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Familial and Former Incarceration and African American Men's Risk of Obesity

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ABSTRACT

Objectives: To build upon work addressing the physical health consequences of familial incarceration. Specifically, this study extends findings from a recent study authored by Lee and colleagues (2014) who report that only women experience poor physical health outcomes as a function of familial incarceration.

Methods: We re-analyze their data (i.e., the National Survey of American Life, n=6082), focusing exclusively on native-born black men (n=1139)—the demographic group that bears the direct impact of mass incarceration. The outcome is obesity and principal predictors are familial and former incarceration, and their statistical interaction.

Results: Familial incarceration appears an unimportant predictor (consistent with Lee et al. 2014), whereas former incarceration associates with a lower risk of obesity. However, former incarceration magnifies the association between familial incarceration and obesity, such that native-born black men experiencing both are more likely to be obese.

Conclusions: Public health researchers should treat former incarceration more carefully in studies including native-born black men because the experience of being locked away has lingering physical health significance.

KEYWORDS: former incarceration; intersectionality; mass incarceration; National Survey of American Life (NSAL); obesity

Familial and Former Incarceration and African American Men's Risk of Obesity

Lee and colleagues (2014) documented physical health sequelae of familial incarceration (i.e., *having a close family member locked away in jail or prison*) among native-born blacks, Caribbean blacks, and whites using data from the National Survey of American Life (NSAL, n=6082). Their study highlighted an important issue: *collateral consequences* of mass incarceration for relatives of the incarcerated (see, for example, Murray and Farrington 2008; Turney, Schnittker, and Wildeman 2012; Wildeman, Schnittker, and Turney 2012). Lee and colleagues concluded that the deleterious consequences of familial incarceration for obesity (OR=1.44; 95% CI=1.03, 2.00), heart attack or stroke (OR=2.53; 95% CI=1.80, 3.55), and poor or fair self-rated health (OR=1.93; 95% CI=1.45, 2.58) were restricted to women.

We extend conclusions from Lee et al. (2014) on two fronts. First, the authors specified *former incarceration* as a control variable. Former incarceration surpasses a control variable—it "controls" the lives of ex-cons, with studies demonstrating its scarring effects and amplifying relationships with post-release stress exposure (Bailey, Okechukwu, et al. 2015; Massoglia 2008; Turney, Wildeman, and Schnittker 2012). Second, the authors ignored within- and between-group heterogeneity. They analyzed simultaneously NSAL respondents who are foreign-born (p=.21), which reduced their exposure to risk of incarceration in the United States, and whites, despite the fact that mass incarceration manifests a *racial project* that maintains white privilege (Brown et al. 2016; Pettit and Western 2004).

This Brief Article specifies former incarceration as a *moderator* of familial incarceration's link with physical health outcomes among native-born black men (n=1139). We find that former

incarceration interacts with familial incarceration to predict increased odds of obesity. Existing studies and the present findings demonstrate that former incarceration cannot be overlooked when documenting prospective vulnerability to disease among native-born black men. Moreover, there can be little room to debate that certain native-born black men are distinctly at-risk (as one would expect), given their disproportionate representation among the incarcerated.

METHODS

The NSAL is a nationally representative survey sample of native-born and Caribbean black adults, and white adults. Response rates and sample design details are reported elsewhere (Bailey, Okechukwu, et al. 2015; Brown et al. 2016; Jackson et al. 2004). We coded all variables consonant with Lee et al. (2014) and analyzed the publicly available data merged with restricted data [IRB# 090956], making appropriate adjustments for the NSAL's complex survey design. For replication and reproducibility, which are essential to doing good science, the R code is available upon request.

RESULTS

Table 1 shows that 30% of native-born black men were obese (i.e., BMI>=30). In addition, 10% had experienced familial incarceration and 24% had experienced prior incarceration in jail or prison. Table 1 also presents odds and 95% confidence intervals from survey-adjusted binomial logistic regression models relating familial and former incarceration to obesity (i.e., BMI>=30), adjusting for socioeconomic status, child health, and socio-

demographics. Model 1 included familial and former incarceration as main effects, and replicates Lee et al.'s (2014) model predicting obesity, but for native-born black men only. Familial incarceration appears an unimportant predictor of obesity. Treating NSAL respondents not experiencing familial and former incarceration as the excluded group, Model 2 used dummy variables to represent the statistical interaction between familial and former incarceration. There are no significant effects. Model 3 tests whether familial and former incarceration jointly impact obesity—a better test of our central research question. Odds of obesity increased by a factor of 3.23 when formerly-incarcerated native-born black men experienced familial incarceration. Across all three models, former incarceration was negatively associated with the odds of obesity, consistent with results reported by Bailey, Williams, et al. (2015). This salubrious effect may be a function of cigarette smoking (see Bailey, Okechukwu, et al. 2015), which suppresses weight gain.

DISCUSSION

Lee and colleagues (2014) provided a crucial baseline for investigating the physical health significance of familial incarceration (i.e., *having a close family member locked away in jail or prison*). Their work established familial incarceration as a potential chronic stressor for women. Extending their work, this study centered experiences of formerly incarcerated, native-born black men who are not simply *absent* from their families and communities for long stretches of time, but who are scarred by time spent in jail or prison (Brown et al. 2016; Pettit and Western 2004; Turney, Wildeman, and Schnittker 2012). We found that formerly incarcerated, native-born black men were likely to experience increased risk of obesity when a

close family member was locked away. This finding demonstrates that the impact of familial incarceration may be more complex than theorized currently.

We acknowledge that the number of native-born black men experiencing both familial and former incarceration, when the NSAL data were collected, is small. However, that number has likely grown exponentially because, just considering state and federal prisons and ignoring *jail churn* (i.e., at least 11 million people cycled through local jails in 2013), more than 650,000 ex-offenders are now released yearly. More than two-thirds of them will be rearrested within three years of release. Further, native-born black men participating in any social survey are probably more stable than their counterparts encountering the criminal justice system—so our results are conservative.

The present study has limitations that should guide future research. First, we did not find statistical interactions between former and familial incarceration explaining heart attack or stroke, and poor or fair self-rated health—outcomes for women predicted by familial incarceration in Lee et al. (2014). However, obesity predicts diabetes and hypertension among native-born black men (analyses available upon request), therefore the moderating effect we found indirectly influences those outcomes by increasing risk of obesity. Second, few studies capture sufficient details regarding the incarceration experience. Details such as duration of captivity, time spent in solitary confinement, frequency of familial visitation during incarceration, exposure to violence or sexual assault, etc. are neglected. Third, results shown here do not expose why former incarceration has its amplifying effect. It could be that formerly incarcerated, native-born black men consume greater quantities of unhealthy foods or alcohol (which despite its thermogenic effects may cause weight gain) when coping with familial

incarceration. Alternatively, the mechanism may be stigma, affecting a formerly incarcerated father, for example, whose son becomes imprisoned thereby creating an inter-generational cycle of despair.

PUBLIC HEALTH IMPLICATIONS

Researchers who treat imprisonment as mere absence are likely to develop unsound conclusions. Incarcerated native-born black men are not simply absent from their families and communities, but are captives of total institutions that strip them of their dignity, individuality, and humanity (Brown et al. 2016; Goffman 1961; Pettit and Western 2004; Turney, Wildeman, and Schnittker 2012). Consequently, formerly incarcerated, native-born black men deserve more attention in community epidemiologic research (but see Bailey, Okechukwu, et al. 2015; Brown et al. 2016; Massoglia 2008; Turney, Wildeman, and Schnittker 2012), because they are especially vulnerable.

The incarceration experience manifests exposure to cascading traumas, life events, chronic strains, non-events, and daily hassles. Captivity generates compounding vulnerabilities, as well as post-release stigma, and produces another type of collateral consequence with profound implications. Findings reported here suggest that formerly incarcerated native-born black men must be treated more carefully in future investigations.

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TABLE 1—Binomial Logistic Regression Model Estimates: How Familial and Former Incarceration Influence Risk of Obesity among Native-Born Black Men (n=1139) in the National Survey of American Life, United States, 2001–2003

		Model 1	Model 2	Model 3
Characteristic	Proportion (SE) or Mean ± SE	OR (95% CI)	OR (95% CI)	OR (95% CI)
Obese (BMI>=30) (1=yes; 0=no)	.30 (.01)	----	----	----
Intercept		.58 (.24, 1.44)	.63 (.25, 1.56)	.63 (.25, 1.56)
Age				
≤29[a]	.25 (.02)	*1.00*	*1.00*	*1.00*
30-44	.36 (.01)	1.91 (1.09, 3.37)	1.91 (1.08, 3.36)	1.91 (1.08, 3.36)
45-59	.24 (.01)	1.81 (1.01, 3.25)	1.77 (.98, 3.19)	1.77 (.98, 3.19)
≥60	.15 (.01)	1.08 (.63, 1.86)	1.07 (.62, 1.85)	1.07 (.62, 1.85)
Income-needs ratio (range 0-17)	3.10 ±.13	1.02 (.97, 1.08)	1.02 (.97, 1.08)	1.02 (.97, 1.08)
Education				
≤11[a]	.23 (.02)	*1.00*	*1.00*	*1.00*
12	.41 (.02)	.86 (.61, 1.22)	.87 (.61, 1.23)	.87 (.61, 1.23)
13-15	.23 (.02)	.97 (.62, 1.51)	.97 (.62, 1.53)	.97 (.62, 1.53)
≥16	.14 (.02)	.98 (.55, 1.77)	.97 (.54, 1.75)	.97 (.54, 1.75)
Marital status				
Married/cohabiting[a] (1=yes; 0=no)	.50 (.02)	*1.00*	*1.00*	*1.00*
Divorced, separated, or widowed (1=yes; 0=no)	.20 (.01)	.63 (.42, .95)	.64 (.43, .96)	.64 (.43, .96)
Never Married (1=yes; 0=no)	.30 (.02)	.73 (.49, 1.08)	.73 (.49, 1.09)	.73 (.49, 1.09)
Has health insurance (1=yes; 0=no)	.82 (.01)	1.21 (.75, 1.94)	1.20 (.75, 1.92)	1.20 (.75, 1.92)
Family member away in school, military, or long-term care (1=yes; 0=no)	.23 (.02)	.79 (.58, 1.07)	.79 (.58, 1.08)	.79 (.58, 1.08)
Self-rated health in childhood (range 1-5)	4.23 ±.04	1.00 (.88, 1.15)	1.00 (.87, 1.13)	1.00 (.87, 1.13)
Non-2-parent household in childhood (1=yes; 0=no)	.30 (.02)	.86 (.62, 1.17)	.85 (.62, 1.17)	.85 (.62, 1.17)
Welfare usage in childhood (1=yes; 0=no)	.21 (.02)	.77 (.52, 1.16)	.78 (.52, 1.16)	.78 (.52, 1.16)
Physical activity (range 0-9)	5.66 ±.08	.95 (.88, 1.03)	.95 (.88, 1.02)	.95 (.88, 1.02)
Familial Incarceration (1=yes; 0=no)	.10 (.01)	.77 (.44, 1.33)		.56 (.27, 1.15)
Former Incarceration (1=yes; 0=no)	.23 (.01)	.66 (.45, .97)		.58 (.39, .87)
Familial (no)—Former (no)[a]	.70 (.02)		*1.00*	
Familial (yes)—Former (no)	.07 (.01)		.56 (.27, 1.15)	
Familial (no)—Former (yes)	.20 (.01)		.58 (.39, .87)	
Familial (yes)—Former (yes)	.02 (.01)		1.06 (.55, 2.03)	3.23 (1.26, 8.28)

Note. SE=standard error; CI=confidence interval; OR=odds ratio. Descriptive and regression model estimates calculated using design-based variance–covariance matrices to adjust for the NSAL's complex survey design. Available sample size equals 1222.

[a]Excluded groups in regression models.