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Women's Health in the Era of Mass Incarceration

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Abstract

Dramatic increases in criminal justice contact in the United States have rendered prison and jail incarceration common for US men and their loved ones, with possible implications for women's health. This review provides the most expansive critical discussion of research on family member incarceration and women's health in five stages. First, we provide new estimates showing how common family member incarceration is for US women by race/ethnicity and level of education. Second, we discuss the precursors to family member incarceration. Third, we discuss mechanisms through which family member incarceration may have no effect on women's health, a positive effect on women's health, and a negative effect on women's health. Fourth, we review existing research on how family member incarceration is associated with women's health. Fifth, we continue our discussion of the limitations of existing research and provide some recommendations for future research.

INTRODUCTION

Women in the United States have long lagged behind their counterparts in other high-income countries in terms of health status.¹ For example, women in the United States are more likely to die in pregnancy or childbirth than are women in other high-income countries (e.g., Gunja et al. 2018). They also have higher rates of chronic diseases such as diabetes and hypertension; lung disease, cancer, and stroke; and poor mental health (Woolf & Aron 2013). Moreover, many of these international disparities in disease are driven by the vast intranational racial/ethnic and class disparities in US women's physical and mental health (Eichelberger et al. 2016).

Unfortunately, our understanding of the factors that drive the comparatively poor health of US women and the large racial/ethnic and class disparities in women's health remains underdeveloped (e.g., Hicken et al. 2018). In this review, we provide a first step in considering the role mass incarceration may have played in maintaining or exacerbating these disparities by providing an initial answer to the question, Is mass incarceration making women sick?² Although many reviews have considered how parental incarceration is associated with child well-being (e.g., Murray & Farrington 2008, Wildeman et al. 2018)³ and the broader relationship between incarceration and family life (e.g., Comfort 2007), this is the first review to discuss research on the prevalence, precursors, and possible drivers of family member incarceration as well as how family member incarceration is associated with the health of women, particularly African American women and other marginalized women who are disproportionately impacted by the criminal legal system (e.g., Collins 1998, Crenshaw 2012, Crenshaw et al. 2016, Roberts 2001).

Our review proceeds in five parts. First, we provide a brief overview of how mass incarceration has shaped the risk of familial incarceration for US women by race/ethnicity and education using data from the Family History of Incarceration Survey (FamHIS). Consistent with published research (Enns et al. 2019), we find that two in five US women have ever had an immediate family member incarcerated in jail or prison. New analyses of the data by race/ethnicity and education show that even African American women who have completed college are as likely to have experienced family member incarceration as White women who did not complete high school. As such, if family member incarceration compromises women's health, mass incarceration may play a role in driving disparities in women's health.

In the next section, we discuss the preexisting disadvantages women who will have a family member incarcerated at some point face relative to other women. We dedicate a full section to documenting the precursors to family member incarceration because families who experience incarceration differ in myriad ways from those who do not, and these differences, rather than being an effect of family member incarceration, may be driving any association between family member incarceration and women's health (e.g., Sampson 2011, Wildeman 2020). In this section, we document that there are marked differences between women who experience family member

¹Drawing from the World Health Organization (WHO 1948, p. 1), we define health as "a state of complete physical, mental and social well-being." Poor health is thus the manifestation of not only negative health conditions but also facing constraints to thriving such as exposure to family violence, lack of stable housing, and food insecurity.

²We focus on cis women because most work in this area considers cis women (but see Comfort 2016). Nonetheless, the scope of this work should be expanded given the disproportionate impact of the criminal justice system on trans women (Grant et al. 2011). We focus on family member incarceration rather than own incarceration because women are more likely to experience incarceration indirectly through the incarceration of a loved one than directly through their own incarceration (e.g., Bonczar 2003, Enns et al. 2019, Kruttschnitt 2010, Lee et al. 2015).

³There is also one meta-analysis in this area that attempted to quantify costs (Provencher & Conway 2019).

incarceration and those who do not in terms of demographic traits (as noted above); neighborhood characteristics; family instability (broadly defined to include family violence, housing instability, drug and alcohol use and abuse, and mental health problems); and women's health access, health behaviors, and health prior to experiencing family member incarceration.

In the third section, we build on our discussion of the precursors to family member incarceration by noting that family member incarceration could have either no effect on women's health through selection or a causal effect—whether detrimental or beneficial—on women's health. Because of the differences between families that experience incarceration and those that do not, we see selection as a core issue in this area. In addition to discussing selection, we also identify mechanisms through which family member incarceration could shape women's health. Here we rely on ethnographic evidence (e.g., Braman 2004, Comfort 2008) and quantitative research on how incarceration affects the labor market (e.g., Pager 2003, Western 2002), health (e.g., Massoglia & Pridemore 2015, Wildeman & Wang 2017), and family lives of formerly incarcerated individuals (e.g., Lopoo & Western 2005, Turney & Wildeman 2013). Drawing on the previous section, we also consider how partner violence and untreated substance abuse and mental health problems may moderate the effects of family member incarceration on women's health and, as a result, how there are likely some women whose health improves as a result of family member incarceration. Although most research in this area focuses on how a romantic partner's incarceration or son's incarceration could shape women's health, we also discuss the pathways through which sibling and cousin incarceration could impact women's health.

In the fourth section, we review research on how family member incarceration is associated with women's physical and mental health and well-being. Before doing so, we discuss what an adequate research design for testing the effects of family member incarceration would look like and contrast that with the research designs that are possible with the best data available in the United States. Having highlighted key deficiencies in the data at hand, we then consider research published in sociology, criminology, demography, and economics as well as in a range of public health, social work, medical, and epidemiological journals. Consistent with earlier narrower reviews on this topic (e.g., Wildeman et al. 2019), our review finds consistent evidence that having an incarcerated family member is associated with worse mental and physical health for women. Unfortunately, because of limitations of the data researchers in this area have at their disposal, there is currently very limited causal evidence in this area, making it impossible for us to say if family member incarceration has an actual causal effect on women's health.

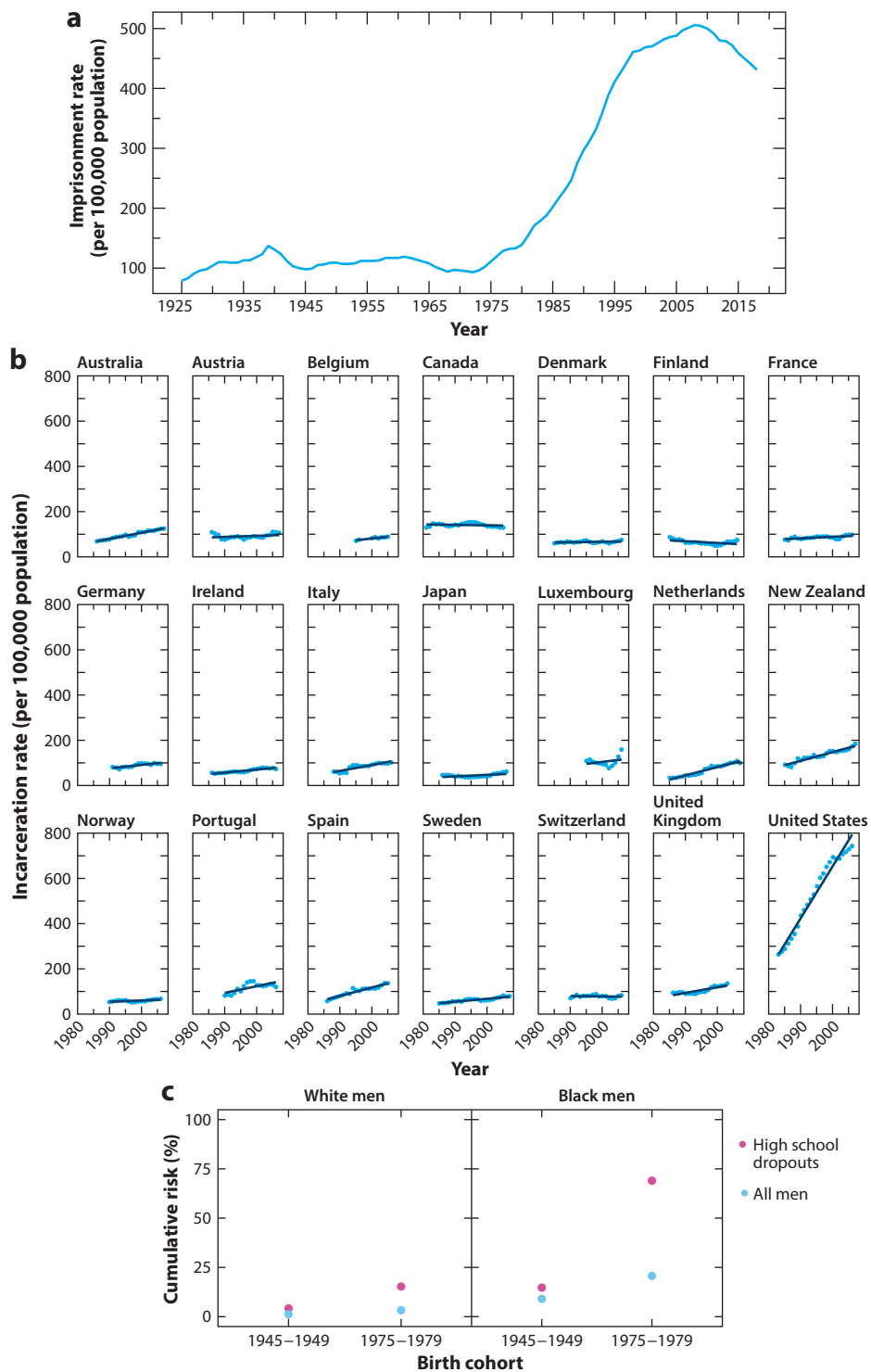
In the final section, we close by highlighting a number of limitations of the research in this area and by calling for greater research in several areas. Specifically, we suggest the need for more research that tests (a) how family member incarceration affects women's exposure to household violence and (b) how mass incarceration shapes intra- and international disparities in women's health and well-being as well as for broader data investments in this nascent area.

HOW COMMON IS FAMILY MEMBER INCARCERATION FOR WOMEN?

The US prison and jail incarceration rates continue to be comparatively extreme and historically anomalous (e.g., Western 2006) despite having declined in the last 10 years. Because incarceration is also concentrated by race/ethnicity, educational attainment, and neighborhood (e.g., Pettit & Western 2004, Sampson & Loeffler 2010, Wacquant 2001), high rates of prison and jail incarceration have become common for young African American men, especially those with low levels of education who reside in poor neighborhoods. **Figure 1** shows the historical extremity (panel a), comparative extremity (panel b), and concentration by race/ethnicity and education (panel c) of what has come to be called mass incarceration.

Figure 1

Features of mass incarceration.
(a) Imprisonment rate per 100,000 in the United States, 1925–2020. (b) Prison and jail incarceration rate per 100,000 in 21 developed democracies, 1983–2006. (c) Percentage of Black and White men in two cohorts ever imprisoned by their early 30s.



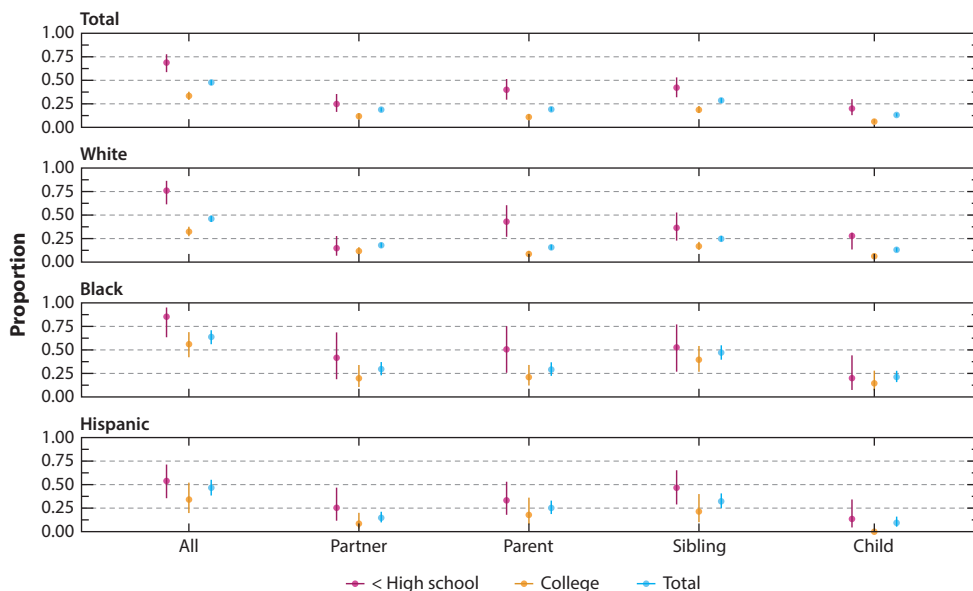


Figure 2

Proportion of female respondents who have had an immediate family member incarcerated, by race and education.

Despite extensive knowledge of the contours of mass incarceration, research had until recently provided little insight into what share of Americans currently have or have ever had a family member incarcerated. Data from surveys of inmates in state and federal correctional facilities, for instance, show that parental prison incarceration is an event that one in four African American children experience by age 14 (Wildeman 2009). And estimates using data from the General Social Survey show that two in five African American women have a family member—including extended family members—in prison at any given point in time (Lee et al. 2015). With these exceptions, however, there were no existing estimates of family member incarceration using nationally representative survey data until very recently (but see also Turney 2014b).

In this section, we present estimates from the FamHIS, which we designed with a number of colleagues to measure exposure to family member⁴ incarceration⁵ in the US population (Enns et al. 2019). The key features of the FamHIS are that it is based on a large (~4,000 respondents) national probability sample and that it was administered both in English and in Spanish and both by computer and by phone. We present estimates for immediate family member incarceration (**Figure 2**) and extended family member incarceration (**Figure 3**) by race/ethnicity, education,⁶ and family member for US women.

⁴In the FamHIS, family member was defined as both immediate family members (including parents; brothers; sisters; children; and your current spouse, current romantic partner, or anyone else with whom you have had a child—step, foster, and adoptive family members were also included in this group) and extended family to whom respondents reported feeling close (including grandparents, grandchildren, cousins, aunts and uncles, nieces and nephews, godparents, mothers- and fathers-in-law, sisters- and brothers-in-law, and other family members).

⁵In the FamHIS, incarceration was defined as ever being held in a jail or prison for one night or more.

⁶We only present estimates by education for those who finished college or did not finish high school.

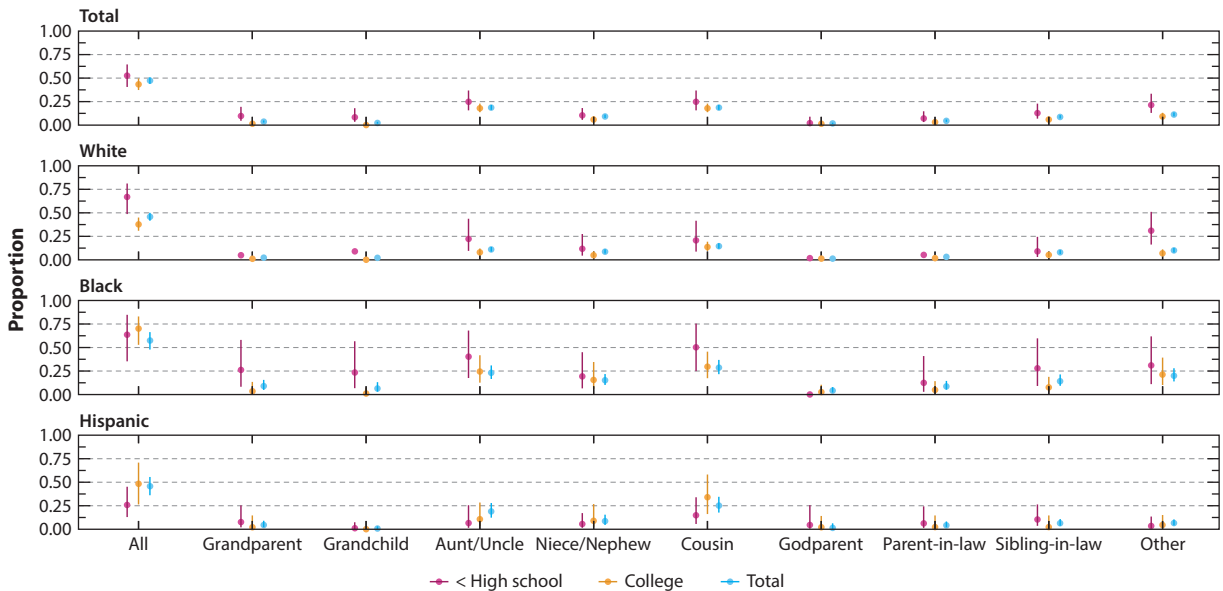


Figure 3

Proportion of female respondents who have had an extended family member incarcerated, by race and education.

Figure 2 presents the estimates for immediate family member incarceration. The estimates show that immediate family member incarceration is common for US women, with over two in five having ever experienced that event. Moreover, education appears to do little to buffer African American women from family member incarceration. African American women who completed college experienced this event at rates close to those of White women who had not completed high school (~60%). Sibling incarceration is especially common, with 27% of US women having ever had a sibling incarcerated. Even for White women with a college degree, this event is common: 15% of these women had experienced this event.

Findings for extended family members are shown in **Figure 3**. They indicate that extended family member incarceration is also common, which is unsurprising in light of what **Figure 2** indicates. **Figure 3** also indicates that the incarceration of a cousin—an event that we believe has never been considered in quantitative research—is common for virtually all groups.

PRECURSORS TO FAMILY MEMBER INCARCERATION

The previous section highlighted two ways in which family member incarceration is concentrated: by race/ethnicity and social class. In this section, we discuss other precursors to family member incarceration. We do so because having a complete sense of these precursors is key for considering the degree to which selection may be driving any association between family member incarceration and women's health. Specifically, we highlight how family member incarceration is structured both by neighborhood characteristics and by family instability.

The spatial concentration of incarceration is, like its racial/ethnic and class concentration, extreme. Very high rates of imprisonment tend to occur in a small number of neighborhoods (e.g., Clear 2007). Moreover, these neighborhoods are also the same neighborhoods, on average, that have very high levels of concentrated disadvantage more broadly and high rates of violent, property, and drug crime (e.g., Sampson & Loeffler 2010). As a result of this concentration

by neighborhood context, individuals who experience family member incarceration will also disproportionately have been exposed to a host of other risk factors for poor health prior to family member incarceration (e.g., Diez Roux 2001, Sharkey & Faber 2014).

Women who eventually go on to experience family member incarceration are also, on average, exposed to high levels of family instability even prior to experiencing that event. This has been documented both in ethnographic research (e.g., Braman 2004, Comfort 2008) and in quantitative research. Data from the Fragile Families and Child Wellbeing Study, for instance, which is longitudinal in nature and includes a host of indicators of family instability, show significantly—and sometimes dramatically—different rates of exposure to material hardship, family violence, housing instability, drug and alcohol abuse, and mental health problems in families that experience incarceration (e.g., Bruns & Lee 2020, p. 1187; Wildeman 2014, p. 81). This differential exposure to family instability is important because family instability is tied to worse physical and mental health for women, hence our discussion of selection. Yet it is important for another reason as well. As we discuss in the next section, these elevated levels of family instability are also important because in the face of very high levels of drug or alcohol abuse, mental health problems, and family violence, incarceration could benefit women's health, at least in the short term (e.g., Sampson 2011; for analyses, see Wildeman 2010, 2012).

Although rates of many forms of family instability tend to be higher than those of comparable families even years before incarceration, criminological research on the life course of crime and punishment suggests that the severity of these struggles amp up during the time of so-called fast living that often precedes incarceration (e.g., Horney et al. 1995, Sampson & Laub 1993). In one poignant analysis, Horney et al. (1995, p. 665) use detailed event history data to show that the onset of criminal activity is often preceded immediately by a transition in family structure or by the onset of heavy drinking or drug use. In her research interviewing women waiting to visit with imprisoned romantic partners in California's San Quentin State Prison, Megan Comfort's (2008) work provides parallel indications of how a time of fast living (Horney et al. 1995) occurs shortly before family member incarceration and how this time may also shape well-being for family members. As one woman says to her partner,

[sullen, flat tone] I was like, "I'm gonna tell you what's gonna happen. You're gonna get high. You're gonna start selling. And once you start selling, we're gonna start arguing, you're gonna start going out and not coming home. You're gonna meet somebody else who's gettin' high with you, cheat on me, and go to jail." And that's, and it happened just that way. . . . And, now he's back [in San Quentin] and [pause, sadly], my kids go through it when he's high. Because they know when he's high, my older ones, cuz they could tell, you just, you could tell when someone's on drugs. And um, they're like, [said slowly, exaggerating, like a tedious list] they don't like all the people coming in and out of our house, once he starts selling, people start knocking on our door all the time, asking if he's home, coming by late at night. (Comfort 2008, p. 178)

Given the combination of structural disadvantages women who experience family member incarceration are exposed to and the number of family stressors that many of these women face prior to experiencing that event, it is unsurprising that their health behaviors, health care access, and physical and mental health outcomes also diverge sharply from those who do not experience family member incarceration. Many of the studies that provide indicators of family member incarceration are either cross-sectional in nature or do not include core indicators of health behaviors or health care access. Nonetheless, existing evidence around negative coping behaviors—most significantly, drug use—suggests that women who eventually experience family member incarceration engaged in these behaviors at higher rates even prior to family member incarceration than did comparable women (e.g., Bruns & Lee 2020, p. 1187).

HOW COULD FAMILY MEMBER INCARCERATION MAKE WOMEN SICK?

Research on the precursors to family member incarceration makes it clear that selection is likely a core mechanism driving the association between family member incarceration and women's mental and physical health. Yet even if selection explains some of the association, the association could still be partially explained by a causal effect. In this section, we review evidence on how family member incarceration could have a causal effect—for good or ill—on women's health. In addition to providing a general overview of mechanisms, we also outline channels through which a sibling or a cousin's incarceration might affect women's health.

The Case for Positive Effects

As we noted earlier, both qualitative and quantitative research document higher-than-average rates of family violence, addiction, and mental health problems among families that will eventually experience family member incarceration in the future. Although very little research in this area considers the possibility that family member incarceration could have some beneficial effects, the high costs of family violence (e.g., Campbell 2002, Max et al. 2004) and the high rates of family violence in families that experience incarceration suggest that there are likely to be some family benefits of incarceration, even if they are only short-lived (e.g., Comfort 2008).⁷

Although this suggests short-term beneficial effects of family member incarceration for some women, it is important to consider the prevalence rate of, for instance, drug and alcohol abuse and family violence before predicting average positive effects on women. Estimates of family violence among households that eventually experience incarceration vary across studies, but many studies place the prevalence in the 10% to 30% range (e.g., Wildeman 2014, p. 81). Because of this relatively low baseline prevalence, it is likely quite unrealistic to expect average positive effects of family member incarceration on women's health and well-being.⁸

The Case for Negative Effects

A growing literature documents pathways through which parental and partner incarceration could imperil the health of loved ones directly and indirectly. This research focuses on how incarceration's effects on men's labor market prospects (e.g., Pager 2003, Western 2002), physical and mental health (e.g., Massoglia & Pridemore 2015, Wildeman & Wang 2017), and family lives (e.g., Lopoo & Western 2005, Turney & Wildeman 2013) mediate the relationship between family member incarceration and women's health. Although data in this area contain great weaknesses, an issue we return to later, some studies estimate effects of incarceration on mechanisms that are likely to shape women's health (e.g., Harding et al. 2018, Pager 2003).

Specifically, incarceration can impact health indirectly by increasing economic strains through lost earnings, increasing costs to keep in contact and support an incarcerated family member, and payment of legal debt (e.g., Braman 2004, Comfort 2008). Incarceration may also be particularly taxing for women left behind who take on additional work and have nonstandard hours

⁷Wildeman (2010, 2012) tests this possibility in children, finding no significant association between paternal incarceration and child well-being when the father was known to have engaged in partner violence recently.

⁸Many of the mechanisms leading to worse health outlined below also likely apply regardless of whether the family member had engaged in violence, further weakening the case for average beneficial effects for women.

(Bruns 2017) and for grandmothers charged with providing more childcare for their grandchildren (Pittman 2015, Turney 2014a). Likewise, the stigma and resulting social isolation caused by having a family member incarcerated could also imperil health both directly through stress and indirectly through negative coping behaviors (e.g., Braman 2004). These strains also pose constraints that may increase the likelihood individuals will forgo preventative health care because of lack of money, time, or concern of experiencing discrimination by health-care professionals (e.g., Brayne 2014; for a parallel to schooling, see Haskins & Jacobsen 2017).

Sibling and Cousin Incarceration

As many of these mechanisms indicate, our understanding of the factors that shape the consequences of family member incarceration for women relies primarily on research that examined the removal of a parent or romantic partner due to incarceration (for exceptions, see Connors et al. 2020, Goldman 2019, Lee et al. 2014, Sealy-Jefferson et al. 2020, Sirois 2020). By broadening the scope of connections to incarcerated individuals (i.e., to siblings and cousins), we can clarify our understanding of unique mechanisms that may be shaping health for incarcerated family members, particularly for racial and ethnic minority groups whose family and household configurations often extend beyond the nuclear family (e.g., Cross 2018, Taylor et al. 2013). In this section, we consider how family member incarceration may impact the health and well-being of women for whom the incarcerated individual is not a parent or romantic partner.

Data from the FamHIS suggest that the incarceration of a sibling is common, indicating that a consideration of mechanisms driving effects of sibling incarceration is warranted. Despite this fact, there is a dearth of literature on the health consequences of sibling incarceration or the mechanisms that might drive these consequences. Sibling incarceration can serve as a chronic stressor through a variety of pathways that can impact health “from bullying by other students who discovered their sibling’s imprisonment, adjusting to new household roles and routines, complex feelings of ambivalence related to their sibling’s safety, visiting their brother or sister, and having their sibling return home after an extended period away” (Heaton 2014, p. 5).

Experiences of sibling incarceration may also be heavily gendered. Adolescent girls may, for example, be required to take on more caregiving roles and household responsibilities as a result of a sibling’s incarceration, especially in households where younger or multiple siblings are present, where one parent is absent, or where the incarcerated sibling’s children may also be present (Kavanaugh et al. 2016). These burdens may increase stress, which could lead to the stress response of overeating among female children (Jackson et al. 2010, Mezuk et al. 2010). Girls are also more likely to serve as confidants to caregivers, further compromising their own emotional and physical well-being (Hunt et al. 2005). At the same time, girls may experience additional parental monitoring as a result of increasing parental anxieties because of a sibling’s incarceration that could be health promoting through reducing the risk of engaging in risky health behaviors such as substance abuse and unprotected sex (Poulin & Denault 2012).

There may also be differential sibling incarceration effects by race/ethnicity, especially if siblings have to take on more of a parenting role given the shorter life expectancies of African Americans (Umberson et al. 2017) and the higher likelihood of parental contact with the criminal justice system (Wildeman 2009). This means that caregiving roles may become more intensive over time as a female sibling transitions from childhood and adolescence to adulthood. Parents may not be alive or may be incapable of taking care of others, leaving sisters as surrogate parents. The limited existing evidence indicates that sibling experiences tend to be gendered, with sisters being more likely to serve as caregivers to brothers (and sisters) than vice versa. This is highlighted in work by Comfort (2016, p. 68) where she discusses two older sisters taking care of their younger brother, Cadillac, who has struggled with addiction and cycled in and out of jails:

Both cared deeply about their brother, and exerted considerable efforts to keep him safe and healthy. The women provided insightful perspectives about Cadillac's challenges and shared the strategies they were using to help him break the cycles of addiction and incarceration. . . Sherry told the social worker that Cadillac was living with her: "He's ended up going back to jail. . . because he's had nowhere to go and he's been scared and lonely. But he's staying with me now and I think he's going to make it this time."

These older sisters served in a surrogate parent role, finding him housing and helping him get reconnected with social welfare programs. They also talked about the enormity of the stress involved in doing this work, which was chronic because he had been cycling into and out of the criminal justice system from quite a young age. Moreover, these sisters faced their own economic and health challenges (including drug addiction), which were compromised virtually every time they assisted their brother by letting him live in their respective homes.⁹ As a result, Cadillac's example suggests causal pathways through which sibling incarceration may have an effect on health and ways in which selection could be driving any observed association.

Extended family members can also play important roles in impacting the health of loved ones. For example, experiencing the incarceration of a cousin is also quite common (**Figure 3**). In many minority families, extended kin are often treated as part of the nuclear family. For example, cousins are treated as siblings (Allen 2017, Stack 1975), and this may especially be the case in grandparent-headed households (Kelch-Oliver 2011). These filial arrangements shape household composition and distribution of resources (Cross 2018, Pilkauskas & Cross 2018) and likely lead to a similar cascade of stressors when a cousin is incarcerated. Clarifying mechanisms will require additional quantitative and qualitative research that appropriately expands definitions of families. Doing so can serve to better delineate unique pathways to poor health and those that amplify poor health throughout the life course across gender, race/ethnicity, and social class.

IS FAMILY MEMBER INCARCERATION MAKING WOMEN SICK?

Having established that family member incarceration is common and unequally distributed, that there is selection into family member incarceration, and that there are some plausible pathways through which family member incarceration could shape health, we turn to a review of research on how this event might affect the women who are left behind. Because obstacles to causal inference in this area are great, we start by discussing the features of an adequate research design for estimating the causal effects of family member incarceration on women's health and how the data sets most often used in this area compare to that high bar. We then review research on family member incarceration and women's health, which is associational in nature. As a result, we can say that women who have had a family member incarcerated tend to be sicker than women who haven't, but we cannot tell for sure whether family member incarceration partially causes poor health.

Before reviewing this research, however, it is worth noting that we only include studies that directly consider the individual-level associations between family member incarceration and females' mental and physical health in adolescence and adulthood. In this regard, our review differs

⁹However, siblings that have achieved higher levels of education and economic security may also face added pressure to support more disadvantaged siblings in ways that may compromise their own economic and material well-being (Cross 2018). This has been referred to colloquially as the Black tax—income Black professionals transfer directly to their families of origin to support them (e.g., Mangoma & Wilson-Prangley 2019). More research is needed to understand the role of remittance and other forms of financial transfers in the US criminal justice context (Taylor & Meschede 2018), especially as they relate to the health and well-being of the remitter.

from other reviews on parental incarceration (e.g., Murray & Farrington 2008) and family member incarceration (e.g., Wildeman et al. 2019). We see this emphasis as ideal because the association between family member incarceration and health may vary by the gender of the individual whose health is measured (e.g., Lee et al. 2014),¹⁰ and studies that combine results for men and women may provide biased estimates for women. We also see this emphasis as appropriate because the gender of the family member affected shapes which outcomes receive the most attention. And as a result, there are many studies, especially on the intergenerational transmission of crime and criminal justice contact (Wildeman 2020), that are of less central interest for females than for males and that hence receive less attention in this review.

Features of an Appropriate Causal Test and Limitations of Existing Data

As our discussion up to this point makes clear, the obstacles to causal inference in this area are steep, as many of the factors that precede family member incarceration are well known to have damaging effects on women and children's health (e.g., Coker et al. 2002, Orford et al. 2013, Whiteford et al. 2013). Before reviewing the evidence regarding the association of family member incarceration with health, we thus briefly discuss the features of an adequate research design and the limitations of the existing data sets most often used to consider these associations.

An appropriate causal test in this area requires three components: (a) high-quality measures of the fact and nature of family member incarceration, (b) high-quality measures of physical and mental health, and (c) a research design that facilitates causal inference. Although there is, of course, no perfect research design, there are core ways to differentiate stronger tests from weaker ones. Weaker tests tend to rely on cross-sectional data that make it difficult or impossible to establish temporal ordering of family member incarceration and physical and mental health and make it possible only to adjust for observed differences between individuals who do and do not experience family member incarceration.¹¹ Stronger tests tend to rely on longitudinal data that facilitate tying changes in family member incarceration to changes in physical and mental health, ideally using a combination of fixed effects and synthetic regressions (e.g., Wildeman 2010). An extremely strong research design would link exogenous variation in the risk of family member incarceration, often with administrative data, to physical and mental health. These methods have been used in testing the effects of incarceration on other life-course outcomes, especially the labor market outcomes and recidivism risks of individuals (e.g., Harding et al. 2017, 2018; Loeffler 2013), but we do not know of any data currently available that could be used to test effects of family member incarceration on women's health.

In terms of measurement, few studies measure both family member incarceration and physical and mental health. And even in studies that include measures of both, the measures of family member incarceration are deeply problematic because, as has been discussed elsewhere (e.g., Sampson 2011, Wildeman 2020), no survey used to consider the health consequences of family member incarceration was designed to measure the fact or texture of criminal justice contact.¹² In other words, researchers in this area are relying on data collected from surveys post hoc that were not designed to examine criminal justice contact and may thus be biased in ways that lead to biased

¹⁰For a parallel study using the same data and considering effects on men, see Brown et al. (2016).

¹¹When adjusting for observed differences is the only possibility, it is obviously of the utmost importance that the studies are able to adjust extensively for many of the precursors discussed here and elsewhere (e.g., Sampson 2011).

¹²By fact of criminal justice contact we mean whether someone has experienced federal prison, state prison, or local jail incarceration. By texture of criminal justice contact we mean all experiences during the incarceration.

associations (e.g., Kirk 2006). Although we do not want to belabor this point, it is worth noting that virtually all quantitative studies using US data to test these relationships are based on family member reports of incarceration,¹³ do not differentiate between prison and jail incarceration (or do so quite poorly), and lack information on conditions of confinement. As such, major enhancements in criminal justice measurement are needed for any research in this area to move closer to identifying effects of this event on women (or on incarcerated men).¹⁴

Even absent challenges with measurement, study design remains a barrier to testing how family member incarceration affects women's health. Consider the four representative data sets most often used in this area: The National Longitudinal Study of Adolescent to Adult Health (Add Health), The Fragile Families and Child Wellbeing Study (Fragile Families), the National Longitudinal Survey of Youth 1979 (NLSY79), and the National Study of American Life (NSAL).¹⁵ Of these data sets, only the NSAL is cross-sectional, making it impossible to model changes in health plausibly driven by incarceration and differentiate confounding from mediation. A second survey, Add Health, can produce plausibly causal estimates only by considering children who experience parental incarceration for the first time in their late teens because there is otherwise no way to differentiate precursors to incarceration from mechanisms driving the effects of incarceration due to the timing of the measurement of these variables (Porter & King 2015).¹⁶

Fragile Families and the NLSY79 also have significant limitations in terms of study design.¹⁷ For Fragile Families, the core limitations are attrition; that it is not nationally representative; that it is not representative of all families across socioeconomic groupings; and that it allows researchers to focus only on the effects of paternal incarceration, maternal incarceration, and romantic partner incarceration. The NLSY79, on the other hand, offers strong possibilities in terms of study design, but it is also limited in key ways because it measures health only rarely and, again, is limited in the family members it considers, with the data being situated to provide insight only into the effects of a child's incarceration or a mother's incarceration.

Existing data are thus poorly equipped for providing a strong causal test of the effects of family member incarceration on women's health. Nonetheless, because some of the data sets that could be used are longitudinal in nature, some studies reviewed below are able to model how within-individual changes in family member incarceration and physical and mental health align.

Existing Research on Family Member Incarceration and Women's Health

Table 1 summarizes existing research on the association between family member incarceration and physical and mental health for adolescent and adult females. A review of these studies provides support for five basic conclusions. First, there is little evidence on the association

¹³While some of these studies ask directly about family member incarceration as a portion of the broader survey (e.g., Add Health, Fragile Families), others ask about family member incarceration more indirectly as a method of identifying why someone in the household is not available to participate in the survey (e.g., National Study of American Life, Panel Study of Income Dynamics).

¹⁴Although folding administrative data on the criminal justice system into an existing survey would be one way to do this, the one attempt to do so with the Fragile Families data had at best limited success (Geller et al. 2016).

¹⁵See the discussion around **Table 1** for more details. Although the Panel Study of Income Dynamics (PSID) includes information about family member incarceration, we do not discuss that data set in this review because it has yet to be used extensively in this area.

¹⁶Add Health is also the only one of these four surveys that includes both self-reported and biologically measured health and a broad range of health outcomes, making it especially appropriate for descriptive analyses in this area.

¹⁷Both of these data sets also only include self-reported health measures, another significant limitation.

Table 1 Studies considering the association between family member incarceration and women's health

Study	Journal	Contact		Health measure(s)	Relationship	N	Effects of incarceration (source)			Citations
		Jail	Prison				Outcome 1	Outcome 2	Outcome 3	
Grinstead et al. (1999)	<i>Criminal Justice and Behavior</i>		X	Sexual	Partner	89	+17.9%* (table 2, model 1) Condom use with intervention	NA	NA	121
Adimora et al. (2003)	<i>J AIDS</i>	X	X	Sexual	Partner	206	OR = 2.7** (table 3, model 1) Concurrence prevalence			161
Green et al. (2006)	<i>Journal of Marriage and Family</i>	X	X	Mental	Mother	615	-0.20*** (table 2, column 1) Maternal psychological well-being			83
Harman et al. (2007)	<i>Criminal Justice and Behavior</i>		X	Sexual	Partner	12	NA			80
Khan et al. (2008)	<i>American Journal of Public Health</i>	X	X	Sexual	Partner	373	PR = 2.0*** Multiple new partnerships, men	PR = 6.1*** (table 2, model 1) Multiple new partnerships, women		106
Khan et al. (2011)	<i>American Journal of Public Health</i>	X	X	Sexual	Partner	343	PR = 1.33* (table 2, model 1) Infection with an STI	NA		65
Roettger et al. (2011)	<i>Addiction</i>	X	X	Drug use	Father	15,154	RR = 1.75*** (table 2, female model 1) Frequency of marijuana use	AOR = 1.93** (table 3, female model 1) Frequency of other illegal drug use	RR = 1.75*** (table 2, female model 1) Frequency of marijuana use	128

(Continued)

Table 1 (Continued)

Study	Journal	Contact		Health measure(s)	Relationship	N	Effects of incarceration (source)			Citations
		Jail	Prison				Outcome 1	Outcome 2	Outcome 3	
Roettger & Boardman (2012)	<i>American Journal of Epidemiology</i>	X	X	BMI	Parent	15,558	$\beta = 0.49^{**}$ (table 1, model 4) BMI	NA	NA	99
Rogers et al. (2012)	<i>Sexually Transmitted Infections</i>	X	X	Sexual	Partner	2,936	$PR = 2.3^{***}$ (table 3, model 1) Risk of current STI			38
Wildeman et al. (2012)	<i>American Sociological Review</i>	X	X	Mental	Partner	3,826	$AOR = 1.28^{*}$ (table 1, model 4) Mother's depression	$\beta = 0.079^{**}$ (table 2, model 4) Mother's life dissatisfaction		186
Lee & Wildeman (2013)	<i>The Review of Black Political Economy</i>	X	X	Physical	Partner	NA	NA	NA		42
Wildeman et al. (2013)	<i>Women's Health Issues</i>	X	X	Mental, physical, behavioral	Partner	332				20
Lee et al. (2014)	<i>American Journal of Public Health</i>	X	X	Mental, physical, behavioral	Other	5,470	$RR = 1.44^{*}$ Obesity	$RR = 2.53^{***}$ Heart attack or stroke	$RR = 1.93^{***}$ (table 3, model 5) Fair or poor health	80
Dumont et al. (2014)	<i>Maternal & Child Health Journal</i>	X	X	Sexual	Partner	184,424	$RR = 0.70^{*}$ Birth control use	$RR = 0.89^{*}$ (table 3, model 2) First trimester prenatal care use	NA	17
Wildeman et al. (2014a)	<i>American Journal of Public Health</i>		X	Mortality	Father/mother	55,848	NS Death with father incarcerated	NS (table 2, models G1–G7) Death with mother incarcerated		8

(Continued)

Table 1 (Continued)

Study	Journal	Contact		Health measure(s)	Relationship	N	Effects of incarceration (source)			Citations
		Jail	Prison				Outcome 1	Outcome 2	Outcome 3	
Boch & Ford (2015)	<i>Biological Research for Nursing</i>	X	X	Inflammation	Parent	5,860	AOR = 1.44* (table 3, model 2) Low-grade inflammation	NA		175
Groves et al. (2017)	<i>AIDS and Behavior</i>	X	X	Sexual	Partner	496	AOR = 4.33* (table 4, model 2) Inconsistent condom use			0
Sun et al. (2018)	<i>Social Science & Medicine</i>		X	Sexual	Partner	16	NA			1
Rowell-Cunsolo et al. (2018)	<i>Journal of Offender Rehabilitation</i>	X	X	Sexual	Partner	165	AOR = 0.90** (table 3, model 1) Concurrency prevalence			2
Goldman (2019)	<i>Journal of Health and Social Behavior</i>	X	X	Mental, physical	Son	~3,000	-0.15* (table 1, recency model) Self-rated health	0.10*** (table 1, recency model) Functional limitations	0.14* (table 1, recency model) Depression	0
Bruns & Lee (2020)	<i>Journal of Marriage and Family</i>	X	X	Substance use	Partner	3,373	PSM = 0.04** (table 2, model 5) Drug use	$\beta = 0.03^*$ (table 3, panel c) Change in depression	NA	2
Connors et al. (2020)	<i>American Journal of Public Health</i>		X	Mental, physical	Other	1,690	$\beta = 1.4^*$ (table 2, model 2) Perceived stress scores	OR = 1.41* (table 3, model 1) Carotid atherosclerosis		1
Sirois (2020)	<i>Social Science & Medicine</i>	X	X	Mental, physical	Son	2,651	$\beta = 0.054^{***}$ (table 2, model 1b) Health limitations	NA		0

Significance is indicated as follows: $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. β indicates the ordinary least squares coefficient, and r is the Pearson correlation. Abbreviations: AOR, adjusted odds ratio; BMI, body mass index; NA, not applicable; NS, not significant; OR, odds ratio; PR, prevalence ratio; PSM, propensity score matching; RR, rate ratio; STI, sexually transmitted infection.

of parental incarceration with adolescent female health, and the limited evidence tentatively suggests a negative association. These studies consider the association of parental incarceration and mortality (Wildeman et al. 2014a), drug use (Roettger et al. 2011), body mass index (BMI) (Roettger & Boardman 2012), and general inflammation (Boch & Ford 2015). Many of these analyses rely on data from Add Health; one uses Danish administrative data. Two of the three studies using Add Health establish appropriate time-ordering of parental incarceration and health and adjust for confounders, finding that parental incarceration is associated with elevated rates of low-level inflammation (Boch & Ford 2015) and drug use (Roettger et al. 2011). Unfortunately, the design of both of these studies precludes a strong causal interpretation of their results.

Although, as we have pointed out throughout this review, there are tremendous challenges to causal inference in this area, many of which current data make it difficult to overcome, the two other studies on parental incarceration and child health do go significantly further in the direction of rigor than much of the other research in this area has been able to. In one of these studies, Roettger & Boardman (2012) use Add Health data to show that a change in parental incarceration status is associated with a significant increase of nearly one BMI unit. This change, however, was only observed for adolescent girls; there was no association for adolescent boys. Although this does not approach the point of providing definitive causal evidence, it does represent one of the strongest research designs in this area, as it provides insight into how within-individual changes in parental incarceration are tied to within-person changes in health.

Another study relies on Danish registry data to consider the association between paternal and maternal incarceration and the mortality risk of Danish male and female children up to the age of 18. Results from these analyses, which establish appropriate time-ordering of parental incarceration and adjust for a host of relevant confounders, indicated that neither paternal nor maternal incarceration increases the risk of mortality for Danish females, although they did for Danish males (Wildeman et al. 2014a).¹⁸ Although these analyses suggested no association between parental incarceration and the mortality risk of Danish girls, it is nonetheless important to note that the analyses for Danish boys rise close to the level of providing causal evidence, as they show that parental incarceration prior to but not shortly after child mortality is significantly associated with that outcome. This design has been used in other studies to demonstrate, among other things, the effects of crime exposure on children (e.g., Sharkey 2010, Sharkey et al. 2012).

A second core finding from our review has to do with the outcomes receiving the most attention. Much of the research in this area focuses on how the incarceration of a romantic partner is associated with the sexual and reproductive health of women. This research suggests that partner incarceration is associated with far higher risks of contracting a sexually transmitted infection for women (Khan et al. 2011, Rogers et al. 2012) and that this association is explained by elevated rates of partner concurrency (Adimora et al. 2003, Khan et al. 2008) and infrequent or inconsistent condom use (Groves et al. 2017). Although the associational basis of this research area is strong, the reality is that none of the studies in this area use the sorts of data necessary to establish plausibly causal effects of romantic partner incarceration on women's sexual and reproductive health. This is a significant gap in research that is driven largely by key data limitations.

Third, the relatively limited quantitative research that considers how the incarceration of a current or former romantic partner is associated with women's health beyond sexual and

¹⁸Another Danish study showed that paternal incarceration had no effect on female children's risk of being charged with a crime by early adulthood (Wildeman & Andersen 2017, p. 50), which is consistent with the idea that Danish adolescent females are not engaging in higher levels of risk-taking behaviors as a result of paternal incarceration.

reproductive health generally finds a negative association, although the outcomes considered are limited to mental health (i.e., depression and life dissatisfaction) and substance use and abuse. Using Fragile Families data, Wildeman et al. (2012) find that the incarceration of a current or former romantic partner increases the risk of having symptoms consistent with major depressive disorder (MDD) and the level of life dissatisfaction among women with young children. This association holds after controlling for prior MDD and life dissatisfaction, suggesting an association that is closer to being plausibly causal than much of the descriptive research in this area. In a similar vein, Bruns & Lee (2020) also use the Fragile Families data and a similar design to show that the incarceration of a current or former romantic partner is associated with higher rates of substance use and abuse among mothers with young children but not with higher rates of heavy drinking or heavy smoking after adjusting for key confounders.

Fourth, there are early indications that having a family member incarcerated is associated with an elevated risk of having risk factors for cardiovascular disease (CVD). In an analysis of the NSAL, Lee et al. (2014) show that after adjusting for a host of confounders, family member incarceration is associated with increased odds of obesity, having had a heart attack or stroke, and being in fair or poor health. Parallel research in Mexico links family member incarceration with elevated levels of stress and other risk factors for cardiovascular disease (Connors et al. 2020). Although these studies provide descriptive insight into the association of family member incarceration with risk factors for CVD, the NSAL data are cross-sectional in nature and make it impossible to establish appropriate time-ordering of family member incarceration and poor health. As a result, these studies should be considered associational.

Finally, there are indications that the incarceration of a son is associated with worse maternal health. Some of the earliest research in this area considered this possibility 15 years ago (Green et al. 2006), but little research considered it in detail until recently. In the last couple of years, however, two thoughtful analyses of the NLSY79 have used appropriate time-ordering and rigorous methods to test the association between a child's incarceration and maternal health. In the earlier of these studies, Goldman (2019) used a range of techniques to link the incarceration of a son with worse self-rated health and greater levels of functional impairments among mothers. Critically, this study also showed that a child's incarceration before but not after maternal health was measured was significantly associated with worse maternal health. This is, again, not definitive causal evidence, but it is a strong research design that moves toward causal evidence. A subsequent study (Sirois 2020) considered the association between a child's incarceration and maternal functional limitations. Using a series of fixed effects models, this study showed that a child's incarceration is associated with a within-mother decline in health and that this association grows stronger over time. As before, this evidence is not purely causal. But it is important to note that these two analyses represent associational evidence that is at least as strong as that in other studies using these data to consider the labor market consequences of incarceration (e.g., Western 2002).

CONCLUSION

Our review of the research on whether mass incarceration is making women sick provides support for three core conclusions. First, family member incarceration is a common experience for US women, with sibling incarceration (**Figure 2**) and cousin incarceration (**Figure 3**) now common in the United States. Although this experience is unequally distributed by race/ethnicity, family member incarceration is common for all types of Americans (Enns et al. 2019).

Second, the many precursors to family member incarceration indicate that any studies attempting to tease out the effects of family member incarceration must be attentive not only to the ways in which family member incarceration might harm health—the dominant perspective in this

literature—but also to the ways in which selection factors may instead explain any association and the ways in which family member incarceration might help health, even if only briefly. In addition to encouraging researchers working in this area to be especially attentive to the positive, negative, and null effects of family member incarceration (e.g., Wildeman & Turney 2014), we also encouraged researchers to think beyond parents, children, and romantic partners when considering family member incarceration. Specifically, we provided insight into how other common forms of family member incarceration that have rarely been discussed to date, especially sibling incarceration and cousin incarceration, could also shape women's health.

Third, the small but rapidly growing literature on the association of family member incarceration with the physical and mental health of women and female children almost uniformly suggests negative associations, but there are caveats. One key caveat is that the parental incarceration–child health association may be weaker for female children than for male children, suggesting a need to more extensively consider the gendered pathways through which family member incarceration is associated with child health. Another, more important, caveat is that the poor measurement of family member incarceration and weak study designs in this area make it difficult to make causal statements regarding health effects of family member incarceration. Although some studies are able to use more rigorous designs that get closer to providing causal estimates—by adjusting for within-individual changes in physical and mental health that follow a change in family member incarceration status or by running a synthetic regression—the reality is that most of the research in this area is associational in nature. This is problematic given the vast range of precursors to family member incarceration that imply selection effects over causal ones.

We want to emphasize that the relative dearth of causal knowledge in this area suggests a real, pressing need for a large-scale longitudinal survey that has criminal justice at its core and is focused not just on the men for whom criminal justice contact is common but also on their families.

The consequences of family member incarceration for health remain a nascent subfield. As such, there are many unexplored pathways. In closing this article, we call for greater emphasis on the role of family member incarceration in family violence and more emphasis on what Sampson (2011) has called the incarceration ledger. Although some research has tested how family member incarceration is associated with family violence (e.g., Comfort 2007, 2008; McKay et al. 2018; Turney 2014b; Western 2006), the reality is that this area has received little attention. We see this inattention as problematic for four reasons. First, intimate partner violence (IPV) and child maltreatment are common and unequally distributed. According to recent estimates, 32.9% of American women have experienced IPV; rates are especially high for Native American, Black, and Hispanic women (Black et al. 2011, pp. 38–39). The same is also the case for child maltreatment (e.g., Kim et al. 2017, Hussey et al. 2006, Wildeman et al. 2014b). Second, the individual and social costs of maltreatment (Fang et al. 2012, Gilbert et al. 2009) and IPV (Campbell 2002, Max et al. 2004) are astronomical. Third, even the relatively limited research there is on these two topics in the incarceration literature suggests that the families who eventually experience incarceration were exposed to these risks at markedly higher rates prior to family member incarceration (e.g., Turney 2014a; Western 2006, p. 159).

Finally, and maybe most importantly, there are numerous ways in which incarceration may affect the safety of women and children. Incarceration could shape women's risk of being exposed to IPV both directly through incapacitation and then reentry as well as indirectly through exposure to a new partner. Incarceration rates could also indirectly shape women's risk of IPV by unbalancing gender ratios in ways that could increase their risk of exposure to IPV. In a similar vein, incarceration could shape children's risk of being exposed to maltreatment through the same direct channels outlined above as well as through indirect effects on maternal parenting behaviors, foster care placement, and the parenting behaviors of a new social father. These are tremendously

complex and countervailing effects, and it is only by investing in this research area that we will be able to know how mass incarceration has affected the safety of American women and children.

Roughly a decade ago, Sampson (2011, p. 821) called sociologists to think holistically about the consequences of incarceration by constructing an incarceration ledger that estimated the full range of effects incarceration could have on individuals, families, communities, and society more broadly. Although some recent articles have provided a more complete picture of the incarceration–health relationship by considering how rates of incarceration could affect women’s health at the neighborhood (e.g., Clear 2007, Hatzenbuehler et al. 2015), state (e.g., Johnson & Raphael 2009, Light & Marshall 2018, Schnittker et al. 2015), and even national levels (e.g., Stuckler et al. 2008, Wildeman 2016), research in this area has still been too focused on a narrow set of individual-level outcomes to provide the necessary insight into the consequences of mass incarceration for population health and disparities in population health. Future research should thus invest heavily into attempting to test the degree to which mass incarceration has had these sorts of population-level impacts on health and health inequality.

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