

Adverse Childhood Experiences: Mining the Literature to Answer Essential Questions

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This literature review is part of Impact Justice's study of early life trauma among formerly incarcerated men. To learn about the study's findings, visit www.menandtrauma.org

What are ACEs?

The concept of Adverse Childhood Experiences (ACEs) was developed decades ago, in a study conducted by the Centers for Disease Control and Prevention (CDC) and Kaiser Permanente.¹ That original study, which ran from 1995-1997 and involved more than 17,000 people in Southern California, explored the long-term health impacts of childhood trauma with a focus on 10 specific ACEs:

- Physical abuse
- Emotional abuse
- Sexual abuse
- Physical neglect
- Emotional neglect
- Household substance abuse
- Household mental illness
- Parental separation or divorce
- Witnessing domestic violence
- Having an incarcerated household member

Researchers collected data from more than 17,000 adults who underwent comprehensive medical examinations and provided information about their childhood experiences. The findings were groundbreaking, revealing the significant impact of childhood trauma on health and well-being well into adulthood. Specifically, the study demonstrated a clear link between ACEs and chronic diseases, mental health disorders, substance abuse, early mortality, and other negative health outcomes.

¹ Felitti, V. J., Anda, R. F., Nordenberg, D., et al. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*, 14(4), 245-258.

Since then, the study of ACEs has expanded. While the original study focused on 10 ACEs, subsequent research has explored additional forms of adversity, reflected in the 16 ACEs the CDC now tracks as well as areas explored in more recent research:

- **Community and Environmental Factors:** Recognizing that adverse experiences can occur outside the family context, research has examined the prevalence and lingering impact of community violence, neighborhood disadvantage, racism and discrimination, and other ecological factors.^{2,3}
- **Cultural & Racial/Ethnic Considerations:** Researchers have examined the influence of cultural factors on the prevalence and impact of ACEs, taking into account diverse backgrounds and experiences within populations, as well as differences (and in some cases, disparities) within racial/ethnic groups.^{2,4,5}
- **Cumulative Exposure:** Studies have also emphasized a multiplier effect, whereby individuals who experience a greater number and variety of ACEs are at higher risk for negative life outcomes. This has led to the development of ACEs scoring systems.⁶

In sum, the study of ACEs has evolved to capture a more comprehensive understanding of childhood adversity and its consequences.

How prevalent are ACEs and what are their effects?

The use of different indices makes it challenging to pinpoint precisely how common ACEs are in the population at large and within certain high-risk subgroups. According to the CDC's measure, an estimated 16% of the general population has experienced four or more ACEs.⁷ By comparison, 78% of incarcerated individuals have experienced four or more ACEs, according to The Compassion Prison Project — a finding roughly in line with Impact Justice's study of formerly incarcerated people.⁸

As the scope and definition of ACEs has broadened, so has understanding of their consequences over the life course, especially when these traumas are not addressed. Key impacts include:

² Merritt, M. B., Cronholm, P., Davis, M., Dempsey, S., Fein, J., Kuykendall, S. A., & Wade, R. (2013). Findings from the Philadelphia urban ACE survey. Institute for Safe Families.

<https://www.rwjf.org/en/library/research/2013/09/findings-from-the-philadelphia-urban-ace-survey.html>.

³ Benner, A. D., Wang, Y., Shen, Y., et al. (2018). Racial/ethnic discrimination and well-being during adolescence: A meta-analytic review. *American Psychologist*, 73(7), 855-883.

⁴ Salas-Wright, C. P., Vaughn, M. G., Goings, T. C., et al. (2018). Adverse childhood experiences among Hispanics in the United States: Findings from a national sample. *Child Abuse & Neglect*, 80, 222-231.

⁵ Roberts, A. L., Gilman, S. E., Breslau, J., et al. (2011). Race/ethnic differences in exposure to traumatic events, development of post-traumatic stress disorder, and treatment-seeking for post-traumatic stress disorder in the United States. *Psychological Medicine*, 41(01), 71-83.

⁶ Hughes, K., Bellis, M. A., Hardcastle, K. A., et al. (2017). The effect of multiple adverse childhood experiences on health: A systematic review and meta-analysis. *The Lancet Public Health*, 2(8), e356-e366.

⁷<https://www.cdc.gov/vitalsigns/aces/index.html#:~:text=ACEs%20are%20common%20and%20the,or%20more%20types%20of%20ACEs>.

⁸ <https://compassionprisonproject.org/childhood-trauma-statistics/>

- **Physical Health Issues:** As mentioned above, ACEs have been linked to a higher risk of developing physical health problems later in life. These can include chronic conditions such as heart disease, diabetes, obesity, and certain types of cancer.⁹ ACEs have also been linked to early mortality.¹⁰ While the reasons are not fully understood, research shows that ACEs, especially repeated exposure, can alter the body's stress response systems in ways that increase vulnerability to a wide range of health issues.¹¹
- **Mental Health Disorders:** ACEs significantly increase the risk of developing mental health disorders,¹² including depression,¹³ bipolar disorder,¹⁴ anxiety and post-traumatic stress disorder (PTSD),¹⁵ and substance abuse, with some studies finding that each additional ACE results in a two- to four-fold increase in early drug use.¹⁶ Childhood trauma can also disrupt the development of the brain and affect emotional regulation, deficits that also persist well into adulthood.¹⁷
- **Social and Interpersonal Challenges:** ACEs can impede a person's ability to form and maintain healthy relationships. Both as children and as adults, people may struggle with trust,¹⁸ have difficulty forming healthy attachments, and may exhibit aggressive or impulsive behavior.^{19,20}

⁹ Merrick, M. T., Ford, D. C., Ports, K. A., et al. (2018). Vital signs: Estimated proportion of adult health problems attributable to adverse childhood experiences and implications for prevention - 25 states, 2015-2017. *Morbidity and Mortality Weekly Report*, 67(44), 1248-1253.

¹⁰ Brown, D. W., Anda, R. F., Tiemeier, H., et al. (2009). Adverse childhood experiences and the risk of premature mortality. *American Journal of Preventive Medicine*, 37(5), 389-396.

¹¹ Shonkoff, J. P., Garner, A. S., Siegel, B. S., et al. (2012). The lifelong effects of early childhood adversity and toxic stress. *Pediatrics*, 129(1), e232-e246.

¹² McLaughlin, K. A., Green, J. G., Gruber, M. J., et al. (2012). Childhood adversities and adult psychopathology in the National Comorbidity Survey Replication (NCS-R) III: Associations with functional impairment related to DSM-IV disorders. *Psychological Medicine*, 42(04), 1-12.

¹³ Chapman, D. P., Whitfield, C. L., Felitti, V. J., et al. (2004). Adverse childhood experiences and the risk of depressive disorders in adulthood. *Journal of Affective Disorders*, 82(2), 217-225.

¹⁴ Janssen, I., Krabbendam, L., Bak, M., Hanssen, M., Vollebergh, W., de Graaf, R. and van Os, J. (2004). Childhood abuse as a risk factor for psychotic experiences. *Acta Psychiatrica Scandinavica*, 109: 38-45.

<https://doi.org/10.1046/j.0001-690X.2003.00217.x>

¹⁵ Breslau, N., Koenen, K. C., Luo, Z., et al. (2014). Childhood maltreatment and the risk of post-traumatic stress disorder: A meta-analysis. *Psychological Medicine*, 44(11), 2317-2328.

¹⁶ Dube, S. R., Felitti, V. J., Dong, M., Chapman, D. P., Giles, W. H., & Anda, R. F. (2003). Childhood abuse, neglect, and household dysfunction and the risk of illicit drug use: the adverse childhood experiences study. *Pediatrics*, 111(3), 564-572. <https://doi.org/10.1542/peds.111.3.564>

¹⁷ Hanson, J. L., Nacewicz, B. M., Sutterer, M. J., et al. (2015). Behavioral problems after early life stress: Contributions of the hippocampus and amygdala. *Biological Psychiatry*, 77(4), 314-323.

¹⁸ Hein, T. C., & Monk, C. S. (2017). Research Review: Neural response to threat in children, adolescents, and adults after child maltreatment – A quantitative meta-analysis. *Journal of Child Psychology and Psychiatry*, 58(3), 222-230.

¹⁹ Sperry, D. M., Widom, C. S., & MacMillan, H. L. (2016). Childhood abuse and neglect and social support networks: Decade-long effects on adult mental health. *Journal of Traumatic Stress*, 29(6), 532-540.

²⁰ Davila, J., & Cobb, R. J. (2004). Predicting change in self-reported and interviewer-assessed adult attachment: Tests of the individual difference and life stress models of attachment change. *Personality and Social Psychology Bulletin*, 30(7), 863-879.

They also may have challenges with communication,²¹ empathy,²² and establishing interpersonal boundaries,²³ difficulties that impede healthy relationships in multiple areas of life.

- **Learning and Cognitive Impairment:** ACEs can retard cognitive development.²⁴ In particular, children who experience trauma may have difficulties with attention, concentration, memory, and executive functioning.^{25,26} These challenges are likely to affect their ability to learn, achieve educational milestones, and reach their full potential.
- **Intergenerational Transmission:** ACEs can contribute to a cycle of adversity when individuals who experienced trauma in childhood never receive the support needed to heal and then struggle with parenting in ways that create stressful or clearly adverse environments for their own children.^{27,28} Indeed, some scholars argue that having a parent with a high number of ACEs should itself be considered an adverse childhood experience.²⁹

What do we know about ACEs and subsequent involvement in legal systems?

While much is known about the prevalence and impact of ACEs on the population at large, research on justice-involved populations is more limited.^{30,31} The studies that do exist show that ACEs are far more prevalent among people who have committed serious and violent crimes. This is not surprising, since

²¹ Teicher, M. H., Samson, J. A., Polcari, A., et al. (2006). Sticks, stones, and hurtful words: Relative effects of various forms of childhood maltreatment. *American Journal of Psychiatry*, 163(6), 993-1000.

²² Hiraoka, D., Tomoda, A., & Iriguchi, N. (2020). Impact of childhood adversity on empathy and its relationship with mentalizing abilities in adulthood. *Comprehensive Psychiatry*, 98, 152160.

²³ Kim, J., & Cicchetti, D. (2010). Longitudinal pathways linking child maltreatment, emotion regulation, peer relations, and psychopathology. *Journal of Child Psychology and Psychiatry*, 51(6), 706-716.

²⁴ Bethell, C. D., Newacheck, P., Hawes, E., et al. (2014). Adverse childhood experiences: Assessing the impact on health and school engagement and the mitigating role of resilience. *Health Affairs*, 33(12), 2106-2115.

²⁵ Almas, A. N., Degnan, K. A., Radulescu, A., et al. (2019). The legacy of early childhood adversity on cognitive control and executive functions in adolescence: A twin study. *Developmental Science*, 22(2), e12743.

²⁶ Brown, N. M., Brown, S. N., Briggs, R. D., Germán, M., Belamarich, P. F., & Oyeku, S. O. (2017). Associations Between Adverse Childhood Experiences and ADHD Diagnosis and Severity. *Academic pediatrics*, 17(4), 349-355. <https://doi.org/10.1016/j.acap.2016.08.013>

²⁷ Pierce, L. J., Thompson, B. L., Gharib, A., Schlueter, L., Reilly, E., Valdes, V., ... & Nelson, C. A. (2019). Association of perceived maternal stress during the perinatal period with electroencephalography patterns in 2-month-old infants. *JAMA pediatrics*, 173(6), 561-570.

²⁸ McLaughlin, K. A., Sheridan, M. A., Tibu, F., et al. (2015). Causal effects of the early caregiving environment on development of stress response systems in children. *Proceedings of the National Academy of Sciences*, 112(18), 5637-5642.

²⁹ Angela J. Narayan, Alicia F. Lieberman, Ann S. Masten, Intergenerational transmission and prevention of adverse childhood experiences (ACEs), *Clinical Psychology Review*, Volume 85, 2021, 101997, ISSN 0272-7358, <https://doi.org/10.1016/j.cpr.2021.101997>.

³⁰ Graf, G. H. J., Chihuri, S., Blow, M., & Li, G. (2021). Adverse childhood experiences and justice system contact: A systematic review. *Pediatrics*, 147(1).

³¹ Kostyack, M. J. (2021). The Prevalence of Adverse Childhood Experiences (ACEs) and the Need for Effective Reentry Programming Calls for the Implementation of an ACEs Approach to Adult Offender Reentry Efforts. *Seton Hall L. Rev.*, 52, 649.

the most common effects of ACEs — trauma, toxic levels of stress, developmental damage, emotional and behavioral issues, and substance use — are all associated with elevated risk of involvement in legal systems.³² In other words, people who commit serious violent crimes are often coping with traumas stretching back to childhood that were never acknowledged or treated, following them like a shadow into adolescence and adulthood.

It is important to note that circumstances and factors beyond ACEs — perhaps especially the absence of strong support systems that bolster resilience and provide opportunities for positive growth — also influence an individual's potential for involvement in criminal legal systems.³³

ACEs and Juvenile Delinquency

Studies focusing on youth involved in what is commonly referred to as the juvenile justice system show a clear association between ACEs and delinquency. Specifically, system-involved youth are more likely to report multiple ACEs than their non-system-involved peers.³⁴ ACEs are disproportionately higher among system-involved youth even after accounting for socioeconomic factors, suggesting that trauma plays a crucial role in their early involvement with legal systems.³⁵

This trend appears to be particularly acute for children aged 12 and younger.³⁶ A limited number of studies indicate that younger children referred to the juvenile justice system are more likely to have experienced a greater number of ACEs than their older counterparts.³⁷ They also tend to exhibit higher rates of family and school problems and are more frequently referred to the justice system by schools, compared with older adolescents entering the system.³⁸ Youth who were relatively younger at the age of their first referral also have a greater number of arrests and a higher risk of multiple periods of incarceration as juveniles.³⁹ These potentially divergent outcomes between younger and older youth could be rooted in the severity and extent of their exposure to ACEs.

³² Garbarino, J. (2017). ACEs in the Criminal Justice System. *Acad Pediatr*, 17(7S), S32–S33.

<https://doi.org/10.1016/j.acap.2016.09.003>

³³ Testa, A., Jackson, D. B., Ganson, K. T., & Nagata, J. M. (2022). Adverse Childhood Experiences and Criminal Justice Contact in Adulthood. *Academic Pediatrics*, 22(6), 972–980. <https://doi.org/10.1016/j.acap.2021.10.011>

³⁴ Shum H. 2019. A brief explanation of ACEs: adverse childhood experiences. Children's Institute, Jan. 29. <https://childinst.org/a-brief-explanation-of-aces-adverse-childhood-experiences/>

³⁵ *ibid*

³⁶ Novak, A., & De Francisco Lopes, V. (2022). Child Delinquency, ACEs, and the Juvenile Justice System: Does Exposure to ACEs Affect Justice System Experiences for Children? *Youth Violence and Juvenile Justice*, 20(2), 113–138. <https://doi.org/10.1177/15412040211063129>

³⁷ Pettus, C. A. (2023). Trauma and Prospects for Reentry. *Annual Review of Criminology*, 6(1), 423–446. <https://doi.org/10.1146/annurev-criminol-041122-111300>

³⁸ *ibid*

³⁹ *ibid*

The role of substance use: There is a high prevalence of substance use among youth generally, with increased risk during the transition to young adulthood.⁴⁰ According to one study, 60% of high school graduates have used alcohol, 36% have used marijuana, and 24% have tried cigarettes.⁴¹

Research suggests that ACEs contribute to substance use problems and are also associated with antisocial behavior, including breaking the law.⁴² One study found that ACEs increased the likelihood of receiving a diagnosis of antisocial personality disorder (ASPD).⁴³ Two other studies found that substance use problems as a result of ACEs led to serious, violent, and chronic delinquency, as well as increased suicidality.^{44,45}

It might be that substance use diminishes or competes with protective factors (i.e. factors that are negatively associated with justice system involvement and thus “protect” against crime or delinquency) that could otherwise mitigate the negative impact of ACEs on behavior.⁴⁶

ACEs and violence: The majority of maltreated young people never engage in criminal behavior, let alone serious violence. This conclusion is supported by more than 100 studies examining the association between ACEs and offending behavior.⁴⁷ Indeed, the potential pathway from maltreatment to committing serious harm is mediated by a complex interplay of individual, social, and contextual risk and protective factors.⁴⁸ Social and emotional development, educational attainment, substance use, and

⁴⁰ Rogers, C. J., Pakdaman, S., Forster, M., Sussman, S., Grigsby, T. J., Victoria, J., & Unger, J. B. (2022). Effects of multiple adverse childhood experiences on substance use in young adults: a review of the literature. *Drug and alcohol dependence*, 109407.

⁴¹ Johnston, L. D., Miech, R. A., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2019). Monitoring the Future National Survey Results on Drug Use, 1975-2018: Overview, Key Findings on Adolescent Drug Use. Institute for Social Research.

⁴² Craig, J. M., Intravia, J., Wolff, K. T., & Baglivio, M. T. (2019). What can help? Examining levels of substance (non) use as a protective factor in the effect of ACEs on crime. *Youth Violence and Juvenile Justice*, 17(1), 42-61.

⁴³ Douglas K., Chan G., Gelernter J., Arias A. J., Anton R. F., Poling J.,...Kranzler H. R. (2011). 5-HTTLPR as a potential moderator of the effects of adverse childhood experiences on risk of antisocial personality disorder. *Psychiatric Genetics*, 21, 240-248.

⁴⁴ Perez N. M., Jennings W. G., Baglivio M. T. (2017). A path to serious, violent, chronic delinquency: The harmful aftermath of adverse childhood experiences. *Crime and Delinquency*, 64(1), 3-25.

⁴⁵ Perez N. M., Jennings W. G., Piquero A. R., Baglivio M. T. (2016). Adverse childhood experiences and suicide attempts: The mediating influence of personality development and problem behaviors. *Journal of Youth and Adolescence*, 45(8), 1527-1545.

⁴⁶ van der Put C. E., Creemers H. E., Hoeve M. (2014). Differences between juvenile offenders with and without substance use problems in the prevalence and impact of risk and protective factors for criminal recidivism. *Drug and Alcohol Dependence*, 134, 267-274.

⁴⁷ Malvaso, C. G., Cale, J., Whitten, T., Day, A., Singh, S., Hackett, L., ... & Ross, S. (2022). Associations between adverse childhood experiences and trauma among young people who offend: A systematic literature review. *Trauma, Violence, & Abuse*, 23(5), 1677-1694.

⁴⁸ Braga T., Gonçalves L. C., Basto-Pereira M., Maia Â. (2017). Unraveling the link between maltreatment and juvenile antisocial behavior: A meta-analysis of prospective longitudinal studies. *Aggression and Violent Behavior*, 33, 37-50.

other internal and external factors raise or lower a person's likelihood of engaging in violence, and this is true even after controlling for socioeconomic factors.⁴⁹

Nevertheless, ACEs do increase a person's risk of engaging in serious, violent, and chronic (SVC) delinquency.⁵⁰ In retrospective studies, most young people involved in SVC delinquency have a history of ACEs.⁵¹ In one study, for example, an elevated ACEs score was found to significantly predict aggression, impulsivity, and deviant peer imitation, as well as school difficulties, substance abuse problems, and mental health problems.⁵²

Delinquency as a gateway to deeper involvement in the criminal legal system: Research consistently shows early-onset delinquent behavior to be a strong predictor of persistent involvement in legal systems, as well as other negative life outcomes.^{53,54,55} Young people coping with the effects of ongoing or past ACEs are at the center of a tsunami of mutually reinforcing circumstances and behaviors: They experience physical and mental health problems, struggle in school and sometimes drop out, have limited support and opportunities, and as a result, make choices that repeatedly trigger a punitive and often misguided response from legal systems.⁵⁶

Overall, this body of literature suggests that juvenile justice officials should take into account the life histories and considerable adversities children often confront long before they enter the system, recognizing the impact of these adverse experiences on their development and behavior.⁵⁷ This is the foundation for effective interventions — far less punitive and often non-legal in nature — that can meet their needs and promote positive outcomes in the long term. Research suggests three broad strategies to realize such a shift in policy and practice: frame discussions of "justice" in a developmental context, consider ACEs scores as mitigating factors in sentencing decisions, and ground the criminal legal system

⁴⁹ Day D. M., Hart T. A., Wanklyn S. G., McCay E., Macpherson A., Burnier N. (2013). Potential mediators between child abuse and both violence and victimization in juvenile offenders. *Psychological Services*, 10(1), 1–11.

⁵⁰ Malvaso, C. G., Cale, J., Whitten, T., Day, A., Singh, S., Hackett, L., ... & Ross, S. (2022). Associations between adverse childhood experiences and trauma among young people who offend: A systematic literature review. *Trauma, Violence, & Abuse*, 23(5), 1677-1694.

⁵¹ Duke, N. N., Pettingell, S. L., McMorris, B. J., & Borowsky, I. W. (2010). Adolescent violence perpetration: associations with multiple types of adverse childhood experiences. *Pediatrics*, 125(4), e778–e786. <https://doi.org/10.1542/peds.2009-0597>

⁵² Fox, B. H., Perez, N. M., Cass, E., Baglivio, M. T., & Epps, N. (2015). Trauma changes everything: Examining the relationship between adverse childhood experiences and serious, violent and chronic juvenile offenders. *Child Abuse & Neglect*, 46, 163-173.

⁵³ Perez, N. M., Jennings, W. G., & Baglivio, M. T. (2018). A path to serious, violent, chronic delinquency: The harmful aftermath of adverse childhood experiences. *Crime & Delinquency*, 64(1), 3-25.

⁵⁴ Staff, J., Whichard, C., Siennick, S. E., & Maggs, J. (2015). Early life risks, antisocial tendencies, and preteen delinquency. *Criminology*, 53(4), 677-701.

⁵⁵ DeLisi, M., Nepl, T. K., Lohman, B. J., Vaughn, M. G., & Shook, J. J. (2013). Early starters: Which type of criminal onset matters most for delinquent careers?. *Journal of Criminal Justice*, 41(1), 12-17.

⁵⁶ *ibid*

⁵⁷ Folk, J. B., Kemp, K., Yurasek, A., Barr-Walker, J., & Tolou-Shams, M. (2021). Adverse childhood experiences among justice-involved youth: Data-driven recommendations for action using the sequential intercept model (Vol. 76, No. 2, p. 268). American Psychological Association.

in developmental psychology and public health.⁵⁸ An understanding of the complex interplay between ACEs, substance use, and criminal behavior should also inform efforts across systems to identify and support youth and young adults who are coping with the adverse events and circumstances they experienced in childhood.

Protective Factors and Building Resilience in Adolescence

SVC delinquency often begins during adolescence, between the ages of 12 and 20.⁵⁹ Therefore, the optimal time to prevent youth from engaging in serious delinquency is during their early, formative years.⁶⁰ Central to this approach is investing in the supports that foster resilience, which protects young people from the worst consequences of ACEs and often from additional adverse experiences.

Resilience is not a fixed trait but rather a dynamic process characterized by positive adaptation and healthy development in the face of significant risk or adversity. Resilience can be strengthened through protective factors and opportunities for growth and development. An interplay of environmental and internal factors contributes to resilience in adolescence — from self-esteem to safe spaces, to supportive relationships with adults and peers.

Social connections & relationships: Positive and nurturing relationships with parents, caregivers, teachers, and other supportive adults can buffer the impact of adversity and provide children with emotional support, guidance, and a sense of security.^{61,62,63,64}

Safe & supportive environments: This entails giving children the space, both literally and figuratively, to heal through nurturing, stable, and secure environments that promote a sense of safety, belonging, and trust. It includes nurturing home environments; community programs, services, and resources that address the needs of children and families affected by ACEs (e.g. mental health services, counseling, parenting support, community-based organizations);⁶⁵ and school environments that promote inclusivity, support, and engagement.⁶⁶

⁵⁸ Wolff, N., & Shi, J. (2011). Patterns of victimization and feelings of safety inside prison: The experience of male and female inmates. *Crime & Delinquency*, 57(1), 29-55.

⁵⁹ *ibid*

⁶⁰ *ibid*

⁶¹ Masten, A. S., & Narayan, A. J. (2012). Child development in the context of disaster, war, and terrorism: Pathways of risk and resilience. *Annual Review of Psychology*, 63, 227-257.

⁶² Bethell, C. D., Newacheck, P., Hawes, E., et al. (2014). Adverse childhood experiences: Assessing the impact on health and school engagement and the mitigating role of resilience. *Health Affairs*, 33(12), 2106-2115.

⁶³ Fergus, S., & Zimmerman, M. A. (2005). Adolescent resilience: A framework for understanding healthy development in the face of risk. *Annual Review of Public Health*, 26, 399-419.

⁶⁴ Masten, A. S., & Narayan, A. J. (2012). Child development in the context of disaster, war, and terrorism: Pathways of risk and resilience. *Annual Review of Psychology*, 63, 227-257.

⁶⁵ Bethell, C. D., Newacheck, P., Hawes, E., et al. (2014). Adverse childhood experiences: Assessing the impact on health and school engagement and the mitigating role of resilience. *Health Affairs*, 33(12), 2106-2115.

⁶⁶ Fergus, S., & Zimmerman, M. A. (2005). Adolescent resilience: A framework for understanding healthy development in the face of risk. *Annual Review of Public Health*, 26, 399-419.

Cultural & religious ties & beliefs: Cultural and religious beliefs and practices can provide a sense of meaning, purpose, and support, as well as a framework for understanding and coping with adversity.⁶⁷ Active involvement in extracurricular activities, community programs, or volunteer work can also be ways to strengthen cultural and community ties.⁶⁸

Access to essential resources: Access to quality education and healthcare promotes children's well-being, provides stability, and enhances their ability to recover and thrive after traumatic experiences.⁶⁹ It also promotes cognitive development and academic success and supports healthy development in other ways.^{70,71}

Individual attributes and skills: Certain individual attributes and skills also contribute to resilience in the face of challenging circumstances and events.⁷² Promoting the development of adaptive coping strategies, emotional regulation, problem-solving, self-esteem, and a positive self-identity and optimistic outlook can help children effectively navigate and cope with adversity.^{73,74}

ACEs Among Incarcerated Adults

Research on ACEs among incarcerated adults is limited to comparatively smaller samples, but findings suggest the prevalence and number of ACEs among incarcerated men and women is far higher than the rate among the population at large.⁷⁵ In one study, incarcerated men reported an average of 4.3 ACEs, and incarcerated women reported an average of 5.5 ACEs.⁷⁶ The most common reported childhood adversities were emotional, physical, and sexual abuse; growing up with divorced parents, witnessing domestic violence, and having household members with substance use and mental health disorders.⁷⁷ The majority of women and a significant portion of men in this study fell into the highest risk category for poor outcomes in adulthood, indicating the cumulative impact of ACEs.⁷⁸ Impact Justice's own study

⁶⁷ Masten, A. S., & Narayan, A. J. (2012). Child development in the context of disaster, war, and terrorism: Pathways of risk and resilience. *Annual Review of Psychology*, 63, 227-257.

⁶⁸ *ibid*

⁶⁹ Masten, A. S., & Narayan, A. J. (2012). Child development in the context of disaster, war, and terrorism: Pathways of risk and resilience. *Annual Review of Psychology*, 63, 227-257.

⁷⁰ Bethell, C. D., Newacheck, P., Hawes, E., et al. (2014). Adverse childhood experiences: Assessing the impact on health and school engagement and the mitigating role of resilience. *Health Affairs*, 33(12), 2106-2115.

⁷¹ Fergus, S., & Zimmerman, M. A. (2005). Adolescent resilience: A framework for understanding healthy development in the face of risk. *Annual Review of Public Health*, 26, 399-419.

⁷² Masten, A. S., & Narayan, A. J. (2012). Child development in the context of disaster, war, and terrorism: Pathways of risk and resilience. *Annual Review of Psychology*, 63, 227-257.

⁷³ Bethell, C. D., Newacheck, P., Hawes, E., et al. (2014). Adverse childhood experiences: Assessing the impact on health and school engagement and the mitigating role of resilience. *Health Affairs*, 33(12), 2106-2115.

⁷⁴ Fergus, S., & Zimmerman, M. A. (2005). Adolescent resilience: A framework for understanding healthy development in the face of risk. *Annual Review of Public Health*, 26, 399-419.

⁷⁵ Pettus, C. A. (2023). Trauma and Prospects for Reentry. *Annual Review of Criminology*, 6(1), 423-446. <https://doi.org/10.1146/annurev-criminol-041122-111300>

⁷⁶ Perez, N. M., Jennings, W. G., & Baglivio, M. T. (2018). A path to serious, violent, chronic delinquency: The harmful aftermath of adverse childhood experiences. *Crime & Delinquency*, 64(1), 3-25.

⁷⁷ *ibid*

⁷⁸ *ibid*

of incarcerated men, produced similar findings: Fully half of formerly incarcerated men responding to a survey about childhood trauma reported at least nine ACEs, and some of them as many as all 16.

In addition to the study of ACEs, research has explored traumatic experiences that occur across the lifespan, including during and after incarceration.⁷⁹ These studies have found high rates of trauma among both incarcerated men and women. Incarcerated women often report experiences of sexual abuse, intimate partner violence, and other forms of violence.⁸⁰ In comparison, incarcerated men report higher rates of non-sexual interpersonal trauma and witnessing extreme harm to others.⁸¹ Studies indicate that almost all incarcerated men have experienced at least one-lifetime traumatic experience, with a significant percentage reporting direct violence, including violent sexual assault and witnessing serious injuries or death.⁸² Similar findings have been reported for incarcerated women, with high rates of lifetime traumatic experiences.⁸³ The role that ACEs may play in adult victimization and/or exposure to violence has yet to be fully explored and should be a focus of future research.

Traumatic experiences do not cease once a person is incarcerated. Studies show that people are likely to experience and/or witness violence while incarcerated.⁸⁴ One study estimated 292 per 1,000 staff-on-resident physical assaults and 252 per 1,000 resident-on-resident physical assaults.⁸⁵ In addition, many incarcerated men and women fear and/or experience sexual victimization, including by staff, in the facility where they are incarcerated — assaults that often go unreported, as they do in the population at large.⁸⁶ One study found that 63% of sexual assaults are not reported to police.⁸⁷

Addressing trauma symptoms and providing appropriate mental health interventions and support during and after incarceration is crucial to breaking cycles of harm and punishment among individuals with a history of significant trauma. Trauma-informed approaches within the criminal legal system would contribute significantly to promoting rehabilitation and successful reentry reducing recidivism.⁸⁸

⁷⁹ *ibid*

⁸⁰ Komarovskaya IA, Booker Loper A, Warren J, Jackson S. (2011). Exploring gender differences in trauma exposure and the emergence of symptoms of PTSD among incarcerated men and women. *J. Forensic Psychiatry Psychol.* 22(3):395–410

⁸¹ Wolff N, Huening J, Shi J, Frueh BC. (2014). Trauma exposure and posttraumatic stress disorder among incarcerated men. *J. Urban Health* 91(4):707–19

⁸² *ibid*

⁸³ *ibid*

⁸⁴ Teasdale B, Daigle LE, Hawk SR, Daquin JC. (2016). Violent victimization in the prison context: an examination of the gendered contexts of prison. *Int. J. Offender Ther. Comp. Criminol.* 60:995–1015

⁸⁵ Wolff N, Blitz CL, Shi J, Siegel J, Bachman R. 2007. Physical violence inside prisons: rates of victimization. *Crim. Justice Behav.* 34(5):588–99

⁸⁶ Wolff, N., & Shi, J. (2011). Patterns of victimization and feelings of safety inside prison: The experience of male and female inmates. *Crime & Delinquency*, 57(1), 29-55.

⁸⁷ Rennison, C. M. (2002). Rape and sexual assault: Reporting to police and medical attention, 1992-2000 [NCJ 194530]. Retrieved from the US Department of Justice, Office of Justice Programs, Bureau of Justice Statistics: <http://bjs.ojp.usdoj.gov/content/pub/pdf/rsarp00.Pdf>.

⁸⁸ Testa, A., Jackson, D. B., Ganson, K. T., & Nagata, J. M. (2022). Adverse Childhood Experiences and Criminal Justice Contact in Adulthood. *Academic Pediatrics*, 22(6), 972–980. <https://doi.org/10.1016/j.acap.2021.10.011>

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