarceration, separating parent incarceration into father and mother incarceration, sibling incarceration into brother and sister incarceration, child incarceration into son and daughter incarceration, and romantic partner/co-parent incarceration into current partner and former partner incarceration (Appendix Table A). These results, adjusted for covariates, showed that son's incarceration was positively associated with fair or poor mental health ($b = 0.601$, OR $= 1.82$, $p < .01$) while daughter's incarceration was negatively associated with fair or poor mental health ($b = -0.275$, OR $= 0.76$, *n.s.*). These coefficients are statistically different from one another ($p = .022$). The coefficient for son's incarceration is also significantly larger than the coefficient for mother's incarceration ($p = .030$) and brother's incarceration ($p = .014$). Taken together, this suggests that considering a broad measure of child incarceration obscures variation based on the child's gender.

3.3. Heterogeneity in association between family member incarceration and mental health

Table 4 presents estimates of the association between family member incarceration history and fair or poor mental health across demographic

Table 2
Logistic regression models estimating fair or poor mental health as a function of immediate family member incarceration.

	Model 1				Model 2			
	unadjusted				*adjusted*			
	b	(S.E.)	OR		*b*	(S.E.)	OR	
Family member incarceration	0.479	(0.145)	1.61	**	0.327	(0.159)	1.39	*
Race/ethnicity (reference = White)								
Black					−0.217	(0.226)	0.80	
Hispanic					−0.479	(0.216)	0.62	*
Native American					−0.026	(0.606)	0.97	
Other race					0.353	(0.268)	1.42	
Female					−0.047	(0.154)	0.95	
Age (reference = 18 to 29)								
30 to 39					−0.008	(0.240)	0.99	
40 to 49					0.094	(0.254)	1.10	
50 to 59					−0.434	(0.262)	0.65	
60 to 69					−0.349	(0.274)	0.71	
70 and older					−1.042	(0.360)	0.35	**
Educational attainment (reference = less than high school)								
High school or GED					−0.143	(0.267)	0.87	
Some college					0.189	(0.252)	1.21	
College					−0.107	(0.287)	0.90	
Income (reference = $0 to $24,999)								
$25,000 to $49,999					−0.703	(0.192)	0.50	***
$50,000 to $74,999					−0.728	(0.235)	0.48	**
$75,000 to $99,999					−0.699	(0.265)	0.50	**
$100,000 or higher					−0.888	(0.267)	0.41	**
Marital status (reference = married)								
Cohabiting					0.375	(0.261)	1.45	
Widowed					0.572	(0.351)	1.77	
Divorced or separated					0.258	(0.216)	1.29	
Never married					0.381	(0.205)	1.46	
Ever incarcerated					0.313	(0.176)	1.37	
F test	10.84			***	4.28			***
Constant	−2.087				−1.463			
N	2808				2808			

Notes: All analyses weighted to adjust for sampling design. *$p < .05$, **$p < .01$, ***$p < .001$.

subgroups. First, the positive association between family member incarceration and fair or poor mental health was concentrated among white people ($b = 0.427$, OR = 1.53, $p < .05$), but tests for equality of coefficients across groups show this coefficient was not statistically different than the coefficients for Black people ($z = -0.64$) or Hispanic people ($z = -1.29$). Second, the positive association between family member incarceration and fair or poor mental health was about twice as large among women ($b = 0.426$, OR = 1.53, $p < .05$) than men ($b = 0.212$, OR = 1.24, *n.s.*), but the differences across groups were not statistically significant ($z = 0.67$). Third, the magnitude of the association was larger among those with lower socioeconomic status. The association was almost three times as large among those with less than a high school education ($b = 0.872$, OR = 2.39, *n.s.*) compared to those with a high school education or greater ($b = 0.335$, OR = 1.40, *n.s.*). Similarly, the magnitude of the association was more than two times as large among those with household incomes between $0 and $24,999 ($b = 0.469$, OR = 1.60, *n.s.*) compared to others ($b = 0.207$, OR = 1.23, *n.s.*). The differences across groups were not statistically significant ($z = 0.61$ for educational attainment, $z = 0.75$ for household income). Finally, the association was concentrated among those without a history of incarceration ($b = 0.378$, OR = 1.46, $p < .05$) compared to those with a history of incarceration ($b = -0.017$, OR = 0.98, *n.s.*), though the differences across groups were not statistically significant ($z = -0.96$). Taken together, these results suggest the relationship between family member incarceration and mental health is similar across demographic subgroups.

In supplemental analyses, I instead estimated the association between family member incarceration and mental health for the entire sample, including interaction terms between family member incarceration and the various demographic groups (for example, family member incarceration * gender). None of the interaction terms were statistically significant, corroborating the findings that the relationship between family member incarceration and mental health is consistent across demographic subgroups.

In additional supplemental analyses (Appendix Table B), I considered heterogeneity in the association between the specific types of family member incarceration (parent, sibling, child, and co-parent incarceration) and mental health. Similar to the findings for the relationship between any immediate family member incarceration and mental health, these results show the relationships between specific types of family member incarceration and mental health were similar across demographic subgroups.

4. Discussion

Grounded in the stress process perspective, which highlights how stressors can proliferate to impair the health of those connected to individuals exposed to the stressor, I examine the relationship between family member incarceration history and mental health (Pearlin, 1989). I use nationally representative data from the Family History of Incarceration Survey (FamHIS), a recent cross-sectional survey designed to understand the prevalence and correlates of family member incarceration (Enns et al., 2019). The results extend our knowledge of this association by considering heterogeneity in type of family member incarceration and by considering heterogeneity in this association by demographic groups.

First, the results document a positive relationship between family member incarceration history and fair or poor mental health. This is consistent with expectations from the stress process perspective. Stressors are concentrated among the most vulnerable, proliferate from the individual exposed to the stressor to those vicariously exposed to the stressor, and can have repercussions for mental health (Patterson et al., 2021; Pearlin, 1989; Pearlin et al., 1981, 1997; Turney, 2014). Indeed,

Table 3
Logistic regression models estimating fair or poor mental health as a function of immediate family member incarceration, heterogeneity by type of family member incarceration.

	Model 1				Model 2			
	unadjusted				*adjusted*			
	b	(S.E.)	OR		*b*	(S.E.)	OR	
Parent incarceration	0.618	(0.147)	1.86	***	0.338	(0.172)	1.40	*
Sibling incarceration	0.106	(0.142)	1.11		0.044	(0.151)	1.04	
Child incarceration	0.175	(0.180)	1.19		0.399	(0.197)	1.49	*
Coparent incarceration	0.190	(0.164)	1.21		0.058	(0.176)	1.06	
Race/ethnicity (reference = White)								
Black					−0.252	(0.232)	0.78	
Hispanic					−0.493	(0.218)	0.61	*
Native American					−0.060	(0.616)	0.94	
Other race					0.411	(0.263)	1.51	
Female					−0.034	(0.158)	0.97	
Age (reference = 18 to 29)								
30 to 39					0.044	(0.242)	1.04	
40 to 49					0.145	(0.262)	1.16	
50 to 59					−0.344	(0.279)	0.71	
60 to 69					−0.333	(0.293)	0.72	
70 and older					−1.036	(0.364)	0.35	**
Educational attainment (reference = less than high school)								
High school or GED					−0.194	(0.269)	0.82	
Some college					0.127	(0.255)	1.14	
College					−0.178	(0.295)	0.84	
Income (reference = $0 to $24,999)								
$25,000 to $49,999					−0.678	(0.192)	0.51	***
$50,000 to $74,999					−0.666	(0.236)	0.51	**
$75,000 to $99,999					−0.677	(0.266)	0.51	*
$100,000 or higher					−0.862	(0.268)	0.42	**
Marital status (reference = married)								
Cohabiting					0.377	(0.259)	1.46	
Widowed					0.568	(0.347)	1.76	
Divorced or separated					0.242	(0.218)	1.27	
Never married					0.431	(0.207)	1.54	*
Ever incarcerated					0.261	(0.177)	1.30	
F test	6.17			***	3.96			***
Constant	3.703				3.457			
N	2808				2808			

Notes: All analyses weighted to adjust for sampling design. *$p < .05$, **$p < .01$, ***$p < .001$.

Table 4
Logistic regression models estimating fair or poor mental health as a function of immediate family member incarceration, heterogeneity by demographic groups.

	b	(S.E.)	OR	
Race/ethnicity				
White (n = 1760)	0.427	(0.200)	1.53	*
Black (n = 397)	−0.054	(0.433)	0.95	
Hispanic (n = 410)	0.728	(0.425)	2.07	
Gender				
Women (n = 1468)	0.426	(0.217)	1.53	*
Men (n = 1340)	0.212	(0.235)	1.24	
Educational attainment				
Less than high school (n = 188)	0.872	(0.859)	2.39	
High school or higher (n = 2620)	0.335	(0.165)	1.40	*
Household income				
$0 to $24,999 (n = 658)	0.469	(0.289)	1.60	
$25,000 or greater (n = 2150)	0.207	(0.198)	1.23	
Incarceration history				
Ever incarcerated (n = 642)	−0.017	(0.370)	0.98	
Never incarcerated (n = 2166)	0.378	(0.177)	1.46	*

Notes: Each row represents a separate logistic regression model, with the coefficient, standard error, and odds ratio for family member incarceration shown. Models include all control variables from Model 2 of Table 3. All analyses weighted to adjust for sampling design.

family member incarceration is a stressor that is unequally distributed across the population (Enns et al., 2019; Lee et al., 2015). This stressor reverberates across the entire family unit, destabilizing family economic wellbeing and impairing relationships between family members, both of which can impair mental health (Turney, 2014). The findings about the positive relationship between family member incarceration and fair or poor mental health are consistent with a growing body of literature documenting the deleterious health consequences of family member incarceration (Brown et al., 2016; Fleming & Nurius, 2020; Gottlieb, 2016; Patterson et al., 2021).

Second, the results show that the relationship between parent and child incarceration and mental health is larger than the relationship between other types of family member incarceration (including sibling and romantic partner/co-parent incarceration) and mental health. The positive association between parent incarceration and fair or poor mental health is consistent with a growing interdisciplinary literature that documents deleterious consequences of parental incarceration from childhood through adulthood (Johnson & Easterling, 2012; Lee et al., 2013; Murray et al., 2012; Poehlmann-Tynan & Turney, 2021; Roettger et al., 2011; Turney, 2017; Turney & Goodsell, 2018; Wildeman, 2010; Wildeman et al., 2018; Wildeman & Turney, 2014). The positive association between child incarceration and fair or poor mental health is also consistent with a smaller body of research documenting this type of intergenerational health consequences (Goldman, 2019; Green et al., 2006; Sirois, 2020). These analyses extend this research by considering the consequences of parent and child incarceration independent of other types of family member incarceration, particularly important given the

concentration of incarceration in families (Enns et al., 2019; Wildeman & Wakefield, 2014). Parental incarceration may be an acute stressor, one that removes a parent from the household, changes household relationships and dynamics, and impairs the economic functioning of households, all of which may impair mental health (Turney & Goodsell, 2018). Child incarceration may also alter household relationships and dynamics (Goldman, 2019). However, the coefficients of the different types of family member incarceration are not statistically different from one another, suggesting that any family member incarceration is consequential for mental health (Brown et al., 2016; Fleming & Nurius, 2020; Gottlieb, 2016; Lee et al., 2014; Patterson et al., 2021).

The analyses show that other two types of immediate family member incarceration considered—sibling and romantic partner/co-parent incarceration—are not independently associated with mental health, but caution should be used when interpreting these findings. For one, the temporality of family member incarceration is not available in these data, and it is likely that many of these incarceration experiences occurred years prior to survey administration. It is possible, therefore, that these types of family member incarceration have short-term mental health consequences not captured in the data whereas parental incarceration or child incarceration have lasting mental health consequences (Foster & Hagan, 2013; Lee et al., 2013; Turney, 2021). Additionally, supplemental analyses show that even the broad categories of family member incarceration used in these analyses obscure important variation. That is, son's incarceration (but not daughter's incarceration) is independently positively associated with fair or poor mental health (and these coefficients are statistically different from one another). Future research, ideally qualitative research to understand the processes through which the stressor of family member incarceration ripples through families, is needed to further unpack these findings.

Third, the magnitude of the association between family member incarceration and mental health is concentrated among white people, women, those with low socioeconomic status, and those without an incarceration history, but tests for equality of coefficients across subgroups show that none of these group differences are statistically significant. The concentration of negative associations among women is consistent with scholarship highlighting how women, though incarcerated themselves less than men, nevertheless bear health challenges stemming from the criminal legal system (Goldman, 2019; Lee & Wildeman, 2013; Western, 2018). The concentration of negative associations among those without a high school diploma and those with annual household incomes of less than $25,000, taken together with the unequal distribution of incarceration among the economically disadvantaged, suggests that these groups will disproportionately experience the population health consequences of family member incarceration (Enns et al., 2019). These results should be interpreted cautiously, too, as the small sample sizes across some subgroups (e.g., Black people, Hispanic people) may explain null findings and the lack of statistically significant differences across groups.

4.1. Limitations

This analysis has several limitations. First, though the measure of mental health is broad and appropriate for capturing population health, it is self-reported (Ahmad et al., 2014; Mawani & Gilmour, 2010). Future research should collect data that includes clinical diagnoses of conditions reported by psychiatrists. Second, details about the nature of family member incarceration remain unresolved. The measure of family member incarceration captures periods of confinement that last days, weeks, months, or years. It captures both jail and prison incarceration. It captures incarceration that occurred recently and incarceration that occurred years ago. It captures one-time confinements and repeated confinements. It captures incarceration of family members both residing and not residing in respondents' households. These details may have differential consequences for mental health, and should be considered in future research (Porter & DeMarco, 2019; Sugie & Turney, 2017; Turney, 2021; Yi et al., 2017). Third, the analyses use observational data, limiting the ability to draw causal conclusions. The analyses adjust for an array of control variables but additional variables such as neighborhood conditions and criminal activity remain unmeasured. Future research should collect time-varying measures of family member incarceration and health to facilitate a fixed effects approach that accounts for time-stable characteristics of individuals.

4.2. Conclusions

Incarceration has emerged as an important social determinant of health (Massoglia & Pridemore, 2015), with a burgeoning literature documenting how incarceration impairs not only the health of the incarcerated but also the health of those connected to the incarcerated (Brown et al., 2016; Bruns & Lee, 2020; Fleming & Nurius, 2020; Goldman, 2019; Gottlieb, 2016; Green et al., 2006; Johnson & Easterling, 2012; Lee et al., 2013, 2014; Murray et al., 2012; Poehlmann-Tynan & Turney, 2021; Roettger et al., 2011; Sirois, 2020; Tadros et al., 2020; Turney, 2017; Turney & Goodsell, 2018; Wildeman, 2010; Wildeman et al., 2012, 2018; Wildeman & Turney, 2014). This paper extends prior research on the relationship between family member incarceration history and mental health by simultaneously examining the relative consequences of different types of family member incarceration (including parent, sibling, child, and romantic partner/co-parent incarceration) and by considering differential associations across demographic characteristics. These findings highlight that any family member incarceration—and not necessarily the type of family member incarceration—has repercussions for mental health, and that these associations are not contingent on demographic characteristics considered, including race/ethnicity, gender, socioeconomic status, and incarceration history. Given the concentration of family member incarceration among people of color and the poor, this adverse experience may exacerbate existing inequalities in population health.

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Declaration of competing interest

The author has no competing interests to declare.

Appendix Table A. logistic regression models estimating fair or poor mental health as a function of immediate family member incarceration, heterogeneity by type of family member incarceration

	Model 1				Model 2		
	unadjusted				*adjusted*		
	b	(S.E.)	OR		*b*	(S.E.)	OR
Father incarceration	0.409	(0.171)	1.51	*	0.216	(0.180)	1.24

(*continued on next column*)

(*continued*)

	Model 1				Model 2			
	unadjusted				*adjusted*			
	b	(S.E.)	OR		*b*	(S.E.)	OR	
Mother incarceration	0.177	(0.243)	1.19		−0.126	(0.257)	0.88	
Brother incarceration	−0.013	(0.147)	0.99		−0.029	(0.152)	0.97	
Sister incarceration	0.467	(0.196)	1.60	*	0.383	(0.205)	1.47	
Son incarceration	0.360	(0.187)	1.43		0.601	(0.202)	1.82	**
Daughter incarceration	−0.339	(0.299)	0.71		−0.275	(0.308)	0.76	
Current romantic partner incarceration	0.089	(0.183)	1.09		0.023	(0.194)	1.02	
Former romantic partner incarceration	0.344	(0.234)	1.41		0.153	(0.235)	1.17	
F test	3.93			***	3.64			***
Constant	−2.050				1.402			
N	2801				2801			

Notes: Model 2 adjusts for all covariates in Model 2 of Table 3. All analyses weighted to adjust for sampling design. *$p < .05$, **$p < .01$, ***$p < .001$.

Appendix Table B. logistic regression models estimating fair or poor mental health as a function of immediate family member incarceration, heterogeneity by type of family member incarceration and demographic groups

	Parent incarceration				Sibling incarceration			Child incarceration				Coparent incarceration			
	b	(S.E.)	OR		*b*	(S.E.)	OR	*b*	(S.E.)	OR		*b*	(S.E.)	OR	
Race/ethnicity															
White (n = 1760)	0.413	(0.227)	1.51		0.306	(0.183)	1.36	0.573	(0.248)	1.77	*	−0.190	(0.235)	0.83	
Black (n = 397)	−0.392	(0.418)	0.68		0.170	(0.406)	1.19	−0.024	(0.532)	0.98		0.208	(0.485)	1.23	
Hispanic (n = 410)	0.564	(0.450)	1.76		−0.827	(0.449)	0.44	0.381	(0.667)	1.46		1.527	(0.483)	4.60	**
Gender															
Women (n = 1468)	0.482	(0.245)	1.62	*	0.023	(0.216)	1.02	0.386	(0.286)	1.47		0.030	(0.221)	1.03	
Men (n = 1340)	0.180	(0.247)	1.20		0.043	(0.220)	1.04	0.474	(0.285)	1.61		0.134	(0.298)	1.14	
Educational attainment															
Less than high school (n = 188)	0.766	(0.639)	2.15		0.153	(0.537)	1.17	0.855	(0.683)	2.35		0.274	(0.788)	1.32	
High school or higher (n = 2620)	0.369	(0.176)	1.45	*	0.031	(0.156)	1.03	0.349	(0.220)	1.42		0.044	(0.183)	1.04	
Household income															
$0 to $24,999 (n = 658)	0.666	(0.276)	1.95	*	−0.096	(0.261)	0.91	0.412	(0.333)	1.51		0.263	(0.296)	1.30	
$25,000 or greater (n = 2150)	0.122	(0.215)	1.13		0.092	(0.192)	1.10	0.329	(0.272)	1.39		−0.091	(0.227)	0.91	
Incarceration history															
Ever incarcerated (n = 642)	0.145	(0.314)	1.16		0.070	(0.260)	1.07	0.485	(0.325)	1.62		0.367	(0.292)	1.44	
Never incarcerated (n = 2166)	0.446	(0.211)	1.56	*	0.013	(0.188)	1.01	0.303	(0.254)	1.35		−0.154	(0.234)	0.86	

Notes: Each row represents a separate logistic regression model. Models include all control variables from Model 2 of Table 3. All analyses weighted to adjust for sampling design. *$p < .05$, **$p < .01$, ***$p < .001$.

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