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Child incarceration and long-term adult health outcomes: a longitudinal study

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Abstract

Purpose—Although incarceration may have life-long negative health effects, little is known about associations between child incarceration and subsequent adult health outcomes. The paper aims to discuss this issue.

Design/methodology/approach—The authors analyzed data from 14,689 adult participants in the National Longitudinal Study of Adolescent to Adult Health (Add Health) to compare adult health outcomes among those first incarcerated between 7 and 13 years of age (child incarceration); first incarcerated at > or = 14 years of age; and never incarcerated.

Findings—Compared to the other two groups, those with a history of child incarceration were disproportionately black or Hispanic, male, and from lower socio-economic strata. Additionally, individuals incarcerated as children had worse adult health outcomes, including general health, functional limitations (climbing stairs), depressive symptoms, and suicidality, than those first incarcerated at older ages or never incarcerated.

Research limitations/implications—Despite the limitations of the secondary database analysis, these findings suggest that incarcerated children are an especially medically vulnerable population.

Practical implications—Programs and policies that address these medically vulnerable children's health needs through comprehensive health and social services in place of, during, and/or after incarceration are needed.

Social implications—Meeting these unmet health and social service needs offers an important opportunity to achieve necessary health care and justice reform for children.

Originality/value—No prior studies have examined the longitudinal relationship between child incarceration and adult health outcomes.

Keywords

Offender health; Public health; Suicide; Health policy; Juvenile offenders; Young offenders

Background and significance

Children who come into contact with the justice system constitute an important, yet under-examined population. The USA incarcerates more youth than any other developed country in the world (Hazel, 2008). Despite the lowest youth crime rate in over 20 years, the youth incarceration rate in the USA remains approximately 7 times higher than in England and 3,000 times higher than in Japan (Hazel, 2008). In 2013, US law enforcement officials made 1.1 million arrests of juveniles (Office of Juvenile Justice and Delinquency Prevention, 2016). In October 2013, 54,000 juvenile offenders were in residential placement, with over

two-thirds held for non-violent charges. Of these incarcerated youth, 85 percent were male and 41 percent were African American (Hockenberry, 2016).

In the USA, state law rather than federal law governs the prosecuting and sentencing of juveniles (i.e. youth under age 18), resulting in wide variations in juvenile justice laws and practices across states. One variation is the age at which children (i.e. under age 14) are considered to have the capacity to willfully commit crimes or be competent to stand trial in juvenile court. As of 2014, 18 states had laws that established a minimum age threshold for juvenile justice jurisdiction, ranging from six to ten years of age (National Center for Juvenile Justice, 2016). States without a minimum age law rely on legal precedent and case law to establish procedures to determine children's capacity and competency. Every state, thus, has a complex set of laws and traditions in place to handle children who come into conflict with the law.

Although likely a relatively small group, children who are detained or incarcerated in the juvenile justice system may be a particularly medically vulnerable population. It is well documented that the broad population of incarcerated juveniles has high rates of unmet health needs and faces disproportionate morbidity and mortality compared to their non-incarcerated peers (Committee on Adolescence, American Academy of Pediatrics, 2011). In total, 46 percent of newly detained juveniles have been found to have urgent medical needs (Hein *et al.*, 1980) and 70 percent may have at least one psychiatric disorder (Teplin *et al.*, 2002). Little is known, however, about incarcerated children and the socio-demographic characteristics of this subgroup are absent in the literature. Descriptive data summarizing demographic trends among incarcerated children across the USA are difficult to obtain and inconsistent, as states use their own tracking mechanisms and measures. Furthermore, despite emerging literature describing the long-term health outcomes associated with youth incarceration as a whole (Schnittker and John, 2007), very little is known about the long-term trajectories of those first incarcerated as children. The limited existing literature on longitudinal health effects of youth incarceration has shown that any incarceration during adolescence or young adulthood is associated with worse adult general health (Massoglia, 2008b), functional limitations (Schnittker *et al.*), hypertension (Massoglia, 2008a), and obesity (Houle, 2014). However, the longitudinal relationship between age of first incarceration (especially under age 14) and subsequent adult health is unknown. To address these gaps, we sought to: provide a descriptive summary of demographic characteristics of individuals with a history of child incarceration (which we define as under age 14) and to quantify the association between child incarceration and a diverse set of adult health outcomes.

Methods

We analyzed data from the National Longitudinal Study of Adolescent to Adult Health (Add Health), a nationally representative survey conducted among US youth between the years 1994 and 2008 (Harris *et al.*, 2009). The Wave I baseline survey included 20,745 youth in grades 7–12. The most recent follow-up survey (Wave IV) included 15,701 adult participants between the ages of 24 and 34 years old. The baseline surveys measured social determinants of health, such as youths' health status. The Wave IV follow-up survey

collected data on individuals' history of incarceration and the age of their first incarceration, and again measured health status. Wave IV surveys were conducted in both the home residences of participants and in correctional settings (Harris *et al.*, 2009).

Measure of child incarceration

Wave IV participants were asked, "Have you ever spent time in a jail, prison, juvenile detention center or other correctional facility?" and self-reported age that the first incarceration occurred. In order to examine the relationship between child incarceration and adult health, we identified respondents who reported being incarcerated as a child, which we defined as prior to age 14. Less than age 14 was chosen as a cut off because several European countries have set a minimum age of juvenile jurisdiction at 14 or higher (Hazel, 2008). Further, in the USA, common law and court decisions have established that children under 14 are presumed to lack criminal capacity (i.e. the ability to know right from wrong) because of their young age, and may lack the competency to stand trial (Bath and Gerring, 2014). Specifically, the variable was constructed with the following categories: child incarceration (first incarceration at < 14 years old), later incarceration (first incarceration at ⩾14 years old), and no incarceration (reference category).

Adult health outcomes

We selected adult health outcomes for their documented high impact on adult morbidity and mortality. The primary outcome was adult general health. Secondary outcomes were adult functional limitations, depressive symptoms, and suicidality. These outcomes were based on self-report, a well validated, stable approach for measuring the health of young people (Fosse and Haas, 2009).

Adult general health.—To measure adult general health, we used self-report of general health, a well-validated general health measure known to be associated with morbidity and mortality (Idler and Benyamini, 1997). In Wave IV, a single item asked participants to rate their health as excellent, very good, good, fair, or poor. Based on the response distributions, we used a common dichotomous measure of self-rated health for responses of excellent/very good/good vs fair/poor. We conducted sensitivity analyses using alternate cut points, which revealed similar results.

Adult functional limitations (climbing stairs).—We created a dichotomous measure of adult functional limitations (climbing stairs) using a single item that asked participants about limitations with climbing flights of stairs. Difficulty in climbing stairs is associated with cardiovascular and overall mortality risk (Hirvensalo *et al.*, 2000). We categorized individuals as having this limitation if they reported a limitation in climbing flights of stairs.

Adult depressive symptoms.—In Wave IV, respondents completed the well validated, ten-item short-form Center for Epidemiologic Studies Depression Scale (CESD-10), which screens for depressive symptoms in the prior seven days (Radloff, 1991). We used Wave IV CESD-10 data for the adult depressive symptoms outcome variable. We categorized a score ⩾11 as a dichotomous measure of depressive symptoms (Suglia *et al.*, 2016).

Adult suicidality.—Suicidality is an important concern for justice-involved individuals (Abram *et al.*, 2008). We used the Wave IV single item that asked respondents if they had seriously considered suicide in the previous 12 months to create a dichotomous measure of adult suicidality.

Demographic variables

We examined standard Wave I Add Health demographic variables in order to create a descriptive summary of the individual's demographic characteristics, including household context, during childhood. These demographic variables included gender, race/ethnicity, parental household income, highest level of parental education, and household family structure.

Data analysis

We computed descriptive statistics and performed χ^2 tests comparing adult health outcomes among three groups: individuals whose first incarceration occurred at < 14 years old, individuals whose first incarceration occurred at ⩾14 years old, and individuals who were never incarcerated. We used the "svy" suite of commands in Stata (version 12.0) to account for the Add Health survey design elements of stratification, clustering, and weighting. As we sought to measure the association between child incarceration and subsequent adult health outcomes, the analytic sample included the 14,689 individuals with full data on the primary predictor (age at first incarceration), primary outcome (adult general health), and sample weight. The study was approved by the UCLA Institutional Review Board.

Results

Of the analytic sample of 14,689 young adults, 16.5 percent reported ever being incarcerated by early adulthood (i.e. by age 32). Specifically, 83.5 percent reported never being incarcerated, 0.5 percent reported child incarceration (i.e. first incarceration at < 14), and 16 percent reported later incarceration. The unweighted age distribution of the 56 individuals who reported child incarceration was as follows: 1 first incarceration at age 7, 1 at age 10, 9 at age 11, 8 at age 12, and 37 at age 13.

Demographic characteristics (Table I)

Compared to individuals first incarcerated at older ages (ages 14–32), individuals with a history of child incarceration (ages 7–13) were even more disproportionately male (84.3 vs 76.0 percent) and black (33.1 vs 20.8 percent), or Hispanic (22.4 vs 12.2 percent). In terms of socio-economic status, a higher percentage of individuals incarcerated as children were raised in the lowest income stratum (48.7 vs 29.5 percent) and raised in single parent households (35.8 vs 29.4 percent). Compared to those never incarcerated, these demographic differences were more accentuated. The χ^2 p-values demonstrated statistical significance across all the demographic variables ($p < 0.001$).

Child incarceration and adult health outcomes (Table II)

Across all four adult health outcome variables, the highest rates of poor health were seen in the two incarceration categories (compared to never incarcerated) and, of the health

outcomes, the highest prevalence of symptoms were seen for the mental health outcomes. Additionally, compared to the older age at first incarceration category and the never incarcerated category, history of child incarceration was associated with the highest rates of subsequent poor adult health outcomes across all four health variables. Specifically, 21.1 percent of individuals first incarcerated as children reported subsequent poor general health in adulthood compared to 13.0 percent in the incarceration at age 14–32 category and 8.4 percent, respectively, in the never incarcerated category. Similarly, 16.9 percent of individuals first incarcerated as children reported subsequent adult functional limitations (climbing stairs), compared to 8.4 percent in the incarceration at age 14–32 category. Additionally, 37.7 percent of individuals first incarcerated as children reported subsequent adult depressive symptoms and 28.1 percent reported subsequent adult suicidality, compared to 23.7 percent (depressive symptoms) and 10.1 percent (suicidality) in the incarceration at age 14–32 category. The χ^2 p-values demonstrated statistical significance across all of the adult health outcome variables ($p \leqslant 0.001$).

To further explore incarceration among the youngest children, we performed limited sub-analyses comparing individuals with a history of first incarceration from 7 to 12 years old vs 13 to 14 years old (detailed results not shown). Results were most notable for significantly higher rates of subsequent adult suicidality for those first incarcerated from 7 to 12 years old (49.9 vs 17.1 percent, p-value = 0.04). The sub-analyses for depressive symptoms followed similar trends.

Discussion

This study sought to describe the demographic characteristics of incarcerated children and to measure the associations between age of first incarceration and adult health outcomes. The results suggest that many of the racial/ethnic and socio-economic disparities seen in the US criminal justice system are evident and even accentuated for individuals incarcerated as children. Our results also demonstrate an association between child incarceration (i.e. incarceration at < 14 years old) and substantially worse physical and mental health outcomes during adulthood, including worse adult general health, functional limitations, depressive symptoms, and suicidality. Our findings linking child incarceration with worse adult health provide additional evidence to support the current policy trend toward de-incarceration for minors, especially young minors (Greenwood and Turner, 2011).

Prior research has established that incarcerated youth have extremely high rates of unmet health needs, especially with regards to mental health and substance abuse treatment needs (Committee on Adolescence, American Academy of Pediatrics, 2011). The estimated rates of psychiatric disorders in juvenile justice populations range from 60 to 75 percent (Teplin *et al.*, 2002). Children who have contact with the juvenile justice system at an early age may do so because of preexisting risk factors, such as underlying mental health issues. For youth entering the juvenile justice system, limited access to mental health services is a common problem, and this problem is accentuated for justice-involved youths from racial/ethnic minority backgrounds (Maschi *et al.*, 2008, Janku and Yan, 2009). Further, racial/ethnic minority youth with psychiatric disorders are more likely to be placed in the juvenile justice system than they are to be diverted to the community for treatment compared to white youth

(Janku and Yan, 2009, Guthrie *et al.*, 2012). These inequalities perpetuate unequal cycles of incarceration and recidivism, and may contribute to negative long-term mental health outcomes in medically vulnerable minority populations.

There is wide variation in how children who come into conflict with the law are handled within the USA. Given this, the observed disparities and observed associations between child incarceration and worse adult health demonstrated in our study have important implications. First, policies related to how children are prosecuted, diverted from, or detained in the juvenile justice system should be more thoroughly examined for potential adverse health impacts. There is a growing reform movement to avoid detention for youth whenever possible; however, attention has not focused on the youngest of this group (Annie E. Casey Foundation, 2016).

Moreover, longitudinal data on child “offenders” remain sparse and deserves attention. Preexisting psychiatric problems may play an important role in the relationship between child incarceration and adult health. Providing needed mental health and substance abuse assessments and referrals to children who come into conflict with the law may be a promising path for prevention of child incarceration and mitigation of any immediate and long-term negative health effects. Leveraging partnerships between schools and health systems may help identify health needs and address patterns of delinquency among vulnerable children, a known precursor to justice involvement. Overall, however, more research is needed to further disentangle precursors and potential mechanisms leading to poor health among those incarcerated as children.

Limitations of the study may include selection bias, as the baseline Add Health survey was a school-based sample and excluded those detained or incarcerated during the first wave. Also, individuals with a history of incarceration may have had higher attrition; however, it is reassuring that the Wave IV observed incarceration rate is consistent with national figures (Warren *et al.*, 2008). We were limited by the small sample size seen in the young age category and it is not possible to determine the extent to which the worse adult health outcomes observed later in life were due to childhood incarceration or to confounding factors related to underlying social determinants of health. However, the fact that results demonstrated clear trends and statistical significance despite the relatively small sample size in the child incarceration category suggests that a strong relationship linking child incarceration and subsequent adult health may exist. Finally, these analyses did not test causality. Baseline health data are not available because many participants who experienced child incarceration were incarcerated before their Wave I interview. Further studies exploring potential mechanisms linking child incarceration and worse adult health are needed to examine whether child incarceration is independently associated with worse adult health outcomes.

Conclusion

Incarceration of children is associated with downstream, long-term negative adult health outcomes. Many children who come into conflict with the law are from underserved communities that face inequities in the social determinants of health. Many of the children

may also have high rates of unmet health needs, especially in regard to mental health, that incarceration might exacerbate. Addressing these medically vulnerable children's health needs through comprehensive health and social services in place of, during, and/or after incarceration might be our best path to achieving necessary health care and justice reform for children.

References

Abram KM, Choe JY, Washburn JJ, Teplin LA, King DC and Dulcan MK (2008), "Suicidal ideation and behaviors among youths in juvenile detention", Journal of the American Academy of Child and Adolescent Psychiatry, Vol. 47 No. 3, pp. 291–300. [PubMed: 18216737]

Annie E Casey Foundation (2016), "Juvenile Detention Alternatives Initiative", available at: www.aecf.org/work/juvenile-justice/jdai (accessed November 14, 2016).

Bath E and Gerring J (2014), "National trends in juvenile competency to stand trial", Journal of the American Academy of Child and Adolescent Psychiatry, Vol. 53 No. 3, pp. 265–8. [PubMed: 24565353]

Committee on Adolescence, American Academy of Pediatrics (2011), "Health care for youth in the juvenile justice system", Pediatrics, Vol. 128 No. 6, pp. 1219–35. [PubMed: 22123883]

Fosse NE and Haas SA (2009), "Validity and stability of self-reported health among adolescents in a longitudinal, nationally representative survey", Pediatrics, Vol. 123 No. 3, pp. e496–501. [PubMed: 19254984]

Greenwood P and Turner S (2011), "Juvenile crime and juvenile justice", in Wilson J and Petersilia J (Eds), Crime and Public Policy, Oxford University Press, Oxford, pp. 88–129.

Guthrie BJ, Cooper SM, Brown C and Metzger I (2012), "Degrees of difference among minority female juvenile offenders' psychological functioning, risk behavior engagement, and health status: a latent profile investigation", Journal of Health Care for the Poor Underserved, Vol. 23 No. 1, pp. 204–25. [PubMed: 22643472]

Harris KM, Halpern CT, Whitsel E, Hussey J, Tabor J, Entzel P and Urdy JR (2009), "The national longitudinal study of adolescent health: research design", available at: www.cpc.unc.edu/projects/addhealth/design (accessed November 14, 2016).

Hazel N (2008), Cross-National Comparison of Youth Justice, University of Salford, Salford.

Hein K, Cohen MI, Litt IF, Schonberg SK, Meyer MR, Marks A and Sheehy AJ (1980), "Juvenile detention: another boundary issue for physicians", Pediatrics, Vol. 66 No. 2, pp. 239–45. [PubMed: 7402808]

Hirvensalo M, Rantanen T and Heikkinen E (2000), "Mobility difficulties and physical activity as predictors of mortality and loss of independence in the community-living older population", Journal of the American Geriatrics Society, Vol. 48 No. 5, pp. 493–8. [PubMed: 10811541]

Hockenberry S (2016), Juveniles in Residential Placement, 2013, US Department of Justice, Washington, DC.

Houle B (2014), "The effect of incarceration on adult male BMI trajectories, United States, 1981–2006", Journal of Racial and Ethnic Health Disparities, Vol. 1 No. 1, pp. 21–8. [PubMed: 24812594]

Idler EL and Benyamini Y (1997), "Self-rated health and mortality: a review of twenty-seven community studies", Journal of Health and Social Behavior, Vol. 38 No. 1, pp. 21–37. [PubMed: 9097506]

Janku AD and Yan JH (2009), "Exploring patterns of court-ordered mental health services for juvenile offenders is there evidence of systemic bias?", Criminal Justice and Behavior, Vol. 36 No. 4, pp. 402–19.

Maschi T, Hatcher SS, Schwalbe CS and Rosato NS (2008), "Mapping the social service pathways of youth to and through the juvenile justice system: a comprehensive review", Children and Youth Services Review, Vol. 30, pp. 1376–85.

Massoglia M (2008a), “Incarceration as exposure: the prison, infectious disease, and other stress-related illnesses”, Journal of Health and Social Behavior, Vol. 49 No. 1, pp. 56–71. [PubMed: 18418985]

Massoglia M (2008b), “Incarceration, health, and racial disparities in health”, Law & Society Review, Vol. 42 No. 2, pp. 275–306.

National Center for Juvenile Justice (2016), “Jurisdictional boundaries”, available at: www.jjgps.org/jurisdictional-boundaries:NationalCenterforJuvenileJustice (accessed June 22, 2016).

Office of Juvenile Justice and Delinquency Prevention (2016), “OJJDP statistical briefing”, available at: www.ojjdp.gov/ojstatbb/crime/qa05101.asp?qaDate=2013&text=:OfficeofJuvenileJusticeandDelinquencyPrevention (accessed August 23, 2016).

Radloff LS (1991), “The use of the Center for Epidemiologic Studies Depression Scale in adolescents and young adults”, Journal of Youth and Adolescence, Vol. 20 No. 2, pp. 149–66. [PubMed: 24265004]

Schnittker J and John A (2007), “Enduring stigma: the long-term effects of incarceration on health”, Journal of Health and Social Behavior, Vol. 48 No. 2, pp. 115–30. [PubMed: 17583269]

Schnittker J, Massoglia M and Uggen C “Enduring stigma: the long-term effects of incarceration on health”, Journal of Health and Social Behavior, Vol. 48 No. 2, pp. 115–30. [PubMed: 17583269]

Suglia SF, Demmer RT, Wahi R, Keyes KM and Koenen KC (2016), “Depressive symptoms during adolescence and young adulthood and the development of type 2 diabetes mellitus”, American Journal of Epidemiology, Vol. 183 No. 4, pp. 269–76. [PubMed: 26838597]

Teplin LA, Abram KM, Mcclelland GM, Dulcan MK and Mericle AA (2002), “Psychiatric disorders in youth in juvenile detention”, Archives of General Psychiatry, Vol. 59 No. 12, pp. 1133–43. [PubMed: 12470130]

Warren J, Gelb A, Horowitz J and Riordan J (2008), “One in 100: behind bars in America 2008”, The Pew Center on the States, Washington, DC.

Table I

Characteristics of the study sample by age at first incarceration and result from bivariate analyses of demographic variables (gender, race/ethnicity, parental household income, highest level of parental education and family household structure) vs age at first incarceration

Variable	First incarceration at age 7–13 (%)	First incarceration at age 14–32	Never incarcerated (%)	p-Value
Gender				
Female	15.7	24.0	54.5	*< 0.001*
Male	84.3	76.0	45.5	
Race/Ethnicity				
White	29.2	62.3	69.1	*< 0.001*
African American	33.1	20.8	14.8	
Hispanic	22.4	12.2	10.8	
Other	15.3	4.7	5.3	
Household income (amount/year)				
0-$24,999	48.7	29.5	20.9	*< 0.001*
$25,000-$49,999	11.4	26.7	26.5	
$50,000-$74,999	11.4	13.5	19.1	
$75,000 or more	0.1	6.7	11.8	
Missing	28.4	23.6	21.7	
Highest level of parental education				
Less than high school	14.5	14.6	8.9	*< 0.001*
High school diploma	46.8	37.2	30.8	
Some college	21.6	21.9	21.8	
College degree or more	17.1	26.3	38.5	
Family household structure				
Two biological parents	19.1	40.8	57.4	*< 0.001*
Two parents (⩾1 non-bio parent)	29.6	22.2	15.8	
Single parent	35.8	29.4	21.6	
Other	15.5	7.6	5.2	

Notes: $n = 14{,}689$. Percentages are weighted to account for survey design. p-Values are for χ^2-tests; italic p-values indicate statistical significance

Table II

Results from bivariate analyses showing relationship between young people's age at first incarceration and the adult health outcomes of adult general health, adult functional limitations, adult depressive symptoms, and adult suicidality

Age at first incarceration	Worse adult general health[a]	Adult functional limitations (climbing stairs)	Adult depressive symptoms	Adult suicidality
First incarceration at age 7–13 (%)	21.1	16.9	37.7	28.1
First incarceration at age 14–32 (%)	13.0	8.4	23.7	10.1
Never incarcerated (%)	8.4	5.9	14.9	6.5
p-Value	*< 0.001*	*0.001*	*< 0.001*	*< 0.001*

Notes: $n = 14{,}689$. Percentages are weighted to account for survey design. Variables are constructed from Add Health Wave IV survey data.

[a]"Worse general health" refers to self-report of poor or fair health compared to excellent, very good, or good. *p*-Values are for χ^2-tests; italic *p*-values indicate statistical significance