THE TRAGEDY OF WASTED FUNDS AND BROKEN DREAMS: AN ECONOMIC ANALYSIS OF CHILDHOOD EXPOSURE TO CRIME AND VIOLENCE

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The problem of childhood exposure to crime and violence, which we previously coined the Triple-C Impact, was declared a "national crisis" and is estimated to be one of the most damaging and costly public health and public safety problems in our society. Nevertheless, thus far, no one knows how much it actually costs us.

This Article aims to answer this daunting question and provide an empirical economic analysis of the cost of the Triple-C Impact problem to the state and society.

Children whose lives are touched by crime are left with deep scars that gravely affect their mental and physical health, as well as their life outcomes. Such negative corollaries inflict hefty costs on the state and society at large. In fact, our analysis reveals a total annual cost of more than $496 billion. Despite the severity and cost of the problem, our society has done little to help affected children recover.

The analysis presented in this Article will form the basis for an evidence-based argument as to the unparalleled economic benefits of investment in early intervention efforts to alleviate the injurious and costly outcomes for children affected by crime exposure.

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I. INTRODUCTION

For several decades, the problem of childhood exposure to crime and violence has been flagged as a monumental issue. We have previously named the problem the Comprehensive Childhood Crime Impact, or Triple-C Impact for short.[1] In 2012, Attorney General Eric E. Holder's Task Force on Children Exposed to Violence declared the problem "a national crisis and a threat to the health and well-being of our nation's children and of our country."[2] Even over thirty years prior, in 1979, the U.S. Surgeon General Julius B. Richmond referred

1. *See generally* Michal Gilad, *Falling Between the Cracks: Understanding Why States Fail in Protecting Our Children from Crime*, 2019 U. ILL. L. REV. 907 (2019); Michal Gilad et al., *The Snowball Effect of Crime and Violence: Measuring the Triple-C Impact*, 46 FORDHAM URB. L.J. 1 (2019).

2. ROBERT L. LISTENBEE ET AL., U.S. DEP'T OF JUST., REPORT OF THE ATTORNEY GENERAL'S NATIONAL TASK FORCE ON CHILDREN EXPOSED TO VIOLENCE 36 (2012), https://www.justice.gov/defendingchildhood/cev-rpt-full.pdf [https://perma.cc/Z97L-42DC].

to the same problem as a "public health crisis of the highest priority."[3] Others have estimated the problem to be one of the most costly public health and public safety problems in our society today.[4] But how much does it actually cost us?

In today's world, crime penetrates the lives of children from all different directions. Children can witness violence at school, in their neighborhoods, or even in the "safety" of their own homes. Children may also be affected indirectly, such as when a parent falls victim to crime or is incarcerated. Children's unique developmental, social, and cultural characteristics make them particularly vulnerable to crime's destructive forces.[5] Childhood crime exposure leaves deep scars that gravely affect the mental and physical health, as well as the life outcomes, of affected children.[6]

Despite the severity of the Triple-C Impact problem and its devastating effect on millions of children nationwide, little has been done at a policy level to heal these open wounds.[7] The majority of children harmed by crime do not receive the much-needed services that facilitate recovery from trauma.[8] At present, there are no effective mechanisms in place to identify affected children and refer them to these vital services. Although resources for affected children exist in most states, access is obstructed by myriad bureaucratic hurdles and flaws in the system's design.[9]

The ramifications of this ongoing state of neglect go beyond compromising the well-being of individual children and have a spill-over effect on society. With millions of children across the nation untreated and hindered from conducting a healthy and productive lifestyle, and with heightened risk for acute health problems, substance use, criminal behavior, and repeat victimization, community safety is inevitably compromised.[10] More than that, these adverse outcomes of imposing proportions carry hefty costs that are inevitably shouldered by society as a whole and unnecessarily burden public funds.[11] This challenge comes at a time when states' revenues are already stretched to their limit; indeed, many states are facing severe budget deficits that amount to a serious fiscal crisis, and every dollar counts.[12]

3. *Id.* at 3.

4. Frank W. Putnam, *The Impact of Trauma on Child Development*, 57 JUV. & FAM. CT. J. 1, 2 (2006); ERICA J. ADAMS, JUST. POL'Y INST., HEALING INVISIBLE WOUNDS: WHY INVESTING IN TRAUMA-INFORMED CARE FOR CHILDREN MAKES SENSE 1 (2010).

5. Gayla Margolin & Elana B. Gordis, *The Effects of Family and Community Violence on Children*, 51 ANN. REV. PSYCH. 445, 448–49 (2000).

6. For more on the potential outcomes of the Triple-C Impact problem, see Gilad et al., *supra* note 1.

7. Gilad, *supra* note 1, at 909.

8. LISTENBEE ET AL., *supra* note 2, at 11–15.

9. For a more detailed explanation, see discussion *infra* at Section III.B.; *see also* Gilad, *supra* note 1, at 907.

10. Gilad et al., *supra* note 1, at 65.

11. *See supra* note 6 and accompanying text.

12. *American States Face a Revenue Crisis*, ECONOMIST (Apr. 7, 2018), https://www.economist.com/united-states/2018/04/07/american-states-face-a-revenue-crisis [https://perma.cc/66T7-79KJ]; ELIZABETH MCNICHOL & SAMANTHA WAXMAN, CTR. ON BUDGET & POL'Y PRIORITIES, STATES FACED REVENUE SHORTFALLS IN 2017 DESPITE GROWING ECONOMY: POLICYMAKERS CAN TAKE STEPS TO STRENGTHEN THEIR TAX SYSTEMS AND RESERVES 1 (2017); NAT'L ASS'N OF STATE BUDGET OFFICERS, SUMMARY: FALL 2017

Although the attention given to the Triple-C Impact problem and its costs has repeatedly recrudesced over the years, thus far, no one has demonstrated empirical knowledge concerning the exact level of financial expenditure associated with the Triple-C Impact problem. The issue remains an elusive mystery. This gap in knowledge stems from many sources, including the compartmentalized approach through which the problem has been examined, the scarcity of relevant systematic nationally representative datasets, the co-occurrence of the Triple-C Impact with other life adversities, and the broad range of methodological hurdles and limitations involved in the analytical process.[13] Additionally, for some, it may be convenient to overlook the sums of money being spent each year due to the ongoing neglect of affected children.[14]

It is often said that "money talks." Perhaps it is worth experimenting with having its voice heard on behalf of our children. This Article takes on the challenge of pursuing a data-driven economic analysis of the Triple-C Impact problem, assessing the broad range of cost elements associated with the problem.

It is essential to clarify that this Article's objective is not to offer solutions to the Triple-C Impact problem. Nevertheless, it adds another critical block to the foundation upon which an empirically informed plan to address this devastating problem can be established.[15] Ultimately, the analysis presented in this Article forms the basis for developing an evidence-based argument as to the unparalleled opportunity for long-term fiscal savings and economic benefits of investment in early intervention efforts that will facilitate recovery of affected children and alleviate the risk for injurious outcomes.

Part II of the Article outlines the Triple-C Impact problem and the states' ongoing failure to effectively respond to the problem. Part III provides a detailed explanation of the methodology used for the economic analysis of the Triple-C Impact problem and the economic model's design at its foundation. In Part IV, this Article presents data-driven estimates of the prevalence of the problem in our society. Part V expounds on the adverse outcomes associated with the Triple-C Impact. It assesses empirical evidence on the level of risk posed to affected children is analyzed, and the potential costs accrued by the risk outcomes. Conclusions follow.

FISCAL SURVEY OF STATES (2017), https://higherlogicdownload.s3.amazonaws.com/NASBO/9d2d2db1-c943-4f1b-b750-0fca152d64c2/UploadedImages/Issue%20Briefs%20/Summary_-_Fall_2017_Fiscal_Survey.pdf [https://perma.cc/642E-BXPY].

13. *See* Gilad, *supra* note 1, at 909–10.

14. *See* Gilad et al., *supra* note 1, at 66; Richard J. Gelles & Staci Perlman, *Estimated Annual Cost of Child Abuse and Neglect*, PREVENT CHILD ABUSE AM. (Apr. 2012), http://preventchildabuse.org/images/research/pcaa_cost_report_2012_gelles_perlman.pdf [https://perma.cc/E2TN-PYMA].

15. In conjunction with our previous publications on this topic, see *supra* note 1.

II. THE PROBLEM

The Triple-C Impact problem consists of two integral and interlocking elements.[16] The first is the unique effect crime exposure has on children due to their distinct developmental attributes. The second is the manner in which society addresses and treats children once exposed to crime. This Part will expound on these two critical components in order to fully depict the Triple-C Impact problem.

A. The Unique Effect of Crime on Children

The term "Triple-C Impact" reflects the distinct effect of direct and indirect crime exposure on children and the destructive impact of such exposure on their lives and on society as a whole.[17] The Triple-C Impact concept rests on empirical and scientific studies that identify relevant developmental, social, and cultural differences between children and adults, all of which significantly amplify and expand children's vulnerability to the effects of crime exposure.[18]

The most visible difference is the smaller physical stature of most children, which increases their vulnerability to threats posed by larger perpetrators.[19] Despite common misperceptions, however, children are not merely miniature adults.[20] The plasticity of a child's central nervous system leads the human brain to be extremely malleable during childhood[21] and dramatically increases the effect of early experiences.[22] Exposure to crime and violence during childhood causes heightened stress levels and overstimulation of specific brain structures, which can lead to chemical imbalances in the child's brain and abnormal neurological development.[23]

Children are also at a critical stage of their emotional and cognitive development. Their identity is not yet formed, their personality traits are in transitory stages, and they are less mentally stable than adults.[24] This state of psychological

16. *See* Gilad et al., *supra* note 1, at 19, 35.

17. Gilad, *supra* note 1, at 910; Gilad et al., *supra* note 1, at 3.

18. *See, e.g.*, Niclas Olofsson et al., *Long-Term Health Consequences of Violence Exposure in Adolescence: A 26–Year Prospective Study*, 12 BMC PUB. HEALTH 411, 411–12 (2012).

19. Gilad, *supra* note 1, at 911; Gayla Margolin & Elana B. Gordis, *supra* note 5, at 450.

20. Gilad, *supra* note 1, at 911.

21. Margolin & Gordis, *supra* note 5, at 459; Bruce Perry, *Incubated in Terror: Neurodevelopmental Factors in the "Cycle of Violence," in* CHILDREN IN A VIOLENT SOCIETY 124 (Joy D. Osofsky ed., Guilford Press 1997).

22. Margolin & Gordis, *supra* note 5, at 459; Bruce D. Perry & Ronnie Pollard, *Homeostasis, Stress, Trauma, and Adaptation: Neurodevelopmental View of Childhood Trauma*, 7 CHILD & ADOLESCENT PSYCHIATRIC CLINICS N. AM. 33, 33–34 (1998). *See generally* Michael J. Salomon Weiss & Sheldon H. Wagner, *What Explains the Negative Consequences of Adverse Childhood Experiences on Adult Health? Insights from Cognitive and Neuroscience Research*, 14 AM. J. PREVENTATIVE MED. 356 (1998).

23. Margolin & Gordis, *supra* note 5, at 459; PAUL J. FINK ET AL., AM. PSYCHIATRIC ASS'N, REPORT OF THE AMERICAN PSYCHIATRIC ASSOCIATION TASK FORCE ON THE BIOPSYCHOSOCIAL CONSEQUENCES OF CHILDHOOD VIOLENCE (2013).

24. Roper v. Simmons, 543 U.S. 551, 569–70 (2005); *see also* Marsha Levick et al., *The Eighth Amendment Evolves: Defining Cruel and Unusual Punishment Through the Lens of Childhood and Adolescence*, 15 U. PA. J.L. & SOC. CHANGE 285, 294–97 (2012).

immaturity makes it difficult for children to process and cope with trauma without external assistance.[25] As a result, there is an increased risk that damage caused by crime exposure at this delicate developmental stage will disrupt developmental trajectories and progression through age-appropriate milestones.[26] Such damage can become permanently embedded in the individual's core personality structure.[27]

Children are in the midst of undergoing legal socialization, a process that unfolds during childhood and adolescence and through which children develop an inclination towards compliance with the law and cooperation with legal actors.[28] Exposure to crime and violence and the criminal justice system's failure to protect children from these harmful experiences are likely to interfere with affected children's legal socialization.[29] Disruption of this fundamental developmental process may explain a proclivity towards criminal behavior and illicit substance use in individuals affected by crime during childhood.[30]

As a consequence of their social and psychological immaturity, children are dependent on adults for their survival and basic psychical and emotional needs.[31] They have little choice over their living environment and the people with whom they associate. Additionally, they do not have the capacity or resources to remove themselves from harmful circumstances induced by crime and violence.[32] When victimization, a substance use disorder, or incarceration incapac-

25. Levick et al., s*upra* note 27, at 295–96; Margolin & Gordis, *supra* note 5, at 450.

26. Margolin & Gordis, *supra* note 5, at 449; Sue Boney-McCoy & David Finkelhor, *Psychosocial Sequelae of Violent Victimization in a National Youth Sample*, 63 J. CONSULTING & CLINICAL PSYCH. 726, 726–28 (1995); Suzanne G. Martin, *Children Exposed to Domestic Violence: Psychological Considerations for Health Care Practitioners*, 16 HOLISTIC NURSING PRAC. 7, 8 (2002); Jennifer E. McIntosh, *Thought in the Face of Violence: A Child's Need*, 26 CHILD ABUSE & NEGLECT 229, 231 (2002); Stephanie Holt et al., *The Impact of Exposure to Domestic Violence on Children and Young People: A Review of the Literature*, 32 CHILD ABUSE & NEGLECT 797, 802 (2008).

27. Linda G. Mills, *The Justice of Recovery: How the State Can Heal the Violence of Crime*, 57 HASTINGS L.J. 457, 486 (2005).

28. Jeffrey Fagan & Tom R. Tyler, *Legal Socialization of Children and Adolescent*, 18 SOC. JUST. RSCH. 217, 219–22 (2005). *See generally* Alex R. Piquero et al., *Developmental Trajectories of Legal Socialization Among Adolescent Offenders,* 96 J. CRIM. L. & CRIMINOLOGY 267 (2005).

29. Fagan & Tyler, *supra* note 28, at 234.

30. *See* Cathy Spatz Widom, *Child Victims: Searching for Opportunities to Break the Cycle of Violence*, 7 APPLIED & PREVENTATIVE PSYCH. 225, 226 (1998); Dean G. Kilpatrick et al., *Risk Factors for Adolescent Substance Abuse and Dependence: Data From a National Sample*, 68 J. CONSULTING & CLINICAL PSYCH. 19, 20 (2000).

31. Elizabeth S. Scott, *The Legal Construction of Adolescence*, 29 HOFSTRA U. L. REV. 547, 550 (2000).

32. David Finkelhor & Patricia Y. Hashima, *The Victimization of Children and Youth*, *in* HANDBOOK OF YOUTH AND JUSTICE 49, 59–61 (Susan O. White ed., 2001); Brief for Am. Psych. Ass'n, Am. Psychiatric Ass'n et al., as Amici Curiae Supporting Petitioners, Graham v. Florida, 560 U.S. 48 (2010) (Nos. 08-7412, 08-7621), 2009 WL 2236778, at 15–16; Alan E. Kazdin, *Adolescent Development, Mental Disorders, and Decision Making of Delinquent Youths*, *in* YOUTH ON TRIAL: A DEVELOPMENTAL PERSPECTIVE ON JUVENILE JUSTICE 33, 47 (Thomas Grisso & Robert G. Schwartz eds. 2000). Although this series of Supreme Court cases, including *Roper*, *Graham*, and *Miller*, dealt with juveniles as offenders rather than victims, the court and amici's analysis of scientific developmental psychology is useful for an understanding of the special needs of juveniles and their unique characteristics and behavioral traits. Miller v. Alabama, 567 U.S. 460, 471 (2012).

itates a caregiver, the result often deprives dependent children of the care, guidance, and protection essential for their development.[33] Moreover, such caregivers' ability to make coherent decisions on behalf of their children as their legal guardians and fully consider the children's best interests is inevitably diminished.[34]

Empirical evidence shows that one of the prime corollaries of the aforementioned differences between adults and minor children is the expansion of crime-induced harm beyond the conventional direct victimization.[35] Hence, even when a criminal offense is not committed directly against the body of the child and the child is "only" indirectly exposed, such exposure can leave acute and often long-lasting marks on the child.[36] In response to these imperative findings, we have designed the Triple-C Impact concept to incorporate the full range of direct and indirect forms of crime exposure that commonly affect children. When evaluating the exact forms of crime exposure to be included under the Triple-C Impact umbrella, the primary criterion used is the presence of significant empirical evidence to support and demonstrate potential harm to the child, which rises to a level similar to that caused by the "gold standard" of direct victimization.[37]

33. Gilad et al., *supra* note 1, at 5.

34. Margolin & Gordis, *supra* note 5, at 450.

35. David Finkelhor, *Developmental Victimology*, *in* VICTIMS OF CRIME 9, 12 (R.C. Davis et al. eds., 2007); Margolin & Gordis, *supra* note 5, at 450; Olofsson et al., *supra* note 18, at 411–12.

36. LISTENBEE ET AL., *supra* note 2, at 66, 209; Ilan Harpaz-Rotem et al., *Clinical Epidemiology of Urban Violence: Responding to Children Exposed to Violence in Ten Communities*, 22 J. INTERPERSONAL VIOLENCE 1479, 1479–80 (2007); William W. Harris et al., *In the Best Interests of Society*, 48 J. CHILD PSYCH. & PSYCHIATRY & ALLIED DISCIPLINES 392, 392 (2007); Preeti Chauhan & Cathy S. Widom, *Childhood Maltreatment and Illicit Drug Use in Middle Adulthood: The Role of Neighborhood Characteristics*, 24 DEV. & PSYCHOPATHOLOGY 723, 723 (2012); Cathy S. Widom et al., *A Prospective Investigation of Physical Health Outcomes in Abused and Neglected Children: New Findings From a 30-Year Follow-Up*, 102 AM. J. PUB. HEALTH 1135, 1135 (2012); Helen W. Wilson & Cathy S. Widom, *Pathways from Childhood Abuse and Neglect to HIV-Risk Sexual Behavior in Middle Adulthood*, 79 J. CONSULTING & CLINICAL PSYCH. 236, 236 (2011); Valentina Nikulina et al., *The Role of Childhood Neglect and Childhood Poverty in Predicting Mental Health, Academic Achievement and Crime in Adulthood*, 48 AM. J. CMTY. PSYCH. 309, 309 (2011); Janet Currie & Cathy S. Widom, *Long-Term Consequences of Child Abuse and Neglect on Adult Economic Well-Being*, 15 CHILD MALTREATMENT 111, 111 (2010); Tyrone Bentley & Cathy S. Widom, *A 30-Year Follow-Up of the Effects of Child Abuse and Neglect on Obesity in Adulthood*, 17 OBESITY 1900, 1900 (2009); Helen W. Wilson & Cathy S. Widom, *Does Physical Abuse, Sexual Abuse, or Neglect in Childhood Increase the Likelihood of Same-Sex Sexual Relationships and Cohabitation? A Prospective 30-Year Follow-Up*, 39 ARCHIVES SEXUAL BEHAV. 63, 63 (2010); Ruth Gilbert et al., *Burden and Consequences of Child Maltreatment in High-Income Countries*, 373 LANCET 68, 68 (2009); Cathy S. Widom et al., *Childhood Victimization and Lifetime Revictimization*, 32 CHILD ABUSE & NEGLECT 785, 785 (2008).

37. Due consideration should be given to the fact that children are not equally affected by crime victimization and trauma. Some children are deeply traumatized by victimization, whether direct or indirect, while others exhibit high levels of resilience. David Finkelhor, *Developmental Victimology: The Comprehensive Study of Childhood Victimization*, *in* VICTIMS OF CRIME 9, 12 (Robert C. David et al. eds., 3d ed. 2007). The exact combination of factors that allow some children to develop higher levels of resilience than others is not yet fully understood. Factors such as age, gender, relationship with the caregiver, personal strengths and vulnerabilities, characteristics of the child's family and community, and the frequency and severity of the victimization, however, were shown by empirical research to have an effect on children's responses. BETSY MCALISTER GROVES ET AL., FAM. VIOLENCE PREVENTION FUND, IDENTIFYING AND RESPONDING TO DOMESTIC VIOLENCE: CONSENSUS RECOMMENDATIONS FOR CHILD AND ADOLESCENT HEALTH 6 (2004); INST. OF MED., & NAT'L RSCH. COUNCIL, COMM. ON CHILD MALTREATMENT RSCH., POL'Y, & PRACTICE FOR THE NEXT DECADE: PHASE II, NEW DIRECTIONS IN CHILD ABUSE AND NEGLECT 133 (Anne C. Petersen et al., eds., 2013).

Through the meticulous review of over 150 studies, which examine different aspects of the effect of crime exposure on all of the child's life facets, we identified five exposure categories that met this rigorous standard: direct child victims,[38] children exposed to family crime,[39] children exposed to community crime,[40] children with a victimized parent,[41] and children affected by parental incarceration.[42] As science evolves and advances, this list could potentially change to adapt to new findings, relying on similar harm-based criteria.

B. The States' Response

A principal factor influencing the level of harm caused by the Triple-C Impact is how affected children are addressed, identified, managed, and treated.[43] In order to construct a potent response to affected children at the policy level, policymakers must account for the paramount differentiating factors between children and adults outlined above.

In previous papers, we published the results of a fifty-state survey designed to gain a better understanding of the existing state responses to the Triple-C Impact problem.[44] It helped measure the states' ability to meet the unique developmental needs of minor children.[45] The survey took on the monumental task of meticulously mapping out the state-level statutory provisions that address the Triple-C Impact problem.[46] It gathered data on statutory eligibility criteria for therapeutic services and resources for children directly and indirectly exposed to

38. Children who had a crime committed against their own person.

39. Witnessing crime in the home or among family members, when the child is not physically harmed (most common are cases of domestic violence or inter-familial sexual abuse).

40. Witnessing crime outside the home (e.g., neighborhood or school) committed among nonrelatives, when the child is not physically harmed.

41. Children with a parent or a primary caregiver who was a victim of a violent crime, where the child was not a witness to the crime but was affected in some way by proxy.

42. Children with a parent or primary caregiver who is incarcerated in a county, state or federal correctional facility.

43. Gilad, *supra* note 1, at 929; *see also* Susan J. Ko et al., *Creating Trauma-Informed Systems: Child Welfare, Education, First Responders, Health Care, Juvenile Justice*, 39 PRO. PSYCH.: RSCH. & PRAC. 396, 398 (2008); Judith A. Cohen et al., *Community Treatment of Posttraumatic Stress Disorder for Children Exposed to Intimate Partner Violence: A Randomized Controlled Trial*, 165 ARCHIVES PEDIATRIC & ADOLESCENT MED. 16, 16–17 (2011); LISTENBEE ET AL., *supra* note 2, at 66; Taryn Lindhorst et al., *Mediating Pathways Explaining Psychosocial Functioning and Revictimization as Sequelae of Parental Violence Among Adolescent Mothers*, 79 AM. J. ORTHOPSYCHIATRY 181, 182 (2009); Jamison D. Fargo, *Pathways to Adult Sexual Revictimization: Direct and Indirect Behavioral Risk Factors Across the Lifespan*, 24 J. INTERPERSONAL VIOLENCE 1771, 1771 (2009); Cathy S. Widom et al., *Childhood Victimization and Lifetime Revictimization*, 32 CHILD ABUSE & NEGLECT 785, 787 (2008); Tamra B. Loeb et al., *Associations Between Child Sexual Abuse and Negative Sexual Experiences and Revictimization Among Women: Does Measuring Severity Matter?* 35 CHILD ABUSE & NEGLECT 946, 946 (2011); Sarah E. Ullman et al., *Child Sexual Abuse, Post-Traumatic Stress Disorder, and Substance Use: Predictors of Revictimization in Adult Sexual Assault Survivors*, 18 J. CHILD SEXUAL ABUSE 367, 367 (2009); Jaclyn E. Barnes et al., *Sexual and Physical Revictimization Among Victims of Severe Childhood Sexual Abuse*, 33 CHILD ABUSE & NEGLECT 412, 412 (2009).

44. *See* Gilad, *supra* note 1, at 907; Gilad et al., *supra* note 1, at 1.

45. See chart with survey results in Appendix I.

46. Gilad, *supra* note 1, at 948.

crime in each of the fifty states and the District of Columbia.[47] The survey aimed to answer fundamental questions: what resources are statutorily available on the state level? Which state agencies are charged with responding to affected children? Are there mechanisms to identify affected children? Which categories of children are statutorily eligible for services and resources?

The survey's outcomes were insightful and surprising. The results largely refuted the original hypothesis that children under most of the Triple-C Impact categories are not formally recognized by law, and thus are ineligible to receive services to facilitate their recovery.[48] Instead, the survey found that resources and services are theoretically available for affected children in most states.[49] Furthermore, eligibility for services and resources is recognized by law in most states for many categories of exposure to crime, with the marked exception of children affected by parental incarceration.[50] Nevertheless, in practice, myriad bureaucratic labyrinths and system design flaws—including flaws in inter-agency coordination, extensive access barriers, ineffective utilization of resources, and insufficient account for the minor children's distinct needs—obstruct access to these services and resources.[51] As a result, most children harmed by crime cannot access available resources, so they never receive much-needed services and treatment to facilitate recovery from trauma caused by exposure to crime. Thus, these children carry dire and costly outcomes throughout their childhood and into adulthood.[52]

47. *Id.* at 931. To clarify, only services and resources that are clearly mandated by law, and target the specific population of children affected by each of the Triple-C Impact categories, were included in the survey. Some additional services may be available by grassroots and civil society organizations, or privately under medical insurance through Medicaid/Medicare/CHIP coverage. Child Protective Services also provides some services to eligible children, but those are restricted to children who face danger from their caregivers, rather than the entire group of affected children, and thus are excluded from the survey. In several states, some counseling services are available through the public-school system, but these do not specifically target Triple-C Impact Children, and are often sporadically available, depending on the budget and discretion of each school district in the state. In one case school-based services were statutorily mandated to all school districts in the state, and eligibility criteria relied on the status of the child as affected by different categories of crime exposure. In this case the services and resources provided were included in the survey.

48. *Id.* at 933.

49. Gilad et al., *supra* note 1, at 20.

50. *See infra* Table 1.

51. Gilad et al., *supra* note 1, at 20.

52. Gilad, *supra* note 1, at 948; LISTENBEE ET AL., *supra* note 2, at 83, 173; *see also* David Finkelhor et al., *Children's Exposure to Violence: A Comprehensive National Survey*, JUV. JUST. BULL., Oct. 2009, at 9; U.S. DEP'T OF HEALTH & HUM. SERVS., CHILD MALTREATMENT 2010 25, 58 (2010); U.S. HEALTH RES. & SERVS. ADMIN, CHILD HEALTH USA 2011 5–6 (2011); Chandra G. Ippen et al., *Traumatic and Stressful Events in Early Childhood: Can Treatment Help Those at Highest Risk?*, 35 CHILD ABUSE & NEGLECT 504, 504 (2011); Cohen et al., *supra* note 43, at 16.; Rebecca Wells et al., *Health Service Access Across Racial/Ethnic Groups of Children in the Child Welfare System*, 33 CHILD ABUSE & NEGLECT 282, 282 (2009); David J. Kolko et al., *Community Treatment of Child Sexual Abuse: A Survey of Practitioners in the National Child Traumatic Stress Network*, 36 ADMIN. & POL'Y IN MENTAL HEALTH 37, 37 (2009); John A. Fairbank & Doreen W. Fairbank, *Epidemiology of Child Traumatic Stress*, 11 CURRENT PSYCHIATRY REPS. 289, 289 (2009); Philip T. Yanos et al., *A Prospective Examination of Service Use by Abused and Neglected Children Followed up into Adulthood*, 61 PSYCHIATRIC SERVS. 796, 796 (2010); SUSAN SCHECHTER & JEFFREY L. ELDELSON, OPEN SOC'Y INST.'S CTR ON CRIME, COMMUNITIES & CULTURE, DOMESTIC VIOLENCE & CHILDREN: CREATING A PUBLIC RESPONSE 3, 7 (2000); DEBRA WHITCOMB, AM. PROSECUTORS RSCH. INST., CHILDREN AND DOMESTIC VIOLENCE: THE PROSECUTOR'S

TABLE 1: 50-STATE SURVEY: STATUTORY ELIGIBILITY FOR SERVICES AND RESOURCES TO AFFECTED CHILDREN

	Direct Victimization	Family Violence	Community violence	Parental Victimization	Parental Incarceration	Incarceration Data
Yes	11	45	22	31	3	21
No	39	5	28	19	47	19
No Info.	1	1	1	1	1	11
Recogni-tion%	21.6%	88.2%	43.1%	60.8%	5.9%	41.2%

* This table charts the number of states in the United States that have specific statutory provisions that recognize the eligibility of children affected by each of the Triple-C Impact categories of crime exposure to receive services or resources to facilitate recovery.

Despite the wealth of statutory provisions acknowledging the eligibility of Triple-C Impacted children for state resources, only a marginal fraction is geared explicitly towards minor children and designed to accommodate their unique developmental needs. The legislature intended most of the identified statutes to address the general adult population, with children included as an afterthought and without any account for the substantial differences between adults and minor children outlined above.[53] Indeed, "absent such vital developmentally-oriented accommodations, available policies are inevitably expected to have diminished efficacy."[54]

Moreover, "the vast majority—if not all—of the identified services and resources rely solely on parental initiative, and require the child's parent or guardian to actively seek and apply for assistance."[55] None of the responding states reported an effective referral system designed to identify children affected by the Triple-C Impact and refer them to services for any of the categories of children included in the survey.[56]

Lack of transparency in the system further aggravates the consequences of the exclusive dependence on parental initiative. The survey process unveiled an abundance of technical difficulties that obscure access to imperative information required to obtain available resources.[57] These pose a colossal hurdle in parents' and guardians' ability to identify and utilize the available services when seeking

RESPONSE 3 (2004); Rosalind J. Wright et al., *Response of Battered Mothers in the Pediatric Emergency Department: A Call For an Interdisciplinary Approach to Family Violence*, 99 PEDIATRICS 186, 186 (1997); *Intimate Partner Violence: Effects*, NAT'L CHILD TRAUMATIC STRESS NETWORK, https://www.nctsn.org/what-is-child-trauma/trauma-types/intimate-partner-violence/effects (last visited Nov. 27, 2020) [https://perma.cc/5CKS-89DS].

53. According to our findings, only thirteen states (25.4%) reported having a dedicated child-victims act or provision. Six additional states (11.7%) reported the availability of a statutory provision with child-specific elements for at least one of the Triple-C categories.

54. Gilad, *supra* note 1, at 937.

55. *Id.*

56. Complete Survey data is archived with the author. Only one state (Rhode Island) reported a systematic mechanism for identification and tracking of children exposed to family crime. This identification method, however, does not appear to be linked to a referral mechanism. It was also not extended to children under any of the other Triple-C Impact categories. Interview with Deborah DeBare, Exec. Dir. R.I. Coal. Against Domestic Violence (Mar. 22, 2016) (on file with author).

57. Gilad, *supra* note 1, at 939.

assistance.[58] Once again, we experienced the most notable difficulties collecting data on children affected by parental incarceration. In some states, up to five different agencies had to be contacted to obtain and confirm the needed information.[59]

The survey further revealed that lack of transparency and ineffective communication is not only external—*i.e.*, towards the general public—but also internal—*i.e.*, among the stakeholders within the system itself.[60] The different players on the field were often found to be "speaking different languages" when it came to the terminologies and definitions used.[61] The survey observed unwarranted inconsistency in the understanding of the division of labor, scope of responsibility, expected standard of service and care, level of accessibility to existing services, and amount of information publicly available.[62] A clear demonstration of the deficiency in communication within the system is found in the numerous examples, uncovered by the survey, in which resources were statutorily available to affected children, yet unknown to service providers and advocates who serve these children, or even to government agencies entrusted with serving the relevant populations.[63] No methodical attempts for standardization, model policies, or guidelines for "best practices" to ensure a minimum level of care were identified at the national or state levels.[64] Absent fluent communication among all the governmental and nongovernmental players involved, any coordinated interagency response for effectively combating the Triple-C Impact problem, as warranted by the Attorney General Task Force, is doomed to fail.[65]

58. We repeatedly encountered difficulties in identifying the agency responsible for provision of services for each of the surveyed categories and locating the specific officials within the agencies who held the relevant information. Lack of transparency of contact information for relevant public servants (phone numbers, email addresses) was a reoccurrence in many states. The lack of transparency in contact information of government agents was justified by some as a security measure, to protect agents from threats. Furthermore, even once the required contact information was obtained, we often experienced lack of responsiveness from the side of relevant state officials. Phone contact frequently proved to be futile, as the caller seeking information was transferred from one person to another until reaching a dead-end (usually a voicemail full to capacity).

59. Gilad, *supra* note 1, at 939.

60. *Id.* at 942.

61. *Id.* at 935.

62. Gilad et al., *supra* note 1, at 30.

63. Interview with Lindsay Crawford, Pol'y Advisor / Interim SAEP Coordinator, Ky. Crime Victims Compensation Board (Feb. 3–4, 2016) (on file with author); Interview with Shannon Moody, Pol'y Director, Ky. Youth Advocs. (Feb. 1–2, 2016) (on file with author); Interview with Sher Schrader, Crime Victims' Reparations Program, Neb. Comm'n on L. Enf't & Crim. Just. (Feb. 5, 2016) (on file with author); Interview with Patricia L. Sattler, MSW, Victim/Witness Specialist, Neb. Dep't of Just., Att'y Gen. Doug Peterson (Feb. 10, 2016) (on file with author). For example, in the state of Virginia, the director of the state Criminal Injuries Compensation Fund reported that "for counseling purposes, minor child witnesses of violence involving a caretaker are considered to be a primary victim" and therefore eligible for services. Interview with Jack Ritchie, Dir., Va. Crim. Injs. Comp. Fund (Mar. 9-10, 2016) (on file with author). Conversely, the Crime Victim Programs Manager at the Virginia Department of Justice asserted that "[a]s far as statutes or guidelines around eligibility for services to child witnesses to domestic violence, there are none." Interview with Kassandra (Kay) Bullock, Victims Servs. Manager, Va. Dep't of Crim. Just. Servs. (Mar. 8, 2016) (on file with author).

64. Gilad, *supra* note 1, at 935; LISTENBEE ET AL., *supra* note 2, at 178.

65. LISTENBEE ET AL., *supra* note 2, at 13; *see* Letter from Eric H. Holder to Joe Torre & Robert L. Listenbee (Dec. 20, 2012), *in* REPORT OF THE ATTORNEY GENERAL'S NATIONAL TASK FORCE ON CHILDREN EXPOSED TO VIOLENCE (2012).

The survey identified another major systemic design flaw: improper division of labor and budget distribution under the Victims of Crime Act ("VOCA").[66] VOCA is the primary federal act that governs assistance and services to victims of crime and allocates funds to support such services on the state and federal level.[67] It facilitates federal funding to state entities through two primary sources: the federal Victim Compensation Program and the states' Victim Assistance Programs.[68] The Victim Compensation Programs allow eligible victims to receive reimbursement for costs associated with the harms caused by crime.[69] The Victim Assistance Programs are government-funded programs that provide a variety of services to victims of crime.[70] At present, the vast majority of statutory provisions that explicitly provide counseling services for the relevant categories of children exposed to crime are funded through reimbursement from the states' Victim Compensation Programs.[71] Yet, by design, these programs are not equipped to provide effective recourse commensurate with the problem's scale.[72] Compensation programs are severely underfunded, allocated with a negligible sliver of federal VOCA funds—only 7% of the total VOCA budget in 2017, amounting to $133 million, for all states and territories combined.[73] The application process for VOCA funding is long and tedious, and programs in most states do not have the capacity to process large volumes of applications.[74] Most importantly, compensation agents do not have direct access to affected children and thus do not have the capabilities or resources to pursue effective outreach, identification, or referral efforts.[75]

At the same time, Victim Assistance Program grants are allocated 93%, or $1.8 billion, of the federal VOCA budget.[76] The act prioritizes funds to services dedicated to child victims.[77] In theory, the act permits the grants to support various local services and programs, including services to "secondary victims," such as children affected by indirect crime exposure.[78] Yet, the funded programs' eligibility criteria do not seem to be regulated by any overarching policies (either by law or internal protocols).[79] No state has reported protocols that assure that

66. 34 U.S.C. § 20101.

67. § 20101–03.

68. *See* § 20102–03; *Victim Compensation*, OFF. FOR VICTIMS OF CRIME, https://ovc.ojp.gov/topics/victim-compensation (last visited Nov. 27, 2020) [https://perma.cc/H3RX-QXBT]

69. *Victim Compensation*, *supra* note 71.

70. *Id.*

71. *See, e.g.*, 34 U.S.C. 20102(b)(1)(A); *see also* Gilad, *supra* note 1, at 938.

72. *See generally* Gilad, *supra* note 1.

73. Interview with Dan Eddy, Exec. Dir. of the Nat'l Ass'n of Crime Victim Comp. Bds. (June 27, 2017) (on file with author).

74. *How to Apply for a VOCA Grant*, CIVICORE (Apr. 15, 2019), https://www.civicore.com/blog/how-to-apply-for-a-voca-grant/ [https://perma.cc/9754-UGCZ].

75. Interview with Dan Eddy, *supra* note 73.

76. *See Victim Compensation*, *supra* note 68; Interview with Dan Eddy, *supra* note 73.

77. The specific words of the Act prioritize funds for child abuse prevention and treatment, but some broader interpretations for the term "child abuse" are available. 34 U.S.C. § 20103(a)(2)(A).

78. *Id.*

79. *See* Gilad, *supra* note 1, at 938.

funds are distributed to all categories of affected children.[80] Every state that provided information on this issue in our survey stated that eligibility criteria depend on each individual program and case-by-case examination.[81] No state could provide information about specific programs or services that accommodate the different categories of children affected by the Triple-C Impact.[82] Publicly available lists of VOCA funded programs in each state include only very general information and do not specify whether eligibility criteria cover "secondary victims."[83] Under these circumstances, an increased burden is thrust upon the underfunded and unequipped Victim Compensation programs in a manner that prevents the maximization of the existing resources. As a result, lack of transparency is further deepened, and accessibility of any relevant services that may be available for Triple-C Impacted children is severely hindered.

There could be more benign reasons for suboptimal utilization of services and resources by Triple-C Impacted children. The affected child or parent may not fully comprehend the severity of the harm endured and the long-term implications of avoiding treatment. Some can obtain services elsewhere through medical insurance, urgent care, or child protective services.[84] Others are not interested in obtaining assistance from government agencies due to negative past experiences or general distrust common to marginalized communities.[85]

Yet, one can only wonder whether these persistent and recurring system design flaws and administrative roadblocks are not entirely coincidental; instead, it may be the manifestation of political forces aiming to disincentivize the use of resources to generate some level of short-term fiscal savings. As the analysis presented below demonstrates, such short-term savings are likely to result in epic long-term costs borne by taxpayers and society.

III. METHODOLOGY

After gaining an understanding of the nature and scope of the problem, the next step is to design an economic model that will enable us to conduct an evidence-based cost analysis of the Triple-C Impact problem and yield an estimate of the cost of the problem to the state and society. Nevertheless, even more important than producing the bottom-line financial figures, a paramount objective of the analysis process is to provide a clear and comprehensive understanding of the multitude of cost components that must be integrated into the calculation and the complexity of the nexus between these components. To this end, detailed

80. *Id.*

81. Complete Survey data is archived with the author.

82. *Id.*

83. *See, e.g.*, *Types of Funding*, OFF. FOR VICTIMS OF CRIME, https://ovc.ojp.gov/funding/types-of-funding (last visited Nov. 27, 2020) [https://perma.cc/WTT5-Q5AJ].

84. Gilad, *supra* note 1, at 941.

85. These are some factors that explain general low claim rate for victim compensation assistance, which are estimated to steadily stand at approximately 5%–10% in most states. Interview with Dan Eddy, Exec. Dir. of the Nat'l Ass'n. of Crime Victim Comp. Bds. (June 28, 2017) (on file with author).

documentation of the methodology and a breakdown of the work process are vital.

The ideal study enabling one to make the most precise determination on the economic cost of crime exposure would require summoning a nationally representative sample of children, randomizing different types of crime and violence exposures among them, and then following these children into adulthood, recording data on factors like their health, employment, criminal involvement, and substance use. Then, one could calculate the costs of the observed outcomes. Such a study, however, is unfeasible and unethical. The design of our study necessitated overcoming numerous methodological challenges and limitations—facing "real world" constraints—while making tough compromises to reach our objectives.

First, it is important to clarify that statistically proving a direct causal relationship between crime exposure and adverse outcomes is highly unlikely. Only the improbable, nationally representative, randomized controlled trial described above would allow the establishment of a causal relationship between exposure and outcomes. Barring such a research endeavor, all studies need to account for the nature of this field, which is characterized by frequent co-occurrence of confounding factors and circumstances. Childhood crime exposure often overlaps with other serious life adversities, such as poverty, social marginalization, structural racism, and family dysfunctions, as well as cultural and language barriers.[86] As shown in the next section, even the Triple-C Impact categories themselves are not mutually exclusive and often coincide. While these limitations should not detract from the pronounced risk established in empirical studies to children affected by the Triple-C Impact, it is important to remain conscious and mindful of these constraints and the improbability of absolute accuracy in results.

Second, the adverse outcomes associated with the Triple-C Impact form an intricate web. Each outcome affects the others in a reciprocal, often cyclical pattern.[87] Under these circumstances, it is necessary to ensure that each cost element is counted only once during the analysis to avoid an overestimation of the total cost. Such distortion would negatively impact the credibility and accuracy of the analysis and consequently lessen the weight and persuasion power of the economic argument.

Third, the adverse effect of the Triple-C Impact is characterized by substantial heterogeneity. The specific effect on each child may vary depending on the type, severity, timing, and frequency of the exposure, as well as the child's characteristics, such as age, gender, socio-economic status, level of familial support, and the child's emotional capacity.[88] The presently available empirical data

86. Holly Foster, Jeanne Brooks-Gunn & Anne Martin, *Poverty/Socioeconomic Status and Exposure to Violence in the Lives of Children and Adolescents*, *in* THE CAMBRIDGE HANDBOOK OF VIOLENT BEHAVIOR AND AGGRESSION 664 (Daniel J. Flannery et al., eds., 2007); Todd I. Herrenkohl et al., *Intersection of Child Abuse and Children's Exposure to Domestic Violence*, 9 TRAUMA, VIOLENCE & ABUSE 84, 87 (2008).

87. Gilad et al., *supra* note 1, at 65.

88. MCALISTER GROVES ET AL., *supra* note 37, at 6; Sara R. Jaffee et al., *Individual, Family, and Neighborhood Factors Distinguish Resilient from Non-Resilient Maltreated Children: A Cumulative Stressors Model*, 31 CHILD ABUSE & NEGLECT 231, 236 tbl.1 (2007); INST. OF MED., & NAT'L RSCH. COUNCIL, *supra* note 37, at

and studies do not enable adequate reflection of this variance in the cost analysis. We have taken several measures to obtain the most realistic cost estimates under these conditions. Throughout our analysis, the guiding principle is always to choose the most conservative estimate and err on the side of undercounting. To this end, we selected the lowest level of exposure from each study to calculate the attributable risk—in most cases, the effect of one exposure was used. Similar principles guided the valuation of monetary costs of each outcome. Additionally, we calculated the adjusted prevalence using both the upper and lower bounds of the 95% confidence interval of the odds ratio. We also reported the variance in the estimated cost for each category based on these intervals.

Fourth, the analysis relies on existing datasets and studies. While the data used were not specifically tailored for this study, we have made adjustments and inferences to assure the most effective and appropriate utilization of these preexisting sources. Like any social science, and even medical research, a range of limitations and methodological complexities affects all the studies used in our analysis.[89] Variances in study results are affected by differences in study design, variable definitions, sample size and characteristics, and the exact models and methodologies applied. To minimize the limitations' impact on our model as much as possible, we have carefully screened the studies incorporated into our analysis and have relied on the most methodologically rigorous available studies. These studies are based on relatively large samples; they use sophisticated statistical tools and sensitivity tests to control for competing causes for the negative outcomes and to distill the specific effect attributed to the Triple-C Impact. Additionally, when more than one study of equal methodological rigor was available, we opted to rely on the most conservative finding (whether in the estimated level of risk or appraised costs) to avoid inflation on our bottom-line financial figures.

Fifth, at present, the field of childhood exposure to crime and violence is severely understudied. Comprehensive nationally representative data in the field is scarce and limited. We had to integrate several different datasets to include all the variables needed for our model since no existing dataset was sufficiently inclusive.[90] Still, we encountered many gaps in information concerning variables like: When did the exposure occur? When did the outcome first appear? And how long did each outcome persist? As aforementioned, such missing information hinders the ability to account for the heterogeneity of the effect of childhood crime exposure. To overcome these gaps, we again took the approach of selecting the most conservative value to avoid overestimation. We also focused the initial analysis on one specific cohort (U.S. population born in the year 2002) to limit the margins of error. Only outcomes supported by studies of sufficient rigor and quality were counted.[91] For some categories of exposure, such as the prevalence

133; Holt et al., *supra* note 26, at 802–05; Lucy Salcido Carter et al., *Domestic Violence and Children: Analysis and Recommendations*, 9 FUTURE CHILD. 4, 6 (1999).

89. Some examples for the common limitations and methodological difficulties are described in Holt et al., *supra* note 26, at 798–99.

90. For example, prevalence and risk variables do not appear in one unified dataset.

91. Complete survey and methodological data on file with authors.

of parental victimization, no data currently exist altogether, and thus had to be excluded from the analysis.

Furthermore, even when data sources and studies did exist, significant drawbacks materialized. For example, most risk studies calculate the lifetime odds to experience the outcome, while cost studies and budget documents calculate annual costs. This incompatibility added to the complexity of the analysis process and narrowed the range of studies that could effectively be incorporated. Also, most available risk studies do not rely on nationally representative data. To mitigate the problem, we attempted to use Adverse Childhood Experiences ("ACE") studies and data whenever possible;[92] despite their limitations,[93] they rely on very large samples and are considered a widely-acceptable resource in the field. Nevertheless, these issues clearly highlight the urgent need for more data-driven research in this field.

A. The Economic Model

In light of the aforementioned challenges, our economic model was designed to confront the limitations and aims to produce the most realistic results under these imperfect circumstances. We decided to apply the methodology known as the "bottom-up approach" in the model's design.[94] This approach aims to identify and enumerate all of the ways in which childhood crime exposure can inflict costs on society, estimate and quantify each of these costs, and aggregate the costs.[95] The application of this approach allows us to paint a more finely detailed picture of the wide range of elements incorporated in the cost estimate,

92. *See CDC–Kaiser ACE Study*, CTRS. FOR DISEASE CONTROL & PREVENTION (CDC), https://www.cdc.gov/violenceprevention/aces/about.html [https://perma.cc/9YBZ-A73R]. It should be considered that the ACE studies average the effect of several childhood adversities together. While many of the adversities included in these studies are relevant to our analysis, some, like parental divorce, are not crime related, and are the level of trauma induced is likely to be lower that crime exposure. Thus, the effect presented in these studies are likely to be somewhat diluted.

93. The ACE studies measure the effect of childhood adversities on physical and mental health conditions. The adversities included in the studies are not limited to childhood crime exposure, but include other childhood hardships, such as parental separation\divorce, household mental illness, and physical and emotional neglect. Most studies do not measure the effect of each type of adversity separately but average the effect of all types of adversities. The averaged results could potentially be diluted. While the original ACE studies include a very large sample (n=17,000), the sample is not nationally representative. Subsequent ACE studies that rely on BRFSS data are representative of the population of the states in which the data were collected, but do not provide nationally representative samples. The studies are survey-based and the measures of both adversities and outcomes rely on retrospective self-reporting, which is prone to biases.

94. This is different from the "top-down" approach (also known as contingent valuation), which divides the total budget for the service by the number of people served and assigns the same value to each person. This is:

> a survey-based valuation technique used to value goods that are not bought and sold in the free market, and for which prices are therefore difficult to compute. . . . Typically, contingent valuation survey questions ask individuals how much money they would be willing to pay for an increase in some non-market good (such as safety), or, alternatively, how much money they would need to be fully compensated for a decrease in the quantity of a non-market good.

Aaron Chalfin, *Economic Costs of Crime*, *in* THE ENCYCLOPEDIA OF CRIME AND PUNISHMENT 5, 6 (Wesley G. Jennings ed., 2015). The third, less commonly used approach is hedonic pricing, a "technique used to estimate the value of a non-market good by decomposing the total value of a market good." *Id.*

95. *Id.* at 4.

thus contributing to a deeper understanding of the problem and the scope and reach of its effect. At the same time, we recognize that it is virtually impossible to account for all of the potential cost elements associated with the problem, especially under the existing constraints of the availability of empirical data.[96]

The designed model consists of three core variables: Prevalence of exposure, attributable risk, and cost. The prevalence of exposure represents the proportion of children in the population exposed to at least one of the Triple-C Impact categories. Nationally representative data (NetSCEV III),[97] combined with official census data,[98] was used to assess the prevalence of the Triple-C Impact and translate it to concrete numbers.

Attributable risk represents the increase in the probability of experiencing each adverse outcome specifically attributed to the Triple-C Impact.[99] Since every individual in our society, whether exposed to crime or not, has a certain risk of experiencing any of these outcomes, empirical medical and social science studies were used to estimate the percentage by which childhood exposure to crime increased one's likelihood to experience the outcome.[100] In other words, the attributable risk variable represents the proportion of exposed individuals with an outcome beyond the proportion among the nonexposed, after controlling for confounding risk factors.[101]

Cost is a calculation of the monetary value linked with each of the adverse outcomes associated with the Triple-C Impact. In other words, it is an appraisal of the lifetime cost placed on the state and society of a child experiencing the outcome. To this end, state and federal budget documents, as well as secondary studies, were used. All cost figures in this article are adjusted to 2017 dollars.[102]

96. David S. Abrams, *The Imprisoner's Dilemma: A Cost–Benefit Approach to Incarceration*, 98 IOWA L. REV. 905, 940–41 (2013).

97. Collected by Dr. David Finkelhor et al., The National Survey of Children's Exposure to Violence (NatSCEV) includes a representative sample of U.S. telephone numbers from August 28, 2013, to April 30, 2014. *See* Finkelhor et al., *supra* note 52, at 1.

98. *2010 Census*, U.S. CENSUS BUREAU, https://www.census.gov/prod/cen2010/cph-2-1.pdf (last visited Nov. 27, 2020) [https://perma.cc/4H4H-9JBF].

99. Chittaranjan Andrade, *Understanding Relative Risk, Odds Ratio, And Related Terms: As Simple as it Can Get*, 76 J. CLINICAL PSYCHIATRY 857, 857 (2015).

100. *See* Gilad et al., *supra* note 1, at 64–65.

101. Although the level of attributable risk at times varies between the different Triple-C Impact categories of exposure, there were no sufficient studies of rigorous standards to calculate customized risk attribution for all the outcomes accounted in the analysis for each of the categories of exposure. Therefore, we have opted to use either the average risk level for any single exposure. When an average was not available, we have selected the most conservative available estimate.

102. Calculation is based on the *Consumer Price Index, 1913–*, FED. RSRV. BANK MINNEAPOLIS, https://www.minneapolisfed.org/community/financial-and-economic-education/cpi-calculator-information/consumer-price-index-and-inflation-rates-1913 (last visited Nov. 27, 2020) [https://perma.cc/R4AU-S644].

These three elements were synthesized together in the following formula:

$$Cost_{ib} = Prevalence_i * Attributable\ Risk\ _b * Monetary_b * Population\ Count$$[103]

The most arduous segment of the analysis was the estimation of the attributable risk variable. For our analysis, we needed to extract the marginal effect of childhood crime exposure—*i.e.,* by how much does risk increase due to exposure? One approach to the problem is to use naïve estimations. This method involves comparing the proportion of the group of exposed children experiencing each outcome against the proportion of individuals experiencing the same outcome in the unexposed group.[104] The problem with this approach is that it does not take into account any covariates that may contribute to the difference between the two groups. This problem is particularly severe in this area of study, characterized by high rates of co-occurring and competing risk factors. Take the example of asthma as a possible outcome. While individuals who experienced crime exposure in childhood are more likely to develop asthma,[105] perhaps this same group is also more likely to live in substandard housing with mold that contributes to the development of asthma.[106] In this case, some of the increase in the risk for asthma may be attributed to housing conditions rather than solely to crime exposure. Thus, using the naïve methodological approach risks overestimating the effect of crime exposure on the outcomes and consequently inflating the final cost estimate.

To address this challenge and properly account for the commonality of confounding risk factors and covariates, we selected a different methodological approach that relies on adjusted odds ratios.[107] Odds ratio "represents the odds that an outcome will occur given a particular exposure, compared to the odds of the outcome occurring in the absence of that exposure."[108] The odds ratio can also be used "to determine whether a particular exposure is a risk factor for a particular outcome, and to compare the magnitude of various risk factors for that outcome."[109] The statistical analysis that manufactures an odds ratio, a multivariate logistics regression analysis, takes into account covariates by using statistical

103. Such that *i* = the type of crime exposure, *b* = the adverse outcome. The full cost accounting is a summation of the various $\boldsymbol{Cost_{ib}}$ minus any cost components for which there is a concern it has been tallied more than once.

104. For example, if the prevalence of asthma in the unexposed group is 7.2% and in the exposed group it is 9%, following the naïve approach the attributable risk would be 1.8 percentage points.

105. Leah K. Gilbert et al., *Childhood Adversity and Adult Chronic Disease: An Update from Ten States and the District of Columbia, 2010*, 48 AM. J. PREVENTATIVE MED. 345, 345 (2015).

106. *Id.* at 346.

107. Jun Zhang & Kai F. Yu, *What's the Relative Risk? A Method of Correcting the Odds Ratio in Cohort Studies of Common Outcomes*, 280 J. AM. MED. ASS'N 1690 (1998). A similar methodology was used in two recent studies conducted by the Centers of Disease Control and prevention ("CDC"). *See* Cora Peterson et al., *Lifetime Economic Burden of Intimate Partner Violence Among U.S. Adults*, 55 AM. J. PREVENTATIVE MED. 433 (2018); Cora Peterson et al., *Lifetime Economic Burden of Rape Among US Adults*, 52 AM. J. PREVENTATIVE MED. 691 (2017).

108. Magdalena Szumilas, *Explaining Odds Ratios*, 19 J. CAN. ACAD. CHILD ADOLESC. PSYCHIATRY 227, 227 (2010).

109. *Id.*

controls.[110] In other words, when comparing the odds of one group experiencing an outcome with the odds of another, the analysis adjusts its estimates by discounting the effect of other possible causal factors. Some of the common controls incorporated in studies that calculate odds ratios are age, sex, income, and race.[111] Comparing the difference in the odds ratio of experiencing an outcome in the unexposed population with that of the population of children exposed to crime allows us to calculate the attributable risk variable. This method helps filter and distill the actual effect of crime exposure from that of other co-occurring factors. Hence, it provides a more accurate estimate of the association of the studied outcomes and crime exposure.

Odds ratio methodologies are widely used in epidemiology and medical studies, and therefore were presented in most of the studies that our analysis relied upon to measure the outcomes of exposure.[112] Nevertheless, the use of the odds ratio is uncommon in economic studies. The odds ratio remains relatively "unfamiliar to non-researchers, and their relationship to probability implications is not well understood by researchers."[113] Some consider them hard to interpret and view them as misleading.[114]

To overcome this challenge and make our results more accessible to a wide, diverse audience, we have converted the odds ratio results reported in the analyzed risk studies to a linear probability model, also known as relative risk ("RR"), using the methodology proposed by Zhang et al. (1998).[115] We then compared the calculated RR for the population of exposed children against the probability of the outcome in the unexposed group to calculate the attributable risk associated with crime exposure. Multiplying the attributable risk probability with the total population of exposed children allowed us to compute the adjusted prevalence variable, representing the estimated number of children exposed to crime *and* who have experienced (or will experience) a specific outcome measured by our study.

Like any statistical estimate, there are limitations to the external validity that can be extrapolated from the statistical results of one single study. For all the reasons discussed above, there is limited ability to generalize the findings from the study population to the general population. In light of these limitations, we took several precautionary measures. Before using any of the studies' results, we verified that the magnitude of the reported effect was in line with estimates reported in other similar studies, if these existed. Furthermore, the range of the 95% confidence interval was calculated and reported for each outcome.

110. Edward C. Norton et al., *Odds Ratios—Current Best Practices and Use*, 320 J. AM. MED. ASS'N 84, 84 (2018).

111. *See, e.g.*, *id.* at 84–85; Andrade, *supra* note 101, at 860.

112. Norton et al., *supra* note 110, at 84; Andrade, *supra* note 99, at 857.

113. Akiva M. Liberman, *How Much More Likely? The Implications of Odds Ratios for Probability*, 26 AM. J. EVALUATION 253, 253 (2005).

114. *Id.*

115. *Id.* at 256; Zhang & Yu, *supra* note 107, at 1690; *see also* AUSTL. BUREAU STATS., *Odds, Odds Ratios And Predicted Probability*, *in* A COMPARISON OF VOLUNTEERING RATES FROM THE 2006 CENSUS OF POPULATION AND HOUSING AND THE 2006 GENERAL SOCIAL Survey (Aug. 6, 2012), https://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4441.0.55.002Explanatory+Notes5Jun+2012 [https://perma.cc/7Z3F-CYJ3].

Focusing the cost analysis on a single birth cohort was another measure applied to reduce the margin of error. We selected the cohort of individuals living in the United States born in 2002 (entering adulthood (*i.e.,* turning eighteen) in 2020). The analysis will measure the costs of the negative outcomes attributed to childhood crime exposure for the duration of their adult life, accounting for the life expectancy of the cohort estimated at 76.9 years (or 58.9 adult years).[116] By focusing on one birth cohort, we aim to limit the possible range of some of the unknown variables discussed above. For similar reasons, we have selected to count only costs accrued during adulthood to overcome the fact that the age of first exposure is unknown to us. While some children are exposed in their first years of life and suffer consequences throughout childhood, others experience first exposure in their late teens, close to the transition to adulthood.[117] Thus, while Part V thoroughly discusses childhood outcome costs like juvenile delinquency, early intervention for developmental delays, special education programs, and child protective services, they will not be tallied in the total cost estimate. Ultimately, the cohort analysis allows us to calculate average costs per individual, which can later be extrapolated to some degree to draw inferences as to the estimated costs for the total population of individuals affected by the Triple-C Impact in the United States.[118]

To clarify the analytical process, the box below provides a concrete demonstration of the methodology's application on one sample outcome—asthma.

116. Based on World Bank data. *Life Expectancy at Birth, Total (Years)–United States*, WORLD BANK, https://data.worldbank.org/indicator/SP.DYN.LE00.IN?locations=US (last visited Nov. 27, 2020) [https://perma.cc/YH2N-VL5Z].

117. *See* Finkelhor et al., *supra* note 52, at 1.

118. *See infra* Part V.

Example: The process of calculating the cost of asthma associated with crime exposure:

- Parameters for the calculation:
  - Prevalence of asthma in the group of unexposed children: **7.2%**
  - Prevalence of asthma in the group of children exposed to crime: **9%**
  - Odds ratio (95% confidence interval): **1.2 (1.1, 1.4)**
  - Number of children in the 2002 birth cohort with at least 1 crime exposure: **2,578,731**

- Conversion of Odds Ratio to Linear Probability Model:

  1.2 / ((1-0.072) + (0.072*1.2)) = 118.3 (109.6, 136.1)

  = Exposure to crime increases the risk for asthma by 18.3% (9.6%, 36.1%)

- Attributable Risk is calculated by multiplying the prevalence of the unexposed with the RR, and then deducting the two figures:

  7.2 * (118.3/100) = 8.52[a] (7.86, 9.8)

  8.52 – 7.2 = 1.32 (0.66, 2.6)

- The number of children that are estimated to have asthma that we attribute to crime exposure is calculated by multiplying the attributable risk with the number of exposed children in the cohort:

  (1.32/100) * 2,578,731 = 34,039 (17,020, 67,047)

- This number is multiplied with the annual medical cost of asthma per individual ($3,259) in order to calculate the annual medical cost of asthma associated with crime exposure for the entire cohort:

  36,102 * 3,259 =110,933,101 (55,468,180, 218,506,173)

The estimated annual cost of asthma associated with crime exposure for the cohort of 2002 = **110,933,101**

While the actual prevalence of asthma in the exposed population is 9% rather than 8.52%, 0.48 percent points of the difference are not attributed to crime exposure, but to other competing risk factors.

IV. PREVALENCE

To commence our investigation, we first must gain an understanding of the size of the problem. How many individuals in our society are affected? This Part endeavors to provide a data-driven answer to this question. The analysis process necessitates first defining the scope and boundaries of each of the Triple-C Impact categories of crime exposure, then estimating the prevalence of exposure under each of these categories, and finally translating the prevalence percentages into the concrete numbers of affected children in our society. Since our cost analysis focuses on the 2002 birth cohort, we also present a specific drill-down calculation of the prevalence of the Triple-C Impact exposure in that group.

Due to the aforementioned scarcity of empirical studies in the field, few data sources exist that measure the number of children affected by crime across the nation.[119] To provide the most accurate prevalence indicators for each of the Triple-C Impact categories of exposure outlined below, we utilized the raw data of the National Survey of Children's Exposure to Violence (NetSCEV III).[120] We designed a customized analysis model of this nationally representative dataset that reflects the specific categories and definitions of the Triple-C Impact.[121]

A. Direct Victimization

The first, most conventional, and commonly recognized form of crime exposure is direct victimization. It occurs when an act defined by law as a criminal offense is committed against the child's person. As a result, the child can be physically injured or suffer emotional and mental impairments.

The analysis found that 52.31% of minor children nationwide become the direct victims of a violent crime during their childhood years. Our definition of violent crime includes physical assault with or without a weapon, sexual assault, kidnapping, violent bullying, or attempts to commit any of these acts against the child. When the percentages are applied to the total U.S. population estimates, they result in a figure of 38.8 million minor children who fell victim to a violent crime nationwide, 2.1 million of whom are in the 2002 birth cohort.[122] Boys are affected at a higher rate than are girls, 56.14% compared to 48.3%.[123] This is the category in which the difference between boys and girls is most significant, amounting to nearly eight percentage points.

119. Finkelhor et al., *supra* note 52, at 1.

120. *See id.* Collected by Dr. David Finkelhor et al., The National Survey of Children's Exposure to Violence (NatSCEV) includes a representative sample of U.S. telephone numbers from August 28, 2013, to April 30, 2014. Via telephone interviews, self-reported information was obtained on 4,000 children zero to seventeen years old, with information about exposure to violence, crime, and abuse provided by youth ten to seventeen years old and by caregivers for children zero to nine years old. It is important to note that only the raw survey data was used in our analysis. The definitions and categories of our analysis differ from those used by Dr. Finkelhor's team, and therefore our results also vary from those presented in their published study. David Finkelhor et al., *Prevalence of Childhood Exposure to Violence, Crime, and Abuse: Results from the National Survey of Children's Exposure to Violence*, 169 J. AM. MED. ASS'N PEDIATRICS 746, 752 (2015).

121. All the statistical figures included in Part II of this Article, *supra*, are derived from the authors original analysis of the NetSCEVIII data.

122. JOYCE A. MARTIN ET AL., CTRS. FOR DISEASE CONTROL, DIV. OF VITAL STATS., BIRTHS: FINAL DATA FOR 2002, 52 NAT'L VITAL STATS. REPS. 1, 1 (2003) (calculating births in 2002).

123. *See infra* Table 2.

B. Exposure to Family Crime

The most well-known manifestation of indirect crime exposure is witnessing family crime and violence.[124] These are cases where the child witnesses a crime committed in the home, among immediate family members, but does not suffer direct physical harm as a result of the witnessed crime.[125]

The presence of crime and violence in the home disrupts the sense of safety, security, and stability that such an environment is meant to foster in a child, vital for healthy development.[126] Affected children are often preoccupied with the fear of losing a parent, whether it is the battered parent who is in imminent danger of being severely injured or killed[127] or the batterer who may be incarcerated or even executed.[128] Profound guilt frequently burdens children because of their developmentally ego-centric thinking; they are inclined to hold a belief that they are at fault for causing the violence or could/should have done something to prevent it.[129] Affected children also describe deep confusion and ambivalence towards both parents, including "fear and empathy" towards the abuser and "compassion coupled with a sense of obligation to protect" the abused.[130] The rattling presence of violence in the home can lead to an erroneous conceptualization of aggression as a functional and legitimate part of intimate relationships and family

124. Gilad et al., *supra* note 1, at 8.

125. *Id.* at 8–9. For the purpose of this paper, a child is considered to be a witness to a crime when he or she perceives the criminal incident in one of their senses (sight, hearing, etc.) or observes the aftermath of the crime (injuries, damage to property, etc.).

126. *See generally* McIntosh, *supra* note 26; Martin, *supra* note 26; Holt et al., *supra* note 26, at 802–03; LISTENBEE ET AL., *supra* note 2; E. Mark Cummings et al., *Children and Violence: The Role of Children's Regulation in the Marital Aggression-Child Adjustment Link*, 12 CLINICAL CHILD & FAM. PSYCH. R. 3 (2009); Suzanne C. Perkins et al., *The Mediating Role of Self-Regulation Between Intrafamilial Violence and Mental Health Adjustment in Incarcerated Male Adolescents*, 27(7) J. INTERPERSONAL VIOLENCE 1199, 1200 (2012).

127. *See, e.g.*, Patrick T. Davies et al., *Child Emotional Security and Interparental Conflict*, 67 MONOGRAPHS SOC'Y FOR RSCH. CHILD DEV. 1, 27 (2002); Alice C. Schermerhorn et al., *Children's Representations of Multiple Family Relationships: Organizational Structure and Development in Early Childhood*, 22 J. FAM. PSYCH. 89, 89 (2008); Alice C. Schermerhorn et al., *Interparental Discord and Child Adjustment: Prospective Investigations of Emotional Security as an Explanatory Mechanism*, 77 CHILD DEV. 132, 132 (2006); Daniel S. Schechter et al., *Distorted Maternal Mental Representations and Atypical Behavior in a Clinical Sample of Violence-Exposed Mothers and Their Toddlers*, 9 J. TRAUMA & DISSOCIATION 123, 124 (2008); Alexander J. Botsis et al., *Parental Loss and Family Violence as Correlates of Suicide and Violence Risk*, 25 SUICIDE & LIFE-THREATENING BEHAV. 253, 259 (1995); Theodore Gaensbauer et al., *Traumatic Loss in a One-Year-Old Girl*, 34(4) J. AM. ACAD. CHILD & ADOLESCENT PSYCHIATRY 520, 521 (1995).

128. Elizabeth Beck & Sandra J. Jones, *Children of the Condemned: Grieving the Loss of a Father to Death Row*, 56 OMEGA 191, 207 (2007–2008).

129. Andrée Fortin et al., *Children's Appraisals as Mediators of the Relationship Between Domestic Violence and Child Adjustment*, 26 VIOLENCE & VICTIMOLOGY 377, 378 (2011); Holt et al., *supra* note 26, at 803; LISTENBEE ET AL., *supra* note 2, at 32; Patrick T. Davies et al., *Pathways Between Profiles of Family Functioning, Child Security in the Interparental Subsystem, and Child Psychological Problems*, 16 DEV. & PSYCHOPATHOLOGY 525, 546 (2004).

130. Holt et al., *supra* note 26, at 802; *see also* Hadass Goldblatt, *Strategies of Coping Among Adolescents Experiencing Interparental Violence*, 18 J. INTERPERSONAL VIOLENCE 532, 542 (2003).

dynamics[131] and a belief in an intrinsic dominance and privilege of men.[132] This ongoing exposure to aggression in the immediate environment was shown to put the child at potential risk of adopting anti-social rationalization for their own abusive behavior or abuse perpetrated against them,[133] thus contributing to the creation of an intergenerational cycle of violence.[134]

Preoccupation with the dysfunctional dynamics associated with intrafamilial violence is also likely to make the parents themselves less available as effective caregivers, with the abusers perceived as "unpredictable and frightening" while the abused parents are distracted by basic issues of safety and survival for themselves and their children.[135] The cumulative effect of these factors leads experts in the field to conclude that childhood exposure to family violence "has the potential to induce catastrophic and long-term trauma in the child witness."[136] They further warn that the fact that a child does not exhibit distinct symptoms does not necessarily mean that s/he is unaffected by the violence, as the child may still develop physical or emotional symptoms later in life.[137]

Our analysis found that more than one in every five children, or a total of 22.95%, is exposed to family violence. Family violence includes violent physical assault of a parent by a spouse, violent assault of a sibling by a parent (beyond spanking), other types of violent altercations between immediate family members at home, and violent property destruction. When translated to numerical figures, more than 17 million children living in the U.S. witness a crime in their own home before turning eighteen,[138] with more than 900,000 in the 2002 birth cohort.[139] This is the only category in which girls experience a slightly higher risk of exposure, at 24%, compared to 21.93% of boys.

131. Joy D. Osofsky, *Prevalence of Children's Exposure to Domestic Violence and Child Maltreatment: Implications for Prevention and Intervention*, 6 CLINICAL CHILD & FAM. PSYCH. REV. 161, 165 (2003); George W. Holden, *Children Exposed to Domestic Violence and Child Abuse: Terminology and Taxonomy*, 6 CLINICAL CHILD & FAM. PSYCH. REV. 151, 157 (2003); Sandra A. Graham-Bermann & Victoria Brescoll, *Gender, Power and Violence: Assessing the Family Stereotypes of the Children of Batterers*, 14 J. FAM. PSYCH. 600, 601 (2000).

132. Graham-Bermann & Brescoll, *supra* note 131, at 609.

133. Holt et al., *supra* note 26, at 803.

134. *See, e.g.*, K. Daniel O'Leary et al., *Multivariate Models of Men's and Women's Partner Aggression*, 75 J. CONSULTING & CLINICAL PSYCH. 752, 761 (2007); Christine Wekerle & David A. Wolfe, *Dating Violence in Mid-Adolescence: Theory, Significance, and Emerging Prevention Initiatives*, 19 CLINICAL PSYCH. REV. 435, 441 (1999); Alytia A. Levendosky et al., *Adolescent Peer Relationships and Mental Health Functioning in Families with Domestic Violence*, 31 J. CLINICAL CHILD PSYCH. 206, 206 (2002).

135. Margolin & Gordis, *supra* note 5, at 451; Gayla Margolin, *Effects of Domestic Violence on Children, in* VIOLENCE AGAINST CHILDREN IN THE FAMILY AND THE COMMUNITY 57 (Penelope K. Trickett & Cynthia J. Schellenbach eds., 1998).

136. Holt et al., *supra* note 26, at 805.

137. Katherine M. Kitzmann et al., *Child Witnesses to Domestic Violence: A Meta-Analytic Review*, 71 J. CONSULTING & CLINICAL PSYCH. 339, 347 (2003); McIntosh, *supra* note 26, at 240; Margolin & Gordis, *supra* note 5, at 446; Holt et al., *supra* note 26, at 802.

138. Calculation based on official 2010 census data from Lindsay M. Howden & Julie A. Meyer, *Age and Sex Composition: 2010*, *in* 2010 CENSUS BRIEFS (May 2011), https://www.census.gov/prod/cen2010/briefs/c2010br-03.pdf [https://perma.cc/8YRR-TV5Q]. Although more current population estimates exist, no significant change in the number children under the age of eighteen was noted since 2010. *See, e.g.*, Am. Cmt'y Surv., *Age and Sex,* U.S. CENSUS (2018), https://data.census.gov/cedsci/table?q=Age%20and%20sex&tid=ACSST1Y2018.S0101&hidePreview=false (last visited Nov. 27, 2020) [https://perma.cc/KD2Q-ZV9Y].

139. MARTIN ET AL., *supra* note 122, at 1 (calculating 2002 births).

C. Exposure to Community Crime

Even when the child's home environment is violence-free, the child could be exposed to community crime. "The child may witness criminal activity outside the home, among nonrelatives (for example, in the neighborhood or school). Although the child is not directly physically injured, significant harm can result from the traumatic exposure."[140] Negative effects have been documented for children who witnessed violence directly through sight or sound, as well as those who only heard about the violence in retrospect.[141] Children living in economically impoverished families and communities are particularly prone to this form of crime exposure.[142]

Like the home, the neighborhood and school are considered to be part of the child's primary safe haven.[143] Exposure to crime and violence in this environment can cause a loss of the protective and comforting qualities necessary for developing the child's sense of security and trust.[144] The inability to feel safe in their school and neighborhood can be interpreted by a child to mean that the world is unsafe and that "relationships are too fragile to trust because one never knows when violence will take the life of a friend or loved one."[145] These feelings can often lead to a state of hypervigilance, where the child is constantly wired and anticipates an outbreak of violence.[146] Alternatively, the child may resort to believing that s/he is unworthy of being kept safe, affecting self-esteem, and the perception of self-worth.[147] It may also lead the child to believe that violence is

140. Gilad, *supra* note 1, at 921; *see also* Terrie E. Moffitt, *Childhood Exposure to Violence and Lifelong Health: Clinical Intervention Science and Stress Biology*, 25 DEV. & PSYCHOPATHOLOGY 1619, 1620 (2013).

141. Michael Lynch, *Consequences of Children's Exposure to Community Violence*, 6 CLINICAL CHILD & FAM. PSYCH. REV. 265, 267 (2003); Dawn K. Wilson et al., *Violence Exposure, Catecholamine Excretion, and Blood Pressure Non-Dipping Status in African-American Male Versus Female Adolescents*, 64 PSYCHOSOMATIC MED. 906, 907 (2002); Patrick T. Sharkey et al., *The Effect of Local Violence on Children's Attention and Impulse Control*, 102 AM. J. PUB. HEALTH 2287, 2291 (2012); Patrick Sharkey, *The Acute Effect of Local Homicides on Children's Cognitive Performance*, 107 PNAS 11733, 11736 (2010).

142. Carol B. Cunradi et al., *Neighborhood Poverty as a Predictor of Intimate Partner Violence Among White, Black, and Hispanic Couples in the United States: A Multilevel Analysis*, 10 ANNALS OF EPIDEMIOLOGY 297, 305 (2000); Lisa A. Goodman et al., *When Crises Collide: How Intimate Partner Violence and Poverty Intersect to Shape Women's Mental Health and Coping*, 10 TRAUMA VIOLENCE & ABUSE 306, 312 (2009); Lin Huff-Corzine et al., *Deadly Connections: Culture, Poverty, and the Direction of Lethal Violence*, 69 SOC. FORCES 715, 720 (1991).

143. Margolin & Gordis, *supra* note 5, at 449.

144. *Id.*

145. LISTENBEE ET AL., *supra* note 2, at 33.

146. Michel Janosz et al., *Are There Detrimental Effects of Witnessing School Violence in Early Adolescence?* 43 J. ADOLESCENT HEALTH 600, 607 (2008); Nancy Shields et al., *The Effects of Community Violence on Children in Cape Town, South Africa*, 32 CHILD ABUSE & NEGLECT 589, 591 (2008); Patrick J. Fowler et al., *Community Violence: A Meta-Analysis on the Effect of Exposure and Mental Health Outcomes of Children and Adolescents*, 21 DEV. & PSYCHOPATHOLOGY 227, 228 (2009); Neena M. Malik, *Exposure to Domestic and Community Violence in a Nonrisk Sample: Associations with Child Functioning*, 23 J. INTERPERSONAL VIOLENCE 490, 501 (2008); Wendy Kliewer & Terri N. Sullivan, *Community Violence Exposure, Threat Appraisal, and Adjustment in Adolescents*, 37 J. CLINICAL CHILD & ADOLESCENT PSYCH. 860, 865 (2008).

147. Margolin & Gordis, *supra* note 5, at 458; Michael Lynch & Dante Cicchetti, *An Ecological Transactional Analysis of Children and Contexts: The Longitudinal Interplay Among Child Maltreatment, Community Violence, and Children's Symptomatology*, 10 DEV. PSYCHOPATHOLOGY 235, 252 (1998).

"normal,"[148] and feel compelled to resort to aggression, gangs, or criminal activity to avoid being targeted and viewed as weak.[149]

Living in a community saturated with crime and violence may also negatively affect parents' caretaking due to their own feelings of helplessness, fear, and grief. "Efforts to protect the child may be exhibited in authoritarian and restrictive parenting practices, as well as in certain precautions that may heighten the child's anxiety."[150] Other parents may yield to the sense of helplessness and cease any efforts to protect the child.

Nationally, community violence affects 34.87%, or 25.8 million, of children (36.83% of boys and 32.81% of girls).[151] In the 2002 birth cohort, community violence affected 1.4 million individuals. This measure includes witnessing assault(s) (with or without a weapon), shooting(s), bombing(s) or violent street riots, and witnessing trade in illegal drugs.

D. Parental Victimization

When the child's parent is a victim of a violent crime, the child is often affected in some way by proxy. Parental victimization can inflict harm even when the child does not perceive the committing of a crime through his/her own senses and is not considered a witness to the crime against the parent.[152] "Simply put, the well-being of a child is inextricably linked to the well-being of the adults in his or her life," hence if caregivers are victims of violence, this also impacts the children.[153] The most extreme parental victimization scenario is homicide cases, where a child loses a parent to crime. The more common cases concern parents who have experienced violent victimization in childhood or adulthood and suffer harmful implications that spill over to their children.[154] Parental victimization is most severe when the parent does not receive treatment and services to facilitate recovery.[155]

Victimized parents are more likely to suffer from a range of mental health problems and poorer states of physical health than nonvictimized caregivers.[156] Some evidence shows that victimization may also affect parenting skills and the

148. LISTENBEE ET AL., *supra* note 2, at 33.

149. *Id.*; Janosz et al., *supra* note 146, at 606; Shields et al., *supra* note 146, at 598; Catherine A. Taylor et al., *Cumulative Experiences of Violence Among High-Risk Urban Youth*, 23 J. INTERPERSONAL VIOLENCE 1618, 1631 (2008).

150. Margolin & Gordis, *supra* note 5, at 452.

151. *See infra* Table 2.

152. This differs from the category of exposure to family crime and violence, when the child perceives the crime in one of their senses and is considered a direct witness.

153. LISTENBEE ET AL., *supra* note 2, at 110.

154. Jennie G. Noll et al., *The Cumulative Burden Borne by Offspring Whose Mothers Were Sexually Abused as Children: Descriptive Results from a Multigenerational Study*, 24 J. INTERPERSONAL VIOLENCE 424, 442 (2009); LISTENBEE ET AL., *supra* note 2, at 32–33.

155. *See* LISTENBEE ET AL., *supra* note 2, at 33.

156. Cindy E. Weisbart et al., *Child and Adult Victimization: Sequelae for Female Caregivers of High-Risk Children*, 13 CHILD MALTREATMENT 235, 240 (2008).

interaction between parent and child.[157] Survivors of victimization may have difficulties establishing clear generational boundaries with their children, be overpermissive as parents, or conversely exhibit restrictive parenting practices and be more inclined to use harsh physical discipline.[158] Crime-induced trauma can compromise a parent's ability to play a stable, consistent role in the child's life and be emotionally available, sensitive, and responsive to their children.[159] A victimized parent who is depressed or overwhelmed may have difficulty meeting young children's need for structure or managing that child's developmental inability to understand and control their own emotions, thus impacting their children's experience of emotional expression.[160] The quality of attachment between parent and child has also been found to be affected.[161] A victimized parent, particularly in cases of ongoing victimization, may be "living in constant fear." Subsequently, "they may deny their children normal developmental transitions and the sense of basic trust and security that is the foundation of healthy emotional development."[162] As a result, parental victimization has considerable detrimental consequences to child development, outcomes, behavior, and the child's relationship with the parent, even absent awareness or direct exposure to the criminal act committed against the parent.

157. LISTENBEE ET AL., *supra* note 2, at 32–33; Patrick T. Davies et al., *A Process Analysis of the Transmission of Distress from Interparental Conflict to Parenting: Adult Relationship Security as an Explanatory Mechanism*, 45 DEV. PSYCH. 1761, 1769–70 (2009); Holt et al., *supra* note 26, at 800–01; Heidi N. Bailey et al., *The Impact of Childhood Maltreatment History on Parenting: A Comparison of Maltreatment Types and Assessment Methods*, 36 CHILD ABUSE & NEGLECT 236, 243 (2012).

158. David DiLillo & Amy Damashek, *Parenting Characteristics of Women Reporting a History of Childhood Sexual Abuse*, 8 CHILD MALTREATMENT 319, 327 (2003); Richard Thompson, *Mothers' Violence Victimization and Child Behavior Problems: Examining the Link*, 77 AM. J. ORTHOPSYCHIATRY 306, 312 (2007); LISTENBEE ET AL., *supra* note 2, at 109; Carol Coohey, *Battered Mothers Who Physically Abuse Their Children*, 19 J. INTERPERSONAL VIOLENCE 943, 950–51 (2004); George W. Holden et al., *Parenting Behaviors and Beliefs of Battered Women, in* CHILDREN EXPOSED TO MARITAL VIOLENCE: THEORY, RESEARCH, AND APPLIED ISSUES (George W. Holden et al, eds., 1998); Margolin & Gordis, *supra* note 5, at 452.

159. Joy D. Osofsky, *The Impact of Violence on Children*, 9 DOMESTIC VIOLENCE & CHILD. 33, 40–41 (1999); Kihyun Kim et al., *Childhood Experiences of Sexual Abuse and Later Parenting Practices Among Non-Offending Mothers of Sexually Abused and Comparison Girls*, 34 CHILD ABUSE & NEGLECT 610, 619 (2010); Eli Buchbinder, *Motherhood of Battered Women: The Struggle for Repairing the Past*, 32 CLINICAL SOC. WORK J. 307, 321 (2004); Alytia A. Levendosky & Sandra A. Graham-Bermann, *Parenting in Battered Women: The Effects of Domestic Violence on Women and Their Children*, 16 J. FAM. VIOLENCE 171, 184 (2001); McIntosh, *supra* note 29, at 231; Melanie Marysko et al., *History of Childhood Abuse Is Accompanied by Increased Dissociation in Young Mothers Five Months Postnatally*, 43 PSYCHOPATHOLOGY 104, 107 (2010); George W. Holden, *Children Exposed to Domestic Violence and Child Abuse: Terminology and Taxonomy*, 6 CLINICAL CHILD & FAM. PSYCH. REV. 151, 157 (2003); Alytia A. Levendosky & Sandra A. Graham-Bermann, *The Moderating Effects of Parenting Stress on Children's Adjustment in Woman-Abusing Families*, 13 J. FAM. VIOLENCE 383, 392 (1998).

160. Jeffrey L. Edleson, *Children's Witnessing of Adult Domestic Violence*, 14 J. INTERPERSONAL VIOLENCE 839, 846 (1999).

161. Holt et al., *supra* note 26, at 800–01; Alytia A. Levendosky et al., *The Impact of Domestic Violence on the Maternal–Child Relationship and Preschool–Age Children's Functioning*, 17 J. FAM. PSYCH. 275, 284–85 (2003). *See generally* HEDY CLEAVER ET AL., CHILDREN'S NEEDS—PARENTING CAPACITY: THE IMPACT OF PARENTAL MENTAL ILLNESS, PROBLEM ALCOHOL AND DRUG USE, AND DOMESTIC VIOLENCE ON CHILDREN'S DEVELOPMENT (1999).

162. Alytia A. Levendosky et al., *Mothers' Perceptions of the Impact of Woman Abuse on Their Parenting*, 6 VIOLENCE AGAINST WOMEN 248 (2000); Levendosky & Graham-Bermann, *supra* note 162, at 184–85.

As of December 2020, there are no known data on the state or national level that measure the number of children affected by parental victimization in the United States. This is the only category for which estimation of the extent of exposure is entirely unknown.[163] We hope that increased awareness of parental victimization's cumulative impact on children will result in future attempts by state agencies and empirical scientists to assess prevalence.

E. Parental Incarceration

The fifth and final form of crime exposure identified under the Triple-C Impact umbrella is parental incarceration. It occurs when a child is separated from a primary caregiver as a result of confinement in a correction facility. The incarceration of a parent normally causes major negative economic, social, and psychological consequences to the child and may have life-long repercussions.

When the incarcerated parent is the primary caregiver, the family's life is fundamentally disrupted. The child is usually uprooted and may be separated from the incarcerated parent and his/her siblings, other relatives, and friends. The child is at risk of being moved frequently among caregivers and even becoming a ward of the state.[164] Maintaining a close relationship and regular contact with the incarcerated parent over time is a significant challenge.[165] If the child is too young to fully understand the reasons for the parent's "disappearance," destructive feelings of self-blame and anger can emerge.[166] The remaining caregiver is often unable to render necessary support and find a suitable way to convey the information to the child in an age-appropriate manner. Economic hardship is another likely possibility due to the added legal expenses involved and the loss of income or social benefits.[167] The negative stigma and shame associated with parental incarceration also impact the children left behind.[168]

This is the most controversial and seldom recognized group of Triple-C Impacted children due to the strong association with the parents' perceived moral

163. *Child Abuse, Neglect Data Released*, ADMIN. FOR CHILD. & FAMS. (Jan. 15, 2020), https://www.acf.hhs.gov/media/press/2020/child-abuse-neglect-data-released [https://perma.cc/QH2X-3Y9J].

164. Donna K. Metzler, *Neglected by the System: Children of Incarcerated Mothers*, 82 ILL. BAR J. 428, 430 (1994).

165. Michal Gilad & Tal Gat, *U.S. v. My Mommy: Evaluation of Prison Nurseries as a Solution for Children of Incarcerated Women*, 37 N.Y.U. REV. L. & SOC. CHANGE 371, 380 (2013).

166. *Id.* at 381; Ross D. Parke & K. Alison Clarke-Stewart, *From Prison to Home: The Effect of Incarceration and Reentry on Children, Families, and Communities*, U.S. DEP'T HEALTH & HUM. SERVS. (Dec. 2001), https://aspe.hhs.gov/basic-report/effects-parental-incarceration-young-children [https://perma.cc/XW6M-QTGA].

167. NELL BERNSTEIN, ALL ALONE IN THE WORLD: CHILDREN OF THE INCARCERATED 109–42 (2005); DONALD BRAMAN, DOING TIME ON THE OUTSIDE: INCARCERATION AND FAMILY LIFE IN URBAN AMERICA (2004).

168. Sarah Abramowicz, *Rethinking Parental Incarceration*, 82 U. COLO. L. REV. 793, 815 (2011); Denise Johnston, *Services for Children of Incarcerated Parents*, 50 FAM. CT. REV. 91, 97 (2012); Metzler, *supra* note 164, at 431; Julie Poehlmann, *Children of Incarcerated Mothers and Fathers*, 24 WIS. J.L. GENDER & SOC'Y 331, 332–36 (2009).

wrongdoing and blameworthiness.[169] Children suffering from parental incarceration are often referred to as the "invisible victims" of crime, as they are forced to bear the consequences of their parents' criminal behavior and the system's inability, or possibly unwillingness, to address their needs and mitigate the displayed harms.[170]

At present, there is no systematic national data collection on the parental status of inmates by the Department of Corrections. Only 40% of states collect such data in one form or another.[171] Our analysis reveals that 4.77% of children are estimated to be affected by either paternal or maternal incarceration at some point during childhood, amounting to approximately 3.5 million children,[172] with more than 190,000 in the 2002 birth cohort.[173] Parental incarceration affects boys (5.16%) slightly more than girls (4.36%). Additionally, this form of exposure has a particularly high prevalence among children of color and minority groups due to the disproportionate representation of these groups in the incarcerated population.[174]

F. The Bottom Line

Overall, an astonishing 64.12%, or 47.56 million[175] (2.58 million in the 2002 birth cohort)[176] children living in the United States today are affected by at least one form of crime exposure during their childhood. Going one step further and applying these percentages to the total U.S. population, we can conclude that approximately 198 million individuals have been exposed to at least one category of the Triple-C Impact during childhood.[177] Boys are at a higher risk of exposure at 66.49% than girls, at 61.64%.

169. Gilad et al., *supra* note 1, at 16.

170. *See* ALLISON CUNNINGHAM & LINDA BAKER, VOICES FOR CHILDREN, INVISIBLE VICTIMS: THE CHILDREN OF WOMEN IN PRISON (2004); *see also* Abramowicz, *supra* note 168, at 815.

171. See Triple-C Impact 50-States Survey results *supra* Part II.

172. Calculation based on official 2010 census data from Howden & Meyer, *supra* note 138. Although more current population estimates exist, no significant change in the number children under the age of 18 was noted since 2010. *See, e.g.*, Am. Cmt'y Surv., *supra* note 138.

173. *See* MARTIN ET AL., *supra* note 122, at 1.

174. John Gramlish, *The Gap Between the Number of Blacks and Whites in Prison is Shrinking*, PEW RSCH. CTR.: FACTANK (Apr. 30, 2019), https://www.pewresearch.org/fact-tank/2019/04/30/shrinking-gap-between-number-of-blacks-and-whites-in-prison/ [https://perma.cc/DGN2-JPWG]; *cf.* JENNIFER BRONSON & E. ANN CARSON, U.S. DEP'T OF JUST., PRISONERS IN 2017 6 (2019), https://www.bjs.gov/content/pub/pdf/p17.pdf [https://perma.cc/BSZ7-FHDL].

175. Calculation based on official 2010 census data from Howden & Meyer, *supra* note 138. Although more current population estimates exist, no significant change in the number children under the age of 18 was noted since 2010. *See, e.g.*, Am. Cmt'y Surv., *supra* note 138.

176. *See* MARTIN ET AL., *supra* note 122, at 1.

177. Calculation based on official 2010 census data from Howden & Meyer, *supra* note 138. Although more current population estimates exist, no significant change in the number children under the age of 18 was noted since 2010. *See, e.g.*, Am. Cmt'y Surv., *supra* note 138.

TABLE 2: POPULATION % OF EXPOSURE UNDER EACH OF THE TRIPLE-C IMPACT CATEGORIES–GENDER DISTRIBUTION

	Direct Victimization	Family Violence	Community Violence	Parental Incarceration	Parental Victimization	Any 1 exposure
Total	52.31	22.94	34.87	4.77	*No Data*	64.12
Male	56.14	21.93	36.83	5.16	*No Data*	66.49
Female	48.3	23.99	32.81	4.36	*No Data*	61.64

TABLE 3: NUMBER OF INDIVIDUALS EXPOSED UNDER EACH OF THE TRIPLE-C IMPACT CATEGORIES

	Direct Victimization	**Family Violence**	**Community Violence**	**Parental Incarceration**	**Parental Victimization**	**Any 1 exposure**
Total Population[178]	161,504,791	70,826,226	107,659,569	14,727,162	*No Data*	197,967,639
Minors[179] **(under age 18)**	38,804,325	17,017,229	25,867,078	3,538,456	*No Data*	47,565,157
2002 Cohort[180]	2,103,765	922,584	1,402,376	191,836	*No Data*	2,578,731

Our findings also reinforce the fact that the aforementioned categories are not mutually exclusive. It is often the case that children experience poly-victimization and suffer from multiple forms of direct or indirect crime exposures.[181] Over 25 million children, comprising 33.94% of children in the United States, are affected by two or more different types of exposure; 2.08%, or 1.5 million children, are impacted by four or more of the categories included in this study.[182] Such cumulative exposure was found to aggravate the harmful impact on the child even further.[183]

178. Calculation based on official 2010 census data from Howden & Meyer, *supra* note 138. Although more current population estimates exist, no significant change in the number children under the age of eighteen was noted since 2010. *See, e.g.*, Am. Cmt'y Surv., *supra* note 138.

179. Calculation based on official 2010 census data from Howden & Meyer, *supra* note 138. Although more current population estimates exist, no significant change in the number children under the age of eighteen was noted since 2010. *See, e.g.*, Am. Cmt'y Surv., *supra* note 138.

180. *See* MARTIN ET AL., *supra* note 122, at 1.

181. David Finkelhor et al., *Poly-Victimization: A Neglected Component in Child Victimization Trauma*, 31 CHILD ABUSE & NEGLECT 7, 7 (2007).

182. Calculation based on official 2010 census data from Howden & Meyer, *supra* note 138. Although more current population estimates exist, no significant change in the number children under the age of eighteen was noted since 2010. *See, e.g.*, Am. Cmt'y Surv., *supra* note 138.

183. Finkelhor et al., *supra* note 181, at 9; David Finkelhor et al., *Pathways To Poly-Victimization*, 14 CHILD MALTREATMENT 316, 316 (2009); Heather A. Turner et al., *Poly-Victimization in a National Sample of Children and Youth*, 38 AM. J. PREVENTIVE MED. 323, 323 (2010).

TABLE 4: POLY-VICTIMIZATION: % OF EXPOSURE TO MULTIPLE DIFFERENT TRIPLE-C IMPACT CATEGORIES:

No. of exposures[184]	Total %	Male %	Female %
0	35.88	33.51	38.36
1	30.18	31.75	28.52
2	19.2	19.04	19.37
3	12.66	12.53	12.79
4+	2.08	3.15	0.96

These overwhelming figures make it clear that the Triple-C Impact problem is vast and expansive, rather than an isolated occurrence reserved for marginalized populations. As determined by the Attorney General Task Force, the problem is "not limited to one community or one group of children. It occurs among all ethnic and racial groups; in urban, suburban, and rural areas; in gated communities and on tribal lands."[185] In fact, our analysis establishes that each and every child living in the U.S. is more likely than not to be stung by the venom of crime at one point or another during their tender childhood years.[186]

V. RISKS AND COSTS[187]

Once we have a better image of the prevalence of the Triple-C Impact problem and a data-driven estimate of the number of affected children across the nation, we can proceed to grasp the risks looming in these children's future. A thorough evidence-based understanding of the type and nature of the risk outcomes associated with the Triple-C Impact will also enable us to identify and estimate the potential costs these outcomes may accrue.

Although each child is different, medical and social science studies have found a significant array of adverse outcomes closely associated with the Triple-C Impact. The observed harms were found to infiltrate all life's disciplines, ranging from increased involvement with the criminal justice system and heightened risk for substance use to physical and mental health problems.[188] Association with unfavorable life outcomes was also identified, including poor educational

184. This column reflects the number of different Triple-C Impact categories a child has been exposed to (e.g. exposure to direct victimization in addition to exposure to community crime). It does not account for multiple exposures under the same category (e.g. a case of child abuse and a case of sexual abuse will both be counted under the direct victimization category, and therefore will be counted in this table as one exposure).

185. LISTENBEE ET AL., *supra* note 2.

186. *See supra* Table 2.

187. *See* Ian Shrier & Russell Steele, *Understanding the Relationship Between Risks and Odds Ratios*, 16 CLINICAL J. SPORT MED. 107, 108–09 (2006) (evaluating the relationship between odds ratio and relative risk); *see also* Zhang & Yu, *supra* note 107, at 1690; Andrade, *supra* note 99, at 857.

188. *Children Exposed to Violence*, NAT'L INST. JUST. (Sept. 21, 2016), https://nij.ojp.gov/topics/articles/children-exposed-violence [https://perma.cc/6Y6V-RAVS].

achievements, higher unemployment and homelessness rates, and inferior economic well-being.[189] Yet, as previously explained, there is substantial heterogeneity in the type and level of harm endured by each affected child.[190]

The gaps created by the states' failure to provide an effective solution to the Triple-C Impact further exacerbate the problem. "Without services or treatment, even children who appear resilient and seem to recover from exposure to violence still bear emotional scars that may lead them to experience health and psychological problems years or decades later, also known as the 'sleeper effect.'"[191] Furthermore, the mere lack of response can further compound the caused harm by fostering a sense of isolation and betrayal.[192]

A. Criminal Justice

Increased involvement with the criminal justice system among Triple-C Impacted children is one of the more thoroughly researched outcomes. Such involvement with the system can result from engagement in delinquent acts, criminal activity once reaching adulthood, or repeat victimization.[193]

189. *See* Jaffee et al., *supra* note 88; Currie & Widom, *supra* note 36, at 117.

190. GROVES ET AL., *supra* note 37, at 4–6; Jaffee et al., *supra* note 88, at 231–32; INST. OF MED., & NAT'L RSCH. COUNCIL, *supra* note 37, at 133; Holt et al., *supra* note 26, at 802–05; Carter et al., *supra* note 88, at 4.

191. LISTENBEE ET AL., *supra* note 2, at 12; *see* Nicole L. Vu et al., *Children's Exposure to Intimate Partner Violence: A Meta-Analysis of Longitudinal Associations with Child Adjustment Problems*, 46 CLINICAL PSYCH. REV. 25, 26 (2016); Megan R. Holmes, *The Sleeper Effect of Intimate Partner Violence Exposure: Long-Term Consequences on Young Children's Aggressive Behavior*, 54 J. CHILD PSYCH. & PSYCHIATRY 986, 986 (2013).

192. LISTENBEE ET AL., *supra* note 2, at 30. It should be noted that only the results of the studies incorporated in the analysis itself are presented in the form of linear probability. Many of the studies discussed in the text did not report figures required for the conversion and RR calculation, such as the prevalence of the outcome in the unexposed population. As a result, the effect sizes discussed in the text are still presented in odds form. For most of the outcomes discussed herein, the odds ratio serves as a relatively close proximation of the RR, as the prevalence of these outcomes in the population is small (<10%). Yet, a few of the outcomes, such as the criminal justice outcomes, are more prevalent, and therefore the odds ratio proximation is less accurate and could be somewhat inflated. Nevertheless, it provides a relative measure of the effect size observed in the different studies reviewed.

193. Laura Bevilacqua et al., *Interaction Between* FKBP5 *and Childhood Trauma and Risk of Aggressive Behavior*, 69 ARCHIVES GEN. PSYCHIATRY 62, 62 (2012); Sunny H. Shin et al., *Exposure to Childhood Neglect and Physical Abuse and Developmental Trajectories of Heavy Episodic Drinking from Early Adolescence into Young Adulthood*, 127 DRUG & ALCOHOL DEPENDENCE 31, 31 (2013); Shi Huang et al., *The Long-Term Effects of Childhood Maltreatment Experiences on Subsequent Illicit Drug Use And Drug-Related Problems in Young Adulthood*, 36 ADDICTIVE BEHAVIORS 95, 95 (2011); Sjoukje Berdina Beike De Boer et al., *Childhood Characteristics of Adolescent Inpatients with Early-Onset and Adolescent-Onset Disruptive Behavior*, 34 J. PSYCHOPATHOLOGY & BEHAV. ASSESSMENT 415, 415 (2012); Sophie Boivin et al., *Past Victimizations and Dating Violence Perpetration In Adolescence: The Mediating Role Of Emotional Distress and Hostility*, 27 J. INTERPERSONAL VIOLENCE 662, 662 (2012); Eleni Maneta et al., *Links Between Childhood Physical Abuse and Intimate Partner Aggression: The Mediating Role of Anger Expression*, 27 VIOLENCE & VICTIMS 315, 315 (2012); Deborah J. Jones et al., *Linking Childhood Sexual Abuse and Early Adolescent Risk Behavior: The Intervening Role of Internalizing and Externalizing Problems*, 41 J. ABNORMAL CHILD PSYCH. 139, 139 (2013); Christina S. Meade et al., *Methamphetamine Use is Associated with Childhood Sexual Abuse and HIV Sexual Risk Behaviors Among Patrons of Alcohol-Serving Venues in Cape Town, South Africa*, 126 DRUG & ALCOHOL DEPENDENCE 232, 232 (2012); Bryndis B. Asgeirsdottir et al., *Associations Between Sexual Abuse and Family Conflict/Violence, Self-Injurious Behavior, and Substance Use: The Mediating Role of Depressed Mood and Anger*, 35 CHILD ABUSE & NEGLECT 210, 210 (2011); Wilson & Widom, *supra* note 36, at 236; Helen W. Wilson & Cathy Spatz Widom, *The Role of Youth Problem Behaviors in the Path from Child Abuse and Neglect to*

The empirical evidence on the effect of Triple-C Impact exposure on criminal justice involvement varies quite substantially in comparison to other outcomes in this section. Where involvement in the juvenile justice system is concerned, results range from approximately 50% increased odds for juvenile arrests and offending among children affected by direct victimization to 80–200% increase among children exposed to family violence.[194] Exposure to most of the Triple-C Impact categories increases the likelihood of adult arrest by approximately 50–60%.[195] Increased odds for criminal offending is evaluated at around 80% for both children affected by direct victimization and those affected by parental incarceration.[196] The most significant effect is found on violent adult offending, for which the increase in risk more than doubles (and even triples according to some studies).[197] A similar effect is found in the probability of perpetrating domestic violence.[198] The increase in revictimization attributed to exposure ranges from a 60–240% greater likelihood of becoming a victim of domestic violence during adulthood[199] to a 43–237% greater likelihood of experiencing sexual assault.[200]

Prostitution: A Prospective Examination, 20 J. RSCH. ON ADOLESCENCE 210, 210 (2010); Lynette M. Renner & Stephen D. Whitney, *Risk Factors for Unidirectional and Bidirectional Intimate Partner Violence Among Young Adults*, 36 CHILD ABUSE & NEGLECT 40, 40 (2012).

194. Cindy Sousa et al., *Longitudinal Study on the Effects of Child Abuse and Children's Exposure to Domestic Violence, Parent–Child Attachments, and Antisocial Behavior in Adolescence*, 26 J. INTERPERSONAL VIOLENCE 111, 122 (2011); Veronica M. Herrera & Laura Ann McCloskey, *Gender Differences in the Risk for Delinquency Among Youth Exposed to Family Violence*, 25 CHILD ABUSE & NEGLECT 1037, 1044 (2001); Raymond R. Swisher & Unique R. Shaw-Smith, *Paternal Incarceration and Adolescent Well-Being: Life Course Contingencies and Other Moderators*, 104 J. CRIM. L. & CRIMINOLOGY 929, 951–52 (2015); *see* Jennifer E. Lansford et al., *Early Physical Abuse and Later Violent Delinquency: A Prospective Longitudinal Study*, 12 CHILD MALTREATMENT 233, 234 (2007); Maureen A. Allwood & Cathy Spatz Widom, *Child Abuse and Neglect, Developmental Role Attainment, and Adult Arrests*, 50 J. RSCH. CRIME & DELINQ. 551, 562 (2013); CATHY SPATZ WIDOM, NAT'L INST. JUST., THE CYCLE OF VIOLENCE 2–3 (1992), https://www.ncjrs.gov/pdffiles1/nij/136607.pdf [https://perma.cc/3ACB-G4VS]; Joshua P. Mersky & Arthur J. Reynolds, *Child Maltreatment and Violent Delinquency: Disentangling Main Effects and Subgroup Effects*, 12 CHILD MALTREATMENT 246, 251 (2007).

195. *See* Allwood & Widom, *supra* note 194, at 562; Raeann E. Anderson et al., *Epidemiological Associations Between Posttraumatic Stress Disorder and Incarceration in the National Survey of American Life*, 26 CRIM. BEHAV. & MENTAL HEALTH 110, 119 (2016); Amanda Burgess-Proctor et al., *Comparing the Effects of Maternal and Paternal Incarceration on Adult Daughters' and Sons' Criminal Justice System Involvement*, 43 CRIM. JUST. & BEHAV. 1034, 1044–45 (2016).

196. Burgess-Proctor et al., *supra* note 195, at 1036.

197. *See infra* Table 5.

198. Miriam K. Ehrensaft et al., *Intergenerational Transmission of Partner Violence: A 20-Year Prospective Study*, 71 J. CONSULTING & CLINICAL PSYCH. 741, 751 (2003); Charles L. Whitfield et al., *Violent Childhood Experiences and the Risk of Intimate Partner Violence in Adults: Assessment in a Large Health Maintenance Organization*, 18 J. INTERPERSONAL VIOLENCE 166, 176 (2003); *see* Chelsea Farrell & Gregory M. Zimmerman, *Does Offending Intensify as Exposure to Violence Aggregates? Reconsidering the Effects of Repeat Victimization, Types of Exposure to Violence, and Polyvictimization on Property Crime, Violent Offending, and Substance Use*, 53 J. CRIM. JUST. 25, 29 (2017). *But see* Robert J. Franzese et al., *Adolescent Exposure to Violence and Adult Violent Victimization and Offending*, 42 CRIM. JUST. REV. 42, 42, 51–52 (2017).

199. *See* Whitfield et al., *supra* note 198, at 180; Chien-Chung Huang et al., *Children's Exposure to Intimate Partner Violence and Early Delinquency*, 30 J. FAM. VIOLENCE 953, 954 (2015).

200. *See* Katie A. Ports et al., *Adverse Childhood Experiences and Sexual Victimization in Adulthood*, 51 CHILD ABUSE & NEGLECT 313, 314, 317–18 (2016).

Nevertheless, it must be noted that no deterministic forces are causing affected individuals to commit these crimes. Other than rare cases of duress, automatism, and extreme mental incapacitation, Triple-C impacted individuals make conscious and willful choices to break the law. Yet, "the choices a person makes are shaped by the choices a person has."[201] As clearly demonstrated throughout this section, the Triple-C Impact influences the range of life choices laid before affected children and increases the odds of tipping the scale towards unlawful choices.

There is a multitude of expenses that stem from an increase in criminal and delinquent activities. Law enforcement responds to the scene of the incident when reported and may initiate an investigation, depending on the circumstances. In many cases, arrests can be made.[202] The per-case cost of police response is estimated to be generally low, under $170, except for arson and murder cases, where the average cost stands at approximately $2,300.[203] If the suspect is indicted, the costs of prosecution and the judicial process are also added. These costs are estimated at $2,000 on average per violent crime and $500 per property crime.[204] Another study tallies the combined cost of law enforcement, prosecution, and the judicial process to range between $3,200 for theft cases and $446,000 for murder cases[205]—violent crimes such as assault and robbery range between $9,800 and $15,700 per case.[206] Pre-conviction detention costs should also be considered in some cases, which are evaluated to range on average between $75–$155 a day for each individual detained.[207] Post-conviction, the costs of sentencing are added. The national annual average cost of prison stay per person is calculated at $34,400.[208] In juvenile cases, the cost is significantly higher—estimated at an average annual cost of $150,000 per youth—though this will not be added to the analysis.[209] Probation and parole are substantially less

201. Marilyn Metzler et al., *Adverse Childhood Experiences and Life Opportunities: Shifting the Narrative*, 72 CHILD. & YOUTH SERVS. REV. 141, 142 (2017).

202. Chalfin, *supra* note 94, at 4.

203. *See* Ted R. Miller et. al., NAT'L INST. JUST., *Victim Costs and Consequences: A New Look* 12–13 (1996), https://www.ncjrs.gov/pdffiles/victcost.pdf [https:perma.cc/7AWQ-VCZ6]. Adjusted to 2017 dollars, using the American Institute of Economic Research ("AIER") Cost of Living Calculator. *Cost of Living Calculator: What is Your Dollar Worth Today?*, AM. INST. ECON. RSCH., https://www.aier.org/cost-of-living-calculator/ (last visited Nov. 27, 2020) [https://perma.cc/TAT4-XZ9L].

204. Priscillia Hunt et. al., *The Price of Justice: New National and State-Level Estimates of the Judicial and Legal Costs of Crime to Taxpayers*, 42 AM. J. CRIM. JUST. 321, 321 (2017). Adjusted to 2017 dollars, using the AIER Cost of Living Calculator.

205. Kathryn E. McCollister et al., *The Cost of Crime to Society: New Crime-Specific Estimates for Policy and Program Evaluation*, 108 DRUG & ALCOHOL DEPENDENCE 98, 100 (2010).

206. *Id.* at 104. Adjusted to 2017 dollars, using the AIER Cost of Living Calculator.

207. Will Dobbie et al., *The Effects of Pretrial Detention on Conviction, Future Crime, and Employment: Evidence from Randomly Assigned Judges*, 108 AM. ECON. REV. 201, 237 (2018).

208. Chris Mai & Ram Subramanian, *The Price of Prisons: Examining State Spending Trends, 2010-15*, VERA INST. JUST., May 2017, at 1, 8. Adjusted to 2017 dollars, using the AIER Cost of Living Calculator.

209. JUST. POL'Y INST. STICKER SHOCK: CALCULATING THE FULL PRICE TAG FOR YOUTH INCARCERATION 27 (2014), http://www.justicepolicy.org/research/8477 [https://perma.cc/6K5Q-TY9N]. Adjusted to 2017 dollars, using the AIER Cost of Living Calculator.

costly alternatives. For adults, the average cost of probation is estimated at $1,400, and parole at $3,130 per year.[210]

On the other end of the gamut, we have the costs associated with the victims, whether medical expenses, lost wages for missed workdays, childcare costs, property damages, crime victim services, victim assistance programs, and victim compensation costs. Depending on the type of offense, the average crime victim costs are estimated to range from several hundred dollars to over $1 million per case.[211] Additionally, the upsurge in the volume of criminal activity associated with those exposed to crime is expected to cause an increase in prevention costs and the law enforcement resources required to maintain public safety over time.[212]

To calculate the attributable risk for adult offending under our analysis model, we have chosen to rely on a study that specifically measures the relationship between different types of direct and indirect forms of childhood crime exposure and criminal offending.[213] The study is one of the only studies in this field based on a large national longitudinal sample (N > 12,000).[214] It should be noted that the study measured whether participants committed a crime during the twelve months that preceded the interview. Therefore, there is a likelihood of undercounting (see Table 5).

For the cost variable for each crime category, we accounted for the average expenditure on criminal justice costs, including all local, state, and federal government funds spent on police protection, legal and adjudication services, incarceration, and other corrections programs. To that we added the average direct victim costs, including immediate medical costs and damage/loss of property. We counted one single crime as the lifetime cost under each category, although recidivism is common based on the National Institute of Justice statistics.[215] We have again selected to err on the side of undercounting (see Table 5).

For the measure of re-victimization, there were fewer available studies that allowed the calculation of the precise risk attributed to Triple-C Impact exposure. We have identified two robust studies on the topic. The first study evaluated the increase in odds for sexual victimization during adulthood associated with childhood crime exposure, measured at 77%.[216] This study omitted statistical figures essential in calculating the attributable risk, such as the prevalence of the outcome in the unexposed group and a confidence interval for the results.[217] Thus,

210. PEW CTR. ON STATES, ONE IN 31: THE LONG REACH OF AMERICAN CORRECTIONS 12 (2009), https://www.pewtrusts.org/~/media/assets/2009/03/02/pspp_1in31_report_final_web_32609.pdf [https://perma.cc/Z8MB-JCMT]. It should be noted that some states charge the offender for at least some of the costs of supervision during the period of parole or probation.

211. Miller et al., *supra* note 203, at 16.

212. LISTENBEE ET AL., *supra* note 2, at 148.

213. Farrell & Zimmerman, *supra* note 198, at 25.

214. *See id.*

215. *Recidivism*, DEP'T OF JUST.: NAT'L INST. OF JUST., https://www.nij.gov/topics/corrections/recidivism/pages/welcome.aspx (last visited Nov. 27, 2020) [https://perma.cc/A572-BZDR].

216. Ports et al., *supra* note 200, at 318.

217. *Id.* at 319.

it could not be incorporated into our analysis. The second study assessed the increase in domestic violence victimization associated with exposure. This study calculated the effect of exposure on revictimization for women only.[218] Therefore, it has allowed us to estimate the costs of re-victimization for the female population exclusively, and only where domestic violence victimization is concerned (see Table 5).[219] Although Triple-C Impacted male and female children may be prone to repeat victimization of other crime types during their lifetime, we could not find sufficiently rigorous studies on this topic to include in our analysis.

Moreover, the existing studies show that children who experience more than one crime exposure during childhood are found to have substantially greater odds of revictimization, up to 730%.[220] While we remained consistent in our selection of the most conservative estimate, one should consider severe undercounting in this category due to the lack of data. The calculated costs for this category consist of the average direct victim costs of the respective crimes (see Table 5).

218. Whitfield et al., *supra* note 198, at 166.
219. *Id.*
220. Ports et al, *supra* note 200, at 318.

TABLE 5: CRIMINAL JUSTICE - ATTRIBUTABLE RISK AND COSTS

Outcome	Odds Ratio	Increase in Probability	Attributable Risk	No. of Individuals Affected	Lifetime Cost-Individual	Lifetime Cost-Cohort
Property Crime[221]	1.64[222] (1.42, 1.9)	45.38% (30.99, 61.0)	9.08% (6.20, 12.21)	234,172 (159,916, 314,787)	$4,415[223]	$1,033,813,260 (705,990,807, 1,389,706,944)
Violent Crime[224]	2.64[225] (2.26, 3.09)	99.04% (80.69, 118.23)	19.71% (16.06, 23.53)	508,346 (414,090, 606,739)	$35,986[226]	$18,289,908,513 (14,901,589,893, 21,834,323,383)
Re-Victimization (Domestic Violence–Women only)[227]	2.30[228] (1.6, 3.1)	121.64% (57.26, 192.2)	3.53%[229] (1.66, 5.57)	90,969 (40,824, 143,737)	$6,422[230]	$584,213,811 (275,017,165, 923,092,302)
Total					**$7,720** (6,159, 9,364)	**$19,907,935,584** (15,882,597,86, 24,147,122,679)

B. Substance Use and Use Disorders

Children affected by the Triple-C Impact were found to have higher rates of substance use and use disorders during adolescence and adulthood, including tobacco, alcohol, prescription drugs, and illicit drugs.[231] Additionally, studies

221. Farrell & Zimmerman, *supra* note 198, at 27–28 ("Offending was self-reported by respondents at the Wave 2 in-home interview. The property crime variable measures whether or not (0 = No; 1 = Yes) participants engaged in one or more of the following acts in the year preceding the Wave 2 interview: deliberately damaged property; stole something worth more than $50; entered a building or house to steal something; or stole something worth less than $50.").

222. *Id.* at 28.

223. Calculation based on the findings of McCollister et al., *supra* note 205, at 100.

224. Offending was self-reported by respondents. The violent offending variable measures whether or not (0 = No; 1 = Yes) participants engaged in one or more of the following violent offenses during the year preceding Wave 2: used or threatened to use a weapon to get something; took part in a group fight; pulled a knife or gun on someone; shot or stabbed someone; or got into a serious physical fight. *See* Farrell & Zimmerman, *supra* note 198, at 27–28.

225. *Id.* at 27.

226. Calculation based on the findings of McCollister et al., *supra* note 205, at 100.

227. Victimization was a self-reported measure. Individuals who replied "yes" to the question "Has your partner ever threatened, pushed, or shoved you?" were logged as victims of domestic violence. The question was presented only to female participants in the survey.

228. Whitfield et al., *supra* note 198, at 168 (only applies to women).

229. Calculated for women population only.

230. Includes the cost of treated injuries and short-term loss of productivity immediately after the incidence. Calculation based on the findings of Peterson et al., *supra* note 107, at 691.

231. Shanta R. Dube et al., *Childhood Abuse, Neglect, and Household Dysfunction and the Risk of Illicit Drug Use: The Adverse Childhood Experiences Study*, 111 PEDIATRICS 564, 564 (2015).

have found the age of the first initiation of use to be younger and the likelihood of using intravenously injected drugs to be greater.[232]

Even one exposure to any of the Triple-C Impact categories will increase the odds of an individual ever using an illicit drug by 60–70%, compared to individuals who were never exposed.[233] The odds of using injected drugs are estimated to increase by 30–60%.[234] When looking at specific categories of exposure, such as exposure to family violence and direct victimization, some studies estimate that such exposure increases the risk of illicit drug use by as much as 90–100%.[235] The risk of an individual binge drinking or developing an alcohol use disorder doubles with any single exposure compared to nonexposed peers.[236] Exposure among children to family violence was found to elevate the probability of early initiation of substance use (before the age of fourteen) by 80%; meanwhile, children exposed to community violence experienced a 110% increase in the probability of early initiation of substance use.[237]

Recovery from a substance use disorder could require long term treatment, either residential or outpatient. For example, the most efficacious treatment for opioid use disorder is the chronic use of medications such as buprenorphine or methadone,[238] which carries an average cost that ranges from $115 to $270 per week.[239] That accumulates to a minimum of $5,980 per patient each year. In addition to the direct costs of treatment, individuals suffering from substance ad-

232. *See* Scott Menard et al., *Adolescent Exposure to Violence and Adult Illicit Drug Use*, 42 CHILD ABUSE & NEGLECT 30, 31 (2015); Dube et al., *supra* note 231, at 564, 568; Farrell & Zimmerman, *supra* note 198, at 31; Joseph Murray & David P. Farrington, *The Effects of Parental Imprisonment on Children*, 37 CRIME & JUST. 133, 135, 160 (2008); Ehrensaft et al., *supra* note 198, at 741; Michael E. Roettger et al., *Paternal Incarceration and Trajectories of Marijuana and Other Illegal Drug Use from Adolescence into Young Adulthood: Evidence from Longitudinal Panels of Males and Females in the United States*, 106 ADDICTION 121, 128–30 (2010); Shane Darke & Michelle Torok, *The Association of Childhood Physical Abuse with the Onset and Extent of Drug Use Among Regular Injecting Drug Users*, 109 ADDICTION 610, 610 (2013); Tom Luster et al., *The Correlates of Abuse and Witnessing Abuse Among Adolescents*, 17 J. INTERPERSONAL VIOLENCE 1323, 1326–28 (2002); Robert F. Anda et al., *The Enduring Effects of Abuse and Related Adverse Experiences in Childhood: A Convergence of Evidence from Neurobiology and Epidemiology*, 256 EUR. ARCHIVES PSYCHIATRY & CLINICAL NEUROSCIENCE 174, 178, 181 (2006); Esme Fuller-Thomson et al., *Three Types of Adverse Childhood Experiences, and Alcohol and Drug Dependence Among Adults: An Investigation Using Population-Based Data*, 51 SUBSTANCE USE & MISUSE 1451, 1458 (2016); Daniel P. Mears & Sonja E. Siennick, *Young Adult Outcomes and the Life-Course Penalties of Parental Incarceration*, 53 J. RSCH. CRIME & DELINQ. 3, 21 (2016). *But see* Joseph Murray et al., *Children's Antisocial Behavior, Mental Health, Drug Use, and Educational Performance After Parental Incarceration: A Systematic Review and Meta-Analysis*, 138 PSYCH. BULL. 175, 186, 190 (2012).

233. *See* Anda et al., *supra* note 232, at 179 tbl.3; Vincent J. Felitti et al., *Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: The Adverse Childhood Experiences (ACE) Study*, 14 AM. J. PREVENTIVE MED. 245, 253 tbl.5 (1998).

234. *See* Felitti et al., *supra* note 233, at 253 tbl.5; Gilbert et al., *supra* note 105, at 346; Dube et al., *supra* note 231, at 570 tbl.5.

235. *See* Dube et al., *supra* note 231, at 569 tbl.3; Menard et al., *supra* note 232, at 34–36.

236. *See* Anda et al., *supra* note 234, at 179 tbl.3; Felitti et al., *supra* note 235, at 253 tbl.5; Fuller-Thomson et al., *supra* note 224, at 1455 tbl.1.

237. *See* Dub et al.e, *supra* note 231, at 569 tbl.3.

238. NAT'L INST. ON DRUG ABUSE, MEDICATIONS TO TREAT OPIOID USE DISORDER RESEARCH REPORT 2–7 (2018), https://www.drugabuse.gov/download/21349/medications-to-treat-opioid-use-disorder-research-report.pdf?v=35c0b9b1c4a60e5322b0a43796611cf7 [https://perma.cc/9L2B-X78Q].

239. *Id.* at 22.

diction were found to have higher medical costs than those of the general population. The difference for Medicaid users was found to be approximately $14,460, while Medicare users are estimated at $17,900 annually.[240] Lost productivity costs are also added, as substance use and addiction often hamper one's ability to integrate into the workforce, hold a stable position, and perform other routine daily tasks.[241]

The measures of the attributable risk of alcoholism and illicit drug use both rely on the original ACE studies.[242] While the sample in these studies is not nationally representative, the sample of the original dataset is very large. Moreover, subsequent studies that relied on state-collected ACE data under the Behavioral Risk Factor Surveillance System ("BRFSS") supported and replicated the results.[243] While the effect of a single crime exposure on smoking was found to be statistically nonsignificant in the original ACE study, a newer study with a larger sample established a statistically significant effect that justified the inclusion of smoking as one of our study outcomes.[244] The calculated costs for each category include medical treatment and loss of productivity (see Table 6).

240. *See* Florence et al., *The Economic Burden of Prescription Opioid Overdose, Abuse, and Dependence in the United States, 2013*, 54 MED. CARE 901, 904 (2016). Adjusted to 2017 dollars, using the AIER Cost of Living Calculator.

241. *See id.* at 902–04.

242. *See* Felitti et al., *supra* note 233, at 253 tbl.5.

243. The BRFSS is the U.S. premiere system of health-related telephone surveys that collect state data about U.S. residents regarding their health-related risk behaviors, chronic health conditions, and use of preventive services. It is run and supervised by the U.S. Centers for Disease Control and Prevention. *See* Gilbert et al., *supra* note 105, at 345–46, 348.

244. Calculated based on the findings of Earl S. Ford et al., *Adverse Childhood Experiences and Smoking Status in Five State*s, 53 PREVENTIVE MED. 188, 188 (2011). The sample is extracted from five states (Arkansas, Louisiana, New Mexico, Tennessee, and Washington), and is based on BRFSS data.

TABLE 6: SUBSTANCE USE–ATTRIBUTABLE RISK AND COSTS.

Outcome	Odds Ratio	Increase in Probability	Attributable Risk	No. of Individuals Affected	Lifetime Cost-Individual	Lifetime Cost-Cohort
Alcoholism[245]	2.0[246] (1.6, 2.7)	94.36% (36.51, 157.3)	2.74% (1.66, 4.56)	70,568[247] (42,60,248)	$20,603[248]	$1,453,919,683 (882,298,026, 2,423,846,089)
Drug Use[249]	1.7[250] (1.4, 2.0)	62.71% (5.37, 87.97)	4.01% (2.34, 5.63)	103,497[251] (60,248, 145,184)	$245,960[252]	$25,456,110,109 (14,818,667,173, 35,709,645,331)
Smoking[253]	1.16[254] (1.09, 1.24)	9.30% (30.99, 13.56)	3.56% (2.06, 5.19)	91,871[255] (53,017, 133,940)	$70,053[256]	$6,435,845,618 (3,713,985,673, 9,382,877,278)
Total					**$12,931** (7,529, 18,426)	**$33,345,875,411** (19,414,950,872, 47,516,368,697)

C. Mental Health

From a mental health perspective, affected children were found to have an increased risk of suffering from depression, Post Traumatic Stress Disorder ("PTSD"), anxiety, developmental and behavioral problems, aggression, attention disorders, personality disorders, suicide risk, attachment disorders, and deficit in social adaptation.[257] These conditions may affect the child in the short-

245. A self-reported measure, relying on an answer "yes" to the question, "Have you ever considered yourself to be an alcoholic?"

246. Felitti et al., *supra* note 233, at 253 tbl.5.

247. Calculation based on the findings of Cora Peterson et al., *Lifetime Economic Burden of Rape Among U.S. Adults*, *supra* note, 107, at 693–94 tbl.1; Ellen E. Bouchery et al., *Economic Costs of Excessive Alcohol Consumption in the U.S., 2006*, 41 AM. J. PREVENTIVE MED. 516 (2011); Jeffrey J. Sacks et al., *2010 National and State Costs of Excessive Alcohol Consumption*, 49 AM. J. PREVENTIVE MED. 73 (2015).

248. *See* Cora Peterson et al., *Lifetime Economic Burden of Rape Among U.S. Adults*, *supra* note 107, at 694 tbl.1; Sacks et al., *supra* note 247, at 75 tbl.1; Bouchery et al., *supra* note 247, at 519.

249. A self-reported measure, relying on an answer "yes" to the question, "Have you ever used street drugs?"

250. Calculated based on the findings of Felitti, *supra* note 233, at 253 tbl.5.

251. Calculation based on the findings of Cora Peterson et al., *Lifetime Economic Burden of Rape Among U.S. Adults*, *supra* note 109, at 693–94 tbl.1; U.S. DEP'T JUST., NAT'L DRUG INTEL. CTR., THE ECONOMIC IMPACT OF ILLICIT DRUG USE ON AMERICAN SOCIETY 9 tbl.1.1 (2011); DEP'T HEALTH & HUMAN SERVS., SUBSTANCE ABUSE & MENTAL HEALTH SERVS. ADMIN., OFF. APPLIED STUDIES, RESULTS FROM THE 2007 NATIONAL SURVEY ON DRUG USE AND HEALTH: NATIONAL FINDINGS 15–30 (2008), https://www.dpft.org/resources/NSDUHresults2007.pdf [https://perma.cc/WWK4-GJE9].

252. *See* Cora Peterson et al., *Lifetime Economic Burden of Rape Among U.S. Adults*, *supra* note 107, at 694 tbl.1; U.S. DEP'T JUST., *supra* note 251, at ix; DEP'T HEALTH & HUM. SERVS., *supra* note 251, at 15–29.

253. Smoking is defined as smoking at least 100 cigarettes during a lifetime.

254. Calculated based on the findings of Ford et al., *supra* note 244, at 191 tbl.4. Sample is extracted from five states (Arkansas, Louisiana, New Mexico, Tennessee, and Washington), and is based on BRFSS data.

255. Calculation based on the findings of Peterson et al., *Lifetime Economic Burden of Rape Among U.S. Adults*, *supra* note 107, at 693–94 tbl.1.

256. *Id.*; FRANK A. SLOAN ET AL., THE PRICE OF SMOKING 22 (2004).

257. Putnam, *supra* note 4, at 1; Ronald C. Kessler et al., *Childhood Adversities and Adult Psychopathology in the WHO World Mental Health Surveys*, 197 BRIT. J. PSYCHIATRY 378, 378–79 (2010); Margolin & Gordis, *supra* note 5, at 445, 448; LISTENBEE ET AL., *supra* note 2, at 30–32; Jacqueline G F M Hovens et al., *Impact of Childhood Life Events and Trauma on the Course of Depressive and Anxiety Disorders*, 126 ACTA PSYCHIATRICA

term, immediately after the exposure incident, or in the long-term through adulthood.[258] In some cases, symptoms may appear years after exposure, as the child struggles to process the experience without adequate facilitation.[259]

The most comprehensive and reputable studies to examine the effect of childhood crime exposure and other childhood adversities on mental and physical health are the ACE studies. These studies have found that the odds of attempting suicide increased by 80% among exposed individuals compared to those not exposed.[260] Likelihood of suffering from depression increases by 50%.[261] The risk of having difficulties controlling anger increases by 40%.[262] The risk of suffering from anxiety and high stress levels is elevated by 20%.[263] Furthermore, there is a 10% increase in the risk of experiencing hallucination disorders compared to nonexposed individuals.[264] Additional evidence is available on the effect of parental incarceration on the mental health of children.[265] Broadly speaking, meta-analysis has found exposure to parental incarceration to at least double the risk of experiencing mental health problems.[266] The likelihood of attempted suicide is more than 150% greater among children with an incarcerated parent.[267]

SCANDINAVICA 198, 198, 203 (2012); Sara Larsson et al., *High Prevalence of Childhood Trauma in Patients with Schizophrenia Spectrum and Affective Disorde*r, 54 COMPREHENSIVE PSYCHIATRY 123, 123, 125 (2013); Anna Plaza et al., *Childhood Physical Abuse as a Common Risk Factor for Depression and Thyroid Dysfunction in the Earlier Postpartum*, 200 PSYCHIATRY RSCH. 329, 329, 331 (2012); Saaniya Bedi et al., *Risk for Suicidal Thoughts and Behavior After Childhood Sexual Abuse in Women and Men*, 41 SUICIDE & LIFE-THREATENING BEHAV. 406, 412 (2011); Laura P. Chen et al., *Sexual Abuse and Lifetime Diagnosis of Psychiatric Disorders: Systematic Review and Meta-Analysis*, 85 MAYO CLINIC PROC. 618, 625 (2010); Tracie O. Afifi et al., *Population Attributable Fractions of Psychiatric Disorders and Suicide Ideation and Attempts Associated with Adverse Childhood Experiences*, 98 AM. J. PUB. HEALTH 946, 949 (2008); Sarah Jonas et al., *Sexual Abuse and Psychiatric Disorder in England: Results from the 2007 Adult Psychiatric Morbidity Survey*, 41 PSYCH. MED. 709, 716 (2011); Luisa Sugaya et al., *Child Physical Abuse and Adult Mental Health: A National Study*, 25 J. TRAUMATIC STRESS 384, 384, 387 (2012); Scott E. Hadland et al., *Suicide and History of Childhood Trauma Among Street Youth*, 136 J. AFFECTIVE DISORDERS 377, 377–78 (2012); B. Wanner et al., *Childhood Trajectories of Anxiousness and Disruptiveness Explain the Association Between Early-Life Adversity and Attempted Suicide*, 42 PSYCH. MED. 2373, 2379 (2012); Mette Ystgaard et al., *Is There a Specific Relationship Between Childhood Sexual and Physical Abuse and Repeated Suicidal Behavior?* 28 CHILD ABUSE & NEGLECT 863, 871 (2004); Paul Rohde et al., *Associations of Child Sexual and Physical Abuse with Obesity and Depression in Middle-Aged Women*, 32 CHILD ABUSE & NEGLECT 878, 884 (2008); Lena Sanci et al., *Childhood Sexual Abuse and Eating Disorders in Females: Findings From the Victorian Adolescent Health Cohort Study*, 162 ARCHIVES OF PEDIATRIC & ADOLESCENT MED. 261, 261, 265 (2008); Jacqueline C. Carter et al., *The Impact of Childhood Sexual Abuse in Anorexia Nervosa*, 30 CHILD ABUSE & NEGLECT 257, 257–58, 264 (2006); Jennie G. Noll et al., *Sleep Disturbances and Childhood Sexual Abuse*, 31 J. PEDIATRIC PSYCH. 469, 475 (2006); Annmarie C. Hulette et al., *Dissociation in Middle Childhood Among Foster Children with Early Maltreatment Experiences*, 35 CHILD ABUSE & NEGLECT 123, 123–25 (2011); Terri L. Messman-Moore et al., *Emotion Dysregulation and Risky Sexual Behavior in Revictimization*, 34 CHILD ABUSE & NEGLECT 967, 973–74 (2010).

258. LISTENBEE ET AL., *supra* note 2, at 29–30, 211.

259. *Id.* at 12; Vu et al., *supra* note 191, at 31; Holmes, *supra* note 191, at 986, 992.

260. Felitti et al., *supra* note 233, at 245, 249.

261. Anda et al., *supra* note 232, at 178, 181–82; Felitti et al., *supra* note 233, at 245, 249.

262. Anda et al., *supra* note 232, at 178.

263. *Id.*

264. *Id.* at 178, 181.

265. Murray & Farrington, *supra* note 232, at 133, 135.

266. *Id.* at 157.

267. *See* Laurel Davis & Rebecca J. Shlafer, *Mental Health of Adolescents with Currently and Formerly Incarcerated Parents*, 54 J. ADOLESCENCE 120, 127–30 (2017).

Moreover, for this group, the risk of resorting to self-injurious behavior is elevated by 95%,[268] experiencing mental health problems (i.e., depression, anxiety, withdrawal) is increased by 86%,[269] and suffering from PTSD is elevated by 72%.[270]

The costs associated with mental health problems include the medical care required for recovery and loss of productivity caused by the often long-lasting and debilitating effect of mental illnesses. The cost of treatment varies significantly depending on the nature and severity of the condition, as well as the type and length of the chosen treatment.[271] One data point that we were able to obtain is the cost of PTSD treatment, which is estimated at $9,000 per individual for the first year, reduced by nearly half during the second year of treatment, and then slowly decreases by about $100 per year.[272] When hospitalization or residential treatment is required, the costs substantially increase.[273]

The attributable risk analysis of the mental health outcomes also relies on the original ACE studies' findings.[274] In these studies and most others, PTSD does not appear as an independent condition but instead is included under the broader categories of anxiety and depression symptoms.[275] The calculated costs reflect the average lifetime cost of medical treatment for the respective conditions, including "psychiatric service costs (e.g., counseling, hospitalization), non-psychiatric medical costs (e.g., emergency room treatment), and prescription drug costs."[276] For incidences of attempted suicide, we also account for the cost of loss of productivity due to the incident (see Table 7).

268. *See id.* at 127.

269. *See id.*

270. Rosalyn D. Lee et al., *The Impact of Parental Incarceration on the Physical and Mental Health of Young Adults*, 131 PEDIATRICS 1188, 1191–92 (2013).

271. CONG. BUDGET OFF., THE VETERANS HEALTH ADMINISTRATION'S TREATMENT OF PTSD AND TRAUMATIC BRAIN INJURY AMONG RECENT COMBAT VETERANS 17–20 (2012), https://www.cbo.gov/sites/default/files/cbofiles/attachments/02-09-PTSD.pdf [https://perma.cc/2YEV-QEGX]; *Costs of Outpatient Treatment*, FOUNDS. RECOVERY NETWORK, https://dualdiagnosis.org/dual-diagnosis-treatment/outpatient-cost/ (last visited Nov. 27, 2020) [https://perma.cc/4DBT-Z4D4].

272. CONG. BUDGET OFF., *supra* note 273, at 19 tbl. 2. Adjusted to 2017 dollars, using the AIER Cost of Living Calculator.

273. *See, e.g.*, Phaedra S. Corso et al., *Medical Costs and Productivity Losses Due to Interpersonal and Self-Directed Violence in the United States*, 32 AM. J. PREVENTATIVE MED. 474, 476 (2007).

274. Anda et al., *supra* note 232, at 174, 175.

275. *E.g.*, *id.* at 182.

276. Paul E. Greenberg et al., *The Economic Burden of Anxiety Disorders in the 1990s*, 60 J. CLINICAL PSYCHIATRY 427, 429 (1999); Paul E. Greenberg et al., *The Economic Burden of Adults with Major Depressive Disorder in the United States (2005 and 2010)*, 76 J. CLINICAL PSYCHIATRY 155, 156–57, 159 (2015).

TABLE 7: MENTAL HEALTH OUTCOMES–ATTRIBUTABLE RISK AND COSTS

Outcome	Odds Ratio	Increase in Probability	Attributable Risk	No. of Individuals Affected	Lifetime Cost-Individual	Lifetime Cost-Cohort
Anxiety[277]	1.2[278] (1.1, 1.4)	17.86% (9.01, 35.08)	1.62% (0.82, 3.19)	41,899 (21,139, 82,327)	$73,393[279]	$3,075,138,486 (1,551,434,945, 6,042,273,266)
Depressed affect[280]	1.5[281] (1.3, 1.6)	33.21% (20.86, 38.99)	8.37% (5.26, 9.82)	215,844 (135,575, 253,343)	$75,772[282]	$16,354,872,676 (10,272,733,340, 19,196,233,461)
Suicide attempt[283]	1.8[284] (1.2, 2.6)	78.29% (19.71, 155.1)	0.94% (0.24, 1.86)	24,226 (6,100, 47,996)	$17,978[285]	$435,541,544 (109,667,484, 862,878,223)
Total					$7,704 (4,628, 10,122)	$19,865,552,706 (11,933,835,769, 26,101,384,951)

D. Physical Health

When it comes to physical health, a strong link was established between childhood exposure to crime and life-threatening health conditions, such as cancer, lung, heart, liver, and skeletal diseases, sexually transmitted diseases, diabetes, and obesity.[286]

According to the ACE studies' findings, exposure to any one of the Triple-C Impact categories increases the risk of contracting a sexually transmitted disease by 40%.[287] The risk for chronic bronchitis or emphysema increases by

277. Measured by an answer "yes" to the question, "Do you have much trouble with nervousness?"

278. Anda et al., *supra* note 232, at 177–78 tbl.2.

279. Calculation based on the findings of Peterson, et al., *Lifetime Economic Burden of Rape Among US Adults*, *supra* note 107, at 693–95 tbl.1.

280. Measured by an answer "yes" to the question, "Have you had or do you now have depression or feel down in the dumps?"

281. Anda et al., *supra* note 224, at 177–78 tbl.2.

282. Calculation based on the findings of Peterson, et al., *Lifetime Economic Burden of Rape Among US Adults*, *supra* note 107, at 693–95 tbl.1.

283. Include all reported non-fatal suicide attempts.

284. Felitti et al., *supra* note 233, at 252 tbl.4.

285. Includes both medical treatment and loss of productivity in cases of non-fatal suicide attempts. Calculation based on the findings of Peterson et al., *Lifetime Economic Burden of Rape Among US Adults*, *supra* note 107, at 693–95 tbl.1; *Number of Deaths and Estimated Average and Total Lifetime Costs, United States, 2010*, CTRS. FOR DISEASE CONTROL & PREVENTION, https://www.cdc.gov/injury/wisqars/nonfatal.html (last visited Nov. 27, 2020) [https://perma.cc/24CZ-AM6E]; Corso et al., *supra* note 275, at 477.

286. Natalie Slopen et al., *Childhood Adversity and Cell-Mediated Immunity in Young Adulthood: Does Type and Timing Matter?*, 28 BRAIN, BEHAV., & IMMUNITY 63, 63–64, 68 (2013); Molly L. Paras et al., *Sexual Abuse and Lifetime Diagnosis of Somatic Disorders: A Systematic Review and Meta-Analysis*, 302 J. AM. MED. ASS'N 550, 550, 555 (2009); Alanna D. Hager & Marsha G. Runtz, *Physical and Psychological Maltreatment in Childhood and Later Health Problems in Women: An Exploratory Investigation of the Roles of Perceived Stress and Coping Strategies*, 36 CHILD ABUSE & NEGLECT 393, 393, 400 (2012); Renée Boynton-Jarrett et al., *Child and Adolescent Abuse in Relation to Obesity in Adulthood: The Black Women's Health Study*, 130 PEDIATRICS 245, 251 (2012); Roberto Maniglio, *The Impact of Child Sexual Abuse on Health: A Systematic Review of Reviews*, 29 CLINICAL PSYCH. REV. 647, 654 (2009).

287. Felitti et al., *supra* note 233, at 250, 253 tbl.5.

60%.[288] The odds of obesity among exposed individuals are 30% higher.[289] For chronic and potentially fatal conditions such as cancer, stroke, diabetes, and asthma, the probability is elevated by 20% compared to those not exposed.[290] The risk of hepatitis and coronary heart disease increases by 10%.[291] The odds of reaching a state of disability were found to increase by at least 30%.[292] For some categories of exposure, the risk for disability is even higher, with a 90% increase among children affected by parental incarceration and a 120–140% increase for children affected by direct victimization.[293]

The added costs linked with the increased risk for health conditions associated with the Triple-C Impact are a highly complex matter that involves many variables. One study has estimated the healthcare costs of an individual affected by child abuse to be approximately $7,500 per year higher than those of an individual who has not experienced abuse.[294] In the same study, less conservative models stipulate that the cost difference can be as high as $10,800 to $14,500 a year.[295]

Our analysis accounts for the average medical treatment costs of the conditions found to have a statistically significant association with a single exposure to crime in the original ACE studies. Here too, we do not have data about the duration of each condition or the number of outbreaks. Thus, for singular conditions such as skeletal fractures, sexually transmitted diseases ("STDs"), or myocardial infarction (heart attack), we counted the treatment of only one occurrence. For chronic long-term conditions, such as asthma or diabetes, we counted average lifetime treatment cost in adulthood (see Table 8).

Several health conditions were not found to have a statistically significant effect on individuals having a single crime exposure; their effect, however, was significant for individuals with multiple exposures.[296] Although the effect of these conditions would undoubtedly influence the total cost for the cohort due to the high prevalence of poly-victimization, to assure the most conservative estimate, we opted not to incorporate these conditions in the analysis absent a more recent and robust study to establish a statistically significant effect. These conditions include severe obesity, stroke, hepatitis, and jaundice.[297]

288. *Id.* at 250, 253 tbl.7.

289. *Id.* at 249, 252 tbl.4.

290. *Id.* at 250, 254–55.

291. *See id.* at 250; Anda et al., *supra* note 232, at 174; Gilbert et al., *supra* note 105, at 346.

292. Gilbert et al., *supra* note 107, at 346.

293. Sophia Miryam Schüssler-Fiorenza Rose et al., *Adverse Childhood Experiences & Disability in U.S. Adults*, 6(8) AM. ACAD. PHYS. MED. & REHAB. 670, 673 (2014).

294. *See* THERESA DOLEZAL ET AL., ACAD. ON VIOLENCE & ABUSE, HIDDEN COSTS IN HEALTH CARE: THE ECONOMIC IMPACT OF VIOLENCE AND ABUSE 6 (2009).

295. *See id.* at 8.

296. Felitti et al., *supra* note 233, at 247.

297. *See id.* at 250; Gilbert et al., *supra* note 105, at 345–46; Anda et al., *supra* note 232, at 178.

TABLE 8: PHYSICAL HEALTH OUTCOMES–ATTRIBUTABLE RISK AND COSTS

Outcome	Odds Ratio	Increase in Probability	Attributable Risk	No. of Individuals Affected	Lifetime Cost-Individual	Lifetime Cost - Cohort
Any cancer	1.2[298] (1, 1.5)	19.55% (0, 48.59)	0.37% (0, 0.92)	9,577 (0, 23,806)	$108,982[299]	$1,043,674,956 (0, 2,594,454,979)
COPD	1.6[300] (1.2, 2.1)	57.36% (19.33, 103.7)	1.61% (0,54, 2.9)	41,414 (13,958, 74,894)	$47,690[301]	$1,975,016,295 (665,671,098, 3,571,685,786)
Skeletal fracture	1.1[302] (1, 1.2)	9.56% (0, 19.05)	0.38% (0, 0.76)	9,863 (0, 19,647)	$4,299[303]	$42,395,763 (0, 84,455,052)
Diabetes[304]	1.2[305] (1.1, 1.4)	17.97% (9.06, 35.34)	1.55% (0.78, 3.04)	39,854 (20,097, 78,383)	$90,952[306]	$3,624,819,403 (1,827,858,984, 7,129,074,134)

298. Felitti et al., *supra* note 233, at 254 tbl.7.

299. Calculated as the average costs of treatment during the four years following diagnosis, based on the three most common types of cancer (lung, breast, and colorectal). *See* GABRIELA DIEGUEZ ET AL., MILLIMAN RSCH. REP., A MULTI-YEAR LOOK AT THE COST BURDEN OF CANCER CARE 4 (2017), https://milliman-cdn.azureedge.net/-/media/milliman/importedfiles/uploadedfiles/insight/2017/cost-burden-cancer-care.ashx [https://perma.cc/DTY9-CAFM].

300. Felitti et al., *supra* note 233, at 254 tbl.7.

301. Discounted lifetime cost of a typical COPD patient (*i.e.*, sixty years old, former smoker, GOLD stage I or II). Estimate is based on the cost for the male population, as it is lower than female costs. *See* Jeffrey D. Miller et al., *Lifetime Costs and Impact on Life Expectancy of Chronic Obstructive Pulmonary Disease (COPD) in the U.S.: Projections from a Decision-Analytic Model*, 9 VALUE IN HEALTH A93 (2006).

302. Felitti et al., *supra* note 233, at 255 tbl.8.

303. Calculated using *Data & Statistics (WISQARS™): Cost of Injury Reports*, CTRS. FOR DISEASE CONTROL & PREVENTION, https://wisqars.cdc.gov:8443/costT/ (last visited Nov. 27, 2020).

304. Although the original ACE study found diabetes to have a non-significant effect for children exposed to 1 ACE, and more recent study with a much larger sample found a statistically significant effect under the 1-3 ACE category. *See* Felitti et al., *supra* note 233, at 250. Thus, we have opted to include diabetes in the analysis.

305. Gilbert et al., *supra* note 105, at 348 tbl.2.

306. Calculated as the average lifetime medical costs of treating type 2 diabetes. *See* Xiaohui Zhuo et al., *Lifetime Direct Medical Costs of Treating Type 2 Diabetes and Diabetic Complications*, 45 AM. J. PREV. MED. 253, 256–57 (2013).

Myocardial Infarction[307]	1.3[308] (1.1, 1.5)	28.46% (9.56, 47.06)	1.14% (0.38, 1.88)	29,355 (9,863, 48,541)	$22,077[309]	$648,052143 (217,738,635, 1,071,615,635)
Asthma	1.2[310] (1.1, 1.4)	18.30% (9.21, 36.08)	1.32% (0.66, 2.6)	33,971 (17,107, 66,991)	$73,017[311]	$2,480,452,461 (1,249,092,026, 4,891,467,686)
STD	1.4[312] (1.1, 1.7)	36.93% (9.39, 63.59)	2.07% (0.53, 3.56)	53,334 (13,556, 91,826)	$1,017[313]	$54,223,737 (13,782,406, 93,357,496)
Total					**$3,827** (1541, 7,527)	**$9,868,625,795** (3,974,143,149, 19,436,110,769)

One should also consider that Triple-C Impacted individuals are more than twice as likely as unexposed individuals to rely on Medicaid for their medical care.[314] As a result, a significant portion of the mental and physical health costs delineated above will be borne by the state and by taxpayers.

E. Education

The costs of the educational outcomes were not directly incorporated into our analysis. This is due to several reasons. First, many of the concrete costs associated with educational outcomes are incurred during the childhood years. As previously explained, we have refrained from accounting for costs incurred prior to the age of eighteen due to the wide disparity in the age of first exposure, which leads to significant variance and increases the risk of error.[315] Second, educational outcomes were shown to have a direct effect on productivity and economic well-being outcomes, such as employment and earning capacity.[316] As

307. Including heart attack or use of nitroglycerin for exertional chest pain. Felitti et al., *supra* note 233, at 248.

308. Gilbert et al., *supra* note 105, at 348 tbl.2.

309. Calculated as the average cost of a single hospital stay for the treatment of Myocardial Infraction in 2013. *See* Celeste M. Torio & Brian J. Moore, *National Inpatient Hospital Costs: The Most Expensive Conditions by Payer, 2013*, AGENCY HEALTHCARE RSCH. & QUALITY (May 2016), https://www.hcup-us.ahrq.gov/reports/statbriefs/sb204-Most-Expensive-Hospital-Conditions.jsp. [https://perma.cc/3XWT-DBGK].

310. Gilbert et al., *supra* note 105, at 348 tbl.2.

311. Reflects the lifetime cost of asthma treatment, including outpatient and inpatient medical care, and prescribed medications. Sarah Beth L. Barnett & Tursynbek A. Nurmagambetov, *Costs of Asthma in the United States: 2002-2007*, 127 J. ALLERGY & CLINICAL IMMUNOLOGY 145, 147 (2011); Peterson et al., *Lifetime Economic Burden of Rape Among US Adults*, *supra* note 107, at 694 tbl.1.

312. Felitti et al., *supra* note 233, at 253 tbl. 5.

313. Calculated as the average total cost per year of the 8 most common STIs. *See* Harrell W. Chesson et al., *The Estimated Direct Medical Cost of Sexually Transmitted Diseases Among American Youth*, *2000*, 36 PERSPS. SEXUAL & REPROD. HEALTH 11, 12 (2004).

314. David S. Zielinski, *Child Maltreatment and Adult Socioeconomic Well-Being*, 33 CHILD ABUSE & NEGLECT 666, 671 (2009); *see also* Ross Macmillan & John Hagan, *Violence in the Transition to Adulthood: Adolescent Victimization, Education, and Socioeconomic Attainment in Later Life*, 14 J. RSCH. ON ADOLESCENCE 127, 137–52 (2004) (discussing studies which measure the effect on children exposed to direct victimization).

315. *See supra* Section III.A.

316. *See* Gilad et al., *supra* note 1, at 60–61; Zielinski, *supra* note 314, at 667; WILLIAM H. SEWELL & ROBERT M. HAUSER, EDUCATION, OCCUPATION, AND EARNINGS: ACHIEVEMENT IN THE EARLY CAREER (H.H. Winsborough ed.,1975); W. Norton Grubb, *Postsecondary Education and the Sub-Baccalaureate Labor Market: Corrections and Extensions*, 14 ECON. EDUC. REV. 285, 293 (1995); Orley Ashenfelter & Cecilia Rouse, *Income, Schooling, and Ability: Evidence from a New Sample of Identical Twins*, 113 Q.J. ECON. 253, 281 (1998); Stacey

such, there is a high risk of "double counting" costs when accounting for two outcomes with such a level of interdependence. Under these circumstances, the calculation of the costs of decreased productivity is meant to encapsulate the effect of some of the educational outcomes described above. Despite the exclusion of this category of outcomes from the cost analysis, a detailed explanation of the educational outcomes associated with the Triple-C Impact and their potential costs is of paramount importance to obtain the full picture of the challenges endured by affected children.

Many studies have found that Triple-C Impacted children, as a group, do not perform as well as their peers in academic settings. They are prone to a lower grade-point average ("GPA"), poorer reading and math skills, school disengagement, slower academic progress, and grade incompletion.[317] This effect was found to carry on to adulthood and higher education settings.[318] Changes in brain

Berg Dale & Alan B. Krueger, *Estimating the Payoff to Attending a More Selective College: An Application of Selection on Observables and Unobservables*, 117 Q.J. ECON. 1491 (2002); JENNIFER CHEESEMAN DAY & ERIC C. NEWBURGER, U.S. CENSUS BUREAU, THE BIG PAYOFF: EDUCATIONAL ATTAINMENT AND SYNTHETIC ESTIMATES OF WORK-LIFE EARNINGS 2 (2002), https://www.census.gov/prod/2002pubs/p23-210.pdf [https://perma.cc/V4RZ-7F8H]; Macmillan & Hagan, *supra* note 314, at 152; Metzler et al., *supra* note 201, at 144, 146–47; Currie & Widom, *supra* note 36, at 117; *cf.* Avshalom Caspi et al., *Continuities and Consequences of Interactional Styles Across the Life Course*, 57 J. PERSONALITY 375 (1989); Yong Liu et al., *Relationship Between Adverse Childhood Experiences and Unemployment Among Adults from Five US States*, 48 SOC. PSYCHIATRY & PSYCHIATRIC EPIDEMIOLOGY 357, 364 (2013).

317. *See* Gilad et al., *supra* note 1, at 55–56.

318. Stacy Overstreet & Shawnee Braun, *A Preliminary Examination of the Relationship Between Exposure to Community Violence and Academic Functioning*, 14 SCH. PSYCH. Q. 380, 380 (1999); Metzler et. al., *supra* note 201, at 141; Manuel E. Jimenez et al., *Adverse Experiences in Early Childhood and Kindergarten Outcomes*, 137 PEDIATRICS 1, 1 (2016); Allwood & Widom, supra note 194, at 551; Cynthia M. Perez & Cathy Spatz Widom, *Childhood Victimization and Long-Term Intellectual and Academic Outcomes*, 18 CHILD ABUSE & NEGLECT 617, 626 (1994); Danielle H. Dallaire, *Children with Incarcerated Mothers: Developmental Outcomes, Special Challenges and Recommendations*, 28 J. APPLIED DEV. PSYCH. 15, 17 (2007); Larissa A. Borofsky et al., *Community Violence Exposure and Adolescents' School Engagement and Academic Achievement Over Time*, 3 PSYCH. VIOLENCE 381, 381 (2013); David Schwartz & Andrea Hopmeyer Gorman, *Community Violence Exposure and Children's Academic Functioning*, 95 J. EDUC. PSYCH. 163, 172 (2003); Herbert C. Covey et al., *Effects of Adolescent Physical Abuse, Exposure to Neighborhood Violence, and Witnessing Parental Violence on Adult Socioeconomic Status*, 18 CHILD MALTREATMENT 85, 92–93 (2013); Natasha K. Bowen & Gary L. Bowen, *Effects of Crime and Violence in Neighborhoods and Schools on the School Behavior and Performance of Adolescents*, 14 J. ADOLESCENT RSCH. 319, 335 (1999); Murray & Farrington, *supra* note 232, at 135; Rucker C. Johnson, *Ever-Increasing Levels of Parental Incarceration the Consequences and for Children*, *in* DO PRISONS MAKE US SAFER? THE BENEFITS AND COSTS OF THE PRISON BOOM 177, 178 (Steven Raphael & Michael A. Stoll eds., 2009) ; Joseph M. Boden et al., *Exposure to Childhood Sexual and Physical Abuse and Subsequent Educational Achievement Outcomes*, 31 CHILD ABUSE & NEGLECT 1101, 1101 (2007); Hallam Hurt et al., *Exposure to Violence: Psychological and Academic Correlates in Child Witnesses*, ARCHIVES PEDIATRIC & ADOLESCENT MED. 1351, 1351 (2001); Currie & Widom, *supra* note 36, at 111; LEILA MORSY & RICHARD ROTHSTEIN, ECON. POL'Y INST., MASS INCARCERATION AND CHILDREN'S OUTCOMES: CRIMINAL JUSTICE POLICY IS EDUCATION POLICY 1 (Dec. 2016); Rosa Minhyo Cho*, Maternal Incarceration and Children's Adolescent Outcomes: Timing and Dosage*, 84 SOC. SERV. REV. 257, 257 (2010); Niclas Olofsson et al., *Physical and Psychological Symptoms and Learning Difficulties in Children of Women Exposed and Non-Exposed to Violence: A Population-Based Study*, 56 INT'L J. PUB. HEALTH 89, 89 (2011); Christopher C. Henrich et al., *The Association of Community Violence Exposure with Middle-School Achievement: A Prospective Study*, 25 APPLIED DEV. PSYCH. 327, 327 (2004); Alissa C. Huth-Bocks et al., *The Direct and Indirect Effects of Domestic Violence on Young Children's Intellectual Functioning*, 16 J. FAM. VIOLENCE 269, 269 (2001); Luster et al., *supra* note 232, at 1323; Valerie McGaha-Garnett, *The Effects of Violence on Academic Progress and Classroom Behavior: From a Parent's Perspective*, VISTAS 1 (2013), https://www.counseling.org/docs/default-source/vistas/the-effects-of-violence-on-academic-

structures that result from traumatic exposure to crime affect cognitive capacities and therefore explain the elevated risk for inferior educational outcomes.[319] Reduced cognitive capacities due to exposure impacts skills integral to the learning process, such as memory, attention, concentration, executive functions, visual-spatial perceptual reasoning, and verbal comprehension.[320]

Furthermore, children affected by the Triple-C Impact were shown to have deficits in the omnibus IQ.[321] Studies found that affected children scored on average five to ten IQ points lower than peers in their cohort when controlling for alternative explanatory factors.[322] This gap was shown to remain, and even to increase, as exposed children approach adulthood.[323]

The range of scientific studies investigating the effect of the Triple-C Impact on education yields several interesting findings. Exposed children are at a higher risk of suffering from ADD/ADHD—the effect ranges from a 40% increase in risk for children exposed to family violence to a 63% increase for children affected by direct victimization.[324] Another study estimates the likelihood of having an attention disorder at a 90% increase compared to nonexposed children.[325] Triple-C Impact exposure is attributed to a 50% increase in poor language and literacy skills and a 60% increase in poor math skills.[326] High school graduation rates were found to be 30–45% lower as a result of exposure to any one of the Triple-C Impact categories.[327]

progress-and-classroom-behavior.pdf?sfvrsn=1828de3f_12 [https://perma.cc/4NAE-3HP8]; Nadine J. Burke et al., *The Impact of Adverse Childhood Experiences on an Urban Pediatric Population*, 35 CHILD ABUSE & NEGLECT 408, 408 (2011); Tracy Vaillancourt & Patricia McDougall, *The Link Between Childhood Exposure to Violence and Academic Achievement: Complex Pathways*, 41 J. ABNORMAL CHILD PSYCH. 1177, 1177 (2013); Holly Foster & John Hagan, *The Mass Incarceration of Parents in America: Issues of Race/Ethnicity, Collateral Damage to Children, and Prisoner Reentry*, 623 ANNALS AM. ACAD. POL. & SOC. SCI. 179, 179 (2009); Lisa R. Kiesel et al., *The Relationship Between Child Maltreatment, Intimate Partner Violence Exposure, and Academic Performance*, 10 J. PUB. CHILD WELFARE 434, 434 (2016); Stephen J. Lepore & Wendy Kliewer, *Violence Exposure, Sleep Disturbance, and Poor Academic Performance in Middle School*, 41 J. ABNORMAL CHILD PSYCH. 1179, 1179 (2013); Macmillan & Hagan, *supra* note 346, at 127; Mears & Siennick, *supra* note 232, at 3.

319. Moffitt, *supra* note 140, at 1625; McGaha-Garnett, *supra* note 318, at 2; Kathryn R. Wilson et al., *The Traumatic Stress Response in Child Maltreatment and Resultant Neuropsychological Effects*, 16 AGGRESSION & VIOLENT BEHAV. 87, 87 (2011).

320. Moffitt, *supra* note 140, at 1625.

321. *Id.* at 1625; Karestan C. Koenen et al., *Domestic Violence Is Associated with Environmental Suppression of IQ in Young Children*, 15 DEV. & PSYCHOPATHOLOGY 297, 297 (2013); Normand J. Carrey et al., *Physiological and Cognitive Correlates of Child Abuse*, 34 J. AM. ACAD. CHILD & ADOLESCENT PSYCHIATRY 1067, 1067 (1995); Virginia Delaney-Black et al., *Violence Exposure, Trauma, and IQ and/or Reading Deficits Among Urban Children*, 156 ARCHIVES PEDIATRIC & ADOLESCENT MED. 280, 280–95 (2002); Wilson et al., *supra* note 319, at 93.

322. Moffitt, *supra* note 140, at 1626; Koenen et al., *supra* note 321, at 297; Wilson et al., *supra* note 319, at 93–94; Perez & Widom, *supra* note 318, at 617.

323. Moffitt, *supra* note 140, at 1625–26; Wilson et al., *supra* note 319, at 92.

324. *Cf.* Tenah K.A. Hunt et al., *Adverse Childhood Experiences and Behavioral Problems in Middle Childhood*, 67 CHILD ABUSE & NEGLECT 391 (2017); Jimenez et al., *supra* note 318, at 1.

325. Jimenez et al., *supra* note 318, at 1.

326. *Id.*

327. Allwood & Widom, *supra* note 194, at 551; Lansford et al., *supra* note 194, at 238–40; Mears & Sinnick, *supra* note 232, at 22.

Early intervention is needed for many affected children to cope with learning obstacles. In Pennsylvania, for example, such programs cost the state approximately $5,800 a year per child.[328] The most significant portion of the costs associated with educational underperformance among children affected by the Triple-C Impact is not the direct costs of services required for them, but rather its rolling effect on other life outcomes. Exposure to crime undermines academic performance and potential educational achievement, bearing on the odds of successful participation in the labor force, employment stability over time, and occupational status; all of these factors directly impact, if not determine, future earnings and economic productivity.[329] In fact, studies estimate that each additional year of education increases potential annual income by approximately $1,500.[330]

F. Productivity & Economic Wellbeing

It is well documented that the Triple-C Impact is most prevalent among children coming from lower socio-economic backgrounds.[331] Strong evidence, however, establishes that even when controlling for background and other covariates, violence exposure in childhood can lead to diminished economic wellbeing in adulthood, including higher rates of unemployment, income deficit, higher rates of poverty and homelessness, higher utilization of public assistance, lower rates of healthcare coverage, and a greater reliance on Medicaid.[332]

Empirical studies indicate the average income deficit of adults who have been affected by direct victimization during childhood to be at $5,000[333]–$6,000[334] a year at peak earning.[335] This group of children was also found to be twice as likely to fall below the poverty line and rely on Medicaid for healthcare coverage[336] and to be 80% more likely to experience homelessness.[337] A similar study estimated the annual deficit among children exposed to parental incarceration at $2,953 during young adulthood (rather than peak earning).[338] Several

328. PA. STATE INTERAGENCY COORDINATING COUNCIL FOR EARLY INTERVENTION, ANNUAL REPORT SUBMITTED TO THE GOVERNOR 2 (2015–2016). Adjusted to 2017 dollars, using The American Institute of Economic Research (AIER) Cost of Living Calculator.

329. Macmillan & Hagan, *supra* note 314, at 131–32; *see* Zielinski, *supra* note 314, at 675; Ashenfelter & Rouse, *supra* note 316, at 281; Dale & Krueger, *supra* note 316, at 1525; Day & Newburger, *supra* note 316, at 2; SEWELL & HAUSER, *supra* note 316, at 189; Grubb, *supra* note 316, at 290.

330. Ross Macmillan, *Adolescent Victimization and Income Deficits in Adulthood: Rethinking the Costs of Criminal Violence from a Life-Course Perspective*, 38 CRIMINOLOGY 553, 570 (2000).

331. *See, e.g.*, Currie & Widom, *supra* note 36, at 117; Foster et al., *supra* note 86; Deborah Gorman-Smith & Patrick Tolan, *The Role of Exposure to Community Violence and Developmental Problems Among Inner-City Youth*, 10 DEV. PSYCHOPATHOLOGY 101, 101 (1998).

332. *See infra* notes 335–41.

333. Currie & Widom, *supra* note 36, at 117.

334. Macmillan, *supra* note 330, at 566, 570.

335. Currie & Widom, *supra* note 36, at 117.

336. Zielinski, *supra* note 314, at 671.

337. Daniel B. Hernman et al., *Adverse Childhood Experiences: Are They Risk Factors for Adult Homelessness?,* 87 AM. J. PUB. HEALTH 249, 252 (1997).

338. Mears & Siennick, *supra* note 232, at 22.

studies have found Triple-C Impact exposure to double the risk of unemployment in adulthood.[339]

The category of productivity and economic well-being is the most complicated to define and calculate, as it encompasses some degree of intangibility. It is also the costliest category of all the delineated outcomes. The category of reduced earnings comprises approximately 78% of the total estimated annual cost.[340] Considering the previously discussed disadvantages in educational and professional attainments, as well as medical limitations, the reduced earnings category compounds the average difference in income attributed to crime exposure after controlling for background characteristics.[341] The study we relied on for this calculation is not optimal; it focuses on children affected by different categories of maltreatment, rather than by the full scope of Triple-C Impact exposures and thus required stipulation.[342] Nevertheless, this is the most reliable source we could identify that provides an in-depth look into this colossal outcome that affects Triple-C exposed children throughout their adulthood. Moreover, the fact that over 80% of the affected group is exposed to direct victimization helps support the relative validity of the stipulation.[343]

The increased use of state and federally funded public assistance, such as unemployment stipends, food stamps, disability, and the like, is added to the productivity costs. The use of public assistance programs is estimated to be 65–100% higher among Triple-C Impacted children in comparison to unexposed individuals, even after controlling for background information.[344] The odds of experiencing disability increase by 30% for individuals who experienced one exposure during childhood compared to unexposed children.[345] These cost categories are imperative to address, as they amount to substantial sums borne entirely by the state and federal government and thus funded by the entire population of taxpayers. The average total annual spending for the major welfare programs[346] for each eligible family is estimated at $14,204.[347] As for disability assistance, the monthly stipend ranges from $600–$1,500, at an average of $1,196.[348] Unfortunately, the complex manner in which eligibility, duration, and

339. Macmillan & Hagan, *supra* note 314, at 150; Zielinski, *supra* note 314, at 674; Liu et al., *supra* note 316, at 361.

340. *See infra* Table 9.

341. Xiangming Fang et al., *The Economic Burden of Child Maltreatment in the United States and Implications for Prevention*, 36 CHILD ABUSE & NEGLECT 156, 159 (2012).

342. *See* Zielinski, *supra* note 314.

343. *See id.*

344. Macmillan & Hagan, *supra* note 314, at 151.

345. Rose et al., *supra* note 293; Gilbert et al., *supra* note 105, at 348.

346. Including Public Assistance, Supplemental Security Income, and Supplemental Nutrition Assistance Program. Ann C. Foster & Arcenis Rojas, *Program Participation and Spending Patterns of Families Receiving Government Means-Tested Assistance*, MONTHLY LAB. REV. (Jan. 2018), https://www.bls.gov/opub/mlr/2018/article/program-participation-and-spending-patterns-of-families-receiving-means-tested-assistance.htm [https://perma.cc/88DH-CPVL].

347. Based on the Bureau of Labor Statistics 2014 estimates, converted to 2017 dollars. *See id.*

348. U.S. SOC. SEC. ADMIN., ANNUAL STATISTICAL REPORT ON THE SOCIAL SECURITY DISABILITY INSURANCE PROGRAM 2017 58, 61 tbl.20 (2017), https://www.ssa.gov/policy/docs/statcomps/di_asr/2017/sect01c.pdf [https://perma.cc/7V5Y-R7EZ].

value of assistance is determined prevents us from establishing a reliable average lifetime cost estimate per individual that could be plugged into our model and tallied. Therefore, it could not be incorporated into the total estimated cost.

TABLE 9: PRODUCTIVITY AND ECONOMIC WELL-BEING OUTCOMES–ATTRIBUTABLE RISKS AND COSTS

Outcome	Increase In Odds	Attributable Risk	No. of Individuals Affected	Lifetime Cost-Individual	Lifetime Cost–Cohort
Reduced Earnings	100%[349]	100%	2,578,731	$162,231[350]	$418,350,711,043
Total				**$162,231**	**$418,350,711,043**

G. The Bottom Line

Dollar after dollar, the costs associated with the Triple-C Impact pile one on top of the other. At first glance, some of these cost figures appear to be negligible when viewed in isolation. It is clearly shown, however, that when summed together, considering the high prevalence rates and the large number of costly adverse outcomes threatening the millions of children affected by the Triple-C Impact, the bottom line is of colossal proportions. When the total cost of all Triple-C Impacted adults in the United States today is calculated, it sums up to over $496.4 billion every single year.[351] This amounts to ~2.3% of the total national GDP on the United States in 2019.[352] These results are even more astounding considering the fact that this is an extremely conservative analysis that consciously undercounts or excludes many cost components for the sake of avoiding over-estimation, including the exclusion of the entire group of children affected by parental victimization, for which data is currently unavailable.

349. This outcome calculates the average effect on the entire population of children exposed individuals, in comparison to those unexposed, and therefore applies to total number of affected individuals in the cohort. *See, e.g.*, Fang et al., *supra* note 341, at 159.

350. *See id.*

351. *See infra* Table 10.

352. Calculated based on the 2019 GDP of the United Stated, which amounted to $21.43 trillion. *Gross Domestic Product, Fourth Quarter and Year 2019 (Advance Estimate)*, BUREAU OF ECONOMIC ANALYSIS, https://www.bea.gov/news/2020/gross-domestic-product-fourth-quarter-and-year-2019-advance-estimate#:~:text=Current%2Ddollar%20GDP%20increased%204.1,table%201%20and%20table%203 (last visited Nov. 27, 2020) [https://perma.cc/W2JL-35RF].

TABLE 10: TOTAL COST BY OUTCOME CATEGORY

Outcome	Total Lifetime Cost Per-Person	Average Total Annual Cost Per-person	Total Annual Costs for All Affected Adults in the U.S.
Criminal Justice	$7,720 (6,159, 9,364)	$131 (105, 159)	$19,713,327,765 (15,727,339,289, 23,911,075,157)
Substance Use	$12,931 (7,529, 18,426)	$220 (128, 313)	$33,019,906,500 (19,225,162,171, 47,051,877,699))
Mental Health	$7,704 (4,628, 10,122)	$131 (79,172)	$19,671,359,196 (11,817,177,879, 25,846,233,753)
Physical Health	$3,837 (1,541, 7,537)	$65 (26, 128)	$9,772,156,101 (3,935,294,353, 19,246,115,222)
Productivity	$162,231	$2,754	$414,261,170,011
Total	**$194,413** (182,088, 207,680)	**$3,301** (3,091, 3,526)	**$496,437,919,573** (464,966,143,702, 530,316,471,841)

H. Sensitivity Testing

To test the veracity of our estimates, we compared the results of our analysis to those of similar studies in the field.[353] To date, there are no studies that attempt to measure the cost of the full scope of the Triple-C Impact. Therefore, the comparison was conducted against studies that evaluate the cost of sub-categories that fall under the Triple-C Impact umbrella or similar types of crime exposure. All the comparison studies applied a "bottom-up" approach, similar to the methodology used in this study. The selected studies have included a per-victim lifetime cost calculation, which enables a leveled comparison.

Naturally, differences are expected due to the variation in the measured phenomena, the difference in definitions, the methodologies used in the analysis, and the specific cost elements tallied in the process. Because a one-to-one comparison is impossible, a broader conceptual evaluation is needed to identify and understand the sources of existing disparities. Only one comparison study measured the cost of indirect crime exposure (exposure to intimate partner violence),[354] while the remaining three studies focused on direct exposure to child maltreatment[355] and rape.[356] The child maltreatment studies covered physical and emotional neglect, as well as emotional abuse, which were not included in our analysis.[357] The rape study assumed that first exposure occurred at age 18, rather than during childhood.[358] It should be noted that the three studies examining direct exposure have counted the costs of medical care, loss of productivity, and property loss that directly resulted from the exposure, which were not accounted for in our analysis.

353. *See infra* Table 11.

354. *See* Megan R. Holmes et al., *Economic Burden of Child Exposure to Intimate Partner Violence in the United States*, 33 J. FAM. VIOLENCE 239, 239 (2018).

355. Fang et al., *supra* note 341, at 159; Cora Peterson et al., *The Economic Burden of Child Maltreatment in the United States*, 2015, 86 CHILD ABUSE & NEGLECT 178, 178 (2018).

356. Peterson et al., *Lifetime Economic Burden of Rape Among US Adults*, *supra* note 107, at 692.

357. *See* Fang et al., *supra* note 341, at 159; Peterson et al., *supra* note 355, at 179–80.

358. Peterson et al., *Lifetime Economic Burden of Rape Among US Adults*, *supra* note 107, at 692.

The most seemingly similar study reaches an almost identical estimate to ours.[359] Yet, this study counts the cost of short-term healthcare, child welfare, and special education, which in culmination comprises nearly 25% of the total estimate.[360] These costs were not included in our analysis. At the same time, Fang et al. did not account for the costs associated with substance use.[361] Moreover, their estimate of the criminal justice costs associated with exposure was lower, which appears to stem from the difference in the methodology of calculating the attributable risk of adult criminal behavior, lack of differentiation between the cost of property and violent crime, and no account for the increase in risk for re-victimization among exposed children.[362]

One surprising finding is the lower cost estimate obtained by the rape study.[363] Rape is considered to be among the most severe forms of direct victimization, and its long term adverse effect is established in a plethora of studies.[364] On the other hand, our study averages the effect of a broad range of crime exposures of various characteristics and levels of severity. One may expect the averaged effect to be somewhat diluted, which will consequently lower the cost estimate associated with the predicted harm. Yet our estimate is almost double that provided by Peterson et al.[365] The difference between estimates seems to stem entirely from a difference in methodology in the way the Peterson study calculated productivity loss, which does not incorporate the calculation of lifetime lost wages.[366] Additionally, Peterson's paper addresses sexual victimization that occurred during adulthood rather than childhood.[367] Considering the relevant differences between children and adults discussed in Part II, such distinction is expected to affect the calculated attributable risks for some outcomes, and therefore alter the cost estimate.[368]

The most extreme estimate emerges from the child maltreatment study by Peterson et al., which exceeds our estimate four-fold.[369] This difference is almost entirely due to the use of the new VSL and monetized QALY methodologies in that study.[370] These methodologies reflect "valuations of morbidity and mortality that aim to include intangible costs such as pain and suffering experienced not only by the affected individual but the wider community."[371] Following our

359. *See* Fang et al., *supra* note 341, at 160.
360. *Id.* at 160, tbl.1.
361. *See id.*
362. *Id.*
363. Peterson et al., *Lifetime Economic Burden of Rape Among US Adults*, *supra* note 107, at 697.
364. *See, e.g.*, WORLD HEALTH ORG., WORLD REPORT ON VIOLENCE AND HEALTH 149–81 (2002), https://www.who.int/violence_injury_prevention/violence/global_campaign/en/chap6.pdf [https://perma.cc/D59P-YZEN].
365. Peterson et al., *Lifetime Economic Burden of Rape Among US Adults*, *supra* note 107, at 697.
366. *See id.* at 691–97.
367. *Id.* at 692.
368. *See supra* Section II.A.
369. Peterson et al., *supra* note 354, at 181.
370. *Id.*
371. *Id.* at 181, 183.

guidelines for establishing the most conservative estimate, these cost elements were excluded from our study.

TABLE 11: SENSITIVITY TESTING–COMPARISON TO SIMILAR STUDIES

Study	Measure	Original Results	Adjusted to $2017	Possible Source of Difference
Fang et al., (2012)[372]	Non-fatal child maltreatment	$210,012	$236,011	
Peterson, et al. (2018)[373]	Non-fatal child maltreatment	$830,928	$859,327	Included intangible costs
Holmes et al, (2018)[374]	Exposure to intimate partner violence	$50,495	$51,568	Excluded productivity loss and substance use from analysis
Peterson et al., (2017)[375]	Rape (adult victimization)	$122,461	$126,807	Additionally, used a different method to calculate loss of productivity, and did not count lost wages.

VI. CONCLUSION

In an ideal world, the safety and wellbeing of our children would be a first-order national priority. Legislators and policymakers would be motivated to act for the sole reason of bettering the lives of children and providing the optimal conditions to improve children's life outcomes. At the very least, the prospect of protecting children from harm or helping them heal from trauma would be a sufficient cause to bring the state into action.

Nevertheless, the reality is that children do not have voting power, and their voices are rarely heard in the political debate. Although their sweet faces grace election campaigns, they are not present to negotiate their share when the national budget is distributed. In the political sphere, the wellbeing of children only rarely appears to have sufficient, independently intrinsic value to incentivize concrete state action and a substantial investment of funds. Unfathomably, even the notion that the nation's future is inseparable from the success and productivity of its next generation seems to be too intangible and remote from a policy perspective and a more direct "upside" is required to support any governmental financial investment in the wellbeing of children.[376]

Unsurprisingly, monetary investments will be required to fix our broken system. In today's reality, where public funds are stretched to the limit, and most states are experiencing budgetary deficits that amount to a fiscal crisis, and some are nearing a state of bankruptcy,[377] the political support required to execute such

372. *See* Fang et al., *supra* note 341.

373. *See* Peterson et al., *supra* note 354.

374. *See* Holmes et al., *supra* note 354.

375. Peterson et al., *Lifetime Economic Burden of Rape Among US Adults*, *supra* note 107, at 697.

376. Josh Bivens, *Public Investment: The Next 'New Thing' for Powering Economic Growth*, ECON. POL'Y INST., 1, 12–13 (Apr. 28, 2012), https://www.epi.org/files/2012/bp338-public-investments.pdf [https://perma.cc/P7AS-TAU2].

377. *American States Face a Revenue Crisis*, ECONOMIST, (Apr. 17, 2018), https://www.economist.com/united-states/2018/04/07/american-states-face-a-revenue-crisis [https://perma.cc/9H3C-SASQ]; Elizabeth McNichol & Samantha Waxman, *States Faced Revenue Shortfalls in 2017 Despite Growing Economy*, CTR. ON

an investment is hard to come by. One argument that has proven effective in the past to incentivize investment in such social causes is demonstrating the concrete potential for long-term fiscal savings, which serve as an upside when state budgets are tallied.[378]

One parallel area, where substantial change has been observed in recent years, is the decrease in prison populations in many states across the nation.[379] The incentive for this change was the potential for a substantial reduction in the costs of new prison construction and operations of corrections facilities. This was coupled with empirical evidence that reduction in the prison population, if done in accordance with specific guidelines, is unlikely to cause an increase in crime rates.[380] Additionally, it relied on evidence showing that rehabilitation programs and alternative sentencing are less costly options that prove to be as or more effective in controlling crime.[381] Thus, public safety is not expected to be compromised.

This campaign has borne fruit, as evidence emerged that the states which succeeded in prison population reduction were saving money without causing an increase in crime rates. For example, a 1.6% reduction in state of Nevada's prison population from 2008–2009 saved the state $38 million and prevented Nevada from spending $1.2 billion on prison construction.[382] Similarly, an investment in a work-release program by the state of Minnesota saved the state $1.25 million due to a decrease in the prison population. Minnesota prisoners who received job training paid $459,819 more in income taxes than those who were not part of the program.[383]

Early intervention in cases of children affected by the Triple-C Impact is hypothesized to have the potential to yield a similar effect. This is due to the severe long-term adverse outcomes shown to be borne by affected children and the monumental costs tied to these outcomes, as established in this Article. In fact, the estimated annual costs of mass incarceration range between $80–182 billion,[384] which is less than half of the estimated annual costs of the ongoing

BUDGET & POL'Y PRIORITIES, (Oct. 2017); *Summary: Fall 2017 Fiscal Survey of States*, NAT'L ASS'N OF ST. BUDGET OFFICERS, (Dec. 14, 2017), https://higherlogicdownload.s3.amazonaws.com/NASBO/9d2d2db1-c943-4f1b-b750-0fca152d64c2/UploadedImages/Issue%20Briefs%20/Summary_-_Fall_2017_Fiscal_Survey.pdf [https://perma.cc/3LM3-2579].

378. *See*, *e.g.*, Bivens, *supra* note 376, at 5 (arguing that increased investment in public goods provides substantial future returns).

379. German Lopez, *States Have Steadily Cut Prison Populations Since 2010– Without Increases in Crime*, VOX (Jan. 3, 2017, 12:20 PM), https://www.vox.com/policy-and-politics/2017/1/3/14153196/prison-mass-incarceration-2015 [https://perma.cc/45GU-9WV4].

380. James Austin et al., *How Many Americans Are Unnecessarily Incarcerated?*, BRENAN CTR. FOR JUST. (2016), https://www.brennancenter.org/sites/default/files/publications/Unnecessarily_Incarcerated.pdf [https://perma.cc/PK98-PSQ5]; Abrams, *supra* note 96, at 911.

381. John H. Esperian, *The Effect of Prison Education Programs on Recidivism*, 61 J. CORRECTIONAL EDUC. 316, 332 (2010); Grant Duwe, *An Outcome Evaluation of a Prison Work Release Program Estimating Its Effects on Recidivism, Employment, and Cost Avoidance*, 26 CRIM. JUST. POL'Y REV. 531, 532 (2015).

382. Esperian, *supra* note 381, at 332.

383. Duwe, *supra* note 381, at 548–49.

384. Peter Wagner & Bernadette Rabuy, *Following the Money of Mass Incarceration*, PRISON POL'Y INITIATIVE (Jan. 25, 2017), https://www.prisonpolicy.org/reports/money.html [https://perma.cc/QQ7G-HWRA].

neglect of the Triple-C Impact problem. The evidence-based cost estimates presented above can now be compared against the costs of potential intervention policies that enable the effective and timely identification and treatment of Triple-C Impacted children. Such a cost/benefit analysis will allow the development of a cost-effective policy proposal that will be appealing to budget-conscious policymakers and stakeholders while advancing the interests and wellbeing of affected children and society as a whole.

Since the muffled cries of millions of children across the nation have yet to awaken policymakers to act, perhaps money will "talk" on their behalf and incentivize change.

APPENDIX I: 50-STATE SURVEY RESULTS

TABLE 12: STATE-BY-STATE TRIPLE-C IMPACT STATUTORY RECOGNITION BY CATEGORY (AS OF 2016)

The table shows the statutory recognition of each of the Triple-C Impact categories in each of the 50 states and the District of Columbia. The table presents the results in a 0/1 form, whereby "1" is logged where the state's law recognizes the category and provides eligibility for therapeutic services or compensation for children under the category. The digit "0" is logged when no statutory recognition is available for the category in the state. Blank logs signify that information was unavailable.

STATE	Direct Victims: Child Specific Victim Rights Act/Provision	Family Violence	Community Violence	Parental Victimization	Parental Incarceration	Data on Parental status of Inmates	Total
Alabama	0	1	0	1	0	1	3
Alaska	0	1	1	1	0	0	3
Arizona	0	1	0	0	1		2
Arkansas	0	1	0	1	0	0	2
California	0	1	1	1	0	0	3
Colorado	1	1	0	1	0	0	3
Connecticut	0	1	0	1	0	1	3
Delaware	1	1	0	1	1	0	4
Florida	0	1	1	0	0	1	3
Georgia	0	1	1	1	0	1	4
Hawaii	0	0	0	0	0	1	1
Idaho	0	1	0	1	0	0	2
Illinois	0	1	1	1	0	1	4
Indiana	0	0	0	0	0	0	0
Iowa	0	1	0	1	0	1	3
Kansas	0	1	0	1	0	0	2
Kentucky	0	1	1	1	0		3
Louisiana	0	1	0	1	0	0	2
Maine	0	1	0	0	0		1
Maryland					0	0	0
Massachusetts	0	1	0	0	0		1
Michigan	0	1	0	1	0	0	2

Minnesota	1	1	1	1	0		4
Mississippi	1	1	1	1	0		4
Missouri	0	1	0	1	0	1	3
Montana	0	1	1	0	0	0	2
Nebraska	0	1	1	0	0		2
Nevada	0	1	1	0	0	1	3
New Hampshire	0	1	0	1	0	1	3
New Jersey	0	1	0	1	0	1	3
New Mexico	0	1	1	1	0	1	4
New York	1	1	1	1	0	1	5
North Carolina	0	0	0	0	0	1	1
North Dakota	1	1	1	0	0		3
Ohio	0	1	0	0	0	1	2
Oklahoma	0	1	0	0	0	0	1
Oregon	0	1	1	0	0	1	3
Pennsylvania	1	1	1	1	0		4
Rhode Island	1	0	0	0	0	0	1
South Carolina	0	1	1	1	0	1	4
South Dakota	0	1	1	1	0		3
Tennessee	0	1	0	0	0	0	1
Texas	0	1	0	1	0	0	2
Utah	1	1	0	1	0	1	4
Vermont	0	1	1	1	1	0	4
Virginia	0	1	0	0	0	0	1
Washington	1	1	1	0	0	1	4
West Virginia	0	1	1	1	0	0	3
Wisconsin	1	0	0	0	0	1	2
Wyoming	0	1	1	1	0	1	4
Washington DC	0	1	0	1	0		2
Total	11	45	22	31	3	21	**Average** 2.61

APPENDIX II: OUTCOME STUDIES SUMMARY

Outcome	Risk Studies			Cost Studies	
	Author\year	**Sample**	**Method**	**Author\year**	**Method**
Property Crime	Farrell & Zimmerman (2017)[385]	Nationally representative sample *N = 12,603*	Longitudinal Study, logistics regression model	McCollister, French & Fang (2010)[386]	Cost-of-illness and jury compensation methods
Violent Crime	Farrell & Zimmerman (2017)[387]	Nationally representative sample *N = 12,603*	Longitudinal Study, logistics regression model	McCollister, French & Fang (2010)[388]	cost-of-illness and jury compensation methods
Re-Victimization (Domestic Violence)	Whitfriield et al. (2003)[389]	Kaiser Permanente health plan members (San Diego) *N = 8,629*	Cross-sectional Study, logistics regression model	Peterson et al. (2018)[390]	VSL/monetized QALYs
Alcohol use disorder	Felitti et al. (1998)[391]	Kaiser Permanente health plan members (San Diego) *N=13,494*	Cross-sectional Study, logistics regression model	Peterson et al. (2017)[392]	Cost-of-illness
Drug Use	Felitti et al. (1998)[393]	Kaiser Permanente health plan members (San Diego) *N=13,494*	Cross-sectional Study, logistics regression model	Peterson et al. (2017)[394]	Cost-of-illness
Smoking	Ford et al. (2011)[395]	BRFSS data of 5 states (WA, NM, AR, LO, TN) *N = 25,809*	Cross-sectional study, log-binomial regression model	Peterson et al. (2017)[396]	Cost-of-illness
Anxiety	Anda et al. (2006)[397]	Kaiser Permanente health plan members (San Diego) *N=17,337*	Cross-sectional Study, logistics regression model	Peterson et al. (2017)[398]	Cost-of-illness
Depressed affect	Anda et al. (2006)[399]	Kaiser Permanente health plan members (San Diego) *N=17,337*	Cross-sectional Study, logistics regression model	Peterson et al. (2017)[400]	Cost-of-illness
Suicide attempt	Felitti et al. (1998)[401]	Kaiser Permanente health plan members (San Diego) *N=13,494*	Cross-sectional Study, logistics regression model	Peterson et al. (2017)[402] Corso et al. (2007)[403]	Cost-of-illness

385. Farrell & Zimmerman, *supra* note 198.
386. McCollister et al., *supra* note 205..
387. Farrell & Zimmerman, *supra* note 200.
388. McCollister et al., *supra* note 205.
389. Whitfield et al., *supra* note 198, at 166.
390. Peterson et al., *supra* note 105.
391. Felitti et al., *supra* note 233, at 248.
392. Peterson et al., *Lifetime Economic Burden of Rape Among US Adults*, *supra* note 107.
393. Felitti et al., *supra* note 233.
394. Peterson et al., *Lifetime Economic Burden of Rape Among US Adults*, *supra* note 107.
395. Ford, et al., *supra* note 244.
396. Peterson et al., *Lifetime Economic Burden of Rape Among US Adults*, *supra* note 107.
397. Anda et al., *supra* note 234.
398. Peterson et al., *Lifetime Economic Burden of Rape Among US Adults*, *supra* note 107.
399. Anda et al., *supra* note 232.
400. Peterson et al., *Lifetime Economic Burden of Rape Among US Adults*, *supra* note 107.
401. Felitti et al., *supra* note 233.
402. Peterson et al., *Lifetime Economic Burden of Rape Among US Adults*, *supra* note 107.
403. Corso et al., *supra* note 273.

Outcome	Risk Studies			Cost Studies	
	Author\year	Sample	Method	Author\year	Method
Any cancer	Felitti et al. (1998) [404]	Kaiser Permanente health plan members (San Diego) *N=13,494*	Cross-sectional Study, logistics regression model	Dieguez, Ferro & Pyenson (2017)[405]	Longitudinal study of total healthcare spending and patient OOP costs
COPD	Felitti et al. (1998) [406]	Kaiser Permanente health plan members (San Diego) *N=13,494*	Cross-sectional Study, logistics regression model	Miller et al. (2006) [407]	Markov decision-analytic model
Skeletal fracture	Felitti et al. (1998) [408]	Kaiser Permanente health plan members (San Diego) *N=13,494*	Cross-sectional Study, logistics regression model	CDC WISQARS[409] (July 2019)	Cost of injury
Diabetes	Gilbert et al. (2015) [410]	BRFSS data of DC + 10 states (HI, ME, NE, NV, OH, PA, UT, VT, WA, and WI) *N = 53,998*	Cross-sectional Study, logistics regression model	Zhuo, Zhang & Hoerger (2013)[411]	Simulation model
Myocardial Infarction	Gilbert et al. (2015) [412.]	BRFSS data of DC + 10 states (HI, ME, NE, NV, OH, PA, UT, VT, WA, and WI) *N = 53,998*	Cross-sectional Study, logistics regression model	Torio & Moore (2016)[413]	Aggregate hospital costs and hospital stays data
Asthma	Gilbert et al. (2015)[414]	BRFSS data of DC + 10 states (HI, ME, NE, NV, OH, PA, UT, VT, WA, and WI) *N = 53,998*	Cross-sectional Study, logistics regression model	Barnett & Nurmagambetov (2011)[415] Peterson et al. (2017)[416]	Generalized linear models (GLMs), binomial model, and human capital approach. Cost-of-illness
STD	Felitti et al. (1998) [417]	Kaiser Permanente health plan members (San Diego) *N=13,494*	Cross-sectional Study, logistics regression model	Chesson et al. (2004)[418]	Secondary analysis
Reduced Earnings	Fang et al., [419]	Secondary data analysis		Fang et al., [420]	Incidence-based approach

404. Felitti et al., *supra* note 233.
405. Gabriela Dieguez et al., *supra* note 299.
406. Felitti et al., *supra* note 233.
407. Miller et al., *supra* note 301.
408. Felitti et al., *supra* note 233.
409. *Data & Statistics (WISQARS™): Cost of Injury Reports*, CTR. FOR DISEASE CONTROL AND PREVENTION, https://wisqars.cdc.gov:8443/costT/ (last visited Nov. 27, 2020).
410. Gilbert et al., *supra* note 36.
411. Zhuo et al., *supra* note 306.
412. Gilbert et al., *supra* note 36.
413. Torio & Moore, *supra* note 309.
414. Gilbert et al., *supra* note 36.
415. Barnett & Nurmagambetov, *supra* note 311.
416. Peterson et al., *Lifetime Economic Burden of Rape Among US Adults*, *supra* note 107.
417. Felitti et al., *supra* note 233.
418. Chesson et al., *supra* note 313.
419. Fang et al., *supra* note 341.
420. *Id.*