National Study of Childhood Traumatic Events and Adolescent and Adult Criminal Justice Involvement Risk: Evaluating the Protective Role of Social Support From Mentors During Adolescence

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ABSTRACT

Objective: With nearly 11 million jail admissions in the United States in 2015, the need to identify antecedent risk factors driving criminal justice involvement (CJI) and possible mitigating factors is crucial. This study examines the relation between childhood trauma and CJI in adolescence and adulthood and assesses how this relation is moderated by mentoring during young adulthood.

Methods: The analysis included 3 waves of data—adolescents, young adults, and adults—collected from 1995 to 2008 from 12,288 adolescents who participated in the National Longitudinal Study of Adolescent to Adult Health, a nationally representative study of adolescents in grades 7 to 12. Logistic regression was used to examine how having a close mentor in adolescence moderated the relation between criminal justice involvement and 9 childhood traumatic events: (1) neglect, (2) emotional abuse, (3) physical abuse, (4) sexual abuse, (5) parental incarceration, (6) parental binge drinking, (7) witnessed violence, (8) threatened with violence, and (9) experienced violence.

Results: Cumulative exposure to childhood trauma was associated with CJI in adolescence (adjusted odds ratios [AORs] ranging from 2.24 to 25.98) and adulthood (AOR range, 1.82–6.69), and parental incarceration was consistently one of the, if not the, most strongly associated with each form of CJI; the strength of these associations was weakened for those who reported a close mentor compared to those who did not.

Conclusions: This study advances the literature regarding trauma and CJI, highlighting the role of social support and mentorship as protective factors for youth who experience childhood trauma. Interventions aimed at protecting vulnerable children from the harms of trauma should be the next priority.

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The United States has the largest incarcerated population in the world.[1] Almost 11 million jail admissions occurred in the United States in 2015.[2] Given that criminal justice involvement (CJI) is associated with a range of adverse behavioral and physical health outcomes, the high rates of US incarceration come at great individual and societal costs.[3,4] While disproportionate US incarceration rates are explained by changes over the past 40 years in policing and sentencing,[5] individual-level behaviors play a role in CJI risk.[6,7] By identifying antecedent factors that contribute to CJI, we can better understand how to prevent a trajectory of risk that leads to arrest and incarceration.

Criminal justice populations report disproportionately high rates of maltreatment during childhood, including physical, sexual, and emotional abuse as well as neglect.[8–13] Prospective studies indicate that childhood trauma contributes to CJI in adolescence and adulthood[11,13–15]; among the most rigorous studies, one retrospective cohort of 1,539 minority children followed into young adulthood (ages 22–24)[13] found that childhood maltreatment was an independent risk factor associated with almost 3 times the odds of adulthood incarceration. Criminal justice populations report a range of diverse traumatic events including not only maltreatment but also neglect, household dysfunction traumas, and violence[16–20]; a large, nationally representative study is warranted to assess the potential contributing role of a range of traumatic experiences to CJI. Given evidence from regional models[21,22] indicating that increasing burden of childhood trauma is associated with delinquency and offending in dose-response fashion, a general population study should assess the independent impacts of distinct childhood traumas as well as the cumulative burden of childhood trauma.

An additional gap in the literature on childhood trauma and incarceration is the relative lack of understanding of factors that may protect against the negative effects of experiencing trauma and decrease trauma-related CJI risk. There is evidence that social support may mitigate the negative effects of childhood trauma[23,24] by decreasing risky and violent behaviors in children[25,26] and decreasing the likelihood of psychiatric disorders and drug dependence,[27] risk factors of offending and in turn CJI.[28,29] In addition to emotional support, material support may also help an individual at risk of incarceration avoid detainment. For example, the bail system has been criticized for discriminating against people who are poor[30,31] or without material support, such that an individual with friends

Clinical Points

- Understanding of protective factors that can buffer the relation between trauma and criminal justice involvement is limited.
- Mentorship appears to be a potential pathway for intervention in preventing criminal justice involvement for those with a history of trauma.

or family members to help pay bail will be less likely to be jailed (whereas someone without money or outside financial support will not). Support from outside the family system, like from a mentor, shows promise in protecting children with trauma histories from trajectories of risk and CJI; for example, there is evidence that the effects of witnessing violence and experiencing physical abuse on offending behaviors appear to be mitigated among adolescent males who report that they have someone to count on.[25] Moreover, programs for children and youth who experienced parental incarceration have been effective in improving school performance, feelings of well-being, and relationships.[32–34] The degree to which mentorship mitigates the impact of cumulative trauma burden that accounts for the range of traumatic experience on CJI has not been documented.

The current study aims to examine the relations between childhood trauma and later (adolescent and adult) arrest, incarceration, and delinquent behaviors in a nationally representative sample. We examine a diverse range of traumatic experiences before the age of 18 years, as well as cumulative trauma burden, to explore the independent and combined effects of trauma on delinquency, arrest, and incarceration. In addition, we examine the effect of mentorship as a moderator of the association between cumulative trauma and CJI.

METHODS

Design and Sample

This secondary data analysis uses data from the National Longitudinal Study of Adolescent to Adult Health (Add Health)[35]—a stratified, random sample of more than 20,000 US middle and high school students who were followed prospectively from adolescence into adulthood. This analysis included data from 12,283 respondents collected at Wave I (ages 11–21 years, collected in April and December 1995), Wave III (18–26 years, collected from August 2001 to April 2002), and Wave IV (ages 24–34 years, collected in 2008) who had sample weights at each wave.[35,36] This study was deemed non–human subjects research by the NYU School of Medicine Institutional Review Board.

Measures

Childhood traumatic experiences. To replicate the Adverse Childhood Experiences (ACE) study's[20] trauma score, we developed 9 dichotomous measures of self-reported traumatic experiences before the age of 18 years. The cut-points for the dichotomization of the exposure to each trauma were based on the ACE study[20] and previous literature, in which any sexual abuse is considered endorsing the trauma,[18,37,38] and reporting that a trauma occurred ≥6 times is considered equivalent to the ACE study's threshold of "often" or "very often" for neglect and emotional and physical abuse.[39–41]

Neglect was operationalized as having been left alone when an adult should have been present and/or not having basic needs met by an adult caregiver ≥6 times. Emotional abuse was defined as endorsing that a parent/adult caregiver said things that really hurt one's feelings or made one feel unloved ≥6 times. Physical abuse was having been slapped, hit, kicked, or thrown by a parent/adult caregiver ≥6 times. Sexual abuse was a parent/adult caregiver touching the respondent or forcing the respondent to touch him or her in sexual way or forcing sexual relations at least 1 time. Parental incarceration included responses from 4 items that assessed whether a biological parent/parental figure had spent time in jail or prison. Parental binge drinking was assessed in the parent interview as having ≥5 drinks on one occasion at least once in the past month, which is in accordance with the Substance Abuse and Mental Health Services Administration.[42] Witnessing violence was having seen someone shoot or stab another person. Threatened with violence was defined as endorsing that someone pulled a knife or gun on the respondent. Experienced violence was defined as having been shot or cut/stabbed. Each of these traumatic experiences was summed to create a score representing the cumulative number of childhood traumas, which was then categorized into no trauma, 1 trauma, and 2, 3, 4, and ≥5 traumas. Only respondents who had data for each of the 9 traumas were included in the analyses of the relationship of traumas to CJI outcomes (n = 9,569).

Delinquency. Delinquent behaviors were reported at Waves I and IV. These included deliberately damaging others' property, stealing something worth more or less than $50, going into a house to steal something, using or threatening to use a weapon to get something from someone, selling drugs, or physical group fights. Wave I and Wave IV delinquency responses were summed and dichotomized as no or any acts in adolescence and adulthood, respectively, as has been done previously given that there is no common method of measuring delinquency[43] and that the median number of delinquent acts is 1 in Add Health.

Criminal justice involvement. Arrest and incarceration before 18 years of age and for 18 years and older were reported at Wave IV, as were number of total arrests and lifetime duration of incarceration. Arrest and incarceration before 18 years and at 18 years or after were dichotomized as never versus at least once. Frequency of arrest was dichotomized as arrested 0 to 4 times and arrested 5 or more times; the split was based on the mean frequency of arrest among those who had been arrested. Duration of lifetime incarceration was summed and dichotomized as spending 1 month or less incarcerated (including never incarcerated) and spending more than 1 month incarcerated; the split was based on the

Table 1. Sample Characteristics and Associations With History of Incarceration

Characteristic	Total Sample, n (%)[a]	History of Incarceration, n (%)	Association With History of Incarceration, Odds Ratio (95% CI)
Age, y, at Wave I			
11–14	4,548 (37.0)	659 (16.1)	Referent
15–17	4,723 (38.4)	677 (15.2)	0.94 (0.78–1.13)
≥18	3,012 (24.5)	455 (15.8)	0.98 (0.79–1.23)
Race			
White	6,597 (65.6)	886 (14.1)	Referent
Black	2,609 (16.0)	450 (19.5)	1.47 (1.13–1.91)
Hispanic	1,913 (11.9)	305 (19.9)	1.51 (1.14–2.00)
Other	1,162 (6.5)	150 (15.4)	1.11 (0.77–1.60)
Sex			
Female	6,684 (49.4)	504 (7.5)	Referent
Male	5,604 (50.6)	1,287 (23.8)	3.85 (3.31–4.48)
Concern about ability to pay housing/utility bills at Wave I			
No	8,570 (83.0)	1,187 (14.4)	Referent
Yes	1,849 (17.0)	317 (20.3)	1.51 (1.20–1.89)
Concern about ability to pay housing/utility bills at Wave IV			
No	10,165 (82.3)	1,313 (14.0)	Referent
Yes	2,116 (17.7)	475 (23.9)	1.48 (1.18–1.86)
Education			
Less than high school	896 (8.5)	323 (38.4)	Referent
High school	1,934 (17.5)	440 (23.5)	0.49 (0.38–0.65)
Greater than high school	9,458 (74.0)	1,028 (11.3)	0.21 (0.17–0.25)

[a]Values may not sum to 100% due to missing data.

mean duration of incarceration among those who had been incarcerated.

Mentorship. At Wave III, mentorship was assessed by the following question: "Other than your parents or stepparents, has an adult made an important positive difference in your life at any time since you were 14 years old?" This item has been used similarly to assess mentorship in previous studies of the Add Health data set.[44,45] A follow-up question assessing closeness to the mentor ("How close do you feel to him or her?") was dichotomized; if the respondent reported not having a mentor, or endorsing a relationship with him or her that was not close at all, only a little close, or somewhat close, the response was coded as no mentor/not close to mentor. If the respondent reported his or her relationship with a mentor as quite close or very close, the response was coded as close to mentor.

Sociodemographics. The following sociodemographic characteristics were examined: age, sex (male or female), race/ethnicity (non-Hispanic white, non-Hispanic African American, Hispanic, and other), poverty during adolescence and emerging adulthood (not having enough money to pay utility/housing bills according to parental report at Wave I and participant report during Wave III), and education status (less than a high school education, high school education, or greater than high school education).

Data Analysis

All analyses were conducted using SAS 9.4.[46] Univariable analyses were used to estimate the weighted prevalence of the individual and cumulative number of childhood traumas in the entire sample. Logistic regression was used to estimate unadjusted and adjusted odds ratios (AORs) and 95% CIs for associations between each individual trauma and the cumulative number of traumas and outcomes. Adjusted analyses of adolescent outcomes controlled for age, race, sex, and poverty at Wave I; models for adulthood outcomes additionally included poverty and education at Wave IV. We examined moderation of mentorship closeness on the relation between cumulative trauma burden and outcomes of arrest and incarceration at age 18 or after by testing the significance of a trauma score by adulthood mentorship interaction term, interpreting $P < .10$ to suggest statistically significant differences in the relationship between trauma and outcomes by mentorship.

RESULTS

Study Population Characteristics

Increasing levels of education were associated with a stepwise reduction in the likelihood of incarceration (Table 1). Males were significantly more likely to have a history of incarceration (23.8%) compared to females (7.5%). Concerns about ability to pay bills at Wave I and Wave IV were both significantly associated with incarceration.

Individual and Cumulative Traumas and Delinquency

All 9 individual traumas were significantly associated with adolescent delinquency (Table 2). After adjustment for sociodemographics, all associations but those for sexual abuse and parental binge drinking remained significant; the 3 traumas most strongly associated with delinquency were those related to violence. The association between trauma score and adolescent delinquency was significant and increased in a stepwise fashion, with about a 50% increase in the adjusted odds for each unit increase in the number of traumatic events.

Table 2. Association of Individual Traumas and Number of Traumas With Delinquency[a]

	Adolescence			Adulthood		
Trauma Variable	% With Outcome	OR (95% CI)	Adjusted OR (95% CI)	% With Outcome	OR (95% CI)	Adjusted OR (95% CI)
Neglect						
No	68.7	Referent	Referent	12.6	Referent	Referent
Yes	78.4	1.65 (1.40–1.96)	1.46 (1.20–1.77)	15.4	1.26 (1.04–1.53)	0.96 (0.75–1.22)
Emotional abuse						
No	68.5	Referent	Referent	12.1	Referent	Referent
Yes	76.8	1.52 (1.30–1.78)	1.27 (1.03–1.55)	18.0	1.59 (1.33–1.90)	1.59 (1.24–2.03)
Physical abuse						
No	68.8	Referent	Referent	12.3	Referent	Referent
Yes	78.6	1.66 (1.37–2.02)	1.28 (1.01–1.63)	18.0	1.58 (1.31–1.90)	1.10 (0.86–1.41)
Sexual abuse						
No	69.6	Referent	Referent	12.4	Referent	Referent
Yes	74.7	1.29 (1.06–1.58)	1.14 (0.88–1.49)	18.8	1.64 (1.29–2.08)	1.43 (1.03–1.97)
Parental incarceration						
No	69.0	Referent	Referent	12.1	Referent	Referent
Yes	77.7	1.56 (1.28–1.92)	1.46 (1.13–1.90)	21.4	1.99 (1.60–2.47)	1.55 (1.19–2.03)
Parental binge drinking						
No	69.5	Referent	Referent	13.0	Referent	Referent
Yes	73.6	1.22 (1.00–1.49)	1.13 (0.90–1.41)	16.8	1.35 (1.07–1.70)	1.12 (0.84–1.50)
Witnessed violence						
No	67.4	Referent	Referent	12.2	Referent	Referent
Yes	89.6	4.17 (3.27–5.31)	2.77 (2.00–3.83)	21.1	1.93 (1.60–2.33)	1.27 (0.94–1.72)
Threatened with violence						
No	67.0	Referent	Referent	11.7	Referent	Referent
Yes	90.2	4.53 (3.44–5.98)	2.68 (1.99–3.60)	23.2	2.28 (1.86–2.80)	1.49 (1.09–2.03)
Experienced violence						
No	68.6	Referent	Referent	12.7	Referent	Referent
Yes	92.6	5.69 (3.73–8.68)	2.69 (1.55–4.69)	21.6	1.90 (1.48–2.44)	0.94 (0.63–1.40)
No. of traumas		1.53 (1.43–1.64)	1.50 (1.40–1.61)		1.34 (1.26–1.42)	1.28 (1.20–1.37)
0	61.5	Referent	Referent	9.1	Referent	Referent
1	73.3	1.72 (1.48–2.00)	1.68 (1.44–1.97)	14.1	1.64 (1.35–1.99)	1.54 (1.25–1.90)
2	81.8	2.81 (2.26–3.49)	2.77 (2.21–3.46)	16.5	1.97 (1.52–2.56)	1.81 (1.39–2.36)
3	82.7	3.00 (2.24–4.00)	2.77 (2.01–3.69)	20.1	2.51 (1.81–3.49)	2.13 (1.50–3.03)
4	87.4	4.36 (2.73–6.97)	4.31 (2.69–6.92)	25.9	3.49 (2.39–5.10)	3.35 (2.26–4.97)
≥5	91.5	6.70 (2.47–18.18)	5.68 (2.11–15.28)	27.3	3.75 (2.21–6.39)	2.81 (1.56–5.05)

[a]The adolescent model was adjusted for age, race, sex, and Wave I poverty; the adulthood model was adjusted for age, race, sex, and Wave I and Wave IV poverty and education.
Abbreviation: OR = odds ratio.

All 9 individual trauma events were significantly associated with adulthood delinquency (Table 2). After adjustment, the associations for emotional abuse, parental incarceration, threatened with violence, and sexual abuse remained significant. The cumulative number of traumas were significantly associated with adulthood delinquency, with 4 traumas associated with almost 3 times the odds.

Individual and Cumulative Traumas and Arrest

All 9 individual trauma events were significantly associated with increased risk of adolescent arrest (Table 3). Associations for all traumas except neglect, emotional abuse, and experienced violence remained significant after adjustment. Parental incarceration had the strongest adjusted association with 2.69 times the odds, followed by witnessed violence with 2.28 times the odds and threatened with violence with 2.19 times the odds. The associations between trauma score and adolescent arrest were significant and increased in a stepwise fashion, with 5 or more traumas associated with 16.42 the odds.

All 9 individual trauma events were significantly associated with arrest at the age of 18 or after (Table 3). After adjustment, parental incarceration had the largest association, with 2.28 times the odds. Associations for neglect, physical abuse, witnessed violence, and threatened with violence remained significant after adjustment. There was a significant association between trauma score and arrest at age 18 or after, with 4 traumas having the strongest association, at almost 7 times the odds.

All 9 individual trauma events were significantly associated with frequent arrest in lifetime (defined as more than 4 times; Table 3). After adjustment, parental incarceration had the strongest association of 2.46 times the odds, followed by sexual abuse with 2.31 times the odds and threatened with violence with 2.19 times the odds. Physical abuse, parental binge drinking, and witnessed violence were also significantly associated with frequent arrest, with odds ratios (ORs) ranging from 1.60 to 1.81. In adjusted analyses, cumulative trauma score was significantly associated with increased odds of frequent lifetime arrest, with an almost 80% increase in the odds for each unit increase in the number of traumas.

Individual and Cumulative Traumas and Incarceration

All 9 individual trauma events were significantly associated with increased odds of incarceration before the age of 18 (ORs ranging from 1.74 to 4.63; Table 4). After adjustment, parental incarceration had the strongest

Table 3. Arrest and Association of Individual Traumas and Number of Traumas[a]

	Arrested Before Age 18 y			Arrested After Age 18 y			Frequent Arrest[b] in Lifetime		
Trauma Variable	% With Outcome	OR (95% CI)	Adjusted OR (95% CI)	% With Outcome	OR (95% CI)	Adjusted OR (95% CI)	% With Outcome	OR (95% CI)	Adjusted OR (95% CI)
Neglect									
No	4.6	Referent	Referent	12.7	Referent	Referent	4.1	Referent	Referent
Yes	8.0	1.79 (1.32–2.43)	1.12 (0.72–1.73)	21.1	1.84 (1.59–2.13)	1.67 (1.36–2.06)	7.7	1.96 (1.44–2.66)	1.24 (0.83–1.85)
Emotional abuse									
No	4.8	Referent	Referent	13.5	Referent	Referent	4.2	Referent	Referent
Yes	7.5	1.63 (1.20–2.23)	1.36 (0.86–2.15)	16.5	1.26 (1.03–1.55)	1.15 (0.85–1.56)	6.4	1.54 (1.10–2.16)	1.13 (0.76–1.68)
Physical abuse									
No	4.3	Referent	Referent	12.5	Referent	Referent	3.8	Referent	Referent
Yes	9.4	2.30 (1.74–3.04)	1.49 (1.02–2.18)	21.8	1.95 (1.59–2.38)	1.53 (1.20–1.95)	9.0	2.51 (1.85–3.41)	1.60 (1.13–2.28)
Sexual abuse									
No	4.7	Referent	Referent	13.2	Referent	Referent	4.1	Referent	Referent
Yes	8.2	1.82 (1.24–2.69)	1.82 (1.10–3.00)	19.6	1.60 (1.21–2.11)	1.29 (0.93–1.79)	8.4	2.15 (1.49–3.08)	2.31 (1.52–3.52)
Parental incarceration									
No	4.2	Referent	Referent	12.2	Referent	Referent	3.8	Referent	Referent
Yes	12.7	3.32 (2.44–4.53)	2.69 (1.82–3.99)	28.3	2.82 (2.32–3.44)	2.28 (1.76–2.96)	11.5	3.32 (2.44–4.52)	2.46 (1.66–3.66)
Parental binge drinking									
No	4.7	Referent	Referent	13.4	Referent	Referent	4.1	Referent	Referent
Yes	8.0	1.78 (1.34–2.36)	1.44 (1.01–2.07)	18.0	1.42 (1.14–1.78)	1.10 (0.85–1.43)	7.7	1.94 (1.45–2.59)	1.80 (1.24–2.62)
Witnessed violence									
No	4.0	Referent	Referent	12.1	Referent	Referent	3.7	Referent	Referent
Yes	14.5	4.04 (3.18–5.14)	2.28 (1.44–3.62)	29.4	3.03 (2.54–3.60)	2.00 (1.51–2.66)	12.5	3.71 (2.81–4.88)	1.81 (1.18–2.77)
Threatened with violence									
No	3.8	Referent	Referent	11.8	Referent	Referent	3.3	Referent	Referent
Yes	15.0	4.50 (3.44–5.90)	2.19 (1.47–3.26)	30.4	3.28 (2.66–4.05)	1.62 (1.23–2.13)	14.5	4.98 (3.66–6.77)	2.19 (1.32–3.64)
Experienced violence									
No	4.6	Referent	Referent	13.1	Referent	Referent	4.0	Referent	Referent
Yes	15.4	3.77 (2.80–5.07)	1.05 (0.62–1.78)	30.5	2.91 (2.24–3.78)	0.91 (0.60–1.38)	16.2	4.60 (3.37–6.29)	1.44 (0.80–2.60)
No. of traumas		1.75 (1.50–1.92)	1.74 (1.58–1.92)		1.59 (1.49–1.70)	1.51 (1.40–1.63)		1.80 (1.63–1.99)	1.78 (1.61–1.97)
0	1.6	Referent	Referent	6.9	Referent	Referent	1.5	Referent	Referent
1	4.6	2.90 (1.94–4.33)	2.61 (1.75–3.89)	14.1	2.23 (1.81–2.75)	1.88 (1.50–2.36)	3.9	2.55 (1.64–3.97)	2.29 (1.49–3.51)
2	6.9	4.41 (2.91–6.69)	4.13 (2.67–6.39)	18.8	3.14 (2.47–4.01)	2.63 (1.98–3.49)	5.9	4.02 (2.59–6.24)	3.79 (2.40–5.98)
3	13.2	9.06 (5.74–14.32)	8.20 (5.10–13.19)	24.4	4.36 (3.28–5.80)	3.54 (2.57–4.87)	10.3	7.29 (4.21–12.65)	6.45 (3.62–11.50)
4	12.7	8.69 (4.74–15.90)	9.01 (4.87–16.66)	34.0	6.97 (4.77–10.19)	6.69 (4.39–10.18)	16.8	12.88 (7.46–22.25)	13.90 (7.96–24.26)
≥ 5	23.9	18.75 (9.77–35.98)	16.42 (8.55–31.53)	41.9	9.77 (5.70–16.75)	6.26 (3.47–11.30)	23.4	19.50 (10.23–37.16)	15.47 (8.15–29.36)

[a]The adolescent and lifetime models were adjusted for age, race, sex, and Wave I poverty; the adulthood model adjusted for age, race, sex, and Wave I and Wave IV poverty and education.
[b]Defined as arrested more than 4 times.
Abbreviation: OR = odds ratio.

Table 4. Incarceration and Association of Individual Traumas and Number of Traumas[a]

	Incarcerated Before Age 18 y			Incarcerated After Age 18 y			Incarcerated More Than 1 Month in Lifetime		
Trauma Variable	% With Outcome	OR (95% CI)	Adjusted OR (95% CI)	% With Outcome	OR (95% CI)	Adjusted OR (95% CI)	% With Outcome	OR (95% CI)	Adjusted OR (95% CI)
Neglect									
No	2.5	Referent	Referent	11.9	Referent	Referent	7.0	Referent	Referent
Yes	5.6	2.33 (1.59–3.42)	1.65 (1.00–2.73)	16.4	1.45 (1.21–1.75)	1.19 (0.94–1.50)	12.5	1.89 (1.51–2.37)	1.42 (1.05–1.91)
Emotional abuse									
No	2.6	Referent	Referent	12.2	Referent	Referent	7.4	Referent	Referent
Yes	4.5	1.74 (1.29–2.35)	1.32 (0.84–2.07)	14.6	1.22 (1.00–1.51)	1.15 (0.87–1.53)	10.4	1.45 (1.16–1.81)	1.13 (0.81–1.57)
Physical abuse									
No	2.4	Referent	Referent	11.7	Referent	Referent	6.8	Referent	Referent
Yes	6.0	2.57 (1.85–3.58)	1.41 (0.90–2.23)	17.6	1.62 (1.32–1.98)	1.37 (1.02–1.84)	14.0	2.23 (1.71–2.90)	1.66 (1.08–2.53)
Sexual abuse									
No	2.6	Referent	Referent	12.0	Referent	Referent	7.2	Referent	Referent
Yes	4.9	1.93 (1.23–3.03)	1.63 (0.90–2.94)	19.0	1.73 (1.32–2.27)	1.54 (1.10–2.16)	12.9	1.90 (1.39–2.60)	1.96 (1.34–2.85)
Parental incarceration									
No	2.2	Referent	Referent	11.3	Referent	Referent	6.6	Referent	Referent
Yes	8.5	4.07 (2.82–5.88)	3.56 (2.11–6.03)	22.3	2.26 (1.85–2.76)	1.56 (1.17–2.07)	17.8	3.07 (2.39–3.95)	2.73 (1.95–3.82)
Parental binge drinking									
No	2.4	Referent	Referent	11.8	Referent	Referent	7.2	Referent	Referent
Yes	4.8	2.04 (1.40–2.97)	1.76 (1.20–2.60)	16.0	1.42 (1.14–1.79)	1.23 (0.95–1.58)	11.1	1.61 (1.26–2.07)	1.57 (1.18–2.10)
Witnessed violence									
No	2.1	Referent	Referent	11.5	Referent	Referent	6.6	Referent	Referent
Yes	9.0	4.54 (3.33–6.20)	2.18 (1.38–3.45)	21.5	2.10 (1.69–2.61)	1.34 (1.01–1.77)	18.1	3.11 (2.42–4.00)	1.67 (1.14–2.45)
Threatened with violence									
No	2.1	Referent	Referent	11.2	Referent	Referent	6.3	Referent	Referent
Yes	8.9	4.63 (3.21–6.68)	1.47 (0.84–2.59)	23.5	2.45 (2.00–3.00)	1.44 (1.08–1.91)	19.3	3.53 (2.74–4.56)	1.65 (1.16–2.34)
Experienced violence									
No	2.6	Referent	Referent	12.2	Referent	Referent	7.3	Referent	Referent
Yes	9.6	4.04 (2.74–5.98)	1.83 (1.01–3.32)	20.8	1.89 (1.40–2.56)	0.68 (0.44–1.05)	19.2	3.01 (2.31–3.92)	1.17 (0.73–1.87)
No. of traumas		1.89 (1.72–2.08)	1.87 (1.69–2.07)		1.39 (1.31–1.47)	1.28 (1.20–1.36)		1.67 (1.53–1.81)	1.64 (1.50–1.79)
None	0.8	Referent	Referent	7.1	Referent	Referent	2.8	Referent	Referent
1	1.9	2.50 (1.41–4.43)	2.24 (1.25–4.03)	14.1	2.16 (1.73–2.70)	1.84 (1.47–2.30)	8.0	3.02 (2.07–4.42)	2.79 (1.91–4.09)
2	4.7	6.31 (3.78–10.54)	5.95 (3.43–10.31)	15.5	2.41 (1.94–3.00)	1.94 (1.52–2.46)	10.2	3.93 (2.79–5.54)	3.69 (2.54–5.36)
3	8.2	11.49 (6.32–20.87)	10.08 (5.24–19.37)	16.1	2.52 (1.82–3.48)	1.82 (1.31–2.55)	15.2	6.20 (4.10–9.38)	5.21 (3.30–8.24)
4	6.8	9.47 (4.57–19.61)	9.71 (4.47–21.13)	30.4	5.74 (3.90–8.45)	4.90 (3.22–7.48)	23.7	10.75 (6.57–17.60)	11.80 (6.99–19.90)
≥ 5	18.7	29.58 (14.26–61.33)	25.98 (12.53–53.90)	22.2	3.74 (2.17–6.45)	2.18 (1.15–4.14)	25.6	11.92 (6.43–22.10)	9.82 (5.33–18.10)

[a]The adolescent and lifetime models were adjusted for age, race, sex, and Wave I poverty; the adulthood model adjusted for age, race, sex, and Wave I and Wave IV poverty and education.
Abbreviation: OR = odds ratio.

Table 5. Moderation of Number of Traumas by Mentorship Closeness[a]

No. of Traumas	Arrest At or After Age 18 y				Incarceration At or After Age 18 y			
	No Mentor/Not Close to Mentor		Close to Mentor		No Mentor/Not Close to Mentor		Close to Mentor	
	OR	AOR	OR	AOR	OR	AOR	OR	AOR
0	Referent	Referent	Referent	Referent	Referent	Referent	Referent	Referent
1	2.03 (1.49–2.76)	1.87 (1.35–2.58)	2.55 (1.79–3.62)	2.41 (1.69–3.45)	2.16 (1.59–2.93)	1.97 (1.46–2.67)	2.16 (1.48–3.14)	2.10 (1.46–3.02)
2	3.35 (2.41–4.66)	3.27 (2.28–4.68)	2.88 (2.01–4.12)	2.65 (1.85–3.79)	2.71 (2.03–3.63)	2.53 (1.87–3.42)	2.02 (1.43–2.85)	1.90 (1.32–2.73)
≥ 3	7.11 (5.08–9.93)	6.93 (4.80–10.02)	3.90 (2.49–6.11)	3.60 (2.27–5.71)	4.13 (2.96–5.78)	3.57 (2.51–5.10)	2.50 (1.68–3.71)	2.24 (1.48–3.37)

[a]The adolescent and lifetime models were adjusted for age, race, sex, and Wave I poverty; the adulthood model adjusted for age, race, sex, and Wave I and Wave IV poverty and education.
Abbreviations: AOR = adjusted odds ratio, OR = odds ratio.

association, with associations for neglect, parental binge drinking, witnessed violence, and experienced violence also remaining significant. In adjusted analyses, the cumulative number of traumas was significantly associated with incarceration before age 18 years, with those who experienced 5 or more traumas having 26 times the odds of being incarcerated before age 18 compared to those with no trauma.

Incarceration at or after age 18 was significantly associated with all 9 trauma events (Table 4). After adjustment, physical abuse, sexual abuse, parental incarceration, witnessed violence, and threatened with violence remained significant. Cumulative trauma exposure had no discernable trend with incarceration at age 18 or after. In addition, all individual traumas were significantly associated with incarceration duration of more than 1 month. After adjustment, all associations remained significant except those for emotional abuse and experienced violence; parental incarceration had the strongest association at 2.73 times the odds. In adjusted analyses, trauma score was significantly associated with incarceration for more than 1 month; a trauma score of 4 had the strongest association, 11.80 times the odds.

Moderation by Mentorship for Arrest and Incarceration

In adjusted analyses examining effect modification by having a close mentor, increasing number of traumas was associated with a stepwise increase in odds of arrest at age 18 or after in both groups (ie, those with no or nonclose mentors and those with a close mentor). However, estimates were weaker among those with a close mentor (AORs ranging from 2.41 to 3.60; Table 5) compared to those with no or nonclose mentor (AORs ranging from 1.87 to 6.93; Table 5). Specifically, 3 or more traumas were associated with approximately 7 times the odds of arrest at age 18 or after among those with no or nonclose mentors (AOR = 6.93; 95% CI, 4.80–10.02; Table 5) versus approximately 4 times the odds among those with a close mentor (AOR = 3.60; 95% CI, 2.27–5.71; Table 5). Experiencing 2 traumas was associated with 3.27 times the odds of arrest at age 18 or after among those with no or nonclose mentors (95% CI, 2.28–4.68; Table 5) compared to 2.65 times the odds among those with a close mentor (95% CI, 1.85–3.79; Table 5). One trauma was associated with 1.87 times the odds of arrest after 18 among those with no or nonclose mentors (95% CI, 1.35–2.58; Table 5) and 2.41 times the odds among those with a close mentor (95% CI, 1.69–3.45; Table 5).

Incarceration after the age of 18 demonstrated a similar pattern when those who reported close mentorship were compared with those with no or nonclose mentors; that is, the more traumas experienced, the higher the odds of incarceration at age 18 or after for both groups. The magnitude of the association between trauma and incarceration was attenuated for those reporting close mentorship (AORs ranging from 2.10 to 2.24; Table 5) compared to those reporting no or nonclose mentorship (AORs ranging from 1.97 to 3.57; Table 5). Experiencing 3 or more traumas was associated with 3.57 times the odds of incarceration at age 18 or after (95% CI, 2.51–5.10; Table 5) for those with no or nonclose mentor and 2.24 times the odds (95% CI, 1.48–3.37; Table 5) for those with a close mentor. For those reporting 2 traumas, the association with incarceration at age 18 or after was 2.53 times the odds for those with no or nonclose mentor (95% CI, 1.87–3.42; Table 5) and 1.90 times the odds for those with a close mentor (95% CI, 1.32–2.73; Table 5). Similarly, 1 trauma was associated with 1.97 times the odds of incarceration for those with no/non-close mentorship (95% CI, 1.46–2.67; Table 5) versus 2.10 times the odds for those with close mentorship (95% CI, 1.46–3.02; Table 5).

DISCUSSION

In this nationally representative sample, a broad range of traumas was associated with delinquency, arrest, and incarceration across the life course. Cumulative trauma burden was also strongly associated with delinquent acts and CJI in a dose-response fashion. For example, experiencing 1 trauma, 2 traumas, or 3 or more traumas was linked to greater than 2, 6, and 10 times the odds of adolescent incarceration, respectively; these effects weakened but remained into adulthood. This study also demonstrates the potential efficacy of mentorship as a means to mitigate the negative impact of cumulative trauma burden on later criminal justice involvement.

The current findings on trauma and involvement in the criminal justice system are consistent with regional models,[19] indicating that a range of traumatic events have moderate to strong associations with delinquency, arrest, and CJI[11,13,14,16,47] and that cumulative trauma burden is linked to these outcomes in a dose-response fashion.[16] Our

findings provide further evidence of the persistent effect of trauma on delinquency, arrest, and incarceration at the national level.[11,12,15,25]

Our study is the first to our knowledge to examine the individual and composite effects of each trauma in a nationally representative sample. Screening for childhood trauma has demonstrated feasibility, and the relation with adverse health outcomes is widely known; however, the uptake and implementation of assessing childhood trauma is far from routine. Brief screenings are usually conducted by staff members upon entry into a detention center, and 1 measure is often not sufficient to accurately evaluate trauma.[48] Using a combination of trauma screeners, or also screening for posttraumatic stress disorder (PTSD), would very likely provide the most accurate assessments.[48]

Extant research has shown the efficacy of both trauma-informed and even more potent trauma-specific interventions for people who are incarcerated.[49,50] Trauma-informed programs such as Seeking Safety; Trauma Affect Regulation: Guide for Education and Therapy (TARGET); Trauma, Addictions, Mental health And Recovery (TAMAR) Trauma Treatment Group Model; and cognitive-behavioral interventions for incarcerated persons with PTSD and substance abuse problems reduce recidivism, drug and alcohol use, mental health and trauma symptoms, and aggressive behaviors.[49–53]

Mentorship significantly moderated the relation between trauma and CJI. The findings suggest that support from outside of the family system may offer important protective effects on later CJI among those who have experienced a prior traumatic event, highlighting a potential intervention pathway for children at highest risk of CJI. These results are supported by previous research on the positive effects of mentorship programs on children at risk for CJI; for example, Big Brothers Big Sisters mentorship programs significantly reduced drug/alcohol use, physical fights, relationship problems with family and peers, and truancy in a sample of children, many of whom had experienced childhood traumas.[54–59] On the basis of the current findings, an expansion of these types of programs may be important for promoting support and preventing CJI for those with a history of trauma. For those who are already involved in the criminal justice system, expansion of these programs in that setting may help divert them from the system and potentially prevent recidivism.

An important limitation of the present study is the retrospective nature of assessing many trauma exposures (eg, use of data from Waves III and IV). An additional limitation is the somewhat sparse information available about the mentorship experience, which may have led to misclassification. For example, the survey asks the respondent to indicate how close he or she feels to the mentor currently. The respondent may have felt very close to the mentor previously, which may have been critical to reducing CJI, but if he or she is no longer close to the mentor, this protective effect of mentorship would not be captured. Finally, as in any study that relies on self-reported data of sensitive topics, the study is vulnerable to recall and social desirability bias.

Despite these limitations, this study addresses a critical gap in the field of research on the negative effects of trauma by documenting associations between trauma and delinquency and arrest/incarceration in early adolescence and into the young adult life course in a nationally representative sample. The study is also the first to highlight the important prevention pathway of social support from outside the family system to those with a history of childhood trauma. Our findings underscore the need to screen for and address prior trauma in criminal justice settings and in general population settings (eg, primary care, schools) for adolescents to identify and intervene in preventing delinquency and CJI. These results are promising and highlight the likely importance of mentorship for people who have experienced trauma. Future qualitative and quantitative studies should expand upon the current findings by further exploring and describing the types of mentorship relationships that are the most protective.

CONCLUSIONS

Given the substantial number of individuals who experience arrests and incarceration, we should be focusing on (1) interventions that prevent justice involvement for those who have experienced trauma, including the promotion and availability of mentor-mentee programs, and (2) promoting support for those who have experienced trauma and are already involved in the criminal justice system. The well-documented, deleterious effects of trauma on CJI have been well-studied; future research should continue to explore protective influences that may mediate this relation, including expanding on the current findings on mentorship, for children who have been exposed to the harmful effects of trauma.

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